

**Sergio Ghiano**

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**From:** Dan Eschenasy (Buildings) <DEschenasy@buildings.nyc.gov>  
**Sent:** Tuesday, April 25, 2017 8:42 AM  
**To:** Jason Tipold; Cawsie Jijina; Nat Oppenheimer  
**Cc:** Scott Duenow; Paul Boardman; Sergio Ghiano; Scott Pavan (Buildings); Roxane Tsirigotis (Buildings); J. Benjamin Alper; Gus (Constadino) Sirakis (Buildings)  
**Subject:** RE: 1568 Broadway DOB

Scott et al, the peer review report confirms that the new structure and the raised old structure conform to 2014 NYCBC, including seismic requirements. ( see comments below.) Specific details, such as the attachment of the old theater to the new frame, dependent of the construction process and discovery, will need to be peer reviewed again when finalized during the construction stage.

Compliance with 2014 NYCBC involves also compliance of MEP and architectural features. MEP is not in the scope of this review and there should be a note on the mechanical drawings about compliance.

A complex problem is raised by the historic landmarked plaster ceiling. It is not clear to me if this ceiling is part of the domain of the structural engineer and needs to be in the scope of this peer review. I would suggest the department require separately an investigation and report of condition of this ceiling.

IN conclusion the peer review is accepted with above comments. Drawings and peer review of the raising operation need to be presented separately.

Thank you, Dan

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**From:** Jason Tipold [mailto:tipold@silman.com]  
**Sent:** Monday, April 24, 2017 2:27 PM  
**To:** Dan Eschenasy (Buildings); Cawsie Jijina; Nat Oppenheimer  
**Cc:** Scott Duenow; Paul Boardman; Sergio Ghiano; Scott Pavan (Buildings); Roxane Tsirigotis (Buildings); J. Benjamin Alper; Gus (Constadino) Sirakis (Buildings)  
**Subject:** RE: 1568 Broadway DOB

Team,

Please see our attached updated letter. We have also verified that the walls are ok for out of plane load, and added that to the letter.

J

**From:** Dan Eschenasy (Buildings) [mailto:DEschenasy@buildings.nyc.gov]  
**Sent:** Monday, April 24, 2017 9:51 AM  
**To:** Cawsie Jijina <Cjijina@severud.com>; Nat Oppenheimer <Oppenheimer@silman.com>  
**Cc:** Jason Tipold <tipold@silman.com>; Scott Duenow <sduenow@pbdw.com>; Paul Boardman <Boardman@maefield.com>; Sergio Ghiano <SGhiano@design2147.com>; Scott Pavan (Buildings) <SPavan@buildings.nyc.gov>; Roxane Tsirigotis (Buildings) <RTsirigotis@buildings.nyc.gov>; J. Benjamin Alper <JAlper@severud.com>; Gus (Constadino) Sirakis (Buildings) <CSirakis@buildings.nyc.gov>  
**Subject:** RE: 1568 Broadway DOB

Cawsie,

Not sure if the original design included a 20 psf wind. In any case if Silman independently verifies the wall is able to resist 7psf out of plane load , everything will become "approvable". Best, Dan

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**From:** Cawsie Jijina [mailto:Cjijina@severud.com]  
**Sent:** Friday, April 21, 2017 3:12 PM

**To:** Dan Eschenasy (Buildings); Nat Oppenheimer  
**Cc:** Jason Tipold; Scott Duenow; Paul Boardman; Sergio Ghiano; Scott Pavan (Buildings); Roxane Tsirigotis (Buildings); J. Benjamin Alper; Gus (Constadino) Sirakis (Buildings)  
**Subject:** RE: 1568 Broadway DOB

Dan:

You are correct. It is agreed that there is no issue with in-plane bending of the masonry walls.

Item b raises the issue of out of plane bending of the masonry walls.

The original design wind load was 20 psf and that wind load at this height still holds. The seismic load is 7 psf.

These walls do not go straight up unbraced. Attached, you will find a series of theater plans that show that the theater masonry walls are braced against out-of-plane bending by the Orchestra Level slab, the Galleries, The Proscenium arch (which is a structural steel frame encased in masonry), and the Fly Grid. In the places where there is no bracing on the north and south walls in the Fly Space, we have added structural steel bracing to brace the existing masonry walls for out-of-plane loading. The East Theater Wall is completely shielded by the East Shear Wall of the tower above that connects the tower Super Columns. The West Theater Wall is braced by the floors and the balconies and at the third floor there is no wall since that is the entrance into the Theater Lobby; additionally, we also have the West Shear Wall of the tower that connects the tower Super Columns shielding the existing west wall of the theater.

Therefore, you can see that the integrity of the box and the four existing Masonry Walls of the Theater is maintained. The weight of the wall itself and its length contribute to its in-plane strength as a pure masonry element. The diaphragms at the various levels and the added horizontal steel bracing/framing provide the out-of-plane support. We believe the corners have been held at right angles by the added framing.

Regards,

Cawsie Jijina, PE, SECB  
Principal  
**Severud Associates** Consulting Engineers PC  
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**From:** Dan Eschenasy (Buildings) [<mailto:DEschenasy@buildings.nyc.gov>]  
**Sent:** Thursday, April 20, 2017 9:40 AM  
**To:** Nat Oppenheimer  
**Cc:** Cawsie Jijina; Jason Tipold; Scott Duenow; Paul Boardman; Sergio Ghiano; Scott Pavan (Buildings); Roxane Tsirigotis (Buildings); J. Benjamin Alper; Gus (Constadino) Sirakis (Buildings)  
**Subject:** RE: 1568 Broadway DOB

Thank you Nat, this is good. My questions stand though. Here is a more detailed explanation ....

- a. If you do a seismic load verification modelling the steel only you need to know the moment capacity of the connections. The type of steel construction/design of that era relied on masonry for providing rigidity. The masonry infill was in effect a shear wall. So the connection steel beam to column might not have developed sufficient? full? moment capacity.
- b. In fact the perimeter masonry works a shear wall and given the length the vertical stresses would not be very large, but the same masonry might fail due to out of plane loads and not be there to provide support. I am not sure which hypothesis your computer run and calcs used. I assume either way there are some uncertainties that might need be compensated by some structural work....



**From:** Nat Oppenheimer [mailto:Oppenheimer@silman.com]  
**Sent:** Thursday, April 20, 2017 7:27 AM  
**To:** Dan Eschenasy (Buildings)  
**Cc:** Cawsie Jijina; Jason Tipold; Scott Duenow; Paul Boardman; Sergio Ghiano; Scott Pavan (Buildings); Roxane Tsirigotis (Buildings); J. Benjamin Alper; Gus (Constadino) Sirakis (Buildings)  
**Subject:** RE: 1568 Broadway DOB

**Nat Oppenheimer**  
**Silman**  
212 620 7970  
Direct 212 620 7973

**From:** Dan Eschenasy (Buildings) [mailto:DEschenasy@buildings.nyc.gov]  
**Sent:** Wednesday, April 19, 2017 9:41 AM  
**To:** Nat Oppenheimer <Oppenheimer@silman.com>  
**Cc:** Cawsie Jijina <Cjijina@severud.com>; Jason Tipold <tipold@silman.com>; Scott Duenow <sduenow@pbdw.com>; Paul Boardman <Boardman@maefield.com>; Sergio Ghiano <SGhiano@design2147.com>; Scott Pavan (Buildings) <SPavan@buildings.nyc.gov>; Roxane Tsirigotis (Buildings) <RTsirigotis@buildings.nyc.gov>; J. Benjamin Alper <JAlper@severud.com>; Gus (Constadino) Sirakis (Buildings) <CSirakis@buildings.nyc.gov>  
**Subject:** RE: 1568 Broadway DOB

Very good, please change your report and detail in one paragraph what seismic verification you had independently performed on the raised theater.

**From:** Nat Oppenheimer [mailto:Oppenheimer@silman.com]  
**Sent:** Wednesday, April 19, 2017 9:38 AM  
**To:** Dan Eschenasy (Buildings)  
**Cc:** Cawsie Jijina; Jason Tipold; Scott Duenow; Paul Boardman; Sergio Ghiano; Scott Pavan (Buildings); Roxane Tsirigotis (Buildings); J. Benjamin Alper; Gus (Constadino) Sirakis (Buildings)  
**Subject:** Re: 1568 Broadway DOB

Dan,

In short, we have done independent and can put that together to submit.

Nat Oppenheimer  
Silman  
2126207973 d  
9172091146 c

On Apr 19, 2017, at 9:35 AM, Dan Eschenasy (Buildings) <DEschenasy@buildings.nyc.gov> wrote:

Nat, I had previously protested – a peer reviewer needs to perform independent verifications. Stating that you reviewed a memo is encouraging, but not sufficient.

All, As to the substance –

The approach of full compliance with NYCBC 2014 is obviously acceptable. The problem that needs to be resolved is the infill URM. There is a hand calculation that I cannot follow. So please clarify

1. Is the existing URM capable to carry out of plane loads.
2. Is the connection of the URM to steel capable of transferring the loads.

3. IN case the answer is negative what measures are you envisaging to improve the condition.

Also please note that the MEP needs comply with seismic...

Aside the steel column splices, on what type of info/ knowledge ( probes? , existing drawings?, shopdrawings?) are you assessing the moment capacity of connections.

Regards, Dan

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**From:** Nat Oppenheimer [<mailto:Oppenheimer@silman.com>]

**Sent:** Tuesday, April 18, 2017 5:59 AM

**To:** Cawsie Jijina; Dan Eschenasy (Buildings)

**Cc:** Jason Tipold; Scott Duenow; Paul Boardman; Sergio Ghiano; Scott Pavan (Buildings); Roxane Tsirigotis (Buildings); J. Benjamin Alper; Gus (Constadino) Sirakis (Buildings)

**Subject:** RE: 1568 Broadway DOB

Our updated peer review letter.

**Nat Oppenheimer  
Silman**

212 620 7970

Direct 212 620 7973

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**From:** Cawsie Jijina [<mailto:Cijijina@severud.com>]

**Sent:** Monday, April 17, 2017 4:34 PM

**To:** Dan Eschenasy (Buildings) <[DEschenasy@buildings.nyc.gov](mailto:DEschenasy@buildings.nyc.gov)>; Nat Oppenheimer <[Oppenheimer@silman.com](mailto:Oppenheimer@silman.com)>

**Cc:** Jason Tipold <[tipold@silman.com](mailto:tipold@silman.com)>; Scott Duenow <[sduenow@pbdw.com](mailto:sduenow@pbdw.com)>; Paul Boardman <[Boardman@maefield.com](mailto:Boardman@maefield.com)>; Sergio Ghiano <[SGhiano@design2147.com](mailto:SGhiano@design2147.com)>; Scott Pavan (Buildings) <[SPavan@buildings.nyc.gov](mailto:SPavan@buildings.nyc.gov)>; Roxane Tsirigotis (Buildings) <[RTsirigotis@buildings.nyc.gov](mailto:RTsirigotis@buildings.nyc.gov)>; J. Benjamin Alper <[JAlper@severud.com](mailto:JAlper@severud.com)>; Gus (Constadino) Sirakis (Buildings) <[CSirakis@buildings.nyc.gov](mailto:CSirakis@buildings.nyc.gov)>

**Subject:** RE: 1568 Broadway DOB

Dan,

Thank you for your feedback and advice. We have considered them both carefully. In response we have structurally modeled the Theater "Box" and confirm that the Theater "Box" meets the 2014 code with the structural measures we are undertaking in the construction of the overall project's structural engineering design; namely a new structural support system that works in complement with the structural properties of the existing Theater Box.

We respectfully request your consideration of the following structural engineering logic:

Specifically:

1. We have determined the mass of the theater.
2. Based on our calculations (per the 2014 NYC Code) we have determined that the seismic force is approximately 6% of that mass.
3. We have applied the seismic force at the centroid of the theater mass and numerically it has proven out that the existing brick walls have the capacity and will deliver the load generated in a seismic condition to the 3rd floor level where we have designed a new transfer structure to carry the theater.
4. This theater load, gravity, seismic and wind, is transferred via new columns, braced frames and existing building tower columns to the new foundation.
5. Additionally we have reviewed the existing theater structure for the relevant portions of the "Structural Integrity" provisions of the Building Code and find the building to be acceptable with the exceptions of the splices on Columns 28, 29, 30 and 31. Drawing S-722 has been revised to address this issue and remediate it once construction is underway.
6. It is our opinion that the elevated theater box condition will therefore comply with the 2014 code.



These methods of analysis bring us to the conclusion that the theater box that is within the new structure designed by us will meet the requirements of the 2014 code and therefore we believe that a CCD-1 should no longer be necessary.

Our calculations have been forwarded to Silman, the Peer Review Engineer and have been positively viewed by them.

Please find attached, summary calculations that form the basis for the above text. We believe a letter from Silman regarding their peer review of these calculations will be coming to you directly from Silman.

Should you find it necessary, both Severud and Silman will be glad to meet you for a review.

Regards,

Cawsie Jijina, PE, SECB  
Principal  
**Severud Associates** Consulting Engineers PC  
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New York, NY 10018  
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**From:** Dan Eschenasy (Buildings) [<mailto:DEschenasy@buildings.nyc.gov>]  
**Sent:** Thursday, March 30, 2017 12:21 PM  
**To:** Nat Oppenheimer  
**Cc:** Jason Tipold; Scott Duenow; Paul Boardman; Cawsie Jijina; Sergio Ghiano; Scott Pavan (Buildings); Roxane Tsirigotis (Buildings); J. Benjamin Alper; Gus (Constadino) Sirakis (Buildings)  
**Subject:** RE: 1568 Broadway DOB

Ben & all,  
Re: seismic design

Here is an opinion reached following yesterday’s meeting and after consultation with the HUB – the building falls under **§28-101.4.5 Work that increases existing floor surface area of a prior code building by more than 110 percent** and as a consequence it needs to meet the 2014 code, including provisions for seismic design. DOB recognizes the hardship presented by the fact that the interior of the theater is landmarked and we might consider seismic improvements less than full code retrofit. The degree of seismic retrofit of the theater needs to be approved via a CCD1 and we recommend you start a CCD1 process, Regards, Dan

Dan Eschenasy, PE,SECB, F.SEI  
Department Chief Structural Engineer  
NYC Buildings  
[deschenasy@buildings.nyc.gov](mailto:deschenasy@buildings.nyc.gov)

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**From:** Nat Oppenheimer [<mailto:Oppenheimer@silman.com>]  
**Sent:** Wednesday, March 29, 2017 1:41 PM  
**To:** Dan Eschenasy (Buildings)  
**Cc:** Jason Tipold; Scott Duenow; Paul Boardman; Cawsie Jijina; Sergio Ghiano; Scott Pavan (Buildings); Roxane Tsirigotis (Buildings); [jalper@severud.com](mailto:jalper@severud.com)  
**Subject:** RE: 1568 Broadway DOB

Dan,

Going to send update letter shortly.

Can we hold 4p but get on the phone prior to go over what we send – see if we can do without the meeting?

I can get on phone at your convenience.

Nat

**Nat Oppenheimer  
Silman**  
212 620 7970  
Direct 212 620 7973

**From:** Nat Oppenheimer  
**Sent:** Wednesday, March 29, 2017 11:24 AM  
**To:** Dan Eschenasy (Buildings) <[DEschenasy@buildings.nyc.gov](mailto:DEschenasy@buildings.nyc.gov)>  
**Cc:** Jason Tipold <[tipold@silman.com](mailto:tipold@silman.com)>; Scott Duenow <[sduenow@pbdw.com](mailto:sduenow@pbdw.com)>; Paul Boardman <[Boardman@maefield.com](mailto:Boardman@maefield.com)>; Cawsie Jijina <[Cjijina@severud.com](mailto:Cjijina@severud.com)>; Sergio Ghiano <[SGhiano@design2147.com](mailto:SGhiano@design2147.com)>; Scott Pavan (Buildings) <[SPavan@buildings.nyc.gov](mailto:SPavan@buildings.nyc.gov)>; Roxane Tsirigotis (Buildings) <[RTsirigotis@buildings.nyc.gov](mailto:RTsirigotis@buildings.nyc.gov)>; [jalper@severud.com](mailto:jalper@severud.com)  
**Subject:** Re: 1568 Broadway DOB

I can do from Silman.

I don't know who else may want to join.

And, again, we will submit ahead of meeting as well.

Nat

Nat Oppenheimer  
Silman  
2126207973 d  
9172091146 c

On Mar 29, 2017, at 11:23 AM, Dan Eschenasy (Buildings) <[DEschenasy@buildings.nyc.gov](mailto:DEschenasy@buildings.nyc.gov)> wrote:

4pm ok, need to find a space. About how many people?

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**From:** Nat Oppenheimer [<mailto:Oppenheimer@silman.com>]  
**Sent:** Wednesday, March 29, 2017 11:22 AM  
**To:** Dan Eschenasy (Buildings)  
**Cc:** Jason Tipold; Scott Duenow; Paul Boardman; Cawsie Jijina; Sergio Ghiano; Scott Pavan (Buildings); Roxane Tsirigotis (Buildings); [jalper@severud.com](mailto:jalper@severud.com)  
**Subject:** Re: 1568 Broadway DOB

Will revert within the next hour and a half with the updated report and can come by this afternoon (4p?)?



Nat

Nat Oppenheimer  
Silman  
2126207973 d  
9172091146 c

On Mar 29, 2017, at 11:18 AM, Dan Eschenasy (Buildings)  
<[DEschenasy@buildings.nyc.gov](mailto:DEschenasy@buildings.nyc.gov)> wrote:

Sorry, not very good.

Even the simplest issue - listing in the report the drawings was confused. If the attached list is what you reviewed you should state "this is an appendix" and constitute an integral part....

I had asked

- Clear justification of the seismic design ( or lack of need) that cites specific lines of the code or the TTPN?
- Changes to the caisson drawings.

What does it mean "verified the integration ..of structural provisions"?

So if you want a meeting fine, but I think the objections are clear...

Thanks, Dan

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**From:** Jason Tipold [<mailto:tipold@silman.com>]  
**Sent:** Wednesday, March 29, 2017 10:30 AM  
**To:** Nat Oppenheimer; Dan Eschenasy (Buildings); Scott Duenow; Paul Boardman; Cawsie Jijina; 'Sergio Ghiano'; Scott Pavan (Buildings); Roxane Tsirigotis (Buildings)  
**Cc:** 'jalper@severud.com'  
**Subject:** RE: 1568 Broadway DOB

Hi Dan and Team,

Please see the attached updated peer review letter (with drawing list), and let us know if you have any questions.

Thanks,  
J

**Jason Tipold, PE, SE, LEED AP**  
Associate

**Silman**  
32 Old Slip, 10th Floor, New York, NY 10005  
212 620 7970  
Direct 646 738 3564  
[silman.com](http://silman.com)

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**From:** Nat Oppenheimer  
**Sent:** Wednesday, March 29, 2017 8:25 AM

**To:** Dan Eschenasy (Buildings) <DEschenasy@buildings.nyc.gov>; Jason Tipold <tipold@silman.com>; Scott Duenow <sduenow@pbdw.com>; Paul Boardman <Boardman@maefield.com>; Cawsie Jijina <Cjijina@severud.com>; 'Sergio Ghiano' <SGhiano@design2147.com>; Scott Pavan (Buildings) <SPavan@buildings.nyc.gov>; Roxane Tsirigotis (Buildings) <RTsirigotis@buildings.nyc.gov>  
**Cc:** 'jalper@severud.com' <jalper@severud.com>  
**Subject:** RE: 1568 Broadway DOB

Dan,

We are sending the updated report over this morning.

Would love to get together to discuss reviews in general (and the current DOB expectations) and happy to get together this afternoon or tomorrow afternoon if there are any further questions regarding our report or anything left that would hold up approval (but, at the same time, don't want to set up a meeting, just to meet, if that actually ends up delaying approval (!)).

Thank you!

Nat

**Nat Oppenheimer  
Silman**  
212 620 7970  
Direct 212 620 7973

**From:** Dan Eschenasy (Buildings)  
[mailto:DEschenasy@buildings.nyc.gov]  
**Sent:** Tuesday, March 28, 2017 9:30 AM  
**To:** Nat Oppenheimer <Oppenheimer@silman.com>; Jason Tipold <tipold@silman.com>; Scott Duenow <sduenow@pbdw.com>; Paul Boardman <Boardman@maefield.com>; Cawsie Jijina <Cjijina@severud.com>; 'Sergio Ghiano' <SGhiano@design2147.com>; Scott Pavan (Buildings) <SPavan@buildings.nyc.gov>; Roxane Tsirigotis (Buildings) <RTsirigotis@buildings.nyc.gov>  
**Cc:** 'jalper@severud.com' <jalper@severud.com>  
**Subject:** RE: 1568 Broadway DOB

Nat et al,

We are discussing the acceptance of the peer review of the structural drawings that were submitted. For this phase, I have no request to enlarge the scope of the peer review. It covers only the final building structure. But the report and drawings need to meet the comments. I am available any time Wed or Thursday after 2pm. I think though that the issues can be solved without a meeting. It is up to you. A meeting though will need to take place at some point to discuss in principle the organization of peer reviews. ( I had such meetings with other reviewers since DOB wants to normalize the reports, upwards).



Here are my answers to below.

1. If a peer review had reached my desk and was accepted without a full list of structural drawings, it was my fault. Please attach a list.
2. Good, please state in the report.
3. The justification for the seismic design needs to be made by Severud and accepted by Silman, the peer reviewer. The explanation needs to be clear and based on specific references to NYCBC, eg TTPN paragraph...
4. State so in the report
5. State so in the report
6. The caissons shown on S-205 are not clearly explained. The load is designated by column not caisson. Usually there are instruction/specs accompanying caissons. I suggest more clarity on the drawings. No calcs are required to be submitted, but the per reviewer should have an opinion...  
If a report edited to meet the above is sent, it will be accepted. If during the construction period there will be modifications that substantially affect the presently submitted design, DOB should be notified that the peer reviewer accepted these.

Beyond and independent of the peer review , a "lifting" design including drawings and calculations and the respective peer review should be submitted ( not necessarily at this phase, follow instruction of forms to know when you can/need submit)

Best, Dan

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**From:** Nat Oppenheimer [<mailto:Oppenheimer@silman.com>]  
**Sent:** Monday, March 27, 2017 6:34 PM  
**To:** Dan Eschenasy (Buildings); Jason Tipold; Scott Duenow; Paul Boardman; Cawsie Jijina; 'Sergio Ghiano'  
**Cc:** 'jalper@severud.com'  
**Subject:** RE: 1568 Broadway DOB

Dan,

Thank you for your response. We appreciate your attention to this matter. Answers to your questions are below. I would be pleased to come and sit with you and walk through any further clarifications and other questions you might have in person. I should be available starting Wednesday AM (just need to confirm a few meetings). If you would like I can also bring the EOR for both the theater raise and the superstructure. The project at initial blush appears complex but the structural approach has been refined with several layers of peer review. We are seeking acceptance/sign-off for the purposes of a property closing at the end of the March. This approval is critical for the scheduled property closing and it associated financing.

We respectfully request that the approval can be issued now based on the completed peer review as amended, and then we can re-submit "for record" when all means and method engineering part of the submittal process to the EOR and Silman as master peer reviewer for the project and LPC.

See below for responses to each of your questions – which we can fold into an updated letter shortly.

Nat

**Nat Oppenheimer  
Silman**  
212 620 7970  
Direct 212 620 7973

**From:** Dan Eschenasy (Buildings)  
[mailto:DEschenasy@buildings.nyc.gov]  
**Sent:** Monday, March 27, 2017 5:06 PM  
**To:** Jason Tipold <tipold@silman.com>; Scott Duenow  
<sduenow@pbdw.com>; Paul Boardman <Boardman@maefield.com>;  
Cawsie Jijina <Cjijina@severud.com>; 'Sergio Ghiano'  
<SGhiano@design2147.com>  
**Cc:** 'jalper@severud.com' <jalper@severud.com>; Nat Oppenheimer  
<Oppenheimer@silman.com>  
**Subject:** RE: 1568 Broadway DOB

Here are some comments on the peer review.

1. The peer review report is supposed to list the drawings that were used for the review. [We can do – just to ask (since we have done it this way in the past), the set is over 100 pages – can we insert the titlepage listing all the S drawings since we did, one way or the other, review each sheet? Rather than listing them]
2. Item 1 of the peer review – as per the wind tunnel report the wind loads producing Mx need to be from ASCE 7 /NYBC, please confirm. [Confirmed. The wind tunnel produced loads well below ASCE 7, but we have confirmed that Severud has used the minimum loading allowed per ASCE 7, which is 80% of the ASCE 7 loads.]
3. Item 4, there might very well be a DOB “ruling” that the theater does not need seismic design/retrofit. Could not find such ruling under the present job number. [The overall project is a alteration, not a new building. As such, the theater should not require a retrofit. The theater itself is surrounded by a solid 12”+ walls. From a load perspective, the walls are more than adequate. However, they are not an approved system. While we would typically retrofit anyway, this is not possible without destroying the historic theater. Even if this is viewed as new construction, TPPN#4/96 provides the rules for enlargements. Given that the theater itself is not being enlarged, compliance is not required based on the TPPN and the flowchart.]
4. At item 6 of the peer review - the text does not make clear that independent calculations were performed. [We will clarify – to address the question, yes, they were performed.]



- 5. As already discussed item 8 needs to be rewritten to assure that structural integrity was verified. [We had sent this rewritten text a few weeks back (upon your request) and will resend]
- 6. There is no caisson design. There need to be an engineer of record for the caisson and it should be part of the submitted design set. [A design can be provided for your review, if required]

This is a very complicated undertaking and wonder if ( assuming all the issues raised above are met) a later peer review submittal should be required. ( e.g. along the lines that we accept separate peer reviews for foundation and structure). [As per the above – we are open to that. The owner is looking for approval for a certain funding threshold and if that approval can be granted with the written understanding that a later peer review update is required, I believe they would accept that. We can certainly provide technically.]

Unrelated to the present peer review, please explain what are the controls for raising the structure? Wilt here be a separate peer review or some other form of independent verification. [We have performed a full review of the entire lifting operation for LPC and can provide that to you as well]

Regards, Dan

Dan Eschenasy, PE,SECB, F.SEI  
 Department Chief Structural Engineer  
 NYC Buildings  
[deschenasy@buildings.nyc.gov](mailto:deschenasy@buildings.nyc.gov)

---

**From:** Jason Tipold [<mailto:tipold@silman.com>]  
**Sent:** Friday, March 24, 2017 11:26 AM  
**To:** Dan Eschenasy (Buildings); Scott Duenow; Paul Boardman; Cawsie Jijina  
**Cc:** 'jalper@severud.com'; Nat Oppenheimer  
**Subject:** RE: 1568 Broadway DOB

Oh, I apologize, I must have misunderstood. Regardless, would you like to discuss your comments/questions this afternoon? I am free at 2:30 or 4 for a call.

**From:** Dan Eschenasy (Buildings)  
[\[mailto:DEschenasy@buildings.nyc.gov\]](mailto:DEschenasy@buildings.nyc.gov)  
**Sent:** Friday, March 24, 2017 11:21 AM  
**To:** Jason Tipold <[tipold@silman.com](mailto:tipold@silman.com)>; Scott Duenow <[sduenow@pbdw.com](mailto:sduenow@pbdw.com)>; Paul Boardman <[Boardman@maefield.com](mailto:Boardman@maefield.com)>; Cawsie Jijina <[Cjijina@severud.com](mailto:Cjijina@severud.com)>  
**Cc:** 'jalper@severud.com' <[jalper@severud.com](mailto:jalper@severud.com)>; Nat Oppenheimer <[Oppenheimer@silman.com](mailto:Oppenheimer@silman.com)>  
**Subject:** RE: 1568 Broadway DOB

Jason, had no communication with Nat, except the one that resulted in your emails.

---

**From:** Jason Tipold [<mailto:tipold@silman.com>]  
**Sent:** Friday, March 24, 2017 10:45 AM  
**To:** Scott Duenow; Paul Boardman; Cawsie Jijina; Dan Eschenasy (Buildings)  
**Cc:** 'jalper@severud.com'; Nat Oppenheimer  
**Subject:** 1568 Broadway DOB

Hi Dan,

I understand that you connected with Nat earlier this week, and had some follow-up questions for this project. Please let me know if you would like to discuss anything, and we can set up a conference call with ourselves and Severud.

We all would obviously like to expedite this process as much as we can, so please let us know how we can help.

Thanks,  
J

**Jason Tipold, PE, SE, LEED AP**  
Associate

**Silman**  
32 Old Slip, 10th Floor, New York, NY 10005  
212 620 7970  
Direct 646 738 3564  
[silman.com](http://silman.com)



Attachment A
STRUCTURAL PEER REVIEW STATEMENT

This structural peer review and report is complete for the whole building, or
For phase \_\_\_ of \_\_\_ phased submissions

Structural peer reviewer name:
Nat Oppenheimer, PE

Structural peer reviewer address:
Silman Associates; 32 Old Slip - 10th Floor, NY, NY 10005

Project address:
1568 Broadway, New York, New York

Department application number for structural work:
121191236

Structural Peer Reviewer Statement

I (insert name) Nat Oppenheimer am a qualified and independent NYS licensed and
registered engineer in accordance with BC Section 1617.4, and I have reviewed the structural plans,
specifications, and supplemental reports for (Insert address and DOB application # for structural
work) 1568 Broadway, NY, NY 121191236 and
found that the structural design shown on the plans and specifications generally conforms to the
foundation and structural requirements of Title 28 of the Administrative Code and the NYC
Construction Codes. The Structural Peer Review Report is attached.

New York State Registered Design Professional
(for Structural Peer Review only)

Name (please print) Nat Oppenheimer

Signature Date 2/15/2017

PE/RA Seal (apply seal, then sign and date over seal)



cc: Project Owner
Project Registered Design Professional

May 11, 2017

Mr. Scott Duenow  
PBDW Architects  
49 West 37<sup>th</sup> Street  
New York, NY 10018

**Structural  
Engineers**

32 Old Slip, 10th Floor  
New York, NY 10005  
212 620 7970  
silman.com

RE: Structural Peer Review, Palace Theater, 1568 Broadway, New York City  
Silman Project No 17023

Dear Scott:

At the request of the owner, we have generally completed our Structural Peer Review of the proposed redevelopment work at 1568 Broadway, as per the requirements of Section 1617 of the 2014 New York City Building Code. We understand that the peer review is a requirement of both the Department of Buildings and the MTA (as is their right) and has been carried out in concert with a separate (but related) Peer Review of the work at the Palace Theater, itself, within the redevelopment, for presentation to the Landmarks Preservation Commission (LPC).

Silman has reviewed the documents produced to date [100% DD architectural drawings dated 09.02.16, structural filing drawings dated 12.06.2016 (see Appendix A for drawing list from Severud set)] and has engaged in the portions of the formal peer review that are consistent with the level of the present design. While we believe our review to be complete – in relation to the spirit and letter of the Code – we have been retained by the owner to remain engaged and continue to review subsequent documents to confirm that the general acceptance of the structural approach and level of documentation noted herein is maintained through final 100% conformance. This review has been carried out in a manner consistent with Section 1617.5 of the 2014 New York City Building Code. We offer this letter to provide a summary of our review.

The limitations of this report (and Silman's ultimate responsibility) are clearly indicated within Section 1617 of the New York City Building Code.

We have met with the design team on multiple occasions over the past nine months (including a more intense dialogue with Severud over the past month) to be briefed on the overall scope of the project and the structural design intent and approach; as well as the general approach to the means and methods that are under consideration at the theater relocation portion of the project. Our notes from these meetings – and the detailed discussions that ensued – are available if requested.

Executive Summary:



In general, our review has concluded that the overall structural approach is reasonable and the structure is documented to an appropriate level for filing and permitting of the project. The proposed approach to the vertical relocation of the theater is based on tried and true methods that have been deployed on similar projects and appear to be appropriate for the proposed relocation. Relocation work such as this obviously requires significant up front planning and a very high level of execution. The owners have engaged, through their Construction Manager, one of the top firms in New York City for this type of work (Urban Foundations) and their proposed approach (at a conceptual level) is, in our opinion, the right approach for this work.

### Review of Sequence

While not a prominent feature of a standard NYC peer review, Silman has undertaken, under separate cover, a more detailed evaluation of the construction sequence on site. For this project, the sequence of events on site has an impact on the design of the building and we have assumed the following sequence during our review of the current design documents (both Silman and Severud should be alerted if the proposed sequence changes to ensure the design addresses temporary load path changes and the like):

1. Demolish the existing building down to the 16<sup>th</sup> Floor.
2. Install temp/permanent deep foundations around existing theater.
3. Shore/resupport theater.
4. Simultaneously –
  - a. Retrofit new trusses within existing steel frame above theater.
  - b. Excavate new foundations under and around theater and construct Sub Cellar and Cellar Levels.
5. Demolish old truss levels (to allow lifting of theater) (while continuing to excavate new Cellar and construct new subgrade floors).
6. Lift theater.
7. Construct new tower above rebuilt transfer trusses (potentially overlapping with (6)).

### Reviewed Documents:

We were provided with the following documents, which were used to complete our review:

- 1568 Broadway Development Report (dated 5.23.2016). This includes:
  - Architectural documents and renderings.
  - Proposed Demolition Documents.
  - Geotechnical Report (dated 5.18.2016) by Langan.
  - Support of Excavation Documents by Langan.
  - Foundation Report by Tony Mazzo (a narrative of the proposed plan to lift the Theater within the redevelopment).
  - Structural Narrative and Concept Framing Plans.

- Theater Loading Diagrams.
  - Original Structural Documents.
- Issued for DOB Filing Drawings (dated 12.09.16, issued to Silman 01.15.17). These include:
  - Architectural drawings
  - Structural drawings (see the drawing list in Appendix A)
  - MEP drawings
- Wind tunnel testing report from Rowan Williams Davies and Irwin Inc. (dated 01.16.17)
- April 14, 2017 Severud Memo – ‘Palace Theater Compliance with 2014 NYC Building Code for Structure for Global Stability’.
  - Revised S-722, with note regarding probing of existing theater columns.
  - Draft email to NYC DOB Technical Division related to seismic capability of existing theater structure and compliance with appropriate Code requirements.

Peer Review Comments:

We note the following on a task by task basis, aligned with the requirements of Section 1617.5.1 of the 2014 New York City Building Code:

1. *Confirm that the design loads conform to this code (2014 NYC Building Code).*

Silman has reviewed the current dead, snow, live, wind, and seismic loads shown on S-722, and found them to be in accordance with the 2014 NYC Building Code.

Silman was also provided with a wind tunnel testing report from Rowan Williams Davies and Irwin Inc. The results of the testing have been applied appropriately to the structural models. The provisions of Section 1609.1.1.2 regarding lower bound limits on wind tunnel results (base moment from wind tunnel testing cannot be less than 80% of ASCE-7 base moment) have been appropriately followed, and loads have been applied to the structural models accordingly. The wind tunnel testing base moment was found to be equal to or less than 80% of ASCE-7 base moment, so ASCE-7 pressures have been used.

Silman was provided with modeling of the Palace Theater structure and the calculations to support the approach to the seismic analysis of the existing theater structure and concur with this approach, the overall theater mass noted, and the calculated seismic mass noted therein (6% of theater mass due to seismic activity). In the process of arriving at this conclusion, Silman ran independent calculations to confirm the overall mass of the theater that was noted within Severud’s calculations was reasonable, that the R assumed by Severud was appropriate, and that the percentage mass attributable to lateral seismic forces was reasonable.



- 2. Confirm that other structural design criteria and design assumptions conform to this code and are in accordance with generally accepted engineering practice.*

Silman has reviewed the structural design criteria and design assumptions, has found them to conform to the 2014 NYC Building Code and generally accepted engineering practice. We have reviewed the overall seismic design approach for overstrength values and system irregularities.

The present approach to the analysis of the existing theater's seismic capability within the

- 3. Review geotechnical and other engineering investigations that are related to the foundation and structural design and confirm that the design properly incorporates the results and recommendations of the investigations.*

We have reviewed Langan's report and recognize that the intent is to found the building structure on rock, with shallow foundations supported on both 40 tsf competent bedrock and 8 tsf weathered rock in some areas. The subcellar slab is designed to resist the specified hydrostatic pressure. The seismic design parameters and foundation wall lateral pressures were utilized as specified. Although the site is within 200 feet of MTA structures (and thus requires formal TA submission and approval), the new foundations have been designed and located to fall below the MTA line of influence for the tunnels (as clearly indicated FO-211, 212, and 213). Rock anchors are being used in a few locations to address uplift.

Given both the likelihood of water on the site and the construction issues raised in the Langan report regarding bedding plane slopes at the east and west sides of the site, we concur fully with the statement(s) made by Urban Foundations regarding the sequence of the work and the recommended intent to lift the theater after the excavation of the lowest levels.

Finally, an add/alternate caisson approach was noted within the documents. This approach will be removed in the final permit set, as per discussions with Severud. If an alternate caisson is provided during the bid, a design will be provided by the sub-contractor (with calcs) and both Severud and Silman will review and submit an appended report to DOB.

- 4. Review the structural frame and the load supporting parts of floors, roofs, walls and foundations. Cladding, cladding framing, stairs, equipment supports, ceiling supports, non-loadbearing partitions, railings and guards, and other secondary structural items shall be excluded.*

From the 17<sup>th</sup> through the Main Roof, the structure is typical cast in place concrete construction. Gravity and lateral loads are supported by the combination of concrete shear walls and concrete columns.

From the 1st to the 16<sup>th</sup> Floor, various portions of the existing structure remain to comply with zoning requirements for the existing building. Where existing structure is removed, new steel beams and columns are used with concrete slab on metal deck to support gravity loads, although there are also areas of new cast in place concrete slab. In the east side of the plan, the gravity loads of the 8<sup>th</sup> through 13<sup>th</sup> Floors are being hung from the transfer trusses above. Lateral loads are resisted by a combination of concrete shear walls and steel braced frames. There are numerous shear walls in the hotel tower that do not continue down to the foundation, and thus the loads from these walls are transferred out on multi-story deep composite steel and concrete trusses between the 12<sup>th</sup> and 16<sup>th</sup> Floors. These trusses are then supported on built-up steel super columns that go down to the foundation. Where the existing steel super columns and existing concrete shear walls are remaining in place, they are being reinforced for additional loads. Lateral forces at the base of the discontinuous tower shear walls are transferred to other lines of lateral resistance with in-plane steel diaphragm trusses at various levels.

The existing Palace Theater masonry box with interior columns and slabs will be lifted in its entirety and re-located to the top of east side of the new 3<sup>rd</sup> Floor steel platform. (The existing structure will occupy from the 3<sup>rd</sup> Floor to the underside of the 8<sup>th</sup> Floor). The top and sides of the existing theater will be separated with a gap from the rest of the adjacent structure. The seismic mass from the theater has been lumped at the new third floor and designed for in the new lateral system.

Silman has reviewed Severud's April 14, 2017 memo regarding the analysis of the existing theater structure and its capacity to support a current Code level seismic event and we concur with the approach (to design to the 2014 Code and appropriate justify the inherent capacity of the existing unreinforced masonry shell to support the volumetric theater against appropriate lateral forces generated by a seismic event). In arriving at this conclusion, Silman ran independent calculations on the assumed overall Section Modulus of the theater (we differed somewhat with Severud on the derivation of the overall Section Modulus but arrived at the same ultimate conclusion regarding stresses within the existing masonry – that a seismic event would generate stresses that could be supported by the existing masonry walls). We have also independently verified that the existing masonry walls are adequate for out of plane bending due to seismic loads, and that the existing historic ceiling is exempted from seismic compliance as per ASCE 7-10 Section 13.1.4.

Having said that, we also continue to believe that the actual seismic base shear and overturning moments directly related to the theater itself can be shown to increase less than 20% when the theater is raised 30 feet in the air. We understand that having exceeded the 110% threshold, new building design is required but we do continue to believe that there is a reasonable and rigorous argument that could be

made – in light of the Landmarked status of the Theater and consistent with the IEBC – that theater could be evaluated under TPPN 4/99 requirements and found to be within 20% of the original (the overturning moment of the theater itself would essentially remain linear to the base shear in this case since the height of the theater and the locations of each story (balcony) from the base of the theater remain unchanged). Said another way, the stresses within the theater structure itself, in our opinion, will not increase beyond the basic triggers established in previous NYC Building Codes (and, potentially, within IEBC level requirements).

We note this out of deference to the Landmark Status of the Theater and as a peer reviewer wearing two hats in this case – on behalf of DOB’s requirements and at the request of LPC. If, ultimately, in pursuing an approach that reinforces much of the theater shell in an effort to provide 2014 level continuity (or isolated seismic strengthening) results in the destruction of a significant amount of historic fabric, is it not unreasonable to look to the IEBC and their approach to registered Landmark fabric within a renovation project?

In general, the approach taken by Severud (and independently verified by Silman) demonstrates overall stability of the theater under seismic loads and that the Severud design meets the requirements as currently outlined regarding compliance with the 2014 NYC BC.

In isolated areas, it is true that connectivity of masonry to steel elements, continuity of steel elements, and some zones of wall may not meet the full requirements that a new building would meet. It is our professional opinion that, prior to reinforcing for these things, there should be an opportunity to assess the historic nature of the theater and work to arrive at a conclusion that both meets the spirit of the 2014 New York City Building Code (that the owner is not attempting to carry significant new loads into the building and is not balking at doing work based on hardship or trying to suggest that, overall, this is an alteration) and, at the same time, meets the spirit and content of the IEBC and other national Codes that govern historic structures and renovations.

The existing structure currently has a one-story cellar, however the proposed design includes additional excavation below the existing cellar to create a new Sub Cellar level. All new columns and shear walls that continue down to the Sub Cellar will be placed on new foundations. All existing vertical elements to remain will be extended down to the new Sub Cellar level where they will be placed on new foundations. All new foundations are spread footings or mat foundations bearing on rock, as per the geotechnical recommendations.

The deflection of the transfer levels is not part of the basic review but should be taken into account by the builder and discussed, conceptually, with Severud (as it



relates to impact on installed finishes and floor flatness/levelness and the movement that may occur at the transfer levels as the new tower is constructed)

5. *Confirm that the structure has a complete load path.*

The gravity load path in the structure is complex, given the combination of new and existing elements, both steel and concrete framing, super columns, composite and non-composite multi-story transfer trusses, hung levels, and the shoring/re-location of the existing theater into the new structure. That said, we have found the overall gravity load path to be adequate and appropriate.

The lateral load path in the structure is also complex for all of the same reasons as above. In addition, the complexity is increased by discontinuous shear walls and braced frames that require diaphragm transfer levels to shift lateral forces between lines of lateral resistance. These discontinuities require over-strength factors for seismic design. We have found the lateral load path to be conceptually adequate and will track the further development of details through conformance documents as per agreement with the owner – given the complexity and sensitivity of this item.

6. *Perform independent calculations for a representative fraction of systems, members, and details to check their adequacy. The number of representative systems, members, and details verified shall be sufficient to form a basis for the reviewer's conclusions.*

We have been provided with detailed calculations for the entire structure and have independently reviewed a number of specific elements, including but not limited to the following:

- Typical steel floor beam and girder.
- One steel transfer truss.
- Typical floor slab at cast-in-place concrete structure above transfer level(s).
- Super column (based on loads provided by Severud).
- One in plane diaphragm truss for lateral load transfer
- One concrete shear wall core
- Foundation element(s).

Independent calculations were performed for the elements above, and the elements shown were found to be adequate and reasonable.

7. *Verify that performance specified structural components (such as certain precast concrete elements) have been appropriately specified and coordinated with the primary building structure.*

This shall be carried out during the construction documents phase and shall be focused on the information given within the Construction Documents, to the bidders regarding:

- The work at the existing (and new) transfer trusses.
- The lifting and resetting of the theater.
- The façade elements and their supports.

Our review of the approach to each of these elements indicates that the appropriate steps have been taken to ensure the appropriate response from the construction team to their responsibilities.

8. *Verify that the design engineer of record complied with the structural integrity provisions of the code.*

As a starting point, we have received a detailed memo from Severud outlining their approach to addressing each of the appropriate Structural Integrity portions of the Code. We have reviewed this memo, discussed the various items with Severud in detail, and independently confirmed that the appropriate NYC Building Code structural integrity provisions are integrated into the current design.

9. *Review the structural and architectural plans for the building. Confirm that the structural plans are in general conformance with the architectural plans regarding loads and other conditions that may affect the structural design.*

As of this review, the structural and architectural plans are in general conformance. We believe that the level of conformance is appropriate for a structural peer review and that any further development is not likely to impact the primary structural systems or capacities.

10. *Confirm that major mechanical items are accommodated in the structural plans.*

As of this review, the structural and architectural plans are in general conformance. We believe that the level of conformance is appropriate for a structural peer review and that any further development is not likely to impact the primary structural systems or capacities.

11. *Attest to the general completeness of the structural plans and specifications.*

We attest that the structural filing documents are at an appropriate level of filing and peer review.

In summary, the overall structural scope of work and design approach are reasonable and appropriate for a structure of this type. Further, the proposed approach to the lifting of the historic theater shell is appropriate and feasible and we shall continue to be involved with this aspect of the project, through Landmarks approval.

If you have any further questions or would like to discuss, please do not hesitate to contact our office.

Sincerely,

A handwritten signature in black ink, appearing to be 'Nat Oppenheimer', written over a circular stamp or watermark.

Nat Oppenheimer  
Executive Vice President



# GEOTECHNICAL ENGINEERING REPORT

for

**1568 BROADWAY  
NEW YORK, NEW YORK**

*Prepared For:*

**Maefield Development  
280 East 96<sup>th</sup> Street, Suite 210  
Indianapolis, Indiana, 46240**

*Prepared By:*

**Langan Engineering, Environmental, Surveying  
and Landscape Architecture, D.P.C.  
21 Penn Plaza  
360 West 31<sup>st</sup> Street, 8<sup>th</sup> Floor  
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**LANGAN**

**26 October 2016  
170391901**

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## INTRODUCTION

This report was prepared by Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. (Langan) and presents our geotechnical engineering evaluation for the proposed project located at 1568 Broadway, in Manhattan, New York. The purposes of this report are to provide information on anticipated subsurface conditions, and recommendations for foundations and other geotechnical aspects of design and construction.

This report has been prepared based on information provided by Platt Byard Dovell White Architects, LLP (PBDW), and Severud Associates Consulting Engineers, P.C. (Severud). Ground surface elevations presented in this report were taken from a topographical survey prepared by Earl B. Lovell – S.P. Belcher, Inc., dated 14 December 2015. Elevations from the aforementioned survey are with respect to the North American Vertical Datum (NAVD88)<sup>1</sup>. The general sidewalk grade fronting the site varies from about el. 48± to el. 50± NAVD88.

## SITE DESCRIPTION

The 1568 Broadway site is located at the southeast corner of West 47<sup>th</sup> Street and Seventh Avenue, in the Times Square Theater District section of Manhattan. The site is currently occupied by the Landmarked<sup>2</sup> Palace Theater, and a 45-story hotel that was built both over the theater and to the east of the theater. A single cellar level is located throughout the site footprint that ranges in depth between about 13 to 15 feet below existing sidewalk grade for the theater and hotel, respectively.

A New York City Transit (NYCT) tunnel for the “N”, “Q”, and “R” subway lines is present below Seventh Avenue, directly to the west of the site. Existing structures are located immediately to the south and east of the site. The site is identified as Block 999, Lot 62, with a lot area of about 23,000 square feet. Figure No. 1 presents a general site layout diagram. A site location map is presented as Drawing No. 1.

## Adjacent Properties

The southern property line of the site is bordered by a combination of 1560 Broadway, 155 West 46<sup>th</sup> Street, and portions of the 151 West 46<sup>th</sup> Street. The entire eastern property line is bordered by 150 West 47<sup>th</sup> Street. Our understanding of the foundations of the adjacent

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<sup>1</sup> The North American Vertical Datum (NAVD88) is 1.1 ft above the U.S. Coast and Geodetic Survey Datum mean sea level at Sandy Hook, New Jersey, 1929, (NGVD).

<sup>2</sup> Based on the 4<sup>th</sup> Edition “Guide to New York City Landmarks” prepared by the New York City Preservation Commission, the Embassy Theater, 1556-1560 Broadway, was designated a landmark interior in 1987.

buildings is based on a combination of our recent work on these projects and our review of the Certificate of Occupancies (C/O) for each building posted on The New York City Department of Buildings (NYCDOB) website<sup>3</sup>; the following was noted:

1560 Broadway (Lot 3): is a 17-story commercial/office building with one-cellar level and was constructed circa 1925. The “L-shaped” building has a footprint of about 14,850 sq-ft, with about 60 feet of frontage along Seventh Avenue/Broadway and about 100 feet of frontage along West 46<sup>th</sup> Street. The interior of the building is landmarked<sup>4</sup>, and the cellar slab is located about 17-feet from sidewalk grade, corresponding to about el. 31±. Based on our previous involvement at this project site, we understand that the building is supported by shallow foundations bearing on bedrock.

155 West 46<sup>th</sup> Street (Lot 8): is a 5-story commercial/office building with one-cellar level and was constructed circa 2012. The building has a footprint of about 2,000 sq-ft, with a 20 foot frontage along West 46<sup>th</sup> Street. The building is joined with the 1560 Broadway building and serves as a lobby/access area for elevators into the 1560 building. The cellar slab within this building is located at about 10-feet below sidewalk grade, at about el. 40±. Based on our previous involvement at this project site, we understand that the building is supported by shallow foundations bearing on bedrock.

151 West 46<sup>th</sup> Street (Lot 9): is a 14-story mixed-use masonry structure that was constructed circa 1920’s. It is believed that this building has one below grade level. Existing foundation drawings for the building were not available at the time of this investigation; however given the depth to rock at the adjacent sites, we anticipate that the foundations are bearing on or near bedrock.

150 West 47<sup>th</sup> Street (Lot 54): is a 13-story mixed- use masonry structure that was constructed circa in 1979. It is believed that this building has one below grade level. Existing foundation drawings for the building were not available at the time of this investigation; however given the depth to rock at the adjacent sites, we anticipate that the foundations are bearing on or near bedrock.

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<sup>3</sup> New York City Department of Buildings website property profile and certificate of occupancy ([www.nyc.gov](http://www.nyc.gov))

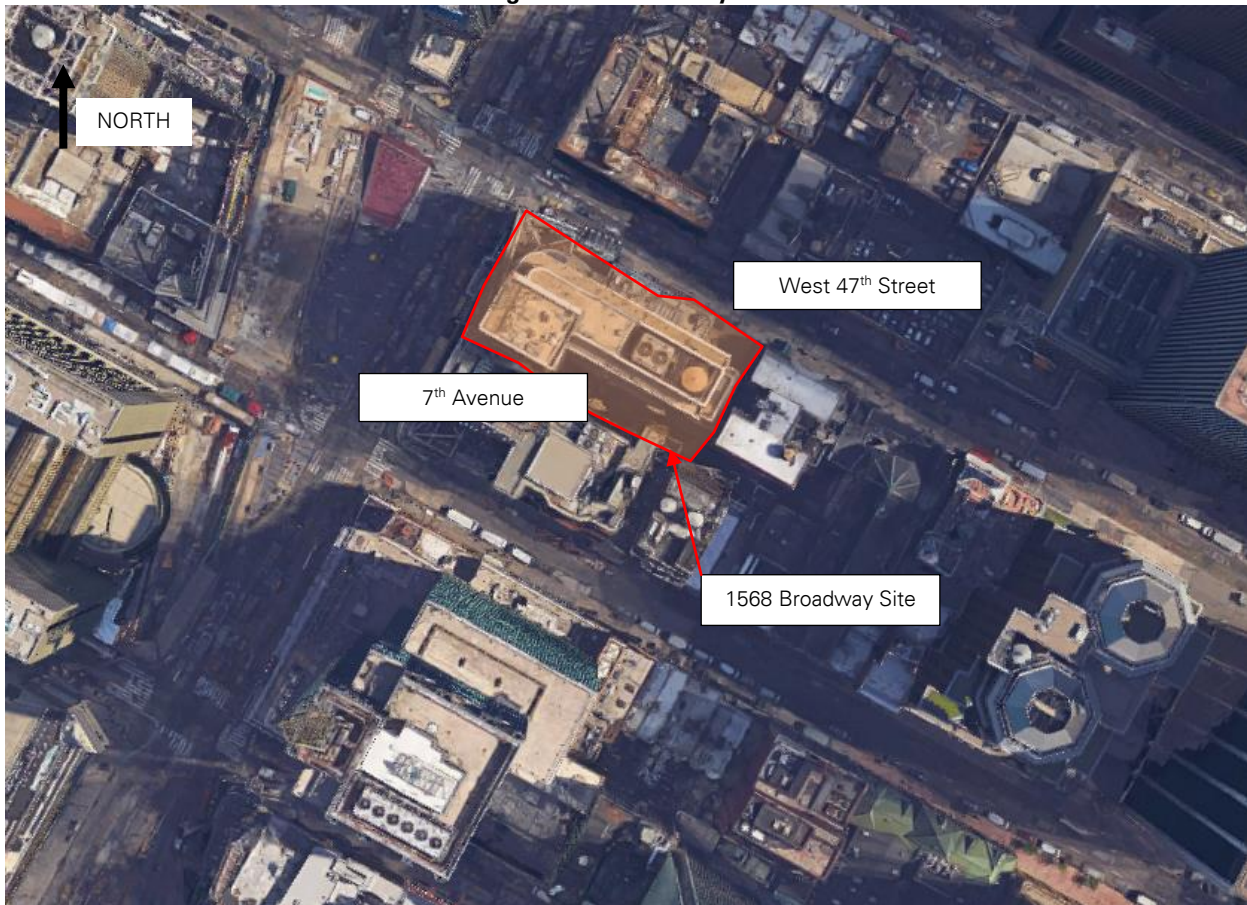
<sup>4</sup> Based on the 4<sup>th</sup> Edition “Guide to New York City Landmarks” prepared by the New York City Preservation Commission, the Embassy Theater, 1556-1560 Broadway, was designated a landmark interior in 1987.

### Adjacent New York City Transit (NYCT) Structure

As discussed herein, a New York City Transit (NYCT) subway structure is below Seventh Avenue to the west of the site. The NYCT operates and maintains a subway station at the corner of 47<sup>th</sup> Street and Seventh Avenue. The "N", "Q", and "R" trains run along tracks below Seventh Avenue and travel regularly in the north and south directions. The top of the subway structure is at about 4 feet (el. 44 NAVD) below sidewalk grade and the bottom of the subway structure is at about 24 feet (el. 24 NAVD) below sidewalk grade, with a base-of-rail of about el. 26±.

Due to the proximity of the site to an NYCT tunnel structure, design and construction of the proposed building must conform to the NYCT requirements and restrictions. The Department of Buildings will require NYCT approval prior to issuing building permits.

Figure No. 1: Site Layout



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

### PROPOSED DEVELOPMENT

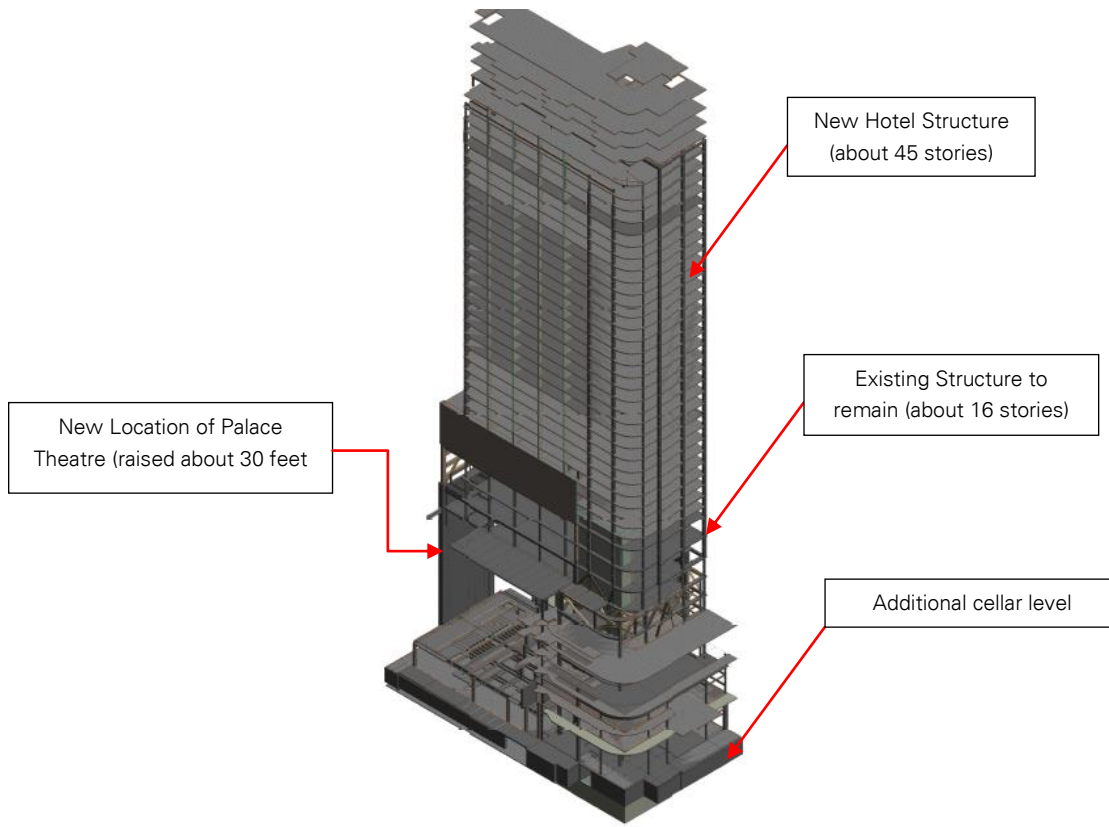
Our understanding of the proposed building layout and concept is based on discussions with



the project team and project drawings provided by PBDW and Severud. We understand the current scheme includes raising the existing Palace Theatre to be above the existing first floor elevation (to about 30 feet above the current location) and a reconfiguration of the hotel entrances, allowing for a major retail space fronting Broadway. A majority of the existing 45-story hotel structure will be demolished to accommodate the temporary bracing and shoring required to facilitate the raising of the theatre and the excavation below the theater. Specifically, at the completion of demolition, 8 stories of the hotel structure will remain on the east side, and 16 stories of the hotel structure will remain on the west side of the site. One additional sub-cellar is planned to be excavated below the existing cellar and a new foundation system will be installed to support the building expansion.

Once the excavation is completed and the theater has been raised, the hotel will be reconstructed back to the 45 floors it was previously, however with a greater floor to floor clearance. The new retail center will be located within the additional cellar level, with total depth of the new building ranging about 30 feet below sidewalk grade (about el. 18±). Figure No. 2 below presents an overview of the proposed development layout. Severud has provided typical column loads for the single cellar level scheme to be about 3,000 kips, with the loads for the super-columns on the order of about 18,000 kips. We have been informed that the foundations will exhibit localized uplift forces on the order of about 600 kips.

**Figure No. 2: Proposed 1568 Broadway Hotel Building**



Source: Drawing S-000 – Structural Overview, dated 18 May 2016 provided by Severud Associates Consulting Engineers

## LOCAL GEOLOGIC BACKGROUND

The site is on Manhattan Island, which is within the southern terminus of the Manhattan Prong of the New England Upland province. Bedrock in the vicinity of the site generally consists of granite and schist. Bedrock is overlain by glacial and fluvial soil, as well as extensive fill. Although altered by urban development, original topography within Manhattan typically mimics the contours of the underlying bedrock.

According to Baskerville (1994), bedrock stratigraphy in the vicinity of the site is part of the Hartland formation, with rock of the Lower Cambrian (about 500 to 520 million years ago) to Middle Ordovician (about 461 to 472 million years ago) age and intrusive rock presumably of the Silurian age (about 416 to 444 million years ago), consisting of granite and megacrystalline pegmatite. The geologic map for the site vicinity is included as Drawing No. 3. Boundaries between the intrusive granite and Hartland formation rocks are not well-defined as evidenced by intermittent contacts and inclusions observed in rock cores throughout the area.

Generalized descriptions of the Hartland Formation mapped in the vicinity of the site are reported to be Interbedded units of (1) gray, fine-grained quartz-feldspar granulite containing

minor biotite and garnet; (2) fine-to-coarse grained, gray-to-tan weathering, quartz-feldspar-muscovite-biotite-garnet schist (mica schist); (3) dark greenish-black quartz-biotite-hornblende amphibolite. Intrusions of granite and pegmatite are common (Baskerville 1994). Metamorphism has resulted in foliation – a distinct planar alignment of mineral grains – within rocks of the Hartland Formation. This grain alignment is commonly referred to as schistosity in the more platy schistose rock or compositional banding in gneissic rocks. Foliation is typically oriented either northwest or southeast and dips steeply within Manhattan as discussed by Baskerville, but may be altered locally as a result of folding.

We reviewed the historical “Sanitary & Topographical Map of the City and Island of New York” (Viele, 1865), identified a major stream channel had previously occupied the site, and that the site appears to lie on a former meadow. Attached as Drawing No. 2, is part of the Viele Map. A major stream channel often suggests deeper fills, a drop in the rock surface, and/or a thick weathered rock layer.

## **SUBSURFACE EXPLORATION**

Our subsurface exploration program included (1) excavating six test pits, (2) drilling eleven test borings with in situ testing and sampling of soil and rock, (3) installing groundwater observation wells, and (4) performing borehole geophysical logging.

### **Test Pits**

Six test pits (TP-1 through TP-6) were excavated adjacent to existing walls and columns within the cellar level of 1568 Broadway. These test pits were performed to identify the type, condition, material, dimensions, and underlying bearing material of the existing building foundations and perimeter walls. The test pits were excavated from 9 to 23 May 2016 by Urban Foundation Engineering, LLC (Urban) using hand tools under the full-time inspection of a Langan engineer.

In general, the existing foundations were noted to be shallow foundations (i.e., footings) bearing on bedrock, which was generally encountered immediately below the cellar slab (average depth of about 3 feet). The conditions encountered within each test pit were documented in the field with sketches and photographs, and those details are presented in Appendix A. The test-pit locations are shown on the subsurface exploration plan included as Drawing No. 4.

## Test Borings

Eleven test borings (LB-1 through LB-11) were completed by Warren George Inc. (WGI) under full-time inspection of a Langan engineer. All borings were drilled between 10 May and 9 June 2016 using three limited-access electric drill rigs. The borings were drilled to depths varying between about 21 and 58 feet below the existing cellar level, corresponding to about el. 14± to -23±. All borings were advanced through the overburden using mud-rotary drilling techniques. Steel casing was advanced to the top of rock for supporting overburden during rock coring. The boring locations are shown on the subsurface exploration plan included as Drawing No. 4.

Standard Penetration Test (SPT) N-values<sup>5</sup> were measured and typically obtained continuously for the upper 12 feet or to the top of rock, and at 5-foot intervals thereafter where soil was encountered deeper than 12 feet. Samples were retrieved using a 2-inch-diameter standard split-spoon sampler in general accordance with ASTM D1586. Recovered soil samples were visually examined and classified in the field in accordance with the Unified Soil Classification System (USCS), and the New York City Building Code (Building Code).

Bedrock was cored using NX-sized core barrel equipped with a diamond cutting bit in general accordance with ASTM D2113. Rock type, percent recovery (REC)<sup>6</sup> and Rock Quality Designation (RQD)<sup>7</sup>, were determined for each core run. Soil and rock classifications, SPT N-values, and other field observations were recorded on the boring logs included within Appendix B.

## Observation Wells

Groundwater observation wells were installed in completed borings LB-7, LB-8, and LB-10. The wells consisted of 10 feet of 2-inch diameter Schedule 40 PVC slotted screen and between 10 and 15 feet of solid riser pipe. For each well, the annulus around the slotted PVC pipe was backfilled with No. 1 filter sand to about 2 feet above the screen, then a 2-foot-thick bentonite pellet seal was placed and the remaining annulus was backfilled with soil cuttings. The well construction logs are included within Appendix B.

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<sup>5</sup> The Standard Penetration Test is a measure of the soil density and consistency. The SPT N-value is defined as the number of blows required to drive a 2-inch-outer-diameter split-barrel sampler 12 inches using a 140 pound hammer falling freely for 30 inches.

<sup>6</sup> The percent recovery is the ratio of the length of rock recovered over the total rock core length, expressed as a percentage.

<sup>7</sup> The RQD is defined as the ratio of the summation of each rock piece greater than 4 inches over the total core length, expressed as a percentage.

## Borehole Geophysical Logging

Borehole geophysical logging, consisting of optical televiewer (OTV) and acoustic televiewer (ATV) logging, was conducted in five borings, identified as LB-2, LB-3, LB-7, LB-10 and LB-11 by Hager-Richter Geoscience, Inc. (Hager-Richter) on 31 May 2016.

The purpose of the borehole geophysical logging was to characterize in situ conditions of the bedrock, especially to determine depths and orientations of bedrock structures (i.e., fractures, joints, foliation, etc.) intersected by the boreholes. Geophysical results consisting of geophysical logs, bedrock structure statistics plots, tables of bedrock structures, and borehole geophysical logging figures are presented in Appendix C.

## SUBSURFACE CONDITIONS

The general subsurface profile consists of uncontrolled fill underlain by weathered rock, overlying competent bedrock. Competent bedrock was observed to be encountered at relatively deep depths, about 30 to 53 feet below existing cellar grade, at boring locations LB-6, LB-7, LB-9, and LB-11. A detailed description of each layer encountered is provided below. Subsurface profiles A through D are shown in Drawing Nos. 5 through 8.

### Fill [Class 7]<sup>8</sup>

A layer of fill was encountered in all of the borings immediately below the existing cellar slab. This layer is described as brown, coarse to fine sand with varying amounts of gravel, silt, brick, and concrete. The fill ranged in thickness from about 1 to 12 feet, and averaged about 5 feet thick. The areas of the localized deep fill were observed to be within close proximity to the existing hotel super-columns; the deep fills indicated that over excavation of weathered bedrock and/or bedrock was performed for the installation of the footings for the hotel super-columns and then backfilled.

Standard Penetration Test N-values in the fill ranged from about 2 blows per foot (bpf) to spoon refusal (more than 50 blows over six inches of penetration or 100 blows over one foot of penetration), with an average of about 26 bpf. Refusal occurred where obstructions such as coarse gravel, bricks, and cobbles were encountered. The fill is considered loose to dense and is classified as Building Code Class 7 material, Controlled and Uncontrolled Fills.

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<sup>8</sup> Numbers in brackets that follow the material designation indicate classification of soil and rock materials in accordance with the Building Code.



### **Weathered Rock [Class 1d]**

A layer of weathered rock was encountered below the fill in 7 of the 11 borings drilled (top at about el. 24± to 35±); the weathered rock was not encountered in borings LB-3, LB-4, LB-5, and LB-10. The thickness of the weathered rock, where encountered, was typically about 6 feet; however, we note that in 4 of the 7 borings, the weathered rock was either interbedded within the parent rock (LB-6 and LB-11), or extend the full depth of the boring (LB-7 and LB-9). The weathered rock consisted of highly fractured bedrock, which often displayed the visual characteristics of the parent rock (color, grain size, etc.), but easily breaks apart under a small amount of pressure. Where encountered, the top of the weathered rock was observed at the depth of the existing cellar grades, about 14 to 25 feet below existing sidewalk grade.

In addition, a layer of weathered rock was encountered in borings LB-6 and LB-11 at a depth between about 27 to 33 ft below existing sidewalk grade (about el. 22± and el. 16±, respectively); the weathered rock was observed to be interbedded within competent bedrock. In LB-7, the weathered rock extended down a majority of the bore hole, which was 53 feet of the 58 feet cored. This was confirmed with the borehole geophysics.

For the weathered rock zone, the RQD varied between 0 and 33 percent, and averaged about 10 percent. The weathered rock generally consists of micaceous schist with varying proportions of gravel and silt. N-values within the weathered rock ranged from 7 bpf to spoon refusal, and averaged about 44 bpf. In general, N-values in the weathered rock layer increased with depth, eventually resulting in refusal as the split spoon approached the sound bedrock. The weathered/soft rock is classified as Building Code Class 1d material, Soft Rock.

In summary, we have observed areas where weathered rock is deep (borings LB-7 and LB-9) and where weathered rock seams are present within competent bedrock (boring LB-6 and LB-11). The stream that formerly occupied the site is likely associated with the locations and depths of the weathered rock zones.

### **Bedrock [Class 1a to 1c]**

Below the weathered bedrock layer, where present, is competent bedrock which is characterized as grey mica schist with layers of pegmatite, quartz, and amphibolite. The rock fractures were fresh to highly weathered and had orientations from horizontal to about 60 degrees. The depth to bedrock ranged from about 5 to 53 feet below existing cellar grade and the corresponding top of bedrock elevation ranged from about el. 30± to about el. -19±.

Rock Characterization

Bedrock typically consists of schist with miscellaneous intrusions of pegmatite and granite. The schist is typically comprised of muscovite, biotite, quartz, feldspar, and garnet, and appears to be complexly folded with distinct foliation. Weathering of the bedrock was generally slightly weathered to fresh and fracture spacing was generally close (2.5 to 8 inches) to wide (2 to 5 feet). Isolated zones of highly fractured rock were observed within borings LB-6, LB-7 and LB-11, see Drawing No. 10 for the locations of highly weathered rock. However, the full extent of these highly fractured zones is unknown and these conditions should be considered possible across the site.

Rock-core recovery (REC) values varied between 75 and 100 percent and rock-quality designation (RQD) and averaged about 71 percent. The rock is generally highly competent, with about 70 percent of the RQD values exceeding 70 percent (fair to excellent quality, Building Code Class 1b or better). The bedrock is classified as Building Code Class 1a to 1c, Hard Sound Rock to Intermediate Rock.

Rock Discontinuity Orientations

Bedrock discontinuity orientation data was obtained from borehole geophysical logging consisting of optical televiewer (OTV) and acoustic televiewer (ATV) logging. An equal-area lower-hemisphere stereographic projection (stereonet) of the discontinuity data was developed using the Dips® software program from Rocscience, Inc., and is shown on Drawing No. 9. The stereonet displays a symbolic pole plot of the discontinuities overlain by a Fisher contour distribution. The planes representing the mean orientation of the discontinuities are also shown along with the proposed orientation of the excavation walls. The orientation and dip of discontinuities can vary based on the scatter within the data set.

The stereonet indicates the presence of a prominent fracture set and foliation and a secondary fracture set within the boreholes (displayed as pole clusters), which are summarized in Table 1 following:

**Table 1 –Fracture Sets and Foliation**

| <b>Discontinuity Set</b>   | <b>Typical Dip Azimuth</b>        | <b>Typical Dip Angle</b>       |
|----------------------------|-----------------------------------|--------------------------------|
| Prominent Fracture (Set 1) | West to Northwest (250° to 330°)  | Moderate to Steep (50° to 80°) |
| Secondary Fracture (Set 2) | South to Southeast (160° to 180°) | Shallow to Steep (20° to 60°)  |
| Foliation                  | West to Northwest (270° to 330°)  | Moderate to Steep (40° to 80°) |

The foliation observed in the bedrock is near parallel to fracture set 1. The orientation of the two prominent fracture sets and foliation is in general agreement with observations made by Hager-Richter.

The data presented above indicates unfavorable conditions (major rock wedges daylighting into the excavation) may be encountered along the east and west sidewalls of the excavation. In addition, the potential for raveling may exist in isolated areas of highly weathered and highly fractured rock, specifically near the bedrock surface, along all sidewalls of the excavation.

**Groundwater**

Groundwater observations wells were installed in borings LB-7, LB-8, and LB-10 to about 30 feet below grade. Groundwater level was also measured in each borehole during drilling. The water level was measured at about 8.5 feet below existing cellar grade, corresponding to about el. 25± and el. 27±. Based on the subsurface conditions encountered, we believe that the groundwater is perched along the top of the competent bedrock surface. Our measured groundwater levels are included in Table No. 2 below. Details of the groundwater observation wells are presented in Appendix B.

**Table No. 2 - Groundwater Monitoring Data**

| <b>Boring<br/>(Ground Surface Elevation)</b> | <b>Date</b> | <b>Depth Below<br/>Grade (ft)</b> | <b>Approx. GW<br/>Elevation (ft)</b> |
|--|-------------|-----------------------------------|--------------------------------------|
| LB-7 (OW)<br>(el. 33.6)                      | 06/01/2016  | 8.5                               | 25.1                                 |
|  | 06/02/2016  | 8.5                               | 25.1                                 |
|  | 06/06/2016  | 8.5                               | 25.1                                 |
|  | 06/07/2016  | 8.5                               | 25.1                                 |
| LB-8 (OW)<br>(el. 36.2)                      | 06/15/2016  | 9.2                               | 27.0                                 |
| LB-10 (OW)<br>(el. 33.6)                     | 06/01/2016  | 7.5                               | 26.1                                 |
|  | 06/02/2016  | 8.2                               | 25.4                                 |
|  | 06/06/2016  | 8.3                               | 25.3                                 |
|  | 06/07/2016  | 8.3                               | 25.3                                 |

**SEISMIC EVALUATION**

This section presents the results of our seismic evaluation for the site relative to the provisions outlined in the Building Code. The proposed structure has been designated as Structural Occupancy Category III. Table No. 3 below provides our recommended parameters for use in seismic design of the propose structure.

**Table No. 3 - Building Code Seismic Design Parameters**

| Seismic Design Parameter  | Recommended Value | 2014 NYCBC Reference               |
|---|-------------------|------------------------------------|
| Mapped Spectral Acceleration for short periods ( $S_s$ )            | 0.281 g           | Section 1613.5.1                   |
| Mapped Spectral Acceleration for 1-second period ( $S_1$ )          | 0.073 g           |                                    |
| Site Class  | B                 | Table 1613.5.2                     |
| Site Coefficient for short periods ( $F_a$ )                        | 1.00              | Tables 1613.5.3(1) and 1613.5.3(2) |
| Site Coefficient for 1-second period ( $F_v$ )                      | 1.00              |                                    |
| Design spectral response acceleration at short periods ( $S_{DS}$ ) | 0.189 g           | Section 1613.5.4                   |
| Design spectral response acceleration at 1-sec period ( $S_{D1}$ )  | 0.049 g           |                                    |
| Seismic Design Category   | B                 | Section 1613.5.6                   |

### Liquefaction Analysis

The seismic provision of the Building Code requires an evaluation of the liquefaction potential of sand, silt, and non-cohesive materials below the groundwater table and up to a depth of 50 feet below the ground surface. Since the lowest level of the building will be at or near bedrock, and the foundation elements will be bearing on sound rock, liquefaction need not be considered in foundation design.

### EVALUATION

There are several geotechnical design challenges related to the subsurface conditions, foundation construction, and the adjacent buildings. The challenges include the following:

1. The excavation is planned to extend to a depth of about 15 feet below the existing cellar level. There are also localized elevator pit and hotel ejector pit sections that will be carried deeper into bedrock, up to 14 feet below the proposed sub-cellar level. A substantial part of the excavation will be within the sound bedrock with localized pockets of weathered rock. The excavation will require careful rock remove techniques while limiting vibration levels, and properly supporting the sides of the excavation (i.e., adjacent to streets, subway, adjacent structures, etc.) within both competent and weathered rock zones.
2. Groundwater was encountered at a depth of about 9 feet below existing cellar grade. We believe that the groundwater is perched along the top of the competent bedrock surface, which will need to be properly controlled during foundation construction, and accounted for with the structural design.

3. Unstable rock wedges may daylight requiring temporary support during excavation operations. Also, portions of the site down the center, exhibited areas of soft or weathered rock will likely require support and specific recommendations for new foundation elements.
4. Working within the existing building provides specific foundation challenges and limited choices for foundation support. Based on the results of our subsurface investigation, the existing building is supported by a shallow foundation system with variable bearing capacities. The shallow foundations consist of a combination of spread footings bearing on competent bedrock with allowable bearing capacities ranging from 40 to 50 tons per square foot (tsf) and wall footings bearing on weathered bedrock with an allowable bearing capacity of about 8 tsf. During the construction of new foundations or reinforcing existing foundations, special care must be exercised when working around the existing foundations. It is extremely important that the existing foundations not be compromised by the excavation or proposed construction of the new foundations.
5. Designing and installing new foundations in both competent and weathered rock zones.

Due to the complex nature of the theater lifting, demolition work, and excavation within an existing structure, we believe that it is imperative to have a concise set of plans that are well coordinated between the trades. Typically, demolition and bracing is handled separately from excavation and the new structure; however we recommend that this design work be integrated with the new building scope and theater raising.

Given the depth of the excavation and potential impact on NYCT and adjacent structures, the DOB and NYCT will be reviewing these procedures and design support before permits are issued.

## **RECOMMENDATIONS**

The following provides our recommendations for the foundation system and other geotechnical-related design parameters including below-grade walls, groundwater control, and foundation support. As discussed herein, Severud has provided typical column loads for the single cellar level scheme to be about 3,000 kips, with the loads for the super-columns to be about 18,000 kips. In addition, a few local areas uplift will be acting upon the foundations, with a maximum uplift force of about 600 kips.

### **New York City Transit Requirements**

The design and construction of the foundation system must consider the NYCT Subway structure beneath Seventh Avenue. NYCT regulations do not allow for construction of



foundations bearing within the limits of a theoretical influence line drawn from the base of a NYCT structure. Normally, NYCT regulations dictate that the theoretical line will be taken as 1 vertical to 1.5 horizontal for average soil conditions with water, and 1 vertical to 1 horizontal for average soil conditions without water. We have identified the NYCT theoretical slopes on our cross section shown on Drawing Nos. 7 and 8. The actual influence line will be identified after discussions with the NYCT, which is expected to occur during the design phase of the project.

In addition to the NYCT influence line, we have assumed a soil stability impact line from the base of the NYCT structure as a 1 vertical to 1 horizontal line going downward from that point. According to the soil stability impact line, the proposed foundations will not impact the NYCT structure along Seventh Avenue. Therefore, a shallow foundation element can be constructed outside the NYCT influence line for this project.

Once the architect and structural engineer have developed the building design, the project team will need to meet with the NYCT concerning the proposed design and construction. As indicated herein, and due to the complex nature of the project, NYCT will most likely require review of the demolition bracing, theater support and bracing, support of excavation and the foundation structural drawings as one package; and should be assumed to be submitted together for their review. The results of the meetings will be incorporated into the final foundation design.

## **Foundation System**

As discussed herein, the proposed project includes a major retail expansion and reconfiguration of the hotel and Palace Theatre spaces. In addition, one sub-cellar is planned to be excavated below the existing cellar and a new foundation system will be installed to support the building expansion. We also anticipate that a series of temporary bracing and foundations will be required to support the existing foundations while the theater is raised and the site excavated.

The selection of the foundation type will be governed by the final structural loading on foundation elements, configuration of the proposed structure, economics, and scheduling considerations. Foundation alternatives are discussed below.

### Shallow Foundations

Based on the subsurface conditions encountered the lowest cellar level will mostly extend into competent bedrock, with some portions of the site potentially impacted by localized areas of weathered rock. We anticipate the foundation system will primarily consist of shallow foundations (i.e., individual footings, wall footings, and mat foundations). Heavy loaded elements (shear walls, cores, etc.), located within weathered rock areas, may require support

from deep foundations or large mats, depending on structural criteria for allowable settlement.

### *Allowable Bearing Pressure*

Bedrock was encountered above the proposed lowest level for the new building. The bedrock classification at and below the proposed foundation level was generally Building Code Class 1b (Medium Rock). Given the depth of the proposed excavation and the rock encountered at the site, we recommend the footings be designed with an allowable bearing pressure of 40 tons per square foot (tsf), corresponding to Class 1b rock.

However, as discussed herein, zones of weathered rock were observed at borings LB-6, LB-7, LB-9, and LB-11; see Drawing No. 10 for approximate areas of the deep weathered rock. As a result, additional analyses will likely be necessary, especially in heavily loaded areas, to evaluate foundation differential and total settlement. The settlement analysis would be performed after structural loadings and locations are further developed to finalize an alternate design such as:

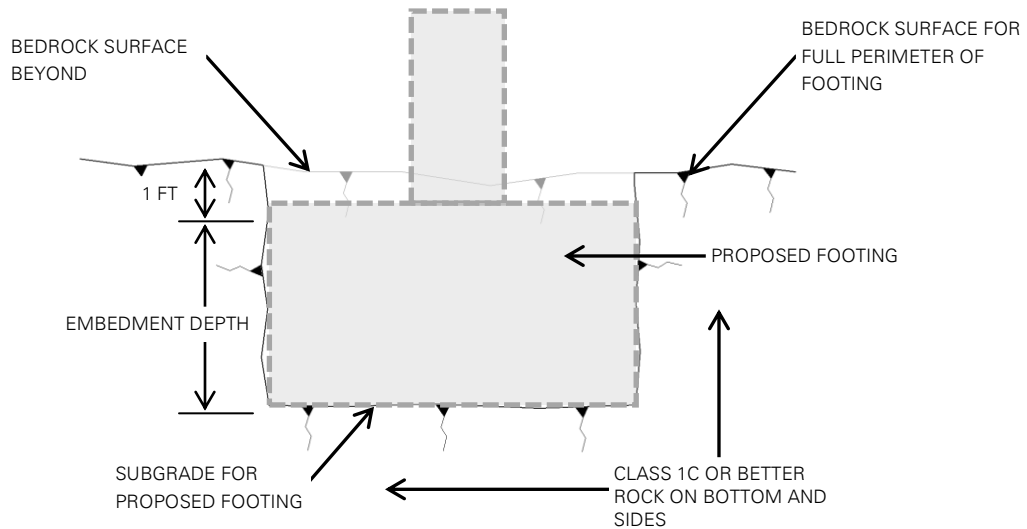
- 1) Footings/mats with an assumed allowable bearing pressure of up to 8 tons per square foot, corresponding to Class 1d rock.
- 2) Drilled caissons socketed into competent rock

The areas of potential weathered rock would also need to be verified in the field during excavation.

According to Building Code Section 1804, the design bearing capacity can also be increased when footings are embedded into the rock surface. The Building Code allows for an increase in bearing pressure within competent bedrock (Class 1c or better rock) of 10 percent for each foot of embedment, but no more than 200 percent of the basic maximum allowable bearing pressure. Although this approach could reduce footing size, excavation for the footings into bedrock will be time consuming and require much more effort from the contractor to be installed properly.

If the footings are planned to be embedded to achieve a higher allowable bearing capacity, the footings must be excavated within locally excavated pits extending to Class 1b or better rock, so the loaded area is below the rock surface and is fully confined by the adjacent rock mass. The adjacent rock mass above the bearing surface must be of the same quality or better. Figure No. 3 below presents a diagram showing the excavation for a footing embedded in rock.

**Figure No. 3. Embedded Footing Diagram**



Note: Not to scale. Shown for concept only.

Quality of rock within each footing bearing area should be uniform to prevent eccentrically loading the footing. Details pertaining to excavation, excavation support, and preparation of subgrades are outlined in subsequent sections of this report.

Individual footings should be designed assuming a minimum width of 3 feet and continuous footings should have a minimum width of 2 feet for constructability. Design of mat foundations is usually an iterative process, and we will work with the structural engineer during the design development. A uniform modulus of subgrade reactions of about 1,500 and 500 pounds per square inch per inch are recommended for the initial design iteration for Class 1c or better rock and Class 1d rock, respectively.

*Settlement*

Settlement of the foundations will be the result of elastic compression of the rock mass. Based on our experience from similar sized buildings and rock conditions, we would anticipate that settlements of individual footings and wall footings bearing on weathered rock (Building Code Class 1d) may be as much as 1 inch, possibly higher, depending on the structural loads, while settlements of mat foundations bearing on competent rock (Building Code class 1c or better rock) may be on the order of about 1/4 inch. As discussed herein, settlements are dependent on the structural loadings, bearing area, and quality of the bedrock and thus foundation types and parameters will need to be further evaluated once the structural system is finalized.

### *Lateral Resistance*

For shallow foundations bearing directly on rock, lateral shear from wind and earthquake loads can be resisted by friction on the bottom of the footing. We recommend an ultimate frictional coefficient of 0.70 for mass concrete poured on clean sound rock and a minimum factor of safety of 1.5 when evaluating frictional resistance. If a concrete rock sealant (or mud mat) is used, which is common practice during rock subgrade preparation, friction between the footing bottom and the subgrade should be neglected.

If additional resistance is needed, lateral loads can also be resisted by embedding the footings to develop passive resistance from the surrounding rock. The allowable passive resistance provided by the rock will be dictated by the depth of embedment and the presence of discontinuities (fractures, foliation, etc.) at a particular location. Alternatively, floor slabs and mat foundations can be used as diaphragms to transfer loads to the exterior walls.

### *Uplift Resistance*

Shallow foundations bearing on rock cannot provide sufficient uplift resistance. If required, we recommend that uplift forces be resisted by post-tensioned tie-down anchors socketed into bedrock (see a subsequent section of this report).

### *Subgrade Preparation*

The top of rock elevation is expected to vary somewhat over relatively short distances. Sloping top of rock and zones of weathered or fractured rock may require local deepening of the footing excavations to achieve the allowable bearing pressure. The foundation subgrades should be level and clear of standing or frozen water, debris, or other deleterious materials. The Building Code requires that a Professional Engineer licensed in the state of New York inspect and approve foundation subgrades prior to placement of concrete, to verify that the subgrade material is adequate to provide the recommended allowable bearing pressure. We recommend that foundation subgrade be inspected by Langan to verify bearing capacity and that footing bottoms have been adequately cleaned.

### Deep Foundations

Due to the areas of weathered rock extending to depths between about 9 and almost 40 feet, possibly deeper, below the proposed sub-cellar (see Drawing No. 10), drilled caissons<sup>9</sup> may be

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<sup>9</sup> A caisson consists of open-ended steel casing sections (unbonded zone) drilled into place down through the overburden soils and extending to the required bearing stratum. An uncased hole is drilled into the rock, down from the unbonded zone, to create the bond zone. After drilling, the entire shaft is filled with cement-grout and steel reinforcement. The structural load is transferred from the mini-caisson to the rock through the bond zone.

required to obtain the required capacity, if differential settlement becomes an structural issue. . . Drilled caissons would be socketed into the rock and rely on side adhesion in the bedrock and that the end bearing capacity of the caissons be neglected for design. The recommended allowable shear resistance corresponding between concrete and Class 1c rock or better rock is 200 pounds per square inch (psi) for compression loads and 100 psi for tension loads. Because of the presence of the fractured/weathered rock, the allowable shear resistance would be reduced, possibly to 50 - 75 psi, where weathered rock layers are expected. Further analyses, including additional field investigations, maybe required to evaluate the shear capacity, once the structural system is finalized.

In general, we recommend the top 2 feet of the rock socket (bond zone) is neglected due to the normally fractured and uneven nature of the bedrock surface encountered. In accordance with Section 1810.7.7 of the Building Code, compressive load tests are not required to be performed on the caissons if rock quality is verified by a Professional Engineer through rock socket video observation.

Permanent Tie Down Anchors

Depending on the building design and dead weight, permanent tie-downs anchored into the rock may be required to resist uplift or overturning forces. Double corrosion protected threaded bars meeting ASTM A-22 requirements can be used for this application. If tie-down anchors are to be used, then we recommend, Grade 150 threaded bars for reinforcement steel. The free stress (unbonded) length should be at least 15 feet long, but additional length may be required to increase rock stability. Global failure of the bedrock must be considered when designing the location and free-length of the anchors. The following table presents the estimated design capacity for three anchor diameter sizes of varying length of bonded lengths assuming competent rock.

**Table No. 4 – Typical Tie-down Capacities in Rock**

| <b>Anchor Diameter</b> | <b>Reinforcement<sup>a</sup></b> | <b>Structural Capacity<sup>b</sup></b> | <b>Bond Length Required<sup>c</sup></b> |
|------------------------|----------------------------------|--|---|
| (inch)                 |                                  | (kips)                                 | (feet)                                  |
| 4                      | 1 # 14 Bar                       | 200                                    | 15                                      |
| 6                      | 1 # 20 Bar                       | 440                                    | 20                                      |
| 8                      | 1 # 24 Bar                       | 630                                    | 22                                      |

a: Grade 150 steel assumed

b: Calculated as 0.6 \* [yield strength of steel] \* [cross-sectional area of steel]



c: Assuming an allowable peripheral shear of 100 psi obtained with a factor of safety of 2, length required to achieve structural capacity

The design capacity of the anchors should be evaluated once the building design loads and locations are finalized. In areas of weathered rock, the tie-down capacities would be less, possibly one-half the capacities indicated in Table No. 4. Ten percent of the tie-down anchors should be performance tested (creep) to 133% of their design load. The remaining anchors should be proof tested to 133% their design load. Successfully tested anchors should be locked-off at a load exceeding the sum of the design load, seating loss, and long term losses.

### **Groundwater Control**

During our subsurface exploration, the static groundwater level was measured between about el. 25 and el 27, which assumed to be perched on the bedrock surface. We recommend that the permanent design groundwater level be taken at about 4 feet above the highest measured groundwater level, or at about el 31. The elevated design groundwater level should help reduce risks associated with periods of prolonged precipitation, sewers backing up (i.e. clogged or antiquated sewer lines), and/or utility breaks.

#### Temporary Groundwater Control

Based on our experience on nearby projects, and verified with the groundwater observation wells installed on site, the static groundwater level is close or perched on the top of bedrock. If groundwater is encountered during construction, we expect that it could be controllable with gravel filled sumps and sump pumps, to allow for subgrade preparation and foundation construction.

In order to dispose of groundwater from the excavation into the sewers, The New York City Department of Environmental Protection (NYCDEP) will require laboratory tests of the groundwater to determine water quality prior to allowing construction water to be pumped into the sewers. A groundwater sample can be taken during the subsurface investigation for laboratory testing. We understand that the NYCDEP has a limit of 10,000 gallons per day to be pumped into the sewers, and if this limit is exceeded, then the NYCDEP will charge a fee on the amount of water being pumped. As discussed herein, a boring and well program is needed to study pumping requirements.

#### Slab Support

We recommend that the lowest floor slab be constructed as a structural slab, designed to resist the uplift of hydrostatic pressure head acting on the bottom of the cellar slab. Alternatively, the lowest floor slab could be designed as a slab-on-grade with an underslab drainage system provided that the lowest slab is isolated from the potentially higher groundwater levels.

Isolation can be achieved by keying the foundation walls a minimum of 2 feet into Building Code Class 1c or better rock to serve as a cutoff, including the perimeter foundation walls. We recommend that a minimum 12-inch thick layer of 3/4-inch, natural crushed stone be placed beneath the lowest floor slab. It should be noted that based on our experience, foundation contractors are reluctant to excavate a vertical "key" into rock, due to the time and expense required to chip/drill vertical faces in very hard sound rock. Therefore, if a water cut-off scheme is selected, the contract documents and pre-bid meetings should carefully present this requirement of vertical excavations in sound rock along the entire site perimeter.

### Waterproofing

Given the proposed use of the below-grade space, we recommend that all the below-grade slabs and walls be fully waterproofed with a membrane-type waterproofing such as Preprufe and Bituthene products by Grace.

For all waterproofing applications, diligent inspection of waterproofing materials is critical, especially during placement of reinforcement for the slabs and foundation walls. The vertical waterproofing should be protected with a rigid barrier to prevent damage during backfilling. The substrata to receive horizontal waterproofing should be a 3-inch-thick lean concrete working surface (mud mat). Holes or rips in the waterproofing membranes should be repaired in accordance with the manufacturer's recommendations.

In addition to waterproofing, the foundation walls should have a drainage panel such as Hydroduct 220 by Grace, or an approved equivalent. The drainage panel will provide protection for the waterproofing membrane and minimize water from accumulating against the foundation walls. The use of bentonite waterproofing or negative side crystalline waterproofing is not recommended.

We recommend that a warrantee be obtained from the manufacturer and installer to cover materials and workmanship. Only certified installers should be used to perform the waterproofing work. Diligent protection and quality control is critical in producing a final product that limits the potential for seepage. Detailed daily inspections should be performed to document any damage resulting from the contractor's activities. Repairs should be made as soon as possible. Repairs should be made as soon as possible and should be made per the manufacturer's recommendations. A representative of the manufacturer should perform a final inspection and approve all work prior to concrete pours.

### Storm Water Detention

The NYCDEP requires a certain amount of on-site detention of storm water for those projects within the Borough of Manhattan. Thus, consideration for roof detention of water and/or

detention tanks should be included in the building design by the architect and the MEP.

### **Below Grade Walls**

Below-grade walls will be subjected to lateral pressures caused by soil loads, surcharge loads, and groundwater (hydrostatic) loads. In the static loading condition, lateral pressures from earth, groundwater and surcharge loads should be considered. The static loading condition will consist of a triangular earth-pressure distribution having an equivalent fluid weight of 60 pounds per square foot per foot of depth (at rest condition) of soil above the groundwater table, and add 63 psf when below the design groundwater level of el. 27±. Lateral pressures caused by a surcharge load have a uniform rectangular distribution equal to 50 percent of the vertical surcharge pressure. Dynamic lateral loads need not be considered because the site is Seismic Site Class B (Building Code Section 1802.2). Our recommended earth-pressure diagram is presented in Drawing No. 11.

## **SITE PREPARATION AND CONSTRUCTION RECOMMENDATIONS**

The following sections discuss typical geotechnical related construction issues including rock excavation, backfill, excavation support and foundation underpinning.

### **Temporary Support of Excavation**

Based on the provided project information, the proposed development is planned to excavate within the existing building to construct a new sub-cellar level for the full building footprint. The contractor must take appropriate measures to stabilize the work area and prevent lateral movements of the adjacent areas during the excavation. The excavation may consist of both soil and rock removal.

### **Earth Excavation and Retention**

The perimeter of the site is surrounded by existing vaults (along the north and west of the site) or by adjacent buildings (to the south and east of the site). It is believed that the adjacent buildings are all founded near or directly on bedrock; therefore, given the presence of a thin soil layer above the bedrock, the support of the perimeter excavation along areas where soil is encountered will most likely consist of continuous concrete (underpinning) piers, see Figure No. 6 below. The rock directly below the existing wall of the adjacent building should be carefully supported, especially if poor quality fractured and/or weathered rock are present.

### **Rock Excavation and Reinforcement**

Based on the current project information, the proposed foundation construction will require a one level deep excavation, about 17 feet below existing cellar grade, for a total depth of about

30 feet below existing sidewalk elevation, corresponding to el. 18±. Rock excavation around the site perimeter will require very sensitive and careful removal techniques due to the close proximity of the adjacent buildings to the south and east, hard rock, possibly street utilities surrounding the site. The bedrock will likely be difficult to excavate, requiring rock chipping and splitting techniques. Channel drilling is recommended, especially around the site perimeter near existing structures, to limit rock overbreak during subsequent chipping and splitting work. Line drilling can be considered adjacent to streets. Line drilling consists of closely spaced drilled holes (say 4 to 6 inches) along the line of the excavation. Channel drilling consists of overlapping drill holes such that a continuous channel is constructed along the excavation line. Due to the close proximity of adjacent structures and the NYCT subway structure below Broadway/Seventh Avenue, blasting operations to remove the bedrock will likely not be permitted.

Given the bedrock discontinuity orientation data obtained from the borehole geophysical logging, there is indication of the presence of one prominent fracture set and foliation and one secondary fracture set. Preliminary kinematic analyses were performed to determine the potential movement of rock blocks by planar-sliding and wedge-sliding failure. The analysis indicates that the excavation stability is more favorable along the north and south site perimeters, and has the potential to be unfavorable along the east and west site perimeters. Therefore, reinforcement for the facades of the rock excavation will be required, and are outlined in the section provided below.

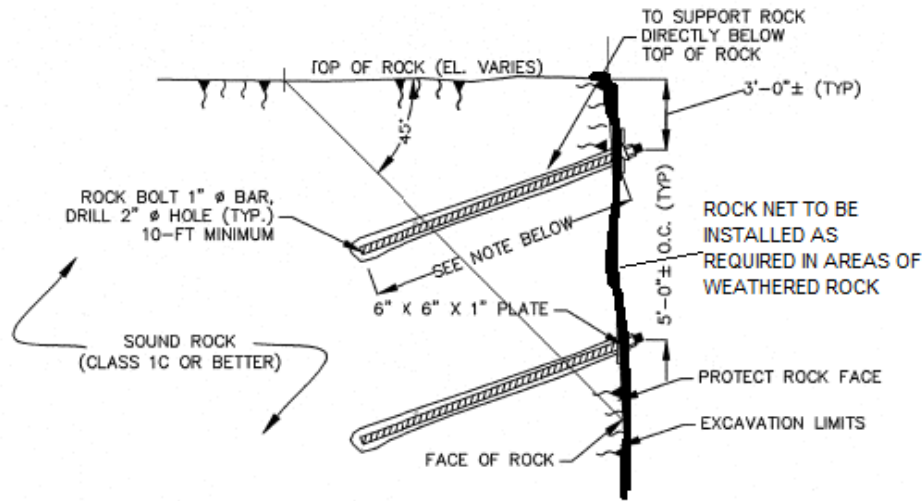
Exposed rock faces should be examined geologically and mapped as the excavation proceeds. Loose, fractured, or soft rock should be secured with mesh and/or excavated and replaced with concrete; rock bolts or pre-stressed rock anchors should be used to secure any potentially unstable rock masses.

#### Temporary Rock Reinforcement

The temporary rock reinforcement shall consist of a combination of rock bolts and anchors that should extend a minimum of 5 feet beyond potential failure planes of rock wedges; see Figures No. 4 and No. 5 below. Based on the borehole geophysical analysis performed, we expect that temporary rock bolts and anchors will be required along all façades of the excavation; specifically, along facades of the excavation where the adjacent building is not located. However, permission would be required from the adjacent property owners to allow the drilling and installation of temporary rock reinforcement underneath the adjacent buildings. The need for rock bolts and anchors, including spacing and length, must be determined by the Excavation Engineer in the field as excavation proceeds. In addition, for areas where weathered rock and

spalling are encountered, the rock facades may require additional stabilization (i.e. rock nets, mesh, or parging). Rock bench heights should be restricted to 10-foot maximum and stabilized with bolts, anchors, etc. before the next lower rock bench is excavated. A formal design should be provided by the contractor's professional engineer registered in the state of New York.

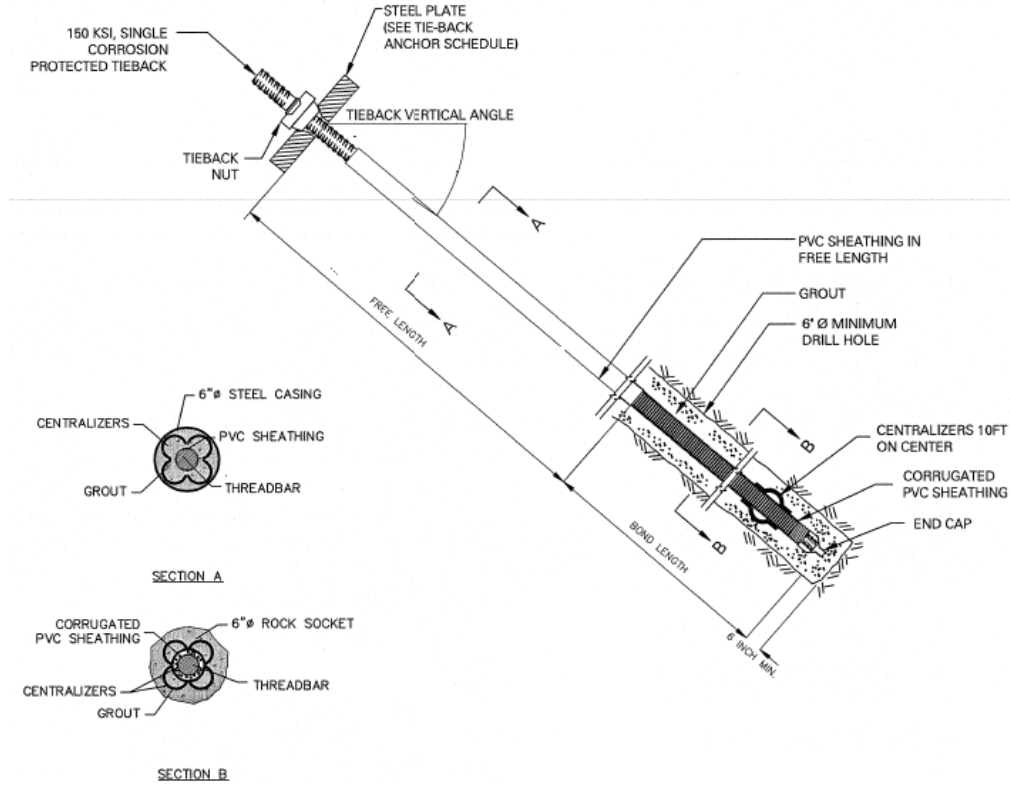
**Figure No. 4: Temporary Rock Bolts**



**NOTES:**

1. ROCK BOLT LENGTH MAY BE ADJUSTED BASED ON FIELD CONDITIONS AT DIRECTION OF ENGINEER.
2. ROCK BOLT SPACING SHALL BE TYPICALLY 5-FT ON CENTER; HOWEVER, SPACING MAY BE ADJUSTED BASED ON FIELD CONDITIONS

**Figure No. 5: Temporary Rock Anchors**



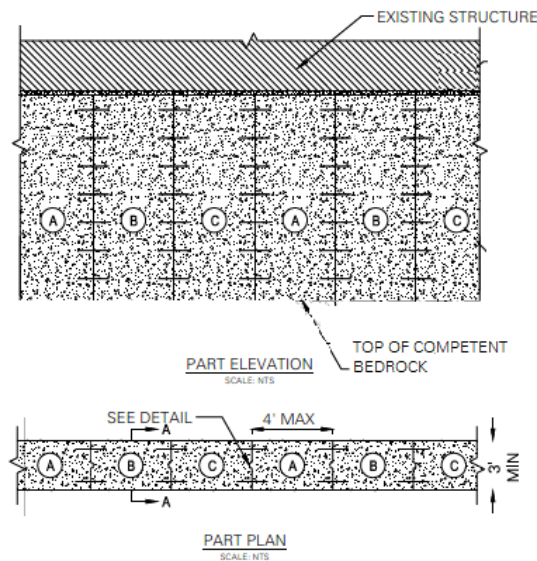
Due to the presence of the NYCT subway structure, we strongly recommend that the excavation support system be extremely stiff in order to provide proper lateral support. The subway structure must be restrained from moving laterally and/or settling. The proposed excavation support system will have to be reviewed and coordinated with the NYCT. There must be careful consideration given to instrumentation monitoring of the NYCT structure during excavation and construction.

**Underpinning**

Based on review of existing information, we anticipate that the foundations for the adjacent buildings bear above the proposed foundations. We anticipate that the adjacent buildings are bearing on or near bedrock. Therefore, underpinning is expected to be relatively limited, but if poor or fractured rock is encountered, the poor rock will need to be removed and replaced with concrete in sections (underpinning) as shown in Figure No. 6.

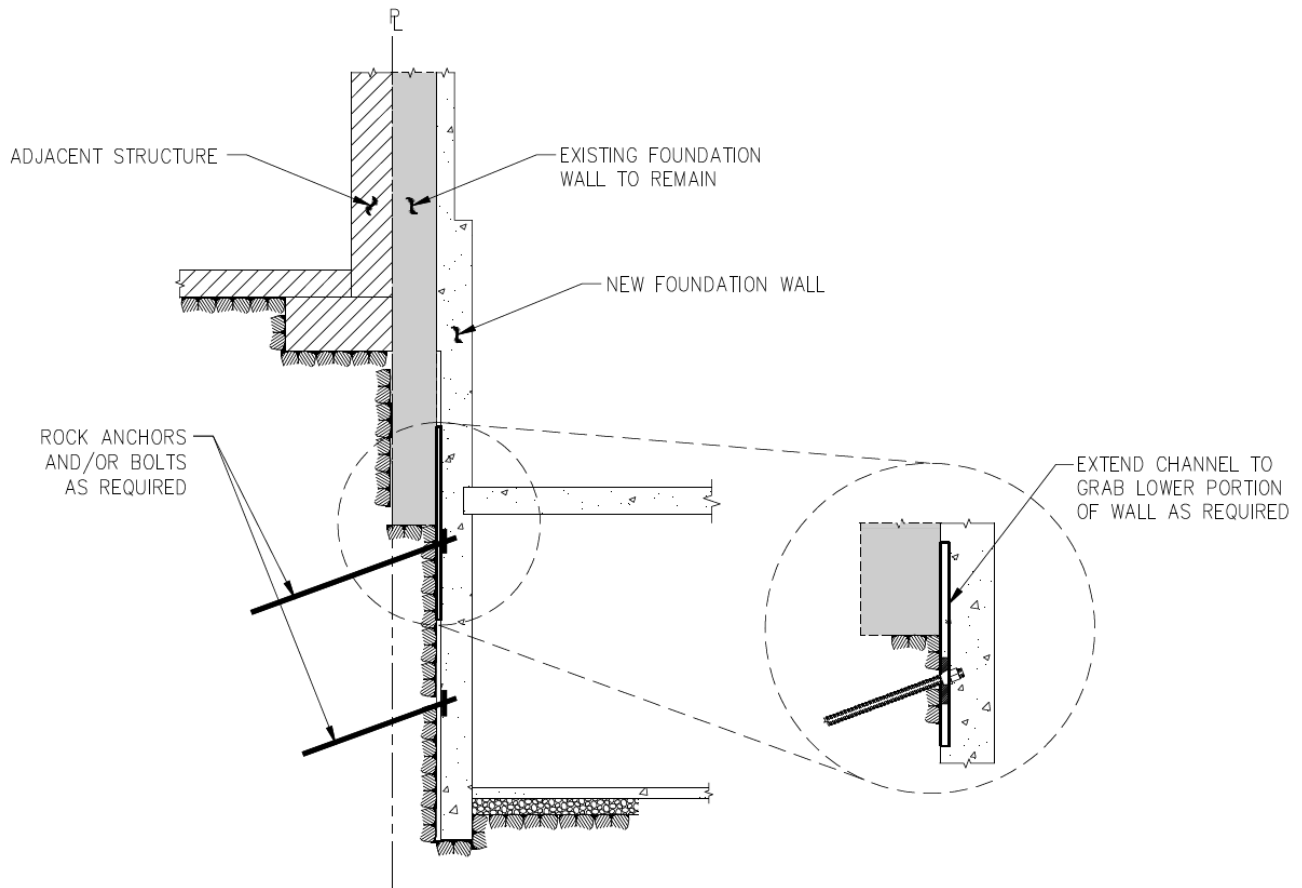


**Figure No. 6: Continuous Concrete (Underpinning) Piers**



We understand the existing foundation walls are intended to be left in place along the western property line and the western portion of the southern property line (limits of the existing hotel tower), with a new foundation wall to be constructed inboard. Supporting the underlying bedrock below the existing foundation wall and adjacent buildings will be critical. The method selected for supporting the underlying bedrock will be based upon whether permission is granted by adjacent property owners to drill underneath their property. At this time, we believe the underlying bedrock can be supported with a combination of pre-stressed rock anchors and/or bolts for the areas where permission is granted (as described above), and an internal bracing system (i.e. walers, rakes, etc.), where permission may not be granted. A schematic illustrating the rock stabilization is shown below in Figure No. 7. A survey of all adjacent cellar slabs and walls is required by the DOB for underpinning, sheeting, and shoring design.

**Figure No. 7: Support of Existing Foundation Walls**



Note: Not to scale. Shown for concept only.

The existing foundation walls or the adjacent buildings surrounding the site must not be undermined by the proposed excavation. Measures should be taken to prevent raveling of soil or moving of bedrock wedges beneath the adjacent structures (foundation and slab elements). Underpinning should be designed by the contractor’s professional engineer licensed in the state of New York.

**Fill Material, Placement, and Compaction Criteria**

Any material used for backfill around foundations and walls should consist of controlled fill as defined by the New York City Building Code. Controlled fill should consist of sand, gravel, crushed stone, crushed gravel or a mixture of these and must be free of organic, frozen and other deleterious materials. The top layer of landscaping material should be in accordance with City of New York Parks & Recreation requirements. The fill should have a maximum particle size not greater than 2 inches and have less than 10% by dry weight passing a No. 200 sieve. The structural fill should be compacted to at least 95% of the material’s maximum dry density,

as determined by the Modified Proctor Compaction Test (ASTM D1557). The existing fill material may be used, provided it meets the gradation requirements discussed above. The use of recycled concrete aggregate, or the byproduct of blasting/tunneling (commercially known as mole rock), is not recommended for backfill.

Fill should be placed in uniform 12-inch-thick loose lifts. In restricted areas where only hand-operated compactors can be used, the maximum lift thicknesses should be limited to 6 inches. Lightweight compaction equipment should be used adjacent to subgrade walls. The appropriate water content at the time of compaction should be plus or minus 2 percentage points of optimum water content as determined by the laboratory compaction tests of the proposed fill material. No fill should be placed on areas where standing water is observed or on frozen subsoil areas.

### **Structural Stability Analysis of Adjacent Building Prior to Construction**

We recommend a structural stability analysis to be performed on the adjacent buildings to the south and east, to evaluate the existing structural conditions of the building, prior to construction. Specifically, the results of the structural stability analysis will allow for a better understanding of which method would be a feasible option for bracing the building during excavation of the site.

### **Landmarks Preservation Commission Requirements**

The adjacent 1560 Broadway building (about 180-foot frontage of the southern property line as well as the existing Palace Theatre within the 1568 Broadway site) have interior landmarks. General procedures for avoiding damage to Landmark Structures and buildings in historic districts are outlined in The City of New York Department of Buildings Technical Policy and Procedure Notice (TPPN) #10/88, "Procedures for Avoidance of Damage to Historic Structures," (June 6, 1988). TPPN #10/88 defines adjacent properties as being within 90 feet of the site where work is being performed. The monitoring requirements of adjacent properties includes measuring peak particle velocities, monitoring horizontal and vertical deflections of temporary retaining wall structures, monitoring horizontal and vertical deflections of adjacent buildings, groundwater table fluctuations, ground settlements, crack monitoring, preconstruction conditions documentation, and photograph documentation of adjacent buildings. A copy of TPPN #10/88 is attached as Appendix D.

### **Pre-Construction Conditions Documentation and Monitoring During Construction**

A preconstruction construction documentation of all buildings, NYCT subway tunnels and utilities in nearby areas should be performed. The documentation would provide the owner and

foundation contractor and others with documentation of existing conditions in the event of a future damage claim. On the basis of this documentation, an observational and instrumentation program should be designed for monitoring the performance of adjacent structures and evaluating construction procedures.

During active excavation, a precise optical survey program should be implemented to monitor for vertical and horizontal movements of surrounding structures. The survey should be performed weekly, with measurements taken to the nearest 0.005 foot. The survey should be performed by a licensed surveyor. Criteria for allowable movements of structures should be finalized after a building pre-construction survey is completed.

Ground vibrations may develop during construction and excavation. Ground vibrations in nearby structures should be monitored during construction using seismographs. The ground vibrations should be monitored using a threshold-type seismograph capable of measuring to 0.02 inch.

In addition to survey points and seismographs, telltale crack reference gauges should be monitored within the adjacent structures. The crack gauges should be sensitive to 0.001 inch and should be read at least once daily.

We recommend that a monitoring plan and project specifications be completed before construction and excavation. These would detail the methods and equipment required for monitoring vibration and movement, and would provide movement criteria and requirements for frequency of readings and reporting. We anticipate that monitoring of the adjacent NYCT structures will be required.

### **Construction Documents and Quality Control**

Technical specifications and design drawings should incorporate our recommendations to ensure that subsurface conditions and other geotechnical issues at the site are adequately addressed in the construction documents. Langan should assist the design team in preparing specification sections related to geotechnical issues such as earthwork, excavation support, and waterproofing. Langan should also review foundation drawings and details, as well as all contractor submittals and construction procedures related to geotechnical work.

Excavation and foundation work is subject to various controlled engineering inspections as per the Building Code. A professional engineer familiar with the site subsurface conditions and design intent should perform the engineering inspection and testing of geotechnical-related work during construction. We recommend that Langan perform this work to verify proper implementation of our recommendations and to maintain continuity of our responsibility for this project. Construction activities that require quality-control inspections as required by the

Building Code include, but are not limited to, foundation subgrade inspection, excavation support installation, and compacted fill placement.

### **Owner and Contractor Obligations**

The Contractor is responsible for construction quality control, which includes satisfactorily constructing the foundation system and any associated temporary works to achieve the design intent while not adversely impacting or causing loss of support to neighboring structures. Construction activities that can alter the existing ground conditions such as excavation, fill placement, foundation construction, ground improvement, pile driving/drilling, dewatering, etc. can also potentially induce stresses, vibrations, and movements in nearby structures and utilities, and disturb occupants of nearby structures. Contractors working at the site must ensure that their activities will not adversely affect the performance of the structures and utilities, and will not disturb occupants of nearby structures. Contractors must also take all necessary measures to protect the existing structures during construction. By using this report, the Owner agrees that Langan will not be held responsible for any damage to adjacent structures.

The preparation and use of this report is based on the condition that the project construction contract between the Owner and their Contractor(s) will include:

- 1) Langan being added to the Project Wrap and/or Contractor's General Liability insurance as an additional insured, and;
- 2) Language specifically stating the Foundation Contractor will defend, indemnify, and hold harmless the Owner and Langan against all claims related to disturbance or damage to adjacent structures or properties.

### **LIMITATIONS**

The conclusions and recommendations given in this geotechnical engineering report are based on subsurface conditions observed through our field explorations, our company database, and the project information provided to us. The preliminary recommendations given herein are contingent upon one another and no recommendation should be followed independent of the others. Any changes should be brought to our attention so that we may determine how such changes may affect our recommendations.

The boring logs provide approximate subsurface conditions only at the indicated locations. Subsurface conditions between boreholes are inferred and may vary from conditions encountered at the boring locations. Groundwater conditions described refer only to those at

the time and location of observation. These conditions may vary seasonably or as the result of construction. The preliminary recommendations presented in this report assume that the subsurface conditions do not deviate appreciably from those disclosed by the borings.

This report was produced to assist the project team for the proposed development, located at 1568 Broadway, New York, New York. Langan cannot assume responsibility for the use of this report to generate foundation design other than at the specific site addressed in this report.

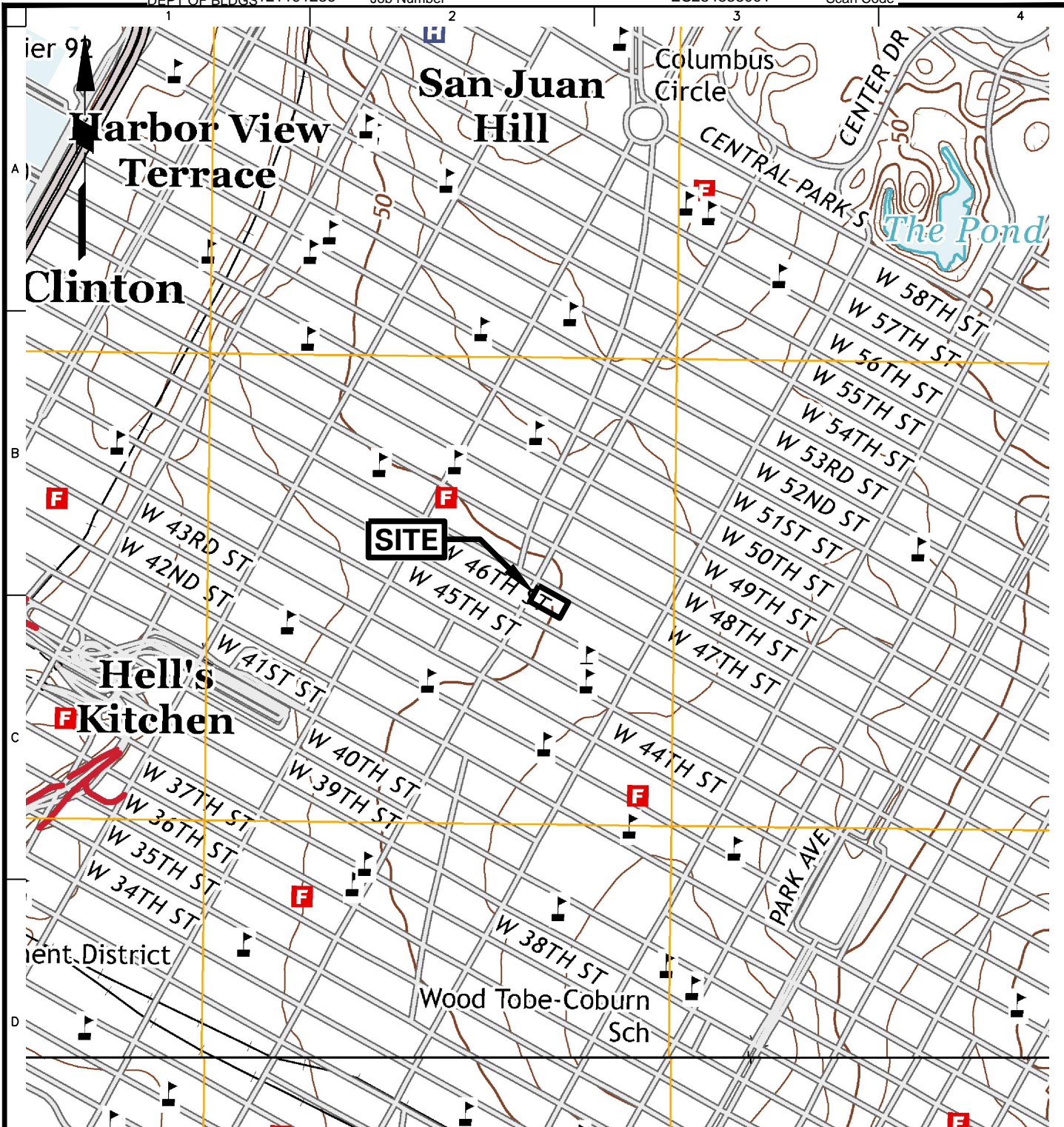
Construction activities that require controlled inspection as required by the Building Code include environmental issues (such as potentially contaminated soil and groundwater) and are outside the scope of this study and should be addressed in a separate study.



  
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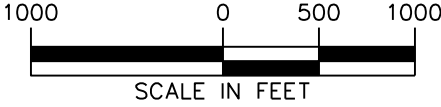
  
ES674240445 Scan Code

## **DRAWINGS**



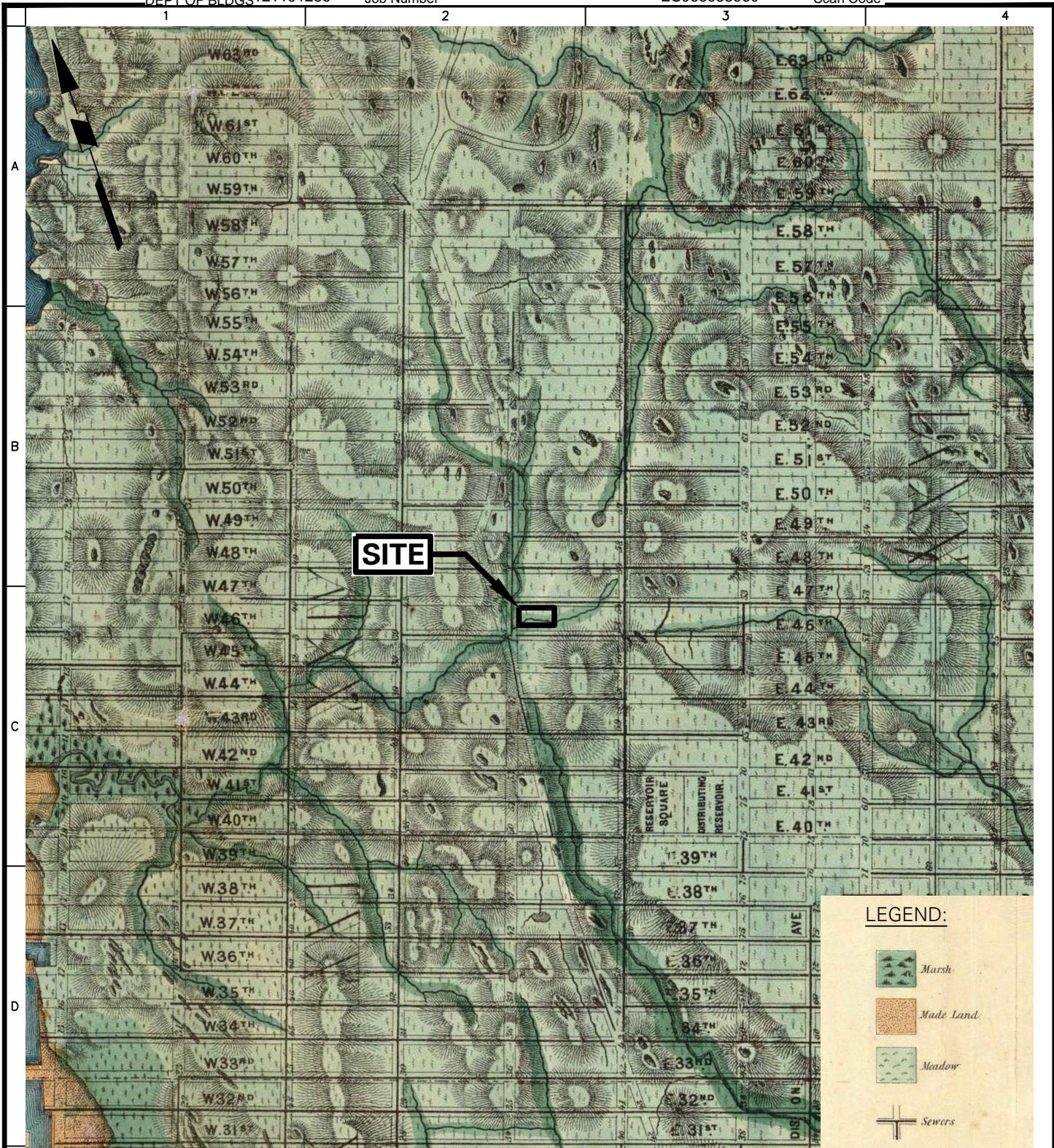
**NOTE:** ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

**SOURCE:** "CENTRAL PARK, BROOKLYN, JERSEY CITY, AND WEEHAWKEN QUADRANGLE NEW YORK-NEW JERSEY 7.5-MINUTE SERIES", U.S. GEOLOGICAL SURVEY, 2013

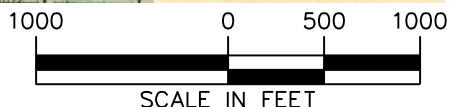


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| <p>21 Penn Plaza, 360 West 31st Street, 8th Floor<br/>New York, NY 10001<br/>T: 212.479.5400 F: 212.479.5444 www.langan.com</p> <p>Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.<br/>Langan Engineering and Environmental Services, Inc.<br/>Langan International LLC<br/>Collectively known as Langan</p> | Project                  | Drawing Title            | Project No.     | Figure No.    |
|  | <b>1568 BROADWAY</b>     | <b>SITE LOCATION MAP</b> | 170391901       | <b>1</b>      |
|  | BLOCK No. 999 LOT No. 52 |                          | Date            |               |
|  | NEW YORK NEW YORK        |                          | 6/15/2016       |               |
|  |                          |                          | Scale           |               |
|  |                          |                          | 1" = 1000'      |               |
|  |                          |                          | Drawn By        |               |
|  |                          |                          | KS              |               |
|  |                          |                          | Submission Date |               |
|  |                          |                          | 10/26/2016      | Sheet 1 of 12 |





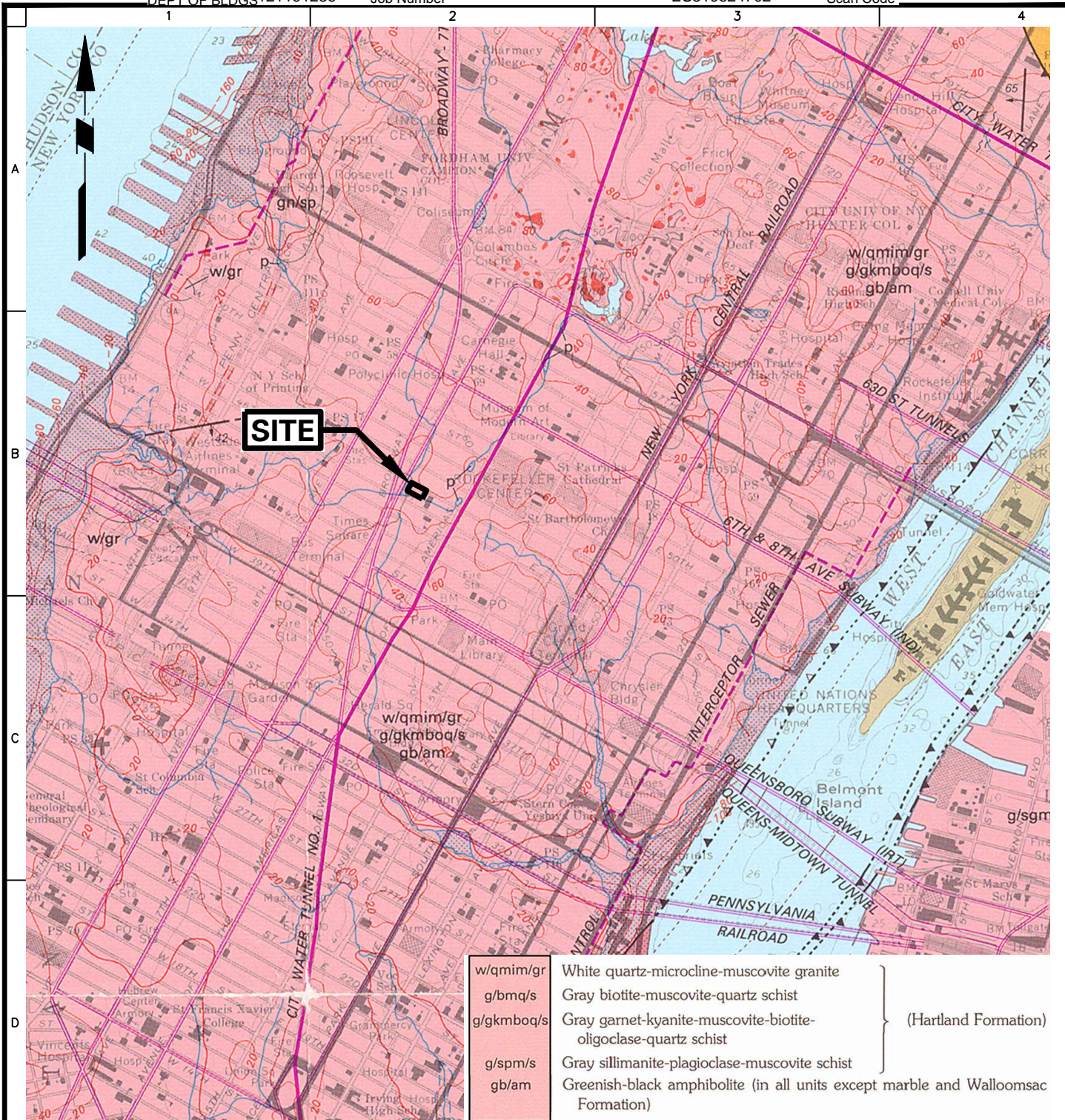
SOURCE: "SANITARY & TOPOGRAPHICAL MAP OF THE CITY AND ISLAND OF NEW YORK", VIELE, 1865.



SCALE IN FEET


|   |   |                                |             |                 |           |
|---|---|--------------------------------|-------------|-----------------|-----------|
| <p><b>LANGAN</b></p> <p>21 Penn Plaza, 360 West 31st Street, 8th Floor<br/>New York, NY 10001</p> <p>T: 212.479.5400 F: 212.479.5444 www.langan.com</p> <p>Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.<br/>Langan Engineering and Environmental Services, Inc.<br/>Langan International LLC</p> <p>Collectively known as Langan</p> | Project   | Drawing Title                  | Project No. | Figure No.      |           |
|   | <p><b>1568 BROADWAY</b></p> <p>BLOCK No. 999 LOT No. 52</p> | <p><b>VIELE MAP (1865)</b></p> | 170391901   | <p><b>2</b></p> |           |
|   |   |                                | Date        |                 | 6/15/2016 |
|   |   |                                | Scale       |                 | N.T.S.    |
|   |   |                                | Drawn By    |                 | KS        |
| NEW YORK  | NEW YORK  | Submission Date                | 10/26/2016  | Sheet 2 of 12   |           |



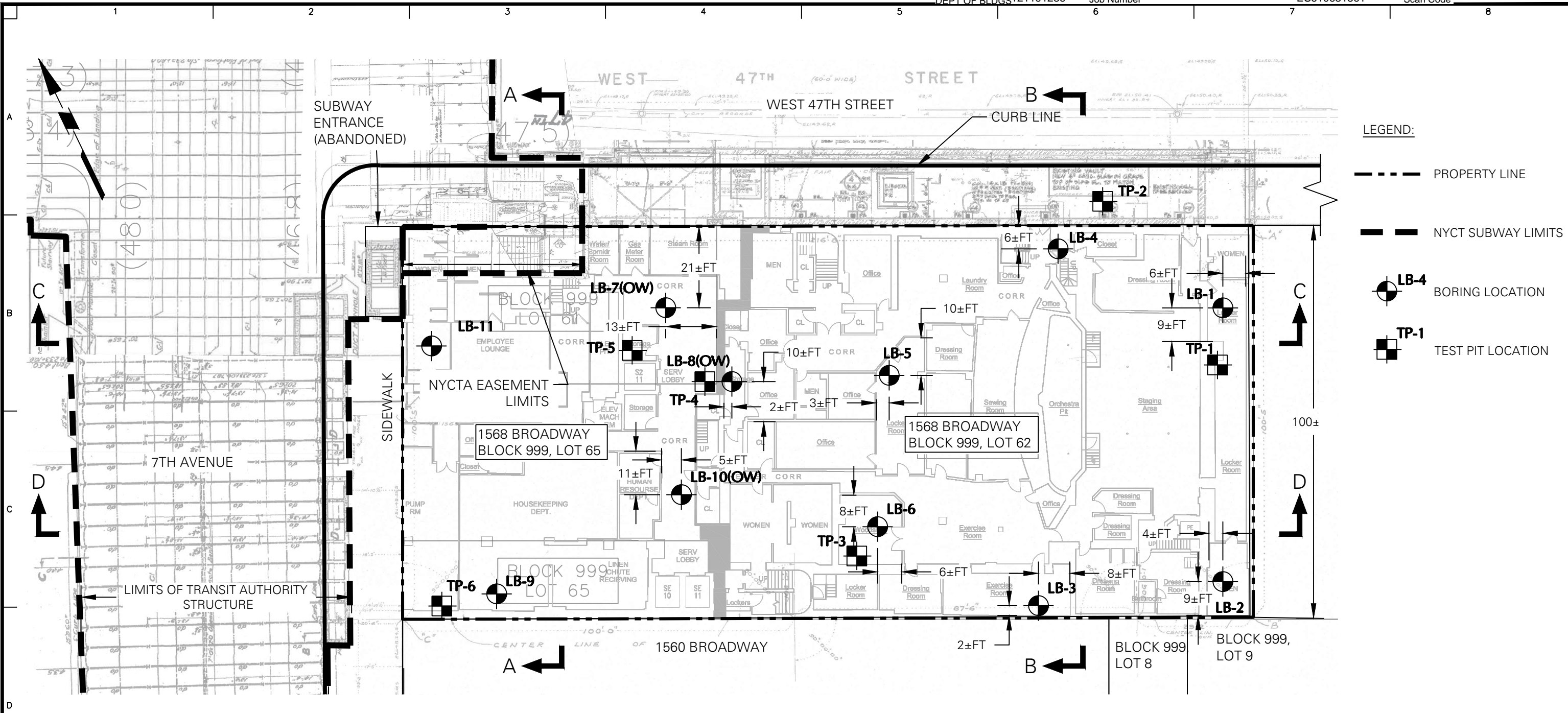


**NOTE:** ELEVATIONS ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29), WHICH IS 1.1 FEET BELOW NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

**SOURCE:** "BEDROCK AND ENGINEERING GEOLOGIC MAPS OF NEW YORK COUNTY AND PARTS OF KINGS AND QUEENS COUNTIES, NEW YORK, AND PARTS OF BERGEN AND HUDSON COUNTIES, NEW JERSEY", BASKERVILLE, 1994

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|  <p>21 Penn Plaza, 360 West 31st Street, 8th Floor<br/>New York, NY 10001<br/>T: 212.479.5400 F: 212.479.5444 www.langan.com<br/>Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.<br/>Langan Engineering and Environmental Services, Inc.<br/>Langan International LLC<br/>Collectively known as Langan</p> | Project                  | Drawing Title     | Project No. | Figure No.      |
|   | 1568 BROADWAY            | USGS BEDROCK MAPS | 170391901   | 3               |
|   | BLOCK No. 999 LOT No. 52 |                   | Date        |                 |
|   |                          |                   | 6/15/2016   |                 |
|   | NEW YORK                 | NEW YORK          | Scale       | 1" = 2000'      |
|   |                          | Drawn By          | KS          | Submission Date |
|   |                          |                   | 10/26/2016  | Sheet 3 of 12   |





**LEGEND:**

- PROPERTY LINE
- NYCT SUBWAY LIMITS
- LB-4 BORING LOCATION
- TP-1 TEST PIT LOCATION

**PLAN**

SCALE: 1" = 25'

**GENERAL NOTES**

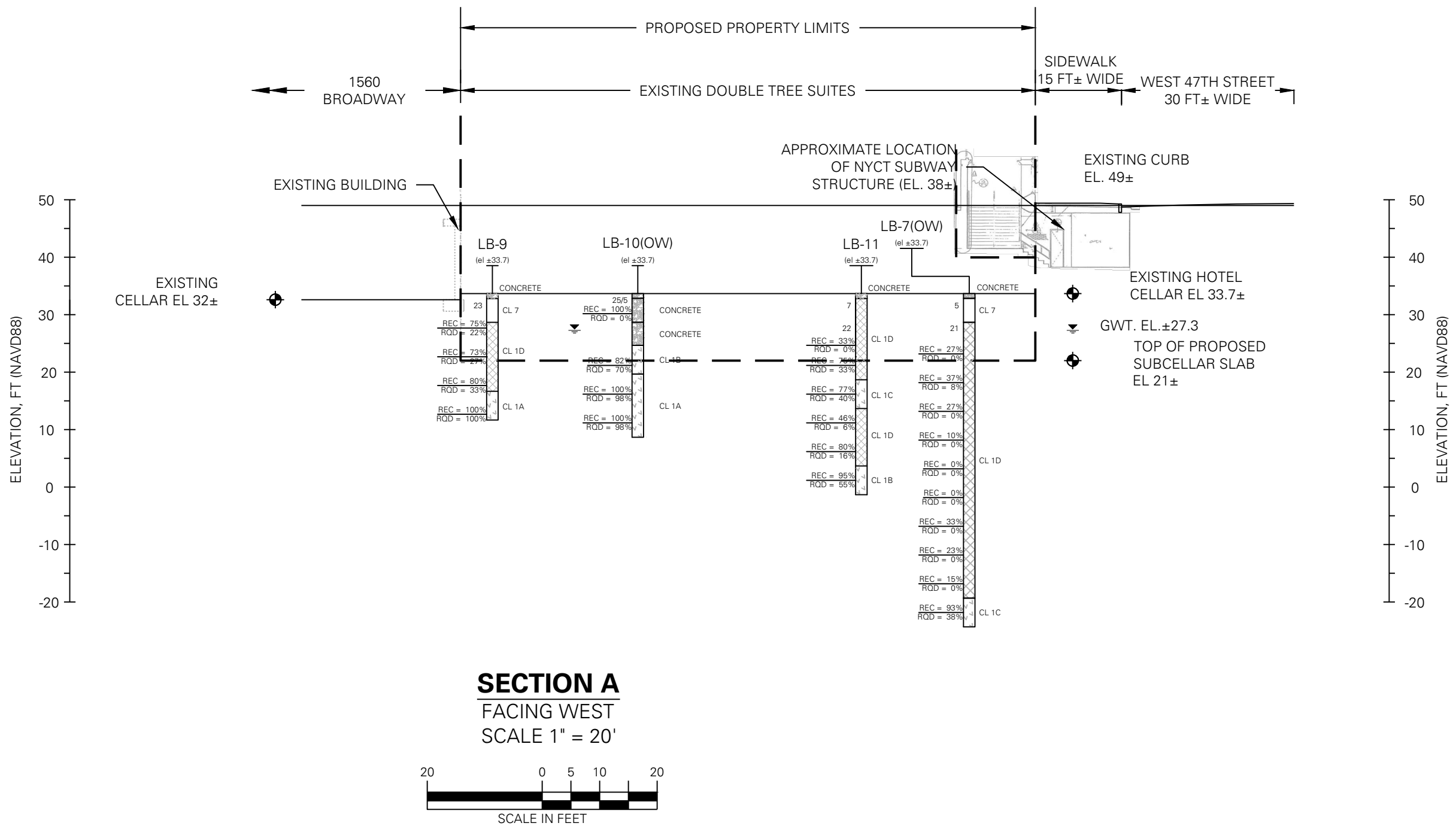
1. BASE PLANS TAKEN FROM:
  - SURVEY BY EARL B. LOVELL - S.P.BELCHER, INC. DATED 14 DECEMBER 2015
  - FOUNDATION PLAN BY DESIMONE DATED 17 FEBRUARY 1988.
2. LIMITS OF NEW YORK CITY TRANSIT (NYCT) STRUCTURE TAKEN FROM ROOF AND SIDEWALK LEVEL PLAN DATED 16 DECEMBER 1916, STRUCTURAL PLANS 47TH STREET STATION ENTRANCES - EAST SIDE SECTION I-I DATED 6 JULY 1916, AND STRUCTURAL PLANS FOR STATION 233+10 TO STATION 239+45 SECTION B-B REVISED 27 OCTOBER 1918
3. BORINGS WERE DRILLED BY WARREN GEORGE, INC. BETWEEN 5/25/2016 AND 6/10/2016 UNDER THE FULL-TIME INSPECTION FROM LANGAN.

**LANGAN**  
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


Project  
**1568 BROADWAY**  
 BLOCK No. 999, LOT No. 52  
 NEW YORK NEW YORK

Drawing Title  
**BORING AND TEST PIT LOCATION PLAN**

|                               |                         |
|-------------------------------|-------------------------|
| Project No.<br>170391901      | Drawing No.<br><b>4</b> |
| Date<br>6/16/2016             |                         |
| Scale<br>1" = 25'             |                         |
| Drawn By<br>KS                | Checked By<br>LF        |
| Submission Date<br>10/26/2016 | Sheet 4 of 12           |



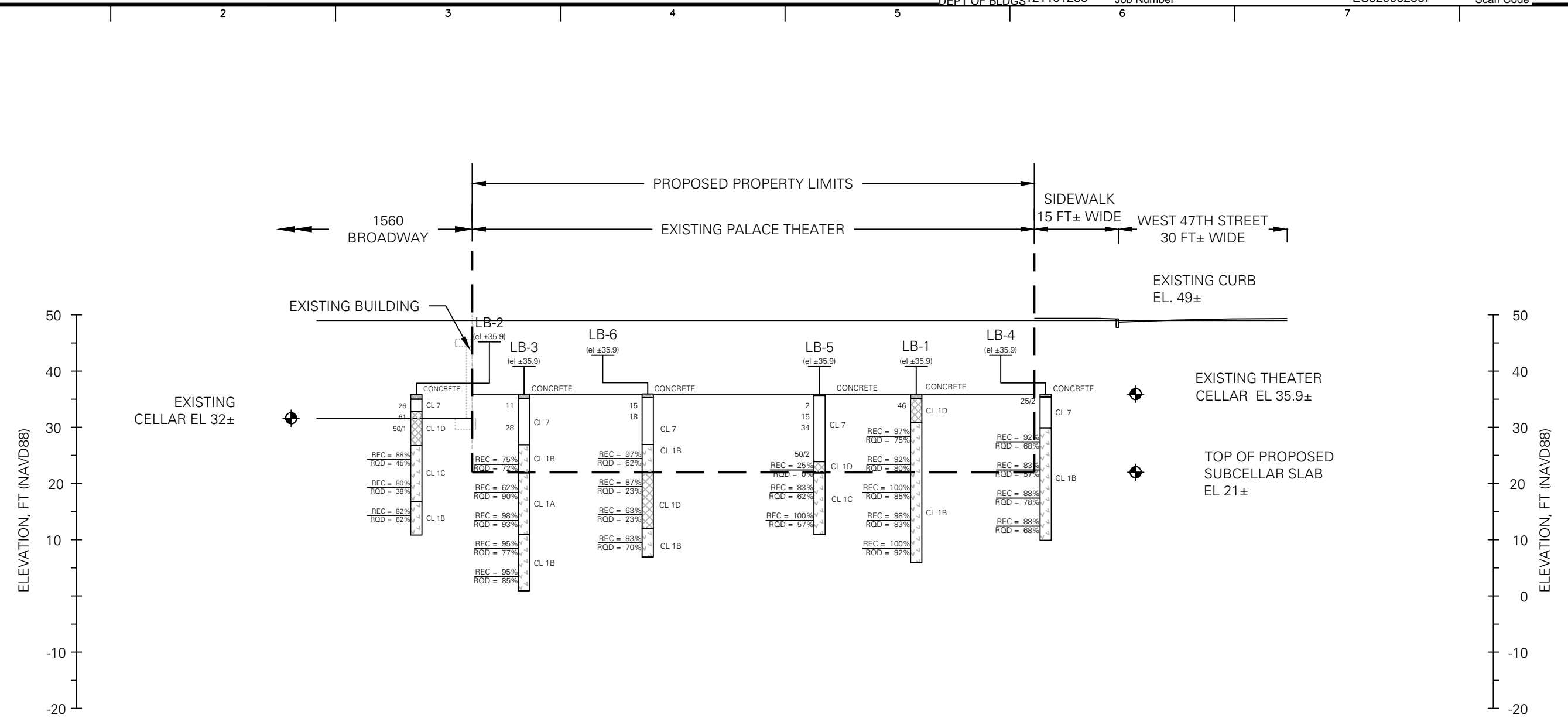
**MATERIAL SYMBOLS**

-  UNCONTROLLED FILL
-  WEATHERED ROCK
-  BEDROCK

- NOTES:
- THIS PROFILE REPRESENTS A GENERALIZED SOIL CROSS SECTION INTERPRETED FROM WIDELY SPACED BORINGS. SOIL AND GROUNDWATER MAY VARY IN TYPE, LOCATION, ELEVATION, AND ENVIRONMENTAL AND ENGINEERING PROPERTIES BETWEEN POINTS OF EXPLORATION. VARIATIONS IN SUBSURFACE CONDITIONS SHOULD BE EXPECTED BETWEEN BORINGS.
  - REFER TO SHEET 4 FOR GENERAL NOTES

|   |  |  |   |   |
|---|--|--|---|---|
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|   | <p>Checked By</p> <p>X</p>   |  |   |   |

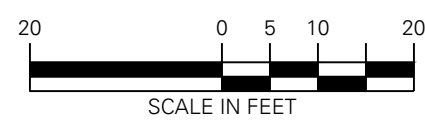




**MATERIAL SYMBOLS**

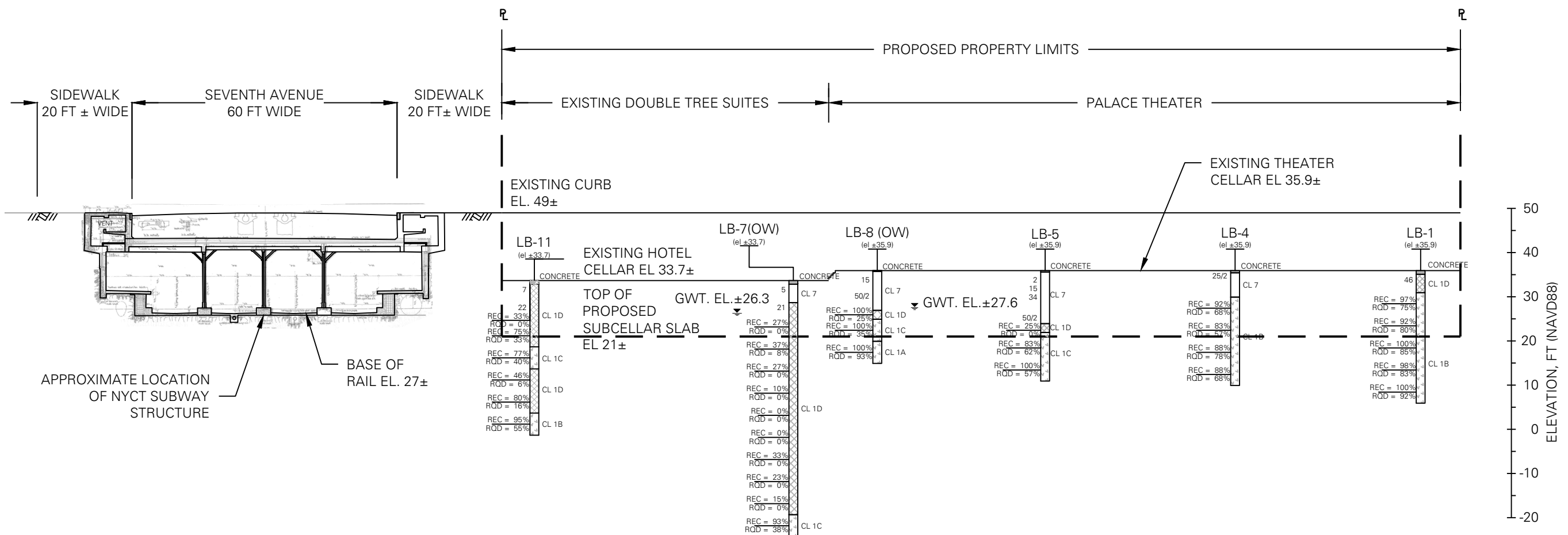
- UNCONTROLLED FILL
- WEATHERED ROCK
- BEDROCK

**SECTION B**  
FACING WEST  
SCALE 1" = 20'



- NOTES:
- THIS PROFILE REPRESENTS A GENERALIZED SOIL CROSS SECTION INTERPRETED FROM WIDELY SPACED BORINGS. SOIL AND GROUNDWATER MAY VARY IN TYPE, LOCATION, ELEVATION, AND ENVIRONMENTAL AND ENGINEERING PROPERTIES BETWEEN POINTS OF EXPLORATION. VARIATIONS IN SUBSURFACE CONDITIONS SHOULD BE EXPECTED BETWEEN BORINGS.
  - REFER TO SHEET 4 FOR GENERAL NOTES

|   |   |                                   |   |  |
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|   |   |                                   |   |  |



APPROXIMATE LOCATION OF NYCT SUBWAY STRUCTURE  
 BASE OF RAIL EL. 27±

**MATERIAL SYMBOLS**

- UNCONTROLLED FILL
- WEATHERED ROCK
- BEDROCK

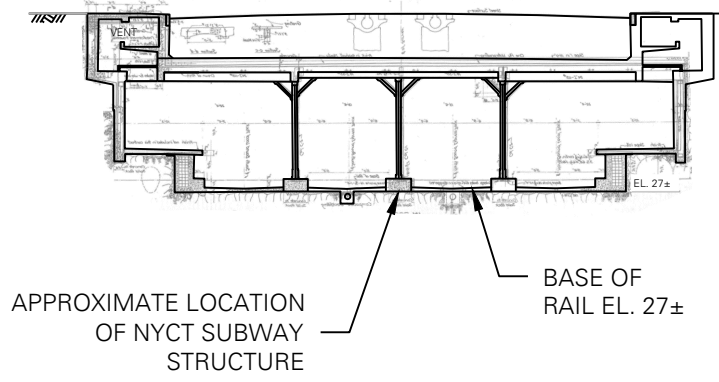
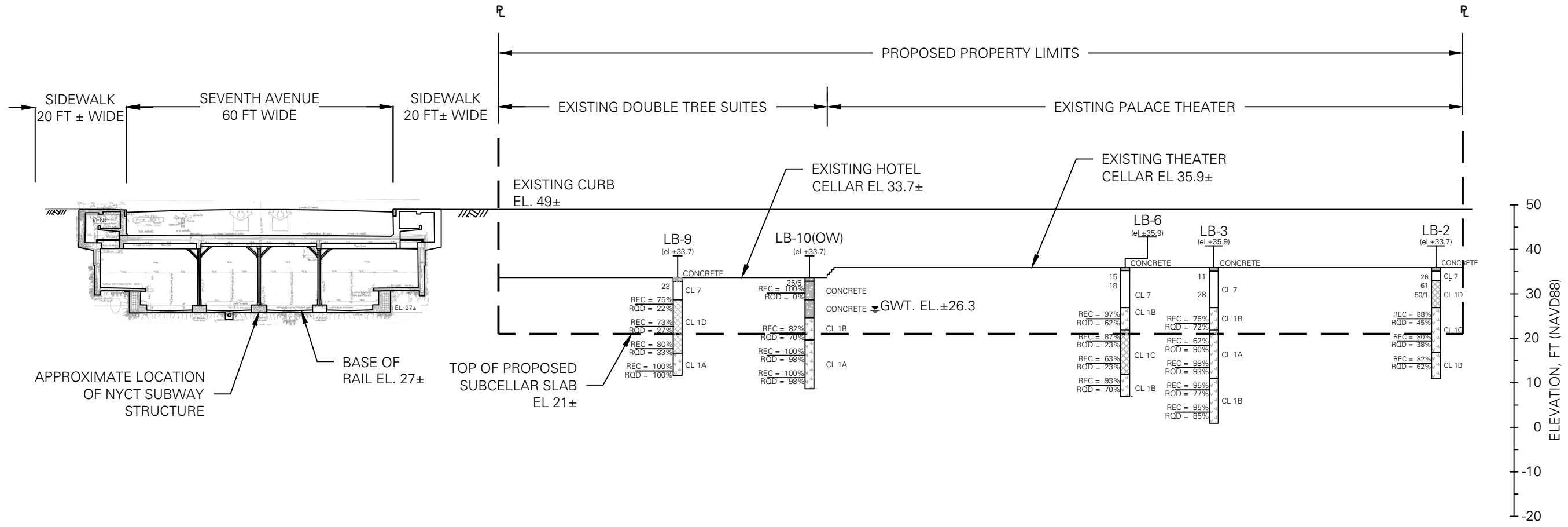
**SECTION C**  
 FACING NORTH  
 SCALE 1" = 25'



NOTES:

1. THIS PROFILE REPRESENTS A GENERALIZED SOIL CROSS SECTION INTERPRETED FROM WIDELY SPACED BORINGS. SOIL AND GROUNDWATER MAY VARY IN TYPE, LOCATION, ELEVATION, AND ENVIRONMENTAL AND ENGINEERING PROPERTIES BETWEEN POINTS OF EXPLORATION. VARIATIONS IN SUBSURFACE CONDITIONS SHOULD BE EXPECTED BETWEEN BORINGS.
2. REFER TO SHEET 4 FOR GENERAL NOTES

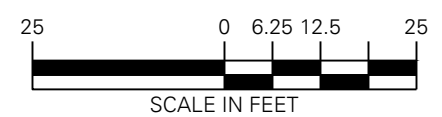
|  |  |                                   |  |  |
|--|--|-----------------------------------|--|--|
| <br>21 Penn Plaza, 360 West 31st Street, 8th Floor<br>New York, NY 10001<br>T: 212.479.5400 F: 212.479.5444 www.langan.com<br>Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C., S.A.<br>Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.<br>Langan Engineering and Environmental Services, Inc.<br>Langan CT, Inc.<br>Langan International LLC<br>Collectively known as Langan | Project<br><b>1568 BROADWAY</b><br>BLOCK No. 999, LOT No.52<br>NEW YORK NEW YORK | Drawing Title<br><b>SECTION C</b> | Project No.<br>170391901<br>Date<br>6/17/2016<br>Scale<br>1" = 25'<br>Drawn By<br>KS<br>Checked By<br>X<br>Submission Date<br>10/26/2016 | Drawing No.<br><b>7</b><br>Sheet 7 of 12 |
|  |  |                                   |  |  |



**MATERIAL SYMBOLS**

- UNCONTROLLED FILL
- WEATHERED ROCK
- BEDROCK

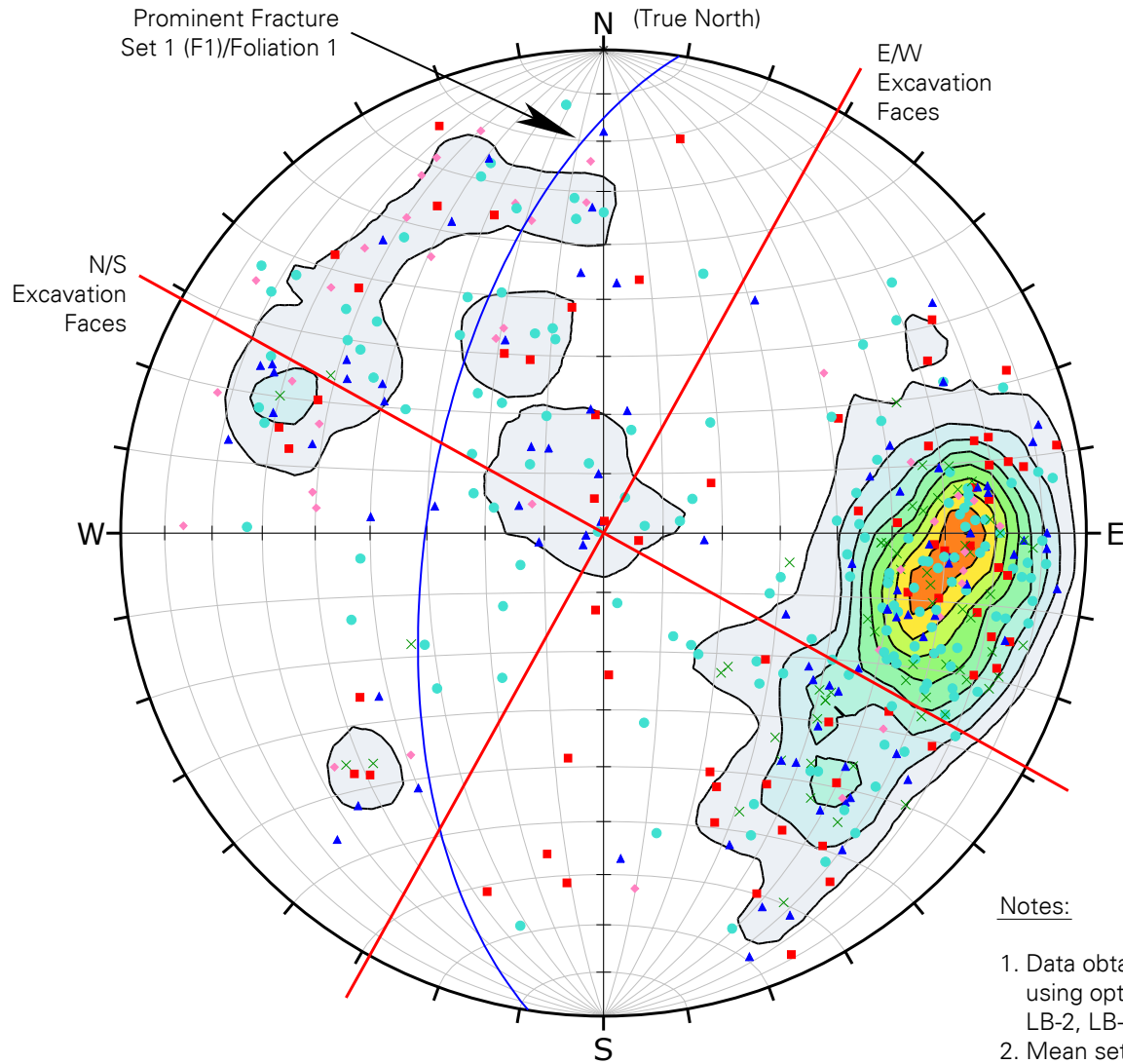
**SECTION D**  
FACING NORTH  
SCALE 1" = 25'



**NOTES:**

1. THIS PROFILE REPRESENTS A GENERALIZED SOIL CROSS SECTION INTERPRETED FROM WIDELY SPACED BORINGS. SOIL AND GROUNDWATER MAY VARY IN TYPE, LOCATION, ELEVATION, AND ENVIRONMENTAL AND ENGINEERING PROPERTIES BETWEEN POINTS OF EXPLORATION. VARIATIONS IN SUBSURFACE CONDITIONS SHOULD BE EXPECTED BETWEEN BORINGS.
2. REFER TO SHEET 4 FOR GENERAL NOTES

|  |   |                                   |  |  |
|--|---|-----------------------------------|--|--|
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|  |   |                                   |  |  |



| Symbol | BEDROCK STRUCTURE | Quantity |
|--------|-------------------|----------|
| ×      | Foliation / Vein  | 63       |
| ◇      | Fracture Rank 1   | 39       |
| ●      | Fracture Rank 2   | 155      |
| ▲      | Fracture Rank 3   | 88       |
| ■      | Fracture Rank 4   | 70       |

| Color | Density Concentrations |
|-------|------------------------|
|       | 0.00 - 1.10            |
|       | 1.10 - 2.20            |
|       | 2.20 - 3.30            |
|       | 3.30 - 4.40            |
|       | 4.40 - 5.50            |
|       | 5.50 - 6.60            |
|       | 6.60 - 7.70            |
|       | 7.70 - 8.80            |
|       | 8.80 - 9.90            |
|       | 9.90 - 11.00           |

|                             |              |
|-----------------------------|--------------|
| <b>Contour Data</b>         | Pole Vectors |
| <b>Maximum Density</b>      | 10.00%       |
| <b>Contour Distribution</b> | Fisher       |
| <b>Counting Circle Size</b> | 1.0%         |

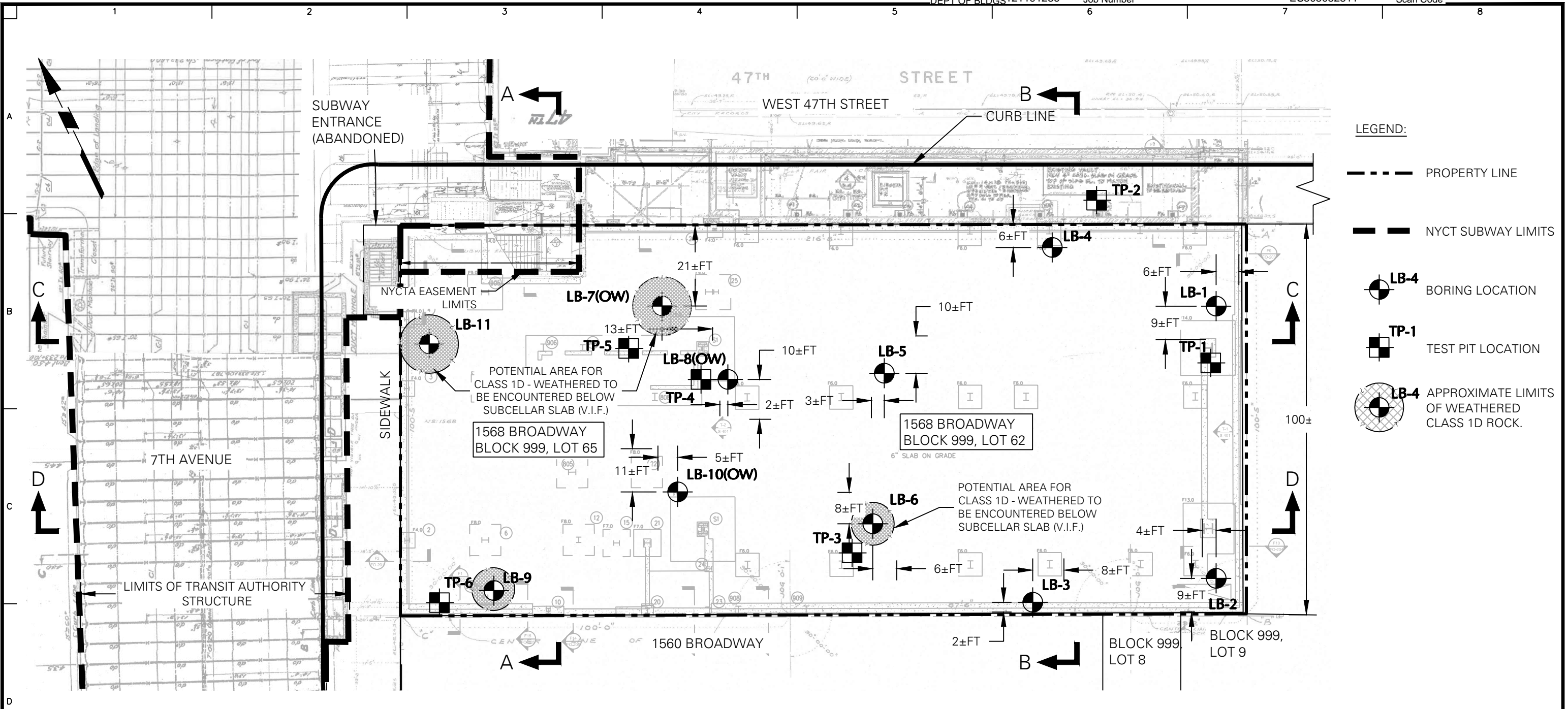
| Color                  | Dip | Dip Direction | Label        |
|------------------------|-----|---------------|--------------|
| <b>Mean Set Planes</b> |     |               |              |
| 1m                     | 60  | 279           | F1/Foliation |

|                     |                   |
|---------------------|-------------------|
| <b>Plot Mode</b>    | Pole Vectors      |
| <b>Vector Count</b> | 415 (415 Entries) |
| <b>Hemisphere</b>   | Lower             |
| <b>Projection</b>   | Equal Area        |

Notes:

1. Data obtained by Hager-Richter Geoscienc, Inc. on 31 May 2016 using optical and acoustic televiwer logging of Borings LB-2, LB-3, LB-7, LB-10, and LB-11.
2. Mean set planes shown should be considered approximate and are based on the borehole data collected.

|  |   |  |             |                 |           |
|--|---|--|-------------|-----------------|-----------|
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|  | <p><b>1568 BROADWAY</b><br/>                 LANGAN<br/>                 MANHATTAN NEW YORK</p> | <p><b>BOREHOLE DISCONTINUITY STRENEONET PLOT</b></p> | 170391901   | <p><b>9</b></p> |           |
|  |   |  | Date        |                 | 6/23/2016 |
|  |   |  | Scale       |                 | N.T.S.    |
|  |   |  | Drawn By    |                 | AJC       |
| Submission Date  | 10/26/2016  | Sheet 9 of 11  |             |                 |           |



- LEGEND:**
- PROPERTY LINE
  - NYCT SUBWAY LIMITS
  - LB-4 BORING LOCATION
  - TP-1 TEST PIT LOCATION
  - ⊗ LB-4 APPROXIMATE LIMITS OF WEATHERED CLASS 1D ROCK.

**PLAN**

SCALE: 1" = 25'

**GENERAL NOTES**

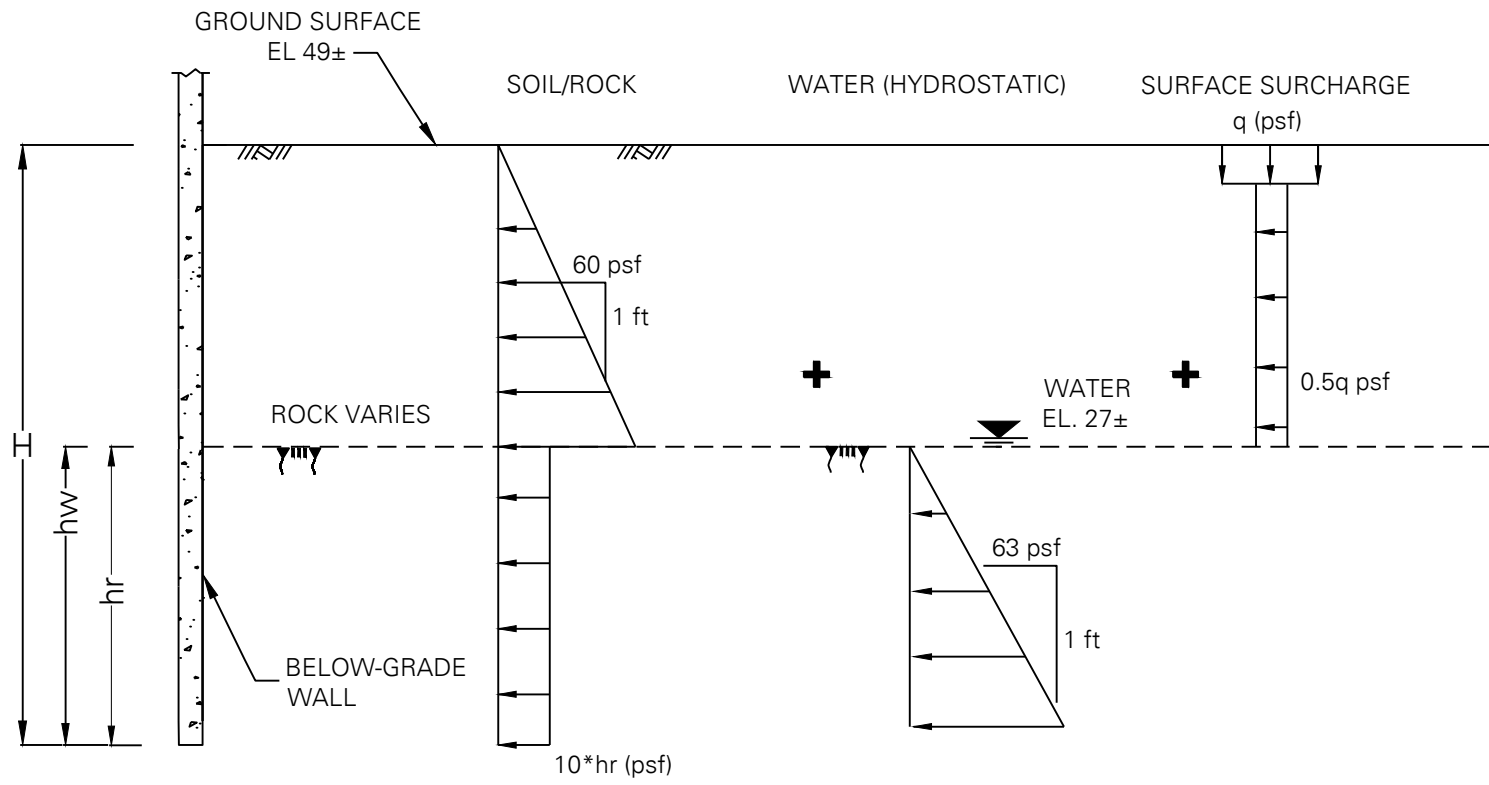
1. BASE PLANS TAKEN FROM:  
- SURVEY BY EARL B. LOVELL - S.P.BELCHER, INC. DATED 14 DECEMBER 2015
2. LIMITS OF NEW YORK CITY TRANSIT (NYCT) STRUCTURE TAKEN FROM ROOF AND SIDEWALK LEVEL PLAN DATED 16 DECEMBER 1916, STRUCTURAL PLANS 47TH STREET STATION ENTRANCES - EAST SIDE SECTION I-I DATED 6 JULY 1916, AND STRUCTURAL PLANS FOR STATION 233+10 TO STATION 239+45 SECTION B-B REVISED 27 OCTOBER 1918
3. BORINGS WERE DRILLED BY WARREN GEORGE, INC. BETWEEN 5/25/2016 AND 6/10/2016 UNDER THE FULL-TIME INSPECTION FROM LANGAN.
4. NEW FOUNDATION PLAN TAKE FROM SEVERUD ASSOCIATES STRUCTURAL DRAWINGS RECEIVED ON JUNE 15, 2016.

**LANGAN**  
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 Landscape Architecture, D.P.C. S.A.  
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 Langan International LLC  
 Collectively known as Langan

Project  
**1568 BROADWAY**  
 BLOCK No. 999, LOT No. 52  
 NEW YORK NEW YORK

Drawing Title  
**POTENTIAL WEATHERED ROCK LIMITS**

|                               |                  |
|-------------------------------|------------------|
| Project No.<br>170391901      | Drawing No.      |
| Date<br>6/16/2016             | <b>10</b>        |
| Scale<br>1" = 25'             |                  |
| Drawn By<br>SCS               | Checked By<br>LF |
| Submission Date<br>10/26/2016 | Sheet 10 of 12   |



**LEGEND:**

- H = HEIGHT OF BELOW GRADE WALLS (FT)
- hr = HEIGHT OF ROCK (FT)
- hw = HEIGHT BETWEEN GROUNDWATER LEVEL AND BOTTOM OF WALL (FT)


**NOTES:**

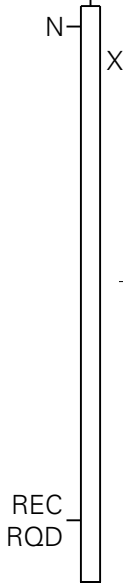
1. FOR DRAINED WALLS, HYDROSTATIC PRESSURES ARE NOT CONSIDERED.

|   |  |   |  |
|---|--|---|--|
| <p><b>LANGAN</b></p> <p>21 Penn Plaza, 360 West 31st Street, 8th Floor<br/>New York, NY 10001<br/>T: 212.479.5400 F: 212.479.5444 www.langan.com</p> <p>Langan Engineering, Environmental, Surveying and<br/>Landscape Architecture, D.P.C.<br/>Langan Engineering and Environmental Services, Inc.<br/>Langan CT, Inc.<br/>Langan International LLC<br/>Collectively known as Langan</p> | <p>Project</p> <p><b>1568 BROADWAY</b></p> <p>BLOCK No. 999, LOT No. 52</p> <p>NEW YORK NEW YORK</p> | <p>Drawing Title</p> <p><b>LATERAL EARTH PRESSURE DIAGRAM</b></p> | <p>Project No.<br/>170391901</p> <p>Date<br/>6/16/2016</p> <p>Scale<br/>N.T.S.</p> <p>Drawn By<br/>KS</p> <p>Checked By<br/>LF</p> <p>Submission Date<br/>10/26/2016</p> |
|   |  |   | 11   |
|   |  |   | Sheet 11 of 12   |
|   |  |   |  |




**BORING KEY**

B(OW)  
EL

- B BORING IDENTIFICATION
- EL GROUND SURFACE ELEVATION AT TIME OF BORING
- N STANDARD PENETRATION RESISTANCE; NUMBER OF BLOWS OF A 140 LB. HAMMER FREE FALLING 30 IN. TO DRIVE A 2 IN O.D. SPLIT SPOON SAMPLER 12 IN. AFTER 6 INCHES OF INITIAL PENETRATION
- REC (LENGTH OF ROCK RETRIEVED)/(LENGTH OF ROCK CORED)\*100%
- RQD ROCK QUALITY DESIGNATION (LENGTH OF ROCK PIECES 4 INCHES OR LONGER)/(LENGTH OF ROCK CORED)\*100%
- X NEW YORK CITY BUILDING CODE CLASSIFICATION
- (OW) GROUNDWATER OBSERVATION WELL
-  MEASURED GROUNDWATER LEVEL
- C-1 ROCK CORE RUN IDENTIFICATION AND LENGTH



**MATERIAL SYMBOLS**

-  UNCONTROLLED FILL
-  WEATHERED ROCK
-  BEDROCK

**NEW YORK CITY BUILDING CODE CLASSIFICATION NUMBER**

- CL 1A HARD SOUND ROCK
- CL 1B MEDIUM SOUND ROCK
- CL 1C INTERMEDIATE ROCK
- CL 1D SOFT ROCK-WEATHER ROCK
- CL 2A DENSE SANDY GRAVEL & GRAVEL
- CL 2B MEDIUM SANDY GRAVEL & GRAVEL
- CL 3A DENSE GRANULAR SOILS
- CL 3B MEDIUM GRANULAR SOILS
- CL 4A HARD CLAYS
- CL 4B STIFF CLAYS
- CL 4C MEDIUM CLAYS
- CL 5A DENSE SILTS & SILTY SOILS
- CL 5B MEDIUM SILTS & SILTY SOILS
- CL 6 ORGANIC SILTS & CLAYS, PEATS, SOFT CLAYS LOOSE GRANULAR SOILS, AND VARVED SILTS
- CL 7 CONTROLLED & UNCOTROLLED FILLS

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Project  
**1568 BROADWAY**  
BLOCK No. 999 LOT No. 52  
NEW YORK NEW YORK

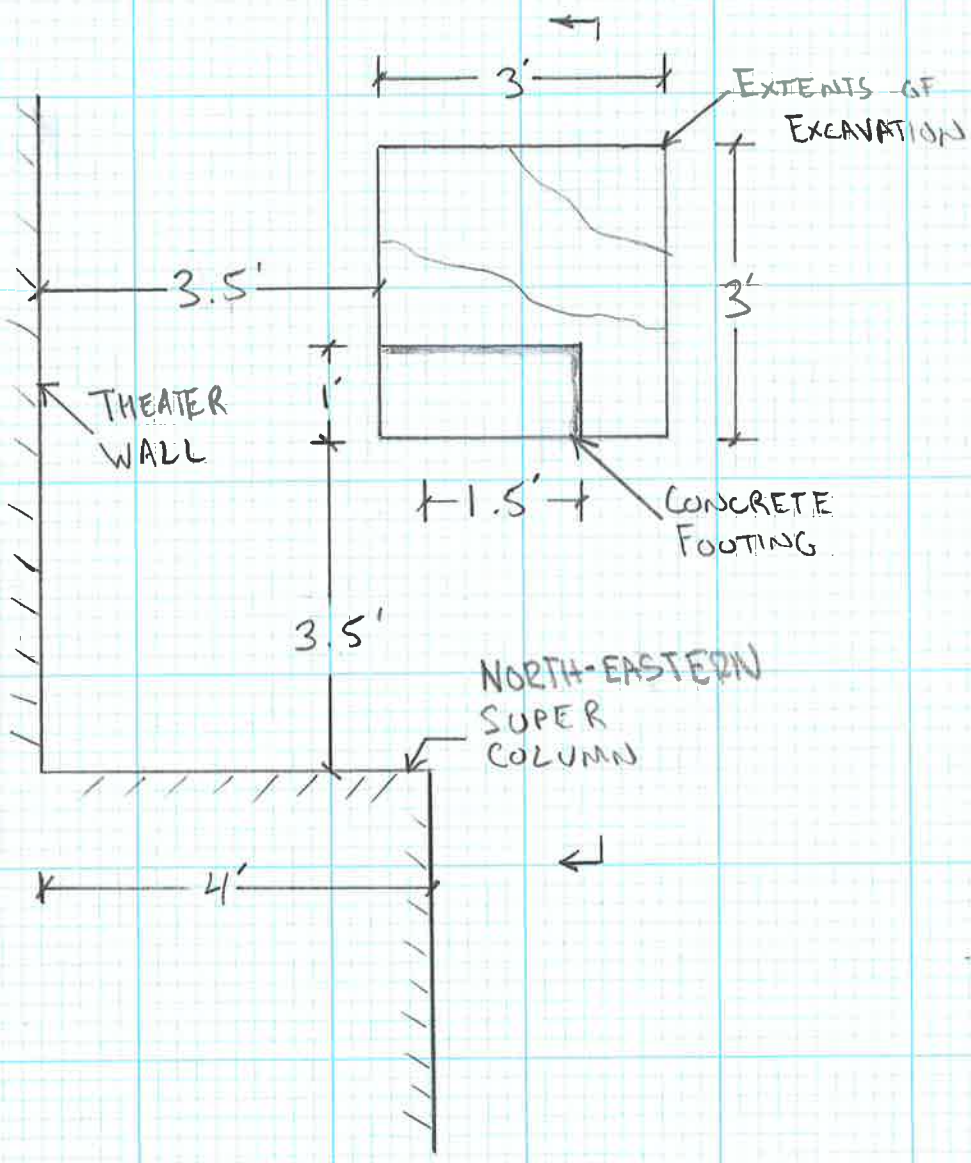
Drawing Title  
**BORING KEY**

Project No.  
170391901  
Date  
6/16/2016  
Scale  
N.T.S.  
Drawn By  
KS  
Submission Date  
10/26/2016

Figure No.  
**LS-1**  
Sheet 12 of 12



# **APPENDIX A TEST PIT LOGS AND PHOTOS**

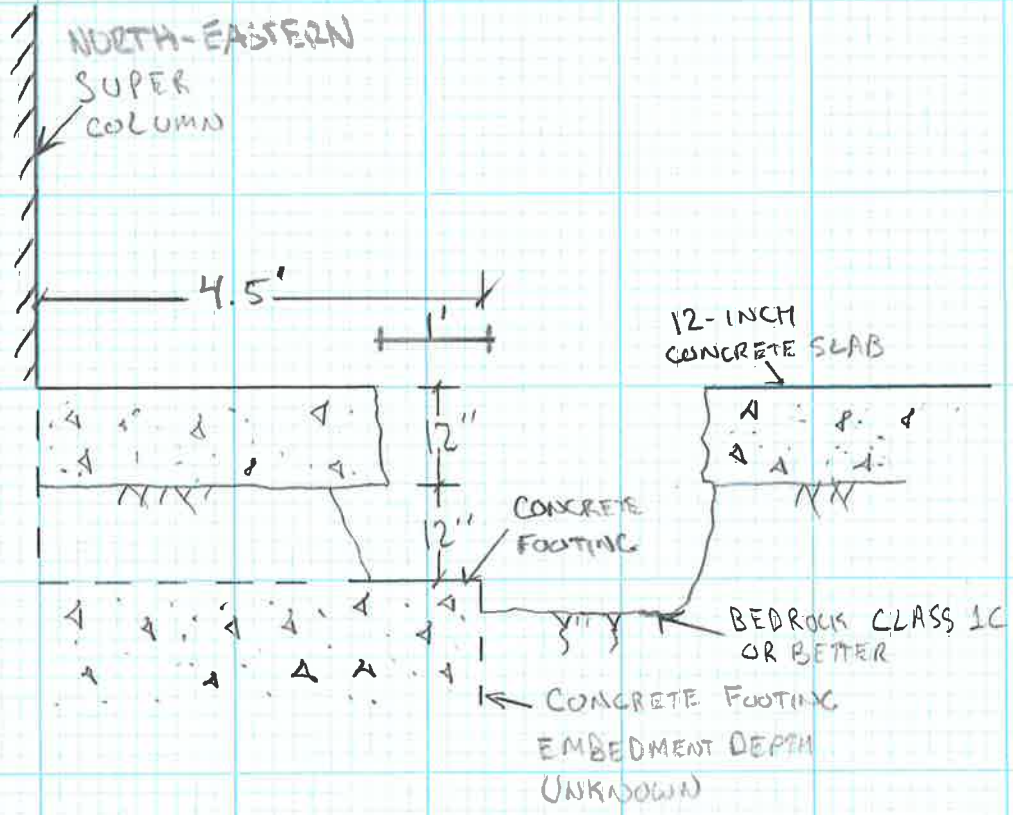


PLAN  
SCALE: 1/2" = 1'

1568 BROADWAY  
TEST PIT TP-1

BY NF DATE 06/21/16  
CKD LEF DATE 06/23/16

PROJ. NO. 17039101  
SHEET 1 OF 8



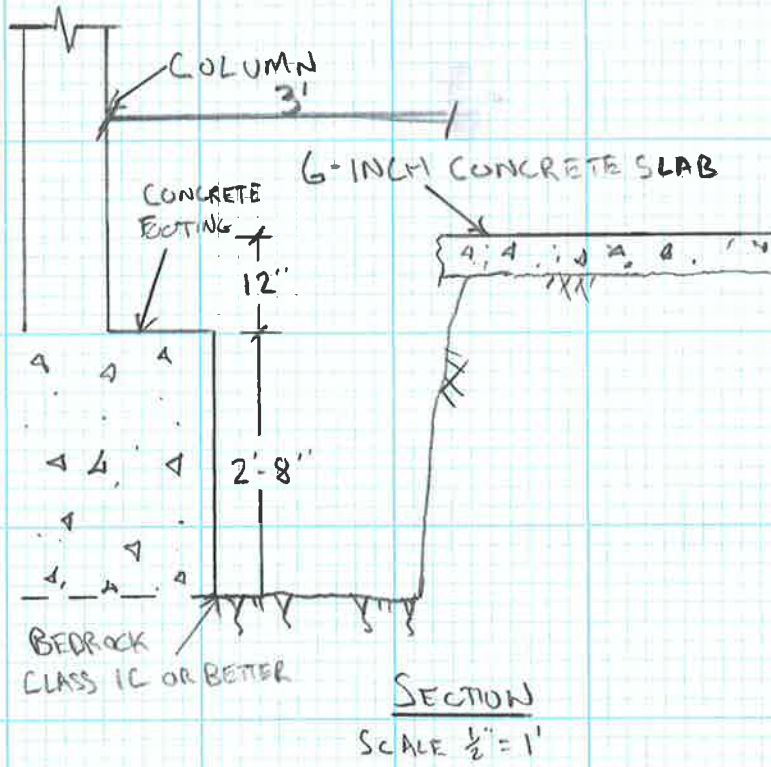
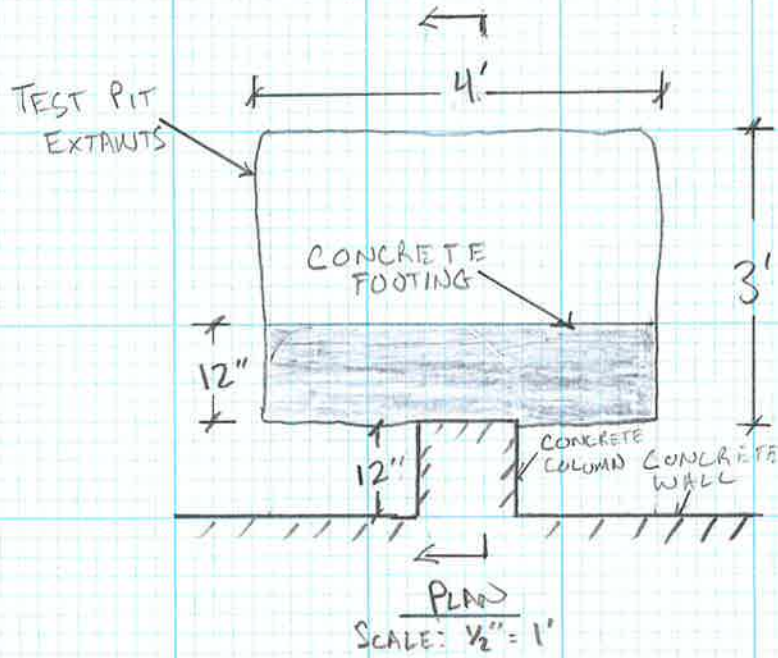
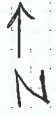
SECTION  
SCALE: 1/2" = 1'

156.8 BROADWAY  
TEST PIT TP-1

BY NF DATE 6/22/16  
CKD LEF DATE 6/26/16

PROJ. NO. 170391901  
SHEET 2 OF 8

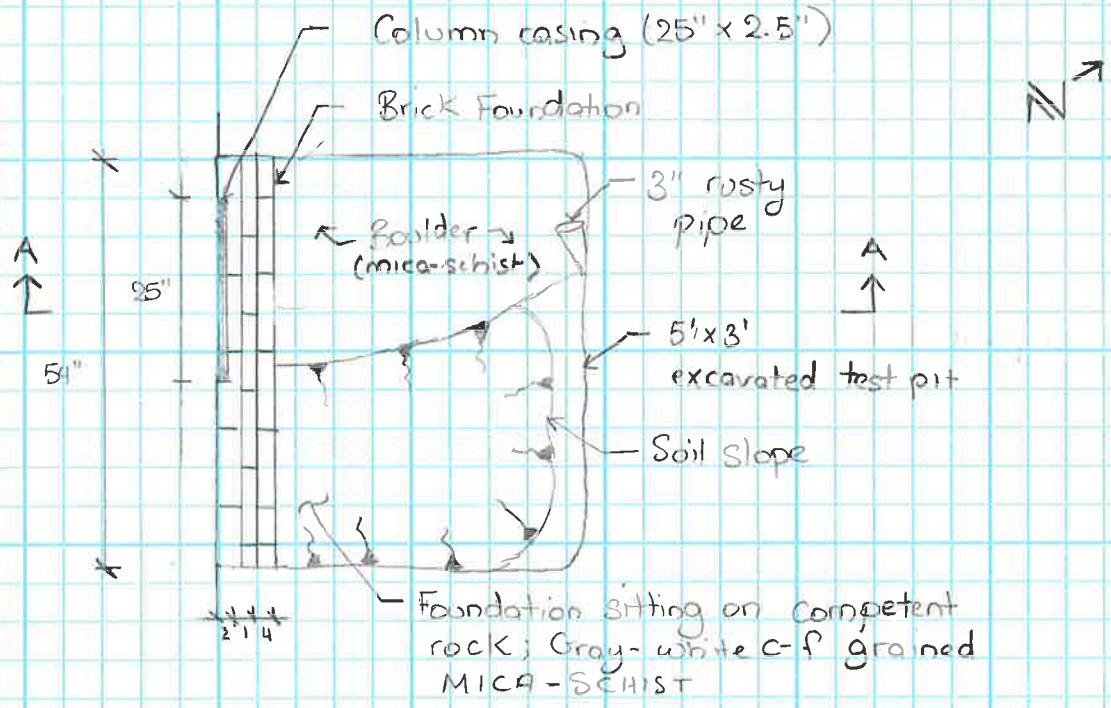




1568 BROADWAY  
TEST PIT TP-2

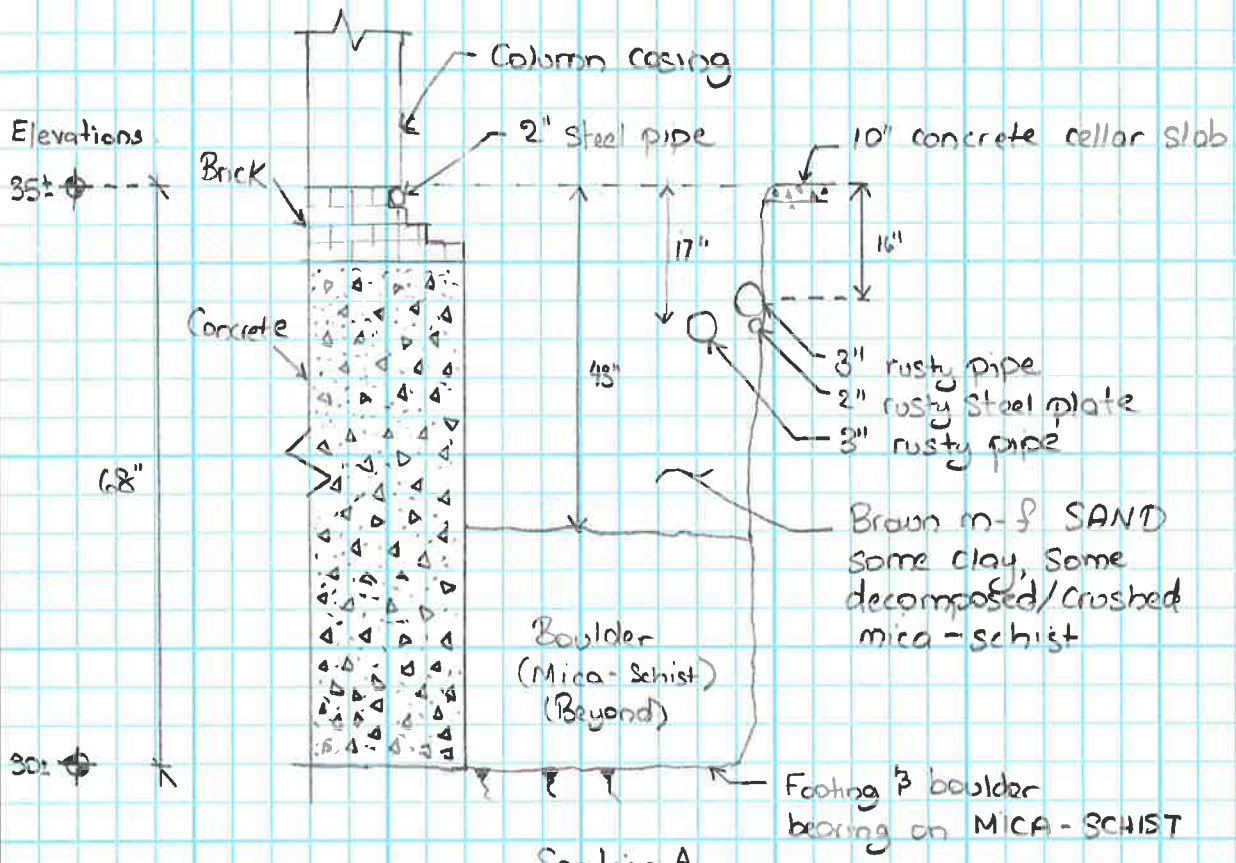
BY NF DATE 6/22/16  
CKD LEF DATE 6/23/16

PROJ. NO. 17039101  
SHEET 3 OF 8



Note: All elevations are in NAVD 88.

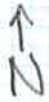
Plan  
 Scale: 1" = 2'



Section A  
 Scale: 1" = 2'

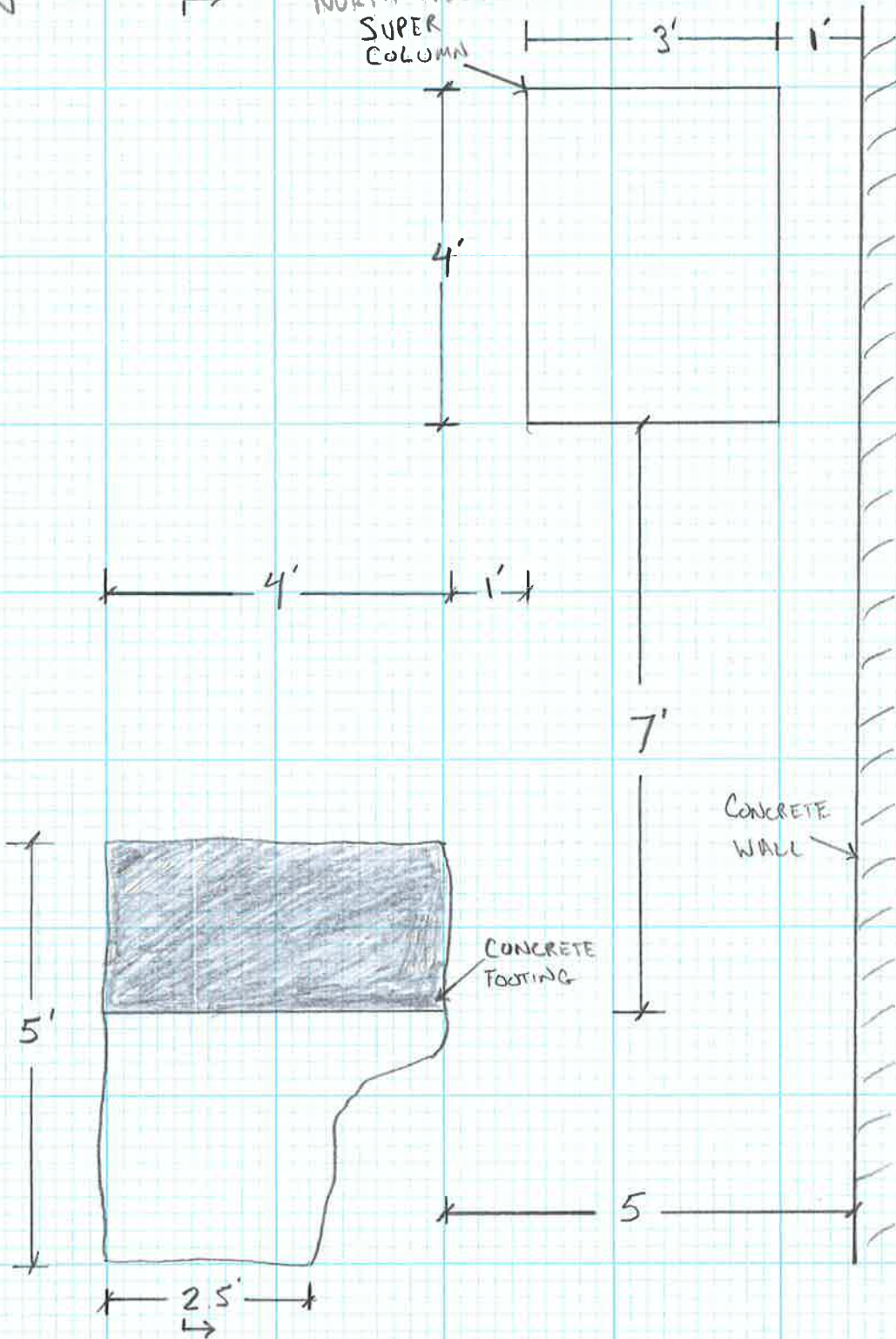
|               |          |              |                     |
|---------------|----------|--------------|---------------------|
| 1568 Broadway | BY KS    | DATE 5/19/16 | PROJ. NO. 170391901 |
| Test Pit TP-3 | CKD. LEF | DATE 6/23/16 | SHEET 4 OF 8        |





NORTH-WESTERN HOTEL

THEATER



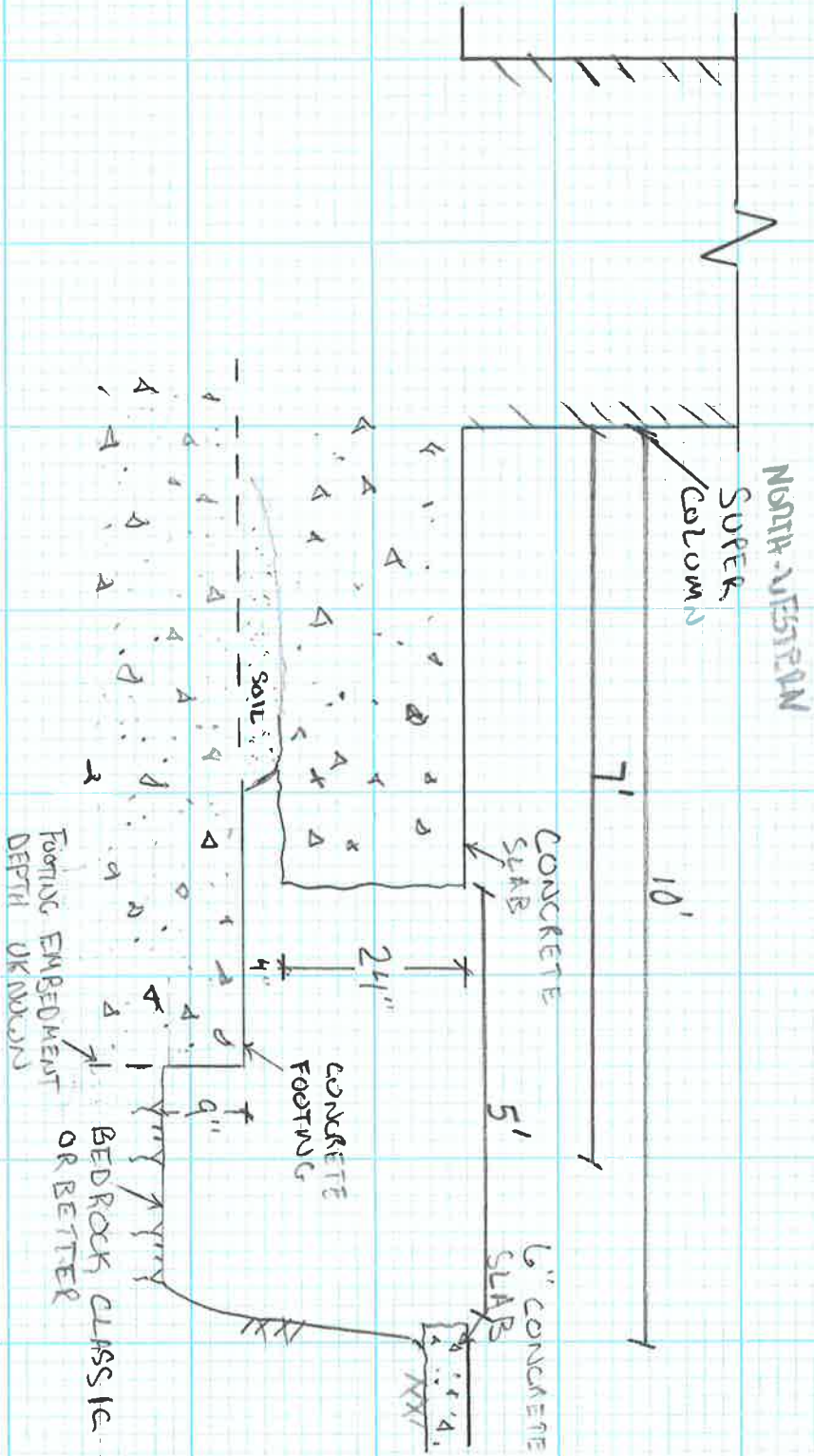
PLAN  
SCALE: 1/2" = 1'

1568 BROADWAY  
TEST PIT TP - 4

BY NF DATE 6/22/16  
CKD LEF DATE 6/23/16

PROJ. NO. 17391901  
SHEET 5 OF 8

SECTION  
SCALE: 1/2" = 1'

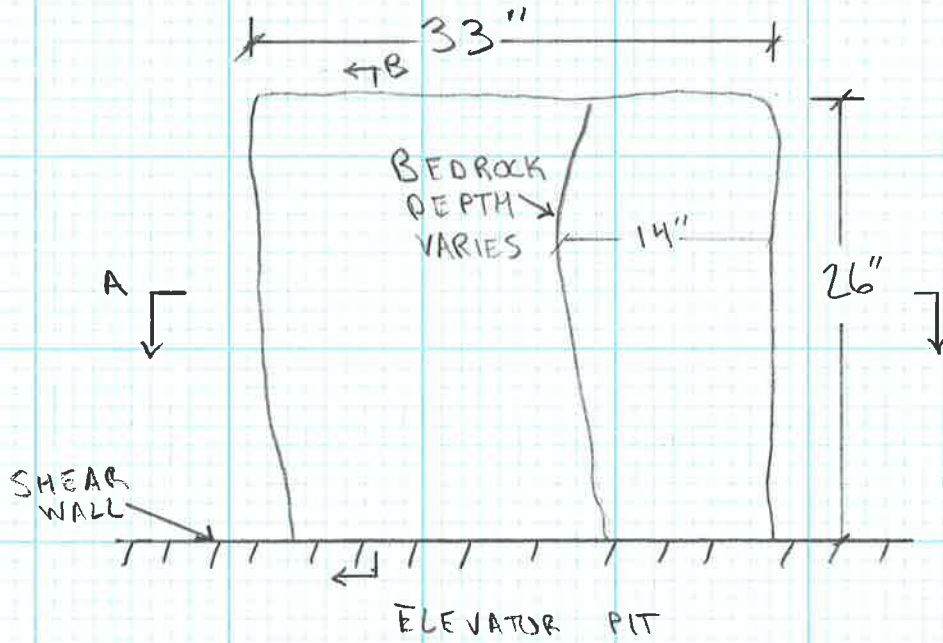


1568 BROADWAY  
TEST PIT TP-4

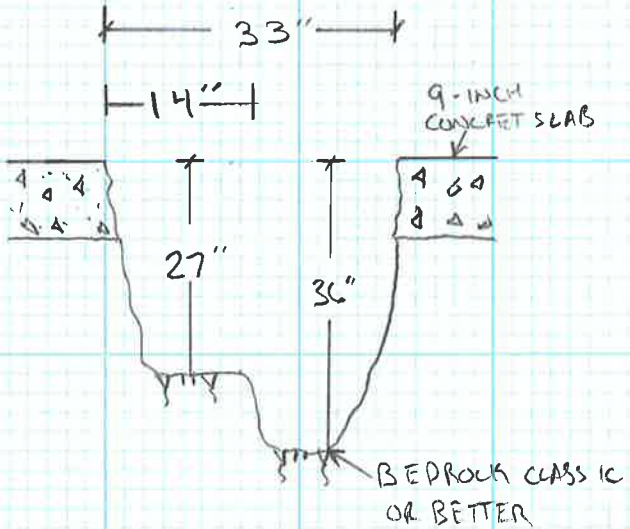
BY NF DATE 6/22/16  
CKD LEF DATE 6/23/16

PROJ. NO. 170391901  
SHEET 6 OF 8

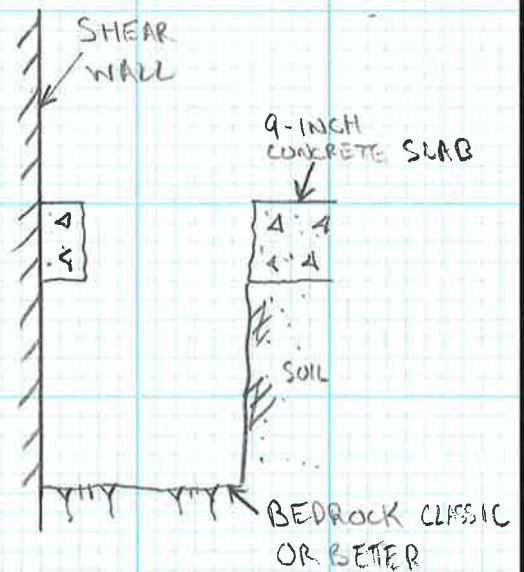




PLAN  
SCALE: 1" = 1"



SECTION A  
SCALE: 1/2" = 1'



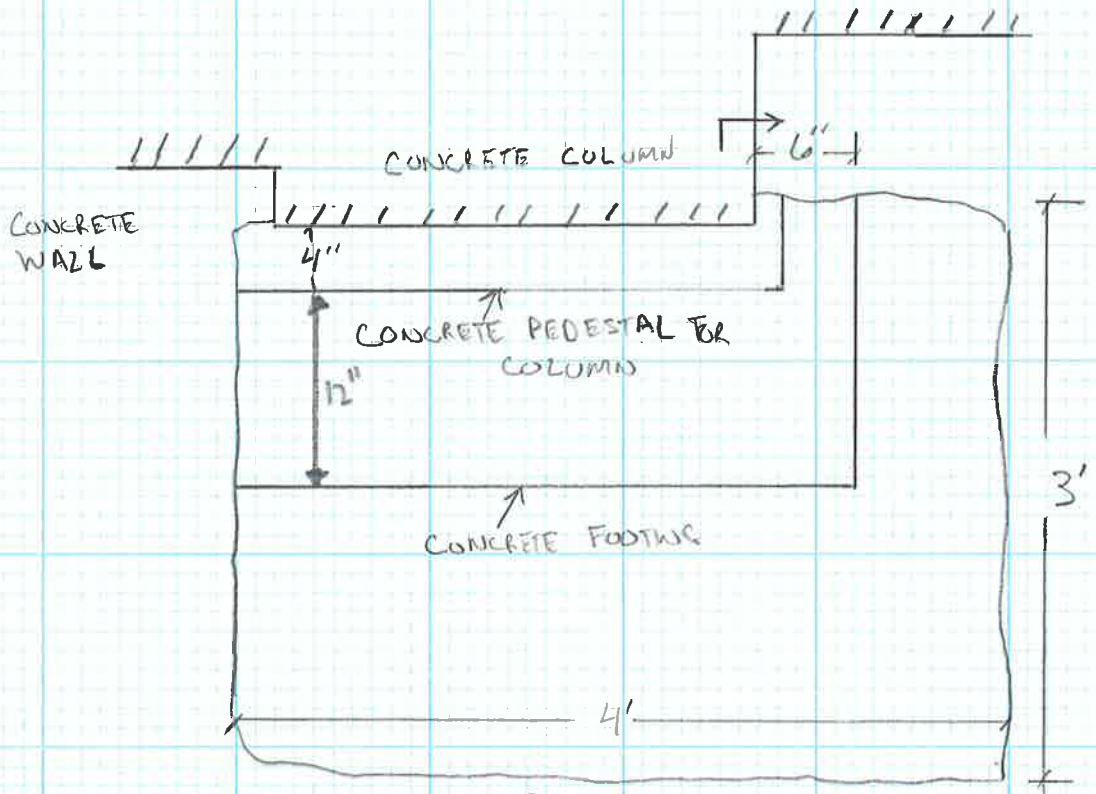
SECTION B  
SCALE: 1/2" = 1'

1568 BROADWAY  
TEST PIT TP-5

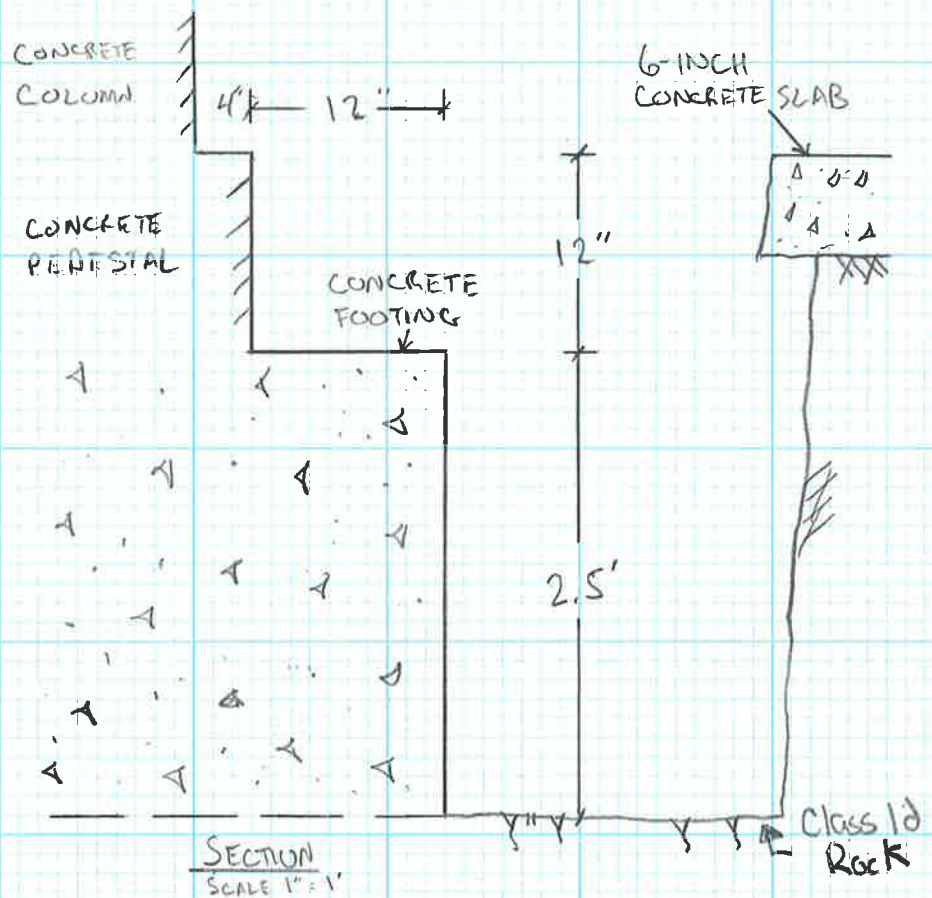
BY NF DATE 6/22/16  
CKD LEF DATE 6/23/16

PROJ. NO. 170391901  
SHEET 7 OF 8

N  
↓



PLAN  
SCALE: 1"=1'



SECTION  
SCALE 1"=1'

|               |          |              |                     |
|---------------|----------|--------------|---------------------|
| 1568 BROADWAY | BY NF    | DATE 6/22/16 | PROJ. NO. 170391901 |
| TEST PIT TP-6 | CKD. LEF | DATE 6/23/16 | SHEET 8 OF 8        |

## TEST PIT INVESTIGATION

A total of six test pits were excavated between 9 and 23 May 2016. The test pits were excavated to identify the nature of the bearing materials and the type and depth of the existing foundations of the adjacent buildings. The test pits were excavated with hand tools and excavator under the full-time inspection of a Langan engineer. The conditions and photographs encountered within each test pit are provided below:

### Test Pit TP-1

Test Pit TP-1 was excavated along the northern face of the northeastern existing super-column with the cellar of 1568 Broadway (with the Palace Theatre). The top of cellar slab elevation is about el. 35.9± NAVD88. The plan dimensions of the test pit were about 3 feet in the north-south direction by 3 feet in the east-west direction, but excavated about 3-feet-6-inches from the super-column. TP-1 was excavated to a depth of about 2-feet-6-inches below the top of the concrete floor slab, corresponding to about el. 33.4±.

The concrete floor slab was un-reinforced and about 12-inches thick. The cellar slab was observed to be bearing on fill material that consisted of brown, fine-to-coarse sand with varying amounts of concrete block fragments. The fill material was about 12-inches thick. The fill material was underlain by competent (Class 1c or better rock) gray-white Mica Schist bedrock.

The test pit encountered bedrock at a depth of about 2-feet-6-inches below existing grade. Therefore, the bottom of the foundation was not encountered. However, the test pit encountered the top of a spread footing, about 2 feet below the existing concrete cellar floor slab. The edge of the footing was about 4-feet-6-inches from the northern face of the super-column. Based on the findings of the shallow bedrock within the test pit, we believe the existing super-column is supported by a spread footing bearing on competent bedrock. In addition, a 6-inch diameter pipe was encountered to the east of the test pit, bearing on top of the bedrock.

No groundwater was encountered in the test pit. The test pit was backfilled, compacted with the excavated material and grouted to the top of existing cellar floor slab.



Existing North-eastern super-column



Photo No. 1 – Test Pit TP-1: General view (facing south-west)

Edge of spread footing

Existing Pipe



Photo No. 2 – Test Pit TP-1: View of bedrock



Photo No. 3 – Test Pit TP-1: View of the edge of the footing, embedded with bedrock (facing west)

Test Pit TP-2

Test Pit TP-2 was excavated along the southern vault wall along the northern cellar foundation wall within 1568 Broadway. The top of cellar slab elevation is about el. 35.9± NAVD88. The plan dimensions of the test pit were about 3-feet in the north-south direction by 4 feet in the east-west direction. TP-2 was excavated to a depth of about 3-feet-8-inches below the top of the concrete floor slab, corresponding to el. 32.2±.

The concrete floor slab was un-reinforced and about 6-inches thick. The concrete floor slab was observed to be bearing on a fill material that consisted of brown, fine-to-coarse sand with varying amount of concrete block and rock fragments. The fill material was about 3-feet thick. varying amounts of concrete block fragments. The fill material was about 12-inches thick. The fill material was underlain by competent (Class 1c or better rock) gray-white Mica Schist bedrock.

The test pit encountered bedrock at a depth of about 2-feet-8-inches below existing grade. The test pit encountered a concrete pier footing extending to bedrock. The edge of the footing was about 2-feet from the northern face of the column. The bottom of the foundation was not encountered, as it was observed to be extending below bedrock. However, based on the findings of the shallow bedrock within the test pit, we believe the existing column is supported by a spread footing bearing on competent (Class 1c or better) bedrock.

No groundwater was encountered in the test pit. The test pit was backfilled, compacted with the excavated material and grouted to the top of existing vault slab.





Photo No. 4 – Test Pit TP-2: General view of test pit (facing north)



Photo No. 5 – Test Pit TP-2: View of foundation (facing north)



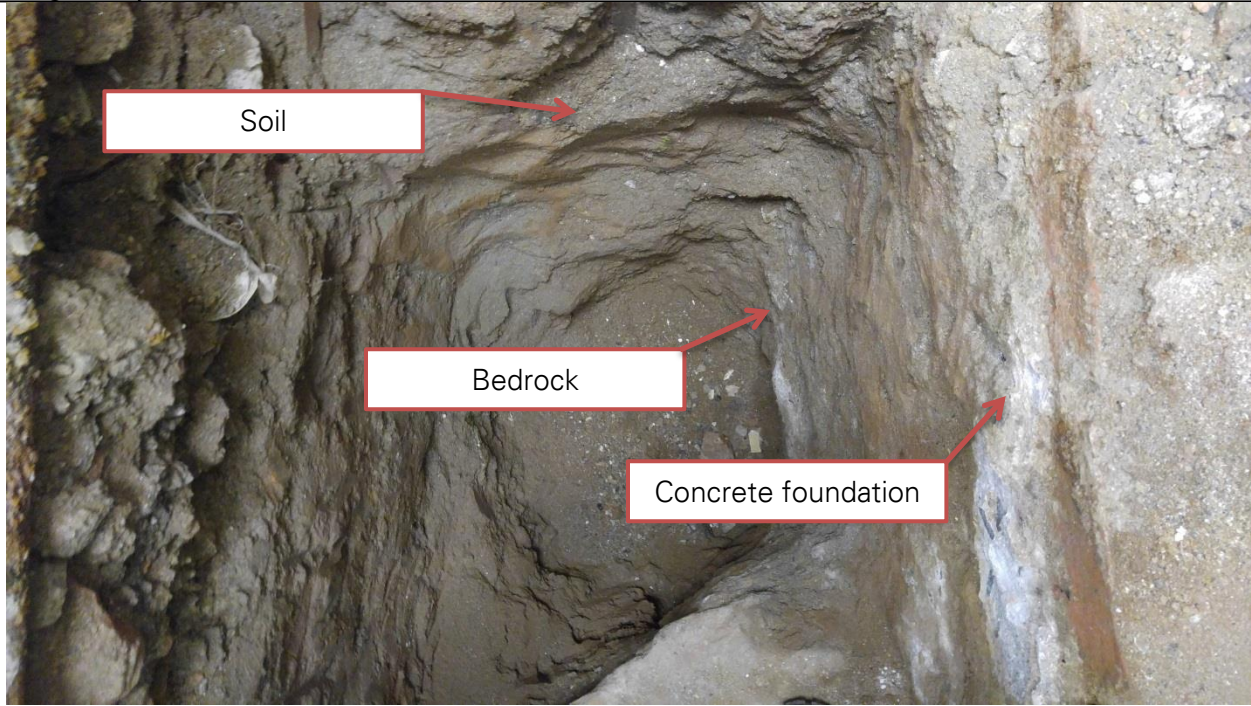


Photo No. 6 – Test Pit TP-2: The concrete footing observed bearing on bedrock (facing east)

Test Pit TP-3

Test Pit TP-3 was excavated within the existing wood shop within the cellar of 1568 Broadway (The Palace Theatre). The top of cellar slab elevation is about el. 35.9± NAVD88. The plan dimensions of the test pit were about 3-feet in the north-south direction by 5-feet in the east-west direction. TP-3 was excavated to a depth of about 5-feet-8-inches below the top of the concrete cellar slab, corresponding to el. 30±.

The concrete floor slab was un-reinforced and about 10-inches thick. The concrete floor slab was observed to be bearing on a fill material that consisted of brown, fine-to-coarse sand with varying amount of concrete block, bricks and rock fragments. The fill material was about 5-feet-8-inches thick. The fill material was underlain by competent (Class 1c or better rock) Mica Schist bedrock.

The test pit encountered a concrete pier foundation that extended about 5-feet-8-inches to the top of bedrock. In addition, multiple 3-inch diameter copper pipes were running in the east-west direction was encountered at a depth of about 1-foot-5-inches below the existing cellar slab.

No groundwater was encountered in the test pit. The test pit was backfilled, compacted with the excavated material and grouted to the top of existing cellar slab.



Photo No.7 – Test Pit TP-3: General view (facing south)



Photo No. 8 – Test Pit TP-3: View of flagstone under stone wall (facing west)

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Test Pit TP-4

Test Pit TP-4 was excavated along the southern face of the northwestern existing super-column with the cellar of 1568 Broadway (within the Hotel). The top of cellar slab elevation is about el. 33.7± NAVD88. The plan dimensions of the test pit were about 4 feet in the north-south direction by 3 feet in the east-west direction, but excavated about 7-feet from the super-column. TP-1 was excavated to a depth of about 3-feet-2-inches below the top of the concrete floor slab, corresponding to about el. 31.5±.

The concrete floor slab was un-reinforced and about 2-feet thick. The cellar slab was observed to be bearing on a thin layer (about 4-inches thick) fill material that consisted of brown, fine-to-coarse sand with varying amounts of concrete block fragments. The fill material was underlain by competent (Class 1c or better rock) gray-white Mica Schist bedrock.

The top of the footing was observed to be located at a depth of about 2-feet-4-inches below the top of cellar slab. The test pit encountered bedrock at a depth of about 3-feet-2-inches below the top of the existing cellar slab. Therefore, the bottom of the foundation was not encountered. Based on the findings of the shallow bedrock within the test pit, we believe the existing super-column is supported by a spread footing bearing on competent (Class 1c or better bedrock).

No groundwater was encountered in the test pit. The test pit was backfilled, compacted with the excavated material and grouted to the top of existing cellar floor slab.





Existing North-western super-

Existing cellular slab  
(about 2ft thick)

Photo No. 9 – Test Pit TP-4: General view (facing north-east)



Top of existing footing

Top of bedrock

Existing cellular slab  
(about 2ft thick)

Photo No. 10 – Test Pit TP-4: View of top of existing footing





Photo No. 11 – Test Pit TP-3: Backfilled, compacted and grouted (facing south)

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Test Pit TP-5

Test Pit TP-5 was excavated along the elevator pit and shear wall within the existing cellar 1568 Broadway, located about 10 feet from the north-eastern super-column. The top of cellar slab elevation is about el. 33.7± NAVD88. The plan dimensions of the test pit were about 2-feet-2-inches in the north-south direction by 2-feet-9-inches in the east-west direction. TP-5 was excavated to a depth of about 3-feet below the top of the concrete floor slab, corresponding to el. 30.7±.

The concrete floor slab was un-reinforced and about 9-inches thick. The concrete floor slab was observed to be bearing on a fill material that consisted of brown, fine-to-coarse sand with varying amount of concrete block, bricks and rock fragments. The fill material was about 2-feet thick. The fill material was underlain by competent (Class 1c or better rock) gray-white Mica Schist bedrock.

The test pit encountered bedrock at varying depths between about 2-feet-3-inches and 3-feet below existing cellar slab, corresponding to el. 31.4± and el. 30.7±, respectively . Therefore, the foundation of the elevator pit/shear wall was not encountered. However, based on the findings of the shallow bedrock within the test pit, we believe the shear wall is supported by shallow foundations (i.e. footing, continuous footing, mat, etc.) bearing on competent bedrock.

No groundwater was encountered in the test pit. The test pit was backfilled, compacted with the excavated material to the top of existing concrete cellar slab.

Existing Elevator pit/Shear wall



Photo No. 12 – Test Pit TP-5: General view (facing south)

Existing Elevator pit/Shear wall, extending below the cellar slab

Top of bedrock



Photo No. 13 – Test Pit TP-5: Backfilled, compacted and grouted (facing south)



Photo No. 14 – Test Pit TP-5: Backfilled, compacted and grouted (facing south)



Test Pit TP-6

Test Pit TP-6 was excavated along the southern wall within the existing cellar of 1568 Broadway, located about 10 feet from the western property line. The top of cellar slab elevation is about el. 33.7± NAVD88. The plan dimensions of the test pit were about 3-feet in the north-south direction by 4-feet in the east-west direction. TP-6 was excavated to a depth of about 3-feet-6-inches below the top of the concrete floor slab, corresponding to el. 30.2±.

The concrete floor slab was un-reinforced and about 6-inches thick. The concrete floor slab was observed to be bearing on a fill material that consisted of brown, fine-to-coarse sand with varying amount of concrete block, bricks and rock fragments. The fill material was about 3-feet-thick. The fill material was underlain by weathered (Class 1d rock) Mica Schist rock.

The test pit encountered a concrete pedestal that extended about 4-inches from the southern foundation wall and about 12-inches below the tip of the cellar slab. The pedestal was observed to be bearing on a concrete footing that was bearing on class 1d weathered bedrock. The concrete footing extended to the bottom of the test pit to a depth of about 2-feet-6-inches below the existing cellar slab.

No groundwater was encountered in the test pit. The test pit was backfilled, compacted with the excavated material to the top of existing concrete cellar slab.



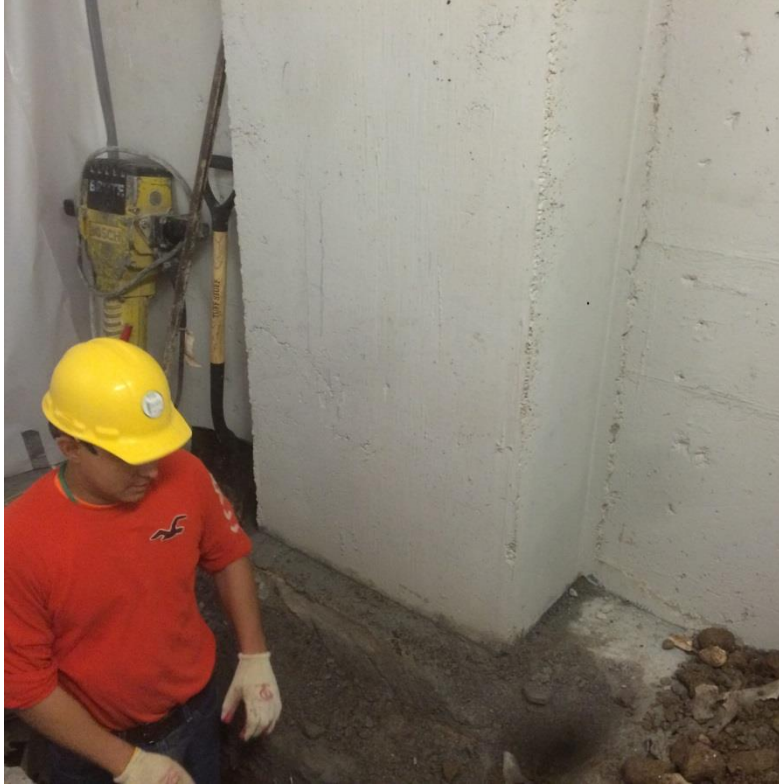


Photo No. 15 – Test Pit TP-5: General view (facing south)



Photo No. 16 – Test Pit TP-5: Backfilled, compacted and grouted (facing south)



Concrete footing extending to weathered rock

Top of weathered bedrock

Photo No. 17 – Test Pit TP-5: Backfilled, compacted and grouted (facing south)



Photo No. 18 – Test Pit TP-5: Backfilled, compacted and grouted (facing south)

**APPENDIX B  
BORING AND WELL CONSTRUCTION LOGS**

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|   |  |                     |  |  |  |                                   |  |
|---|--|---------------------|--|--|--|-----------------------------------|--|
| Project<br>1568 Broadway                      |  |                     |  | Project No.<br>170391901               |  |                                   |  |
| Location<br>New York, N.Y.                    |  |                     |  | Elevation and Datum<br>El. 35.9 NAVD88 |  |                                   |  |
| Drilling Company<br>Warren George             |  |                     |  | Date Started<br>5/17/16                |  | Date Finished<br>5/20/16          |  |
| Drilling Equipment<br>Portable Electric Drill |  |                     |  | Completion Depth<br>30 ft              |  | Rock Depth<br>5 ft                |  |
| Size and Type of Bit<br>2-15/16" Roller Bit   |  |                     |  | Number of Samples                      |  | Disturbed 1 Undisturbed 0 Core 5  |  |
| Casing Diameter (in)<br>3" O.D.               |  | Casing Depth (ft)   |  | Water Level (ft.)                      |  | First Completion 24 HR.           |  |
| Casing Hammer<br>Donut                        |  | Weight (lbs)<br>140 |  | Drop (in)<br>30                        |  | Drilling Foreman<br>Greg Williams |  |
| Sampler<br>2" O.D. Split Spoon                |  |                     |  | Field Engineer<br>Kenan Sooklall       |  |                                   |  |
| Sampler Hammer<br>Donut                       |  | Weight (lbs)<br>140 |  | Drop (in)<br>30                        |  |                                   |  |

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| MATERIAL SYMBOL | Elev. (ft) | Building Code | Sample Description  | Casing blws/ft | Depth Scale | Sample Data |         |                   |                  |       | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |   |
|-----------------|------------|---------------|---|----------------|-------------|-------------|---------|-------------------|------------------|-------|---|---|
|                 |            |               |   |                |             | Number      | Type    | Recov. (in)       | Penetr. resist   | BL/ft |   | N-Value (Blows/ft)  |
|                 | +35.9      |               |   |                | 0           |             |         |                   |                  |       |   |   |
|                 | +35.1      |               | 10" CONCRETE SLAB   |                | 1           |             |         |                   |                  |       |   |   |
|                 |            | Class 1d      | S-1: Gray-brown decomposed MICA, c-f grained muscovite biotite, highly-completley weathered   |                | 2           | S-1         | SS      | 14                | 26               |       | 46  | 10:00 Langan on site<br>10:30 Warren George on site<br>Mobilize to LB-1<br>Core through cellar slab<br>Take S-1 |
|                 |            |               |   |                | 3           |             |         |                   |                  |       |   |   |
|                 | +30.9      |               |   |                | 4           |             |         |                   |                  |       |   | Drill bit clogged at 4'<br>Boulder at 4'<br>Remove core and case hole to 5'                                     |
|                 |            |               | C-1: Gray-white c-f grained MICA SCHIST, c-f grained muscovite biotite, slightly weathered gneiss & quartz at 9'-10', close to wide spacing, strong |                | 5           |             |         |                   |                  |       |   | Start coring C-1<br>5/18/16 Langan & Warren George on site<br>Resume coring C-1<br>Take C-1                     |
|                 |            |               |   | 54             | 6           | C-1         | NX CORE | REC=58"/60" =97%  | RQD=45"/60" =75% |       |   |   |
|                 |            |               |   | 65             | 7           |             |         |                   |                  |       |   |   |
|                 |            |               |   | 60             | 8           |             |         |                   |                  |       |   |   |
|                 |            |               |   | 73             | 9           |             |         |                   |                  |       |   |   |
|                 |            |               |   | 71             | 10          |             |         |                   |                  |       |   |   |
|                 |            | Class 1b      | C-2: Gray-white c-f MICA SCHIST, c-f grained biotite muscovite, slightly weathered, moderate spacing, strong  |                | 11          |             |         |                   |                  |       |   | Begin coring C-2<br>Take C-2  |
|                 |            |               |   | 68             | 12          | C-2         | NX CORE | REC=55"/60" =92%  | RQD=48"/60" =80% |       |   |   |
|                 |            |               |   | 63             | 13          |             |         |                   |                  |       |   |   |
|                 |            |               |   | 74             | 14          |             |         |                   |                  |       |   |   |
|                 |            |               |   | 72             | 15          |             |         |                   |                  |       |   |   |
|                 |            |               | C-3: Gray-white m-f MICA SCHIST, m-f grained muscovite biotite, slightly weathered, moderate spacing, moderate fracture angle, strong               |                | 16          | C-3         | NX CORE | REC=60"/60" =100% | RQD=51"/60" =85% |       |   | Begin coring C-3  |
|                 |            |               |   |                | 17          |             |         |                   |                  |       |   |   |
|                 |            |               |   |                | 18          |             |         |                   |                  |       |   |   |
|                 |            |               |   |                | 19          |             |         |                   |                  |       |   |   |
|                 |            |               |   |                | 20          |             |         |                   |                  |       |   |   |

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Log of Boring LB-1 Sheet 2 of 2

| Project         |            | Project No.         |   |                |             |                |                   |                  |                       |   |                    |    |    |   |
|-----------------|------------|---------------------|---|----------------|-------------|----------------|-------------------|------------------|-----------------------|---|--------------------|----|----|---|
| 1568 Broadway   |            | 170391901           |   |                |             |                |                   |                  |                       |   |                    |    |    |   |
| Location        |            | Elevation and Datum |   |                |             |                |                   |                  |                       |   |                    |    |    |   |
| New York, N.Y.  |            | El. 35.9 NAVD88     |   |                |             |                |                   |                  |                       |   |                    |    |    |   |
| MATERIAL SYMBOL | Elev. (ft) | Building Code       | Sample Description  | Casing blvs/ft | Depth Scale | Sample Data    |                   |                  |                       | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |                    |    |    |   |
|                 |            |                     |   |                |             | Number         | Type              | Recov. (in)      | Penetr. resist BL/6in |   | N-Value (Blows/ft) |    |    |   |
|                 |            |                     |   |                |             |                |                   |                  |                       | 10  | 20                 | 30 | 40 |   |
|                 | +5.9       | Class 1b            | C-4: Gray-white m-f MICA SCHIST, c-f grained muscovite biotite, slightly weathered, moderate spacing, moderate fracture angle, strong |                | 20          | C-4<br>NX CORE | REC=59"/60" =98%  | RQD=50"/60" =83% |                       |   |                    |    |    | 5/19/16<br>11:00 Langan & Warren George on site<br>Resume coring C-3 from 17'<br>Take C-3<br>Begin coring C-4 |
|                 |            |                     | C-5: Gray-white m-f MICA SCHIST, m-f grained muscovite biotite, slightly weathered, moderate spacing, moderate fracture angle, strong |                | 21          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     | End of boring at 30'  |                | 22          |                |                   |                  |                       |   |                    |    |    | Begin coring C-5<br>Take C-5  |
|                 |            |                     |   |                | 23          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 24          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 25          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 26          | C-5<br>NX CORE | REC=60"/60" =100% | RQD=55"/60" =92% |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 27          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 28          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 29          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 30          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 31          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 32          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 33          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 34          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 35          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 36          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 37          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 38          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 39          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 40          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 41          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 42          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 43          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 44          |                |                   |                  |                       |   |                    |    |    |   |
|                 |            |                     |   |                | 45          |                |                   |                  |                       |   |                    |    |    |   |

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Log of Boring LB-2 Sheet 2 of 2

| Project         |            | Project No.         |  |                |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|-----------------|------------|---------------------|--|----------------|-------------|----------------|------------------|------------------|-----------------------|---|--------------------|----|----|--|----------------------|--|
| 1568 Broadway   |            | 170391901           |  |                |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
| Location        |            | Elevation and Datum |  |                |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
| New York, N.Y.  |            | El. 35.9 NAVD88     |  |                |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
| MATERIAL SYMBOL | Elev. (ft) | Building Code       | Sample Description   | Casing blvs/ft | Depth Scale | Sample Data    |                  |                  |                       | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |                    |    |    |  |                      |  |
|                 |            |                     |  |                |             | Number         | Type             | Recov. (in)      | Penetr. resist BL/6in |   | N-Value (Blows/ft) |    |    |  |                      |  |
|                 |            |                     |  |                |             |                |                  |                  |                       | 10  | 20                 | 30 | 40 |  |                      |  |
|                 | +10.9      | Class 1b            | C-3: Gray-white c-f MICA SCHIST, c-f grained muscovite biotite, highly-moderately weathered, quartz intrusion 19" to 43", trace garnet, moderate-close spacing, fractures moderately dipping | 20             |             | C-3<br>NX CORE | REC=49"/60" =82% | RQD=37"/60" =62% |                       |   |                    |    |    |  | Leave casing in hole |  |
|                 |            |                     |  | 80             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 21             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 87             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 22             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     | End of boring at 25'   | 23             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 75             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 24             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 83             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 25             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 26             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 27             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 28             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 29             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 30             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 31             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 32             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 33             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 34             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 35             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 36             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 37             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 38             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 39             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 40             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 41             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 42             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 43             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 44             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |
|                 |            |                     |  | 45             |             |                |                  |                  |                       |   |                    |    |    |  |                      |  |

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| Project         |   | Project No.         |   |                                      |                |                                      |             |                        |   |                    |    |  |
|-----------------|---|---------------------|---|--------------------------------------|----------------|--------------------------------------|-------------|------------------------|---|--------------------|----|--|
| 1568 Broadway   |   | 170391901           |   |                                      |                |                                      |             |                        |   |                    |    |  |
| Location        |   | Elevation and Datum |   |                                      |                |                                      |             |                        |   |                    |    |  |
| New York, N.Y.  |   | El. 35.9 NAVD88     |   |                                      |                |                                      |             |                        |   |                    |    |  |
| MATERIAL SYMBOL | Elev. (ft)  | Building Code       | Sample Description  | Depth Scale                          | Sample Data    |                                      |             |                        | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |                    |    |  |
|                 |   |                     |   |                                      | Number         | Type                                 | Recov. (in) | Penetr. resist. BL/6in |   | N-Value (Blows/ft) |    |  |
|                 |   |                     |   |                                      |                |                                      |             | 10                     | 20  | 30                 | 40 |  |
|                 | +10.9   | Class 1a            | C-4: Gray-white m-f MICA SCHIST, m-f biotite muscovite, slightly weathered, moderate fracture spacing, quartz intrusion 23.5'-25'   | 20                                   | C-4<br>NX CORE | REC=59"/60" =98%<br>RQD=56"/60" =93% |             |                        |   |                    |    | <p>Begin coring C-4</p> <p>End of day at 24'<br/>5/24/16<br/>10:00 Langan and Warren George on site<br/>Resume coring C-4<br/>Take C-4<br/>Begin coring C-5<br/>Barrel jammed at 25'<br/>Empty and re-core<br/>Take C-5</p> <p>Begin coring C-6<br/>5/25/16<br/>10:00 Langan and Warren George on site<br/>Resume coring C-6<br/>Barrel jammed at 32'<br/>Empty and re-core<br/>Take C-6</p> |
|                 |   |                     | 21  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 22  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 23  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   | Class 1b            | C-5: Gray-white c-f MICA SCHIST, c-f biotite muscovite, moderately dipping fracture angles, slightly weathered, close to moderate fracture spacing, iron staining, strong | 25                                   | C-5<br>NX CORE | REC=57"/60" =95%<br>RQD=46"/60" =77% |             |                        |   |                    |    |  |
|                 |   |                     | 26  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 27  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 28  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 29  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 30  |                                      |                |                                      |             |                        |   |                    |    |  |
| Class 1b        | C-6: Gray-white m-f MICA SCHIST, m-f biotite muscovite, slight weathering, moderate fracture spacing, moderate fracture angle, quartz intrusion, strong | 31                  | C-6<br>NX CORE  | REC=57"/60" =95%<br>RQD=51"/60" =85% |                |                                      |             |                        |   |                    |    |  |
|                 | 32  |                     |   |                                      |                |                                      |             |                        |   |                    |    |  |
|                 | 33  |                     |   |                                      |                |                                      |             |                        |   |                    |    |  |
|                 | 34  |                     |   |                                      |                |                                      |             |                        |   |                    |    |  |
|                 | 35  |                     |   |                                      |                |                                      |             |                        |   |                    |    |  |
|                 | +0.9  |                     | End of boring at 35'  | 35                                   |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 36  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 37  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 38  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 39  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 40  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 41  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 42  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 43  |                                      |                |                                      |             |                        |   |                    |    |  |
|                 |   |                     | 44  |                                      |                |                                      |             |                        |   |                    |    |  |
| 45              |   |                     |   |                                      |                |                                      |             |                        |   |                    |    |  |

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Log of Boring **LB-4** Sheet 1 of 2

|   |  |                        |                 |  |  |                         |                  |           |
|---|--|------------------------|-----------------|--|--|-------------------------|------------------|-----------|
| Project<br>1568 Broadway                      |  |                        |                 | Project No.<br>170391901               |  |                         |                  |           |
| Location<br>New York, N.Y.                    |  |                        |                 | Elevation and Datum<br>El. 35.9 NAVD88 |  |                         |                  |           |
| Drilling Company<br>Warren George             |  |                        |                 | Date Started<br>5/25/16                |  | Date Finished<br>6/3/16 |                  |           |
| Drilling Equipment<br>Portable Electric Drill |  |                        |                 | Completion Depth<br>26 ft              |  | Rock Depth<br>6 ft      |                  |           |
| Size and Type of Bit<br>2-15/16" Roller Bit   |  |                        |                 | Number of Samples                      |  | Disturbed<br>1          | Undisturbed<br>0 | Core<br>4 |
| Casing Diameter (in)<br>3" O.D.               |  | Casing Depth (ft)<br>6 |                 | Water Level (ft.)<br>First<br>-        |  | Completion<br>-         | 24 HR.<br>-      |           |
| Casing Hammer<br>Donut                        |  | Weight (lbs)<br>140    | Drop (in)<br>30 | Drilling Foreman<br>Deon Dewar/Ben     |  |                         |                  |           |
| Sampler<br>2" O.D. Split Spoon                |  |                        |                 | Field Engineer<br>Kenan Sooklall       |  |                         |                  |           |
| Sampler Hammer<br>Donut                       |  | Weight (lbs)<br>140    | Drop (in)<br>30 |  |  |                         |                  |           |

| MATERIAL SYMBOL | Elev. (ft) | Building Code | Sample Description  | Depth Scale | Sample Data |         |             |                       |                    | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |   |
|-----------------|------------|---------------|---|-------------|-------------|---------|-------------|-----------------------|--------------------|---|---|
|                 |            |               |   |             | Number      | Type    | Recov. (in) | Penetr. resist Bl/6in | N-Value (Blows/ft) |   |   |
|                 | +35.9      |               |   | 0           |             |         |             |                       |                    |   |   |
|                 | +35.4      |               | 6" CONCRETE SLAB  | 0           |             |         |             |                       |                    |   |   |
|                 |            | Class 7       | S-1: Black tar, some brick [FILL]   | 1           | S-1         | SS      | 2           | 25/2"                 |                    | 25/2"   | 10:00 Langan and Warren George on site<br>Mobilize to LB-4<br>Core through cellar slab<br>Take S-1  |
|                 |            |               |   | 2           |             |         |             |                       |                    |   |   |
|                 |            |               |   | 3           |             |         |             |                       |                    |   |   |
|                 |            |               |   | 4           |             |         |             |                       |                    |   |   |
|                 |            |               |   | 5           |             |         |             |                       |                    |   |   |
|                 | +29.9      |               | C-1: Gray-white GNEISS m-f mica schist, m-f biotite and quartz, moderate steep fracture angle, moderate close fracture spacing, slightly weathered, iron staining, strong                                   | 6           |             |         |             |                       |                    |   | Drill to 5'<br>6/1/16<br>10:00 Langan and Warren George on site<br>Obstruction at 5'<br>Install 6' casing<br>Core boulder<br>Begin coring C-1<br>Take C-1 |
|                 |            |               |   | 7           | C-1         | NX CORE |             |                       |                    |   |   |
|                 |            |               |   | 8           |             |         |             | REC=55"/60" =92%      |                    |   |   |
|                 |            |               |   | 9           |             |         |             | RQD=41"/60" =68%      |                    |   |   |
|                 |            |               |   | 10          |             |         |             |                       |                    |   |   |
|                 |            |               |   | 11          |             |         |             |                       |                    |   |   |
|                 |            | Class 1b      | C-2: Gray-white GNEISS m-f mica schist, biotite and quartz moderately fracture angle, very close fracture spacing 912-12.5) moderate fracture spacing throughout, iron staining, slightly weathered, strong | 12          |             |         |             |                       |                    |   | Begin coring C-2<br>End of day at 12'<br>6/2/16<br>11:00 Langan and Warren George on site<br>Resume coring C-2<br>Breaker trips, fix, resume coring       |
|                 |            |               |   | 13          | C-2         | NX CORE |             |                       |                    |   |   |
|                 |            |               |   | 14          |             |         |             | REC=50"/60" =83%      |                    |   |   |
|                 |            |               |   | 15          |             |         |             | RQD=34"/60" =57%      |                    |   |   |
|                 |            |               |   | 16          |             |         |             |                       |                    |   |   |
|                 |            |               |   | 17          |             |         |             |                       |                    |   |   |
|                 |            |               | C-3: Gray-white GNEISS shallow fracture angles, wide fracture spacing, slightly weathered, iron staining, strong  | 18          |             |         |             |                       |                    |   |   |
|                 |            |               |   | 19          | C-3         | NX CORE |             |                       |                    |   |   |
|                 |            |               |   | 20          |             |         |             | REC=53"/60" =88%      |                    |   |   |
|                 |            |               |   |             |             |         |             | RQD=47"/60" =78%      |                    |   |   |

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Log of Boring LB-4 Sheet 2 of 2

| Project         |            |               | Project No.  |             |             |         |                   |                        |   |                    |    |    |   |
|-----------------|------------|---------------|--|-------------|-------------|---------|-------------------|------------------------|---|--------------------|----|----|---|
| 1568 Broadway   |            |               | 170391901  |             |             |         |                   |                        |   |                    |    |    |   |
| Location        |            |               | Elevation and Datum  |             |             |         |                   |                        |   |                    |    |    |   |
| New York, N.Y.  |            |               | El. 35.9 NAVD88  |             |             |         |                   |                        |   |                    |    |    |   |
| MATERIAL SYMBOL | Elev. (ft) | Building Code | Sample Description   | Depth Scale | Sample Data |         |                   |                        | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |                    |    |    |   |
|                 |            |               |  |             | Number      | Type    | Recov. (in)       | Penetr. resist. BL/6in |   | N-Value (Blows/ft) |    |    |   |
|                 |            |               |  | 20          | C-3         |         |                   |                        | 10  | 20                 | 30 | 40 | Barrel jammed at 20'<br>Empty barrel, re-core<br>End of day at 20.5'<br>6/3/16<br>10:00 Langan and Warren George on site<br>Resume coring C-3<br>Take C-3<br>Begin coring C-4<br>Take C-4 |
|                 |            | Class 1b      | C-4: Gray-white c-f MICA SCHIST, m-f biotite c-f quartz, moderate fracture spacing, moderate fracture angles, slightly weathered, strong | 21          |             |         |                   |                        |   |                    |    |    |   |
|                 | +9.9       |               | End of boring at 26'   | 22          | C-4         | NX CORE | REC=53"/60" = 88% | RQD=41"/60" = 68%      |   |                    |    |    |   |
|                 |            |               |  | 23          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 24          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 25          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 26          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 27          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 28          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 29          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 30          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 31          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 32          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 33          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 34          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 35          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 36          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 37          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 38          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 39          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 40          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 41          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 42          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 43          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 44          |             |         |                   |                        |   |                    |    |    |   |
|                 |            |               |  | 45          |             |         |                   |                        |   |                    |    |    |   |

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|   |  |  |  |  |  |                         |  |
|---|--|--|--|--|--|-------------------------|--|
| Project<br>1568 Broadway                      |  |  |  | Project No.<br>170391901               |  |                         |  |
| Location<br>New York, N.Y.                    |  |  |  | Elevation and Datum<br>El. 35.9 NAVD88 |  |                         |  |
| Drilling Company<br>Warren George             |  |  |  | Date Started<br>5/26/16                |  | Date Finished<br>6/3/16 |  |
| Drilling Equipment<br>Portable Electric Drill |  |  |  | Completion Depth<br>25 ft              |  | Rock Depth<br>12 ft     |  |
| Size and Type of Bit<br>2-15/16" Roller Bit   |  |  |  | Number of Samples                      |  | Disturbed<br>4          |  |
| Casing Diameter (in)<br>3" O.D.               |  |  |  | Casing Depth (ft)<br>5                 |  | Undisturbed<br>0        |  |
| Casing Hammer<br>Donut                        |  |  |  | Weight (lbs)<br>140                    |  | Drop (in)<br>30         |  |
| Sampler<br>2" O.D. Split Spoon                |  |  |  | Drilling Foreman<br>Greg Williams      |  |                         |  |
| Sampler Hammer<br>Donut                       |  |  |  | Weight (lbs)<br>140                    |  | Drop (in)<br>30         |  |
|   |  |  |  | Field Engineer<br>Kenan Sooklall       |  |                         |  |

| MATERIAL SYMBOL | Elev. (ft) | Building Code | Sample Description   | Depth Scale | Sample Data |         |             |                     |                  |                    | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |  |
|-----------------|------------|---------------|--|-------------|-------------|---------|-------------|---------------------|------------------|--------------------|---|--|
|                 |            |               |  |             | Number      | Type    | Recov. (in) | Penetr. resist (in) | BL/ft            | N-Value (Blows/ft) |   |  |
|                 | +35.9      |               |  | 0           |             |         |             |                     |                  |                    |   |  |
|                 | +35.6      |               | 4" CONCRETE SLAB   | 0           |             |         |             |                     |                  |                    |   | Mobilize to LB-5<br>Drill through concrete slab<br>Take S-1  |
|                 |            |               | S-1: Black-brown m-f SAND, some decomposed mica, some silt [FILL]  | 1           | S-1         | SS      | 16          | 1                   | 2                |                    |   | Take S-2   |
|                 |            |               | S-2: Brown m-f SAND, some decomposed mica, some silt [FILL]  | 2           | S-2         | SS      | 18          | 7                   | 8                | 15                 |   | Install 5' of casing<br>6/1/16<br>10:00 Langan and Warren George on site<br>Clean casing<br>Take S-3<br>Install 3' of casing   |
|                 |            | Class 7       | S-3: brown m-f SAND, some decomposed mica, some silt [FILL]  | 3           | S-3         | SS      | 14          | 21                  | 16               | 34                 |   | Drill to 10'<br>Install 2' of casing   |
|                 |            |               | S-4: Brown m-f SAND, some decomposed mica, some silt [FILL]  | 4           | S-4         | SS      | 12          | 8                   | 50/2"            | 50/2"              |   | REC=9"/36" =25%<br>RQD=0"/36" =0%  |
|                 | +23.9      |               | C-1: Gray-white m-f MICA SCHIST, very close fracture spacing, iron staining, strong  | 5           | C-1         | NX CORE |             | REC=25%             | RQD=0%           |                    |   | Drill to 15'<br>Encountered rock at 12'<br>Constant loss of water<br>Take C-1<br>Begin coring C-2<br>End of day at 16'<br>6/2/16<br>10:00 Langan and Warren George on site<br>Resume coring C-2<br>Breaker trips, fix, resume coring<br>Barrel jammed at 18' |
|                 |            | Class 1b      | C-2: gray-white m-f MICA SCHIST, m-f biotite-muscovite coarse grained quartz, moderate fracture angles, close-moderate fracture spacing, pegmatite intrusion from 17'-18', slightly weathered, iron staining, strong | 6           | C-2         | NX CORE |             | REC=50"/60" =83%    | RQD=37"/60" =62% |                    |   |  |

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Log of Boring LB-5 Sheet 2 of 2

| Project         |            | Project No.         |  |             |             |      |             |                       |   |                    |    |    |  |
|-----------------|------------|---------------------|--|-------------|-------------|------|-------------|-----------------------|---|--------------------|----|----|--|
| 1568 Broadway   |            | 170391901           |  |             |             |      |             |                       |   |                    |    |    |  |
| Location        |            | Elevation and Datum |  |             |             |      |             |                       |   |                    |    |    |  |
| New York, N.Y.  |            | El. 35.9 NAVD88     |  |             |             |      |             |                       |   |                    |    |    |  |
| MATERIAL SYMBOL | Elev. (ft) | Building Code       | Sample Description   | Depth Scale | Sample Data |      |             |                       | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |                    |    |    |  |
|                 |            |                     |  |             | Number      | Type | Recov. (in) | Penetr. resist BL/6in |   | N-Value (Blows/ft) |    |    |  |
|                 |            |                     |  |             |             |      |             |                       | 10  | 20                 | 30 | 40 |  |
|                 | +10.9      | Class 1b            | C-3: Gray-white c-f MICA SCHIST, c-f biotite-muscovite, moderate fracture angles, close-moderate fracture spacing, iron staining, slight-moderate weathering, strong | 20          | C-3         |      |             |                       |   |                    |    |    | Clean barrel<br>Resume coring C-2<br>Take C-2<br>Begin coring C-3<br>End of day at 22'<br>6/3/16<br>10:00 Langan and Warren George on site<br>Resume coring C-3<br>Barrel jammed at 24'<br>Empty barrel, re-core<br>Take C-3 |
|                 |            |                     | End of boring at 25'   | 21          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 22          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 23          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 24          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 25          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 26          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 27          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 28          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 29          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 30          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 31          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 32          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 33          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 34          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 35          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 36          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 37          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 38          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 39          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 40          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 41          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 42          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 43          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 44          |             |      |             |                       |   |                    |    |    |  |
|                 |            |                     |  | 45          |             |      |             |                       |   |                    |    |    |  |

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Log of Boring LB-6 Sheet 1 of 2

|   |                     |                        |   |  |                           |
|---|---------------------|------------------------|---|--|---------------------------|
| Project<br>1568 Broadway                      |                     |                        | Project No.<br>170391901                                    |  |                           |
| Location<br>New York, N.Y.                    |                     |                        | Elevation and Datum<br>El. 35.9 NAVD88                      |  |                           |
| Drilling Company<br>Warren George             |                     |                        | Date Started<br>5/20/16                                     |  | Date Finished<br>5/24/16  |
| Drilling Equipment<br>Portable Electric Drill |                     |                        | Completion Depth<br>29 ft                                   |  | Rock Depth<br>9 ft        |
| Size and Type of Bit<br>2-15/16" Roller Bit   |                     |                        | Number of Samples<br>Disturbed 2 Undisturbed 0 Core 4       |  |                           |
| Casing Diameter (in)<br>3" O.D.               |                     | Casing Depth (ft)<br>5 | Water Level (ft.)<br>First $\nabla$ - Completion $\nabla$ - |  | Core<br>24 HR. $\nabla$ - |
| Casing Hammer<br>Donut                        | Weight (lbs)<br>140 | Drop (in)<br>30        | Drilling Foreman<br>Deon Dewar                              |  |                           |
| Sampler<br>2" O.D. Split Spoon                |                     |                        | Field Engineer<br>Kenan Sooklall                            |  |                           |
| Casing Hammer<br>Donut                        | Weight (lbs)<br>140 | Drop (in)<br>30        |   |  |                           |

| MATERIAL SYMBOL | Elev. (ft) | Building Code | Sample Description   | Depth Scale | Sample Data |         |             |                |       | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |   |
|-----------------|------------|---------------|--|-------------|-------------|---------|-------------|----------------|-------|---|---|
|                 |            |               |  |             | Number      | Type    | Recov. (in) | Penetr. resist | BL/ft |   | N-Value (Blows/ft)  |
|                 | +35.9      |               |  | 0           |             |         |             |                |       |   |   |
|                 | +35.2      |               | 8" CONCRETE SLAB   | 1           |             |         |             |                |       |   |   |
|                 |            |               | S-1: Brown-gray m-f decomposed MICA SCHIST, some brick [FILL] (dry)  | 2           | S-1         | SS      | 12          | 6              | 9     | 15  | 10:00 Langan and Warren George on site Mobilize to LB-6 Start coring through concrete slab Take S-1                   |
|                 |            |               | S-2: Brown m-f SAND, some clay, trace decomposed mica schist [FILL] (dry)  | 3           |             |         |             | 7              | 7     |   | Take S-2  |
|                 |            | Class 7       |  | 4           | S-2         | SS      | 16          | 8              | 10    | 18  | Install 5' of casing Brown wash   |
|                 |            |               |  | 5           |             |         |             | 10             | 10    |   |   |
|                 |            |               |  | 6           |             |         |             |                |       |   |   |
|                 |            |               |  | 7           |             |         |             |                |       |   |   |
|                 |            |               |  | 8           |             |         |             |                |       |   |   |
|                 | +26.9      |               | C-1: Gray-white m-f MICA SCHIST, m-f grained biotite muscovite, moderately dipping fracture angles, slightly weathered, decomposed from 11'-11.5', very close-close fracture spacing | 9           |             |         |             |                |       |   |   |
|                 |            | Class 1b      |  | 10          | C-1         | NX CORE |             |                |       |   | Drill to 10' Encountered rock at 9' 5/22/16   |
|                 |            |               |  | 11          |             |         |             |                |       |   | 10:00 Langan and Warren George on site Clean mud from tub Begin coring C-1 Take C-1                                   |
|                 |            |               |  | 12          |             |         |             |                |       |   |   |
|                 |            |               |  | 13          |             |         |             |                |       |   |   |
|                 |            |               |  | 14          |             |         |             |                |       |   |   |
|                 | +21.9      |               | C-2: White-gray m-f MICA SCHIST, m-f biotite muscovite, near vertical fracture angle, close-very close fracture spacing, strong  | 15          | C-2         | NX CORE |             |                |       |   | Begin coring C-2 5/23/16  |
|                 |            | Class 1d      |  | 16          |             |         |             |                |       |   | 10:00 Langan and Warren George on site Resume coring C-2 Barrel jammed at 15' Empty barrel and resume coring Take C-2 |
|                 |            |               |  | 17          |             |         |             |                |       |   |   |
|                 |            |               |  | 18          |             |         |             |                |       |   |   |
|                 |            |               |  | 19          |             |         |             |                |       |   |   |
|                 |            |               |  | 20          | C-3         |         |             |                |       |   | Begin coring C-3 End of day at 23'  |

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Log of Boring LB-6 Sheet 2 of 2

| Project         |            | Project No.         |  |             |                |                  |                  |                        |   |                    |    |    |  |
|-----------------|------------|---------------------|--|-------------|----------------|------------------|------------------|------------------------|---|--------------------|----|----|--|
| 1568 Broadway   |            | 170391901           |  |             |                |                  |                  |                        |   |                    |    |    |  |
| Location        |            | Elevation and Datum |  |             |                |                  |                  |                        |   |                    |    |    |  |
| New York, N.Y.  |            | El. 35.9 NAVD88     |  |             |                |                  |                  |                        |   |                    |    |    |  |
| MATERIAL SYMBOL | Elev. (ft) | Building Code       | Sample Description   | Depth Scale | Sample Data    |                  |                  |                        | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |                    |    |    |  |
|                 |            |                     |  |             | Number         | Type             | Recov. (in)      | Penetr. resist. BL/6in |   | N-Value (Blows/ft) |    |    |  |
|                 |            |                     |  |             |                |                  |                  |                        | 10  | 20                 | 30 | 40 |  |
|                 | +11.9      | Class 1d            | C-3: White-gray m-f MICA SCHIST, close-very close fracture spacing, iron staining, strong  | 20          | C-3<br>NX CORE | REC=38"/60" =63% | RQD=14"/60" =23% |                        |   |                    |    |    | 5/24/16<br>10:00 Langan and Warren George on site<br>Resume coring C-3<br>Barrel jammed at 22'<br>Take C-3 |
|                 |            |                     | 21   |             |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     | 22   |             |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     | 23   |             |                |                  |                  |                        |   |                    |    |    |  |
|                 | +6.9       | Class 1b            | C-4: Gray-white m-f MICA SCHIST, c-f grained biotite muscovite, slightly-moderately weathered, moderate-close fracture spacing, moderate fracture angle, iron staining, strong | 24          | C-4<br>NX CORE | REC=56"/60" =93% | RQD=42"/60" =70% |                        |   |                    |    |    | Begin coring C-4<br>Take C-4   |
|                 |            |                     | 25   |             |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     | 26   |             |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     | 27   |             |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     | 28   |             |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     | 29   |             |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     | End of boring at 29'   | 30          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 31          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 32          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 33          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 34          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 35          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 36          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 37          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 38          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 39          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 40          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 41          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 42          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 43          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 44          |                |                  |                  |                        |   |                    |    |    |  |
|                 |            |                     |  | 45          |                |                  |                  |                        |   |                    |    |    |  |

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|   |  |  |  |  |  |                          |  |
|---|--|--|--|--|--|--------------------------|--|
| Project<br>1568 Broadway                      |  |  |  | Project No.<br>170391901               |  |                          |  |
| Location<br>New York, N.Y.                    |  |  |  | Elevation and Datum<br>El. 33.7 NAVD88 |  |                          |  |
| Drilling Company<br>Warren George             |  |  |  | Date Started<br>5/17/16                |  | Date Finished<br>5/20/16 |  |
| Drilling Equipment<br>Portable Electric Drill |  |  |  | Completion Depth<br>58 ft              |  | Rock Depth<br>8 ft       |  |
| Size and Type of Bit<br>2-15/16" Roller Bit   |  |  |  | Number of Samples                      |  | Disturbed<br>2           |  |
| Casing Diameter (in)<br>3" O.D.               |  |  |  | Casing Depth (ft)<br>6                 |  | Undisturbed<br>0         |  |
| Casing Hammer<br>Donut                        |  |  |  | Weight (lbs)<br>140                    |  | Drop (in)<br>30          |  |
| Sampler<br>2" O.D. Split Spoon                |  |  |  | Water Level (ft.)<br>First<br>-        |  |                          |  |
| Sampler Hammer<br>Donut                       |  |  |  | Weight (lbs)<br>140                    |  | Drop (in)<br>30          |  |
|   |  |  |  | Drilling Foreman<br>Cyril Farley       |  |                          |  |
|   |  |  |  | Field Engineer<br>Kenan Sooklall       |  |                          |  |

| MATERIAL SYMBOL | Elev. (ft) | Building Code | Sample Description   | Coring (min) | Depth Scale | Sample Data |         |                  |                |                |                    | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |   |
|-----------------|------------|---------------|--|--------------|-------------|-------------|---------|------------------|----------------|----------------|--------------------|---|---|
|                 |            |               |  |              |             | Number      | Type    | Recov. (in)      | Penetr. resist | BL/ft          | N-Value (Blows/ft) |   |   |
|                 | +33.7      |               |  |              | 0           |             |         |                  |                |                |                    |   |   |
|                 | +32.9      |               | 10" CONCRETE SLAB  |              | 1           |             |         |                  |                |                |                    |   |   |
|                 |            | Class 7       | S-1: Brown m-f SAND, some brick, some decomposed mica [FILL] (dry)   |              | 2           | S-1         | SS      | 6                | 2              | 5              |                    |   | 10:00 Langan on site<br>10:30 Warren George on site<br>Mobilize to LB-7<br>Core through cellar slab<br>Take S-1 |
|                 |            |               |  |              | 3           |             |         |                  | 3              |                |                    |   |   |
|                 |            |               |  |              | 4           |             |         |                  |                |                |                    |   |   |
|                 | +28.7      |               | S-2: Brown m-f SAND and DECOMPOSED MICA SCHIST, c-f grained biotite (moist)  |              | 5           |             |         |                  |                |                |                    |   | Drill to 5'<br>Obstruction at 4'<br>Take S-2<br>Install 6' of casing  |
|                 |            |               |  |              | 6           | S-2         | SS      | 12               | 4              | 21             |                    |   |   |
|                 |            |               |  |              | 7           |             |         |                  | 10             |                |                    |   |   |
|                 |            |               |  |              | 8           |             |         |                  |                |                |                    |   | Encountered rock at 8'<br>Take C-1<br>5/18/16<br>Langan & Warren George on site                                 |
|                 |            |               | C-1: Gray-white fine grained GNEISS m-f grained mica, muscovite biotite, moderately-highly weathered, very close spacing, strong                             |              | 9           |             |         |                  |                |                |                    |   |   |
|                 |            |               |  |              | 10          | C-1         | NX CORE | REC=16"/60" =27% |                | RQD=0"/60" =0% |                    |   |   |
|                 |            |               |  |              | 11          |             |         |                  |                |                |                    |   |   |
|                 |            |               |  |              | 12          |             |         |                  |                |                |                    |   |   |
|                 |            | Class 1d      | C-2: Gray-white c-f MICA SCHIST, m-f grained muscovite biotite, moderately weathered, steeply dipping, close to very close fracture spacing, hard sound rock |              | 13          |             |         |                  |                |                |                    |   | Take C-2  |
|                 |            |               |  |              | 14          | C-2         | NX CORE | REC=22"/60" =37% |                | RQD=5"/60" =8% |                    |   |   |
|                 |            |               |  |              | 15          |             |         |                  |                |                |                    |   |   |
|                 |            |               |  |              | 16          |             |         |                  |                |                |                    |   |   |
|                 |            |               |  |              | 17          |             |         |                  |                |                |                    |   |   |
|                 |            |               |  |              | 18          |             |         |                  |                |                |                    |   | Begin coring C-3<br>Constant loss of water<br>Take C-3  |
|                 |            |               | C-3: Gray-white c-f MICA SCHIST, c-f grained biotite muscovite, slightly to moderately   |              | 19          | C-3         | NX CORE |                  |                |                |                    |   |   |
|                 |            |               |  |              | 20          |             |         |                  |                |                |                    |   |   |

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| Project         |            | Project No.         |  |              |             |             |         |                  |                       |   |                    |    |    |   |
|-----------------|------------|---------------------|--|--------------|-------------|-------------|---------|------------------|-----------------------|---|--------------------|----|----|---|
| 1568 Broadway   |            | 170391901           |  |              |             |             |         |                  |                       |   |                    |    |    |   |
| Location        |            | Elevation and Datum |  |              |             |             |         |                  |                       |   |                    |    |    |   |
| New York, N.Y.  |            | El. 33.7 NAVD88     |  |              |             |             |         |                  |                       |   |                    |    |    |   |
| MATERIAL SYMBOL | Elev. (ft) | Building Code       | Sample Description   | Coring (min) | Depth Scale | Sample Data |         |                  |                       | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |                    |    |    |   |
|                 |            |                     |  |              |             | Number      | Type    | Recov. (in)      | Penetr. resist BL/6in |   | N-Value (Blows/ft) |    |    |   |
|                 |            |                     | weathering, close to very close fracture spacing, hard sound rock                                |              | 20          |             |         |                  |                       | 10  | 20                 | 30 | 40 |   |
|                 |            |                     | C-4: Gray-white c-f DECOMPOSED MICA SCHIST, heavily weathered, close-very close fracture spacing |              | 21          | C-3         | NX CORE | REC=16"/60" =27% | RQD=0"/60" =0%        |   |                    |    |    | Begin coring C-4<br>Take C-4<br>Barrel got stuck<br>Remove barrel and finish coring C-4 |
|                 |            |                     |  |              | 22          |             |         |                  |                       |   |                    |    |    |   |
|                 |            |                     | C-5: No recovery   |              | 23          |             |         |                  |                       |   |                    |    |    | %/19/16<br>11:00 Langan 7 Warren<br>George on site<br>Begin coring C-5<br>Take C-5      |
|                 |            |                     |  |              | 24          | C-4         | NX CORE | REC=6"/60" =10%  | RQD=0"/60" =0%        |   |                    |    |    |   |
|                 |            |                     | S-3: Gray-white DECOMPOSED MICA SCHIST, fine grained   |              | 25          |             |         |                  |                       |   |                    |    |    | Take S-3?<br>???  |
|                 |            |                     |  |              | 26          |             |         |                  |                       |   |                    |    |    |   |
|                 |            |                     | C-6: No recovery   |              | 27          |             |         |                  |                       |   |                    |    |    | Begin coring C-6<br>Take C-6  |
|                 |            |                     |  |              | 28          | C-5         | NX CORE | REC=0"/60" =0%   | RQD=0"/60" =0%        |   |                    |    |    |   |
|                 |            | Class 1d            | S-3: Gray-white DECOMPOSED MICA SCHIST, fine grained   |              | 29          |             |         |                  |                       |   |                    |    |    | Take S-3?<br>???  |
|                 |            |                     |  |              | 30          |             |         |                  |                       |   |                    |    |    |   |
|                 |            |                     | C-7: Gray-white m-f MICA SCHIST, m-f grained, biotite, iron staining, slightly weathered         |              | 31          |             |         |                  |                       |   |                    |    |    | Begin coring C-7<br>Take C-7<br>Difficulty removing core barrel                         |
|                 |            |                     |  |              | 32          | C-6         | NX CORE | REC=0"/60" =0%   | RQD=0"/60" =0%        |   |                    |    |    |   |
|                 |            |                     |  |              | 33          |             |         |                  |                       |   |                    |    |    | Begin coring C-7<br>Take C-7<br>Difficulty removing core barrel                         |
|                 |            |                     |  |              | 34          |             |         |                  |                       |   |                    |    |    |   |
|                 |            |                     |  |              | 35          |             |         |                  |                       |   |                    |    |    | 5/20/16 10:00 Langan &<br>Warren George on site<br>Start coring c-8<br>Take C-8         |
|                 |            |                     |  |              | 36          | C-7         | NX CORE | REC=20"/60" =33% | RQD=0"/60" =0%        |   |                    |    |    |   |
|                 |            |                     |  |              | 37          |             |         |                  |                       |   |                    |    |    | 5/20/16 10:00 Langan &<br>Warren George on site<br>Start coring c-8<br>Take C-8         |
|                 |            |                     |  |              | 38          |             |         |                  |                       |   |                    |    |    |   |
|                 |            |                     |  |              | 39          |             |         |                  |                       |   |                    |    |    | 5/20/16 10:00 Langan &<br>Warren George on site<br>Start coring c-8<br>Take C-8         |
|                 |            |                     |  |              | 40          | C-8         | NX CORE |                  |                       |   |                    |    |    |   |
|                 |            |                     |  |              | 41          |             |         |                  |                       |   |                    |    |    | 5/20/16 10:00 Langan &<br>Warren George on site<br>Start coring c-8<br>Take C-8         |
|                 |            |                     |  |              | 42          |             |         |                  |                       |   |                    |    |    |   |
|                 |            |                     |  |              | 43          |             |         |                  |                       |   |                    |    |    | 5/20/16 10:00 Langan &<br>Warren George on site<br>Start coring c-8<br>Take C-8         |
|                 |            |                     |  |              | 44          |             |         |                  |                       |   |                    |    |    |   |
|                 |            |                     |  |              | 45          |             |         |                  |                       |   |                    |    |    |   |

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| Project         |            | Project No.         |   |              |             |                 |      |                  |                        |   |                    |    |   |
|-----------------|------------|---------------------|---|--------------|-------------|-----------------|------|------------------|------------------------|---|--------------------|----|---|
| 1568 Broadway   |            | 170391901           |   |              |             |                 |      |                  |                        |   |                    |    |   |
| Location        |            | Elevation and Datum |   |              |             |                 |      |                  |                        |   |                    |    |   |
| New York, N.Y.  |            | El. 33.7 NAVD88     |   |              |             |                 |      |                  |                        |   |                    |    |   |
| MATERIAL SYMBOL | Elev. (ft) | Building Code       | Sample Description  | Coring (min) | Depth Scale | Sample Data     |      |                  |                        | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |                    |    |   |
|                 |            |                     |   |              |             | Number          | Type | Recov. (in)      | Penetr. resist. BL/6in |   | N-Value (Blows/ft) |    |   |
|                 |            |                     |   |              |             |                 |      |                  | 10                     | 20  | 30                 | 40 |   |
|                 |            | Class 1d            | C-8: Gray-white m-f MICA SCHIST, m-f grained muscovite biotite, iron staining, slightly weathered; close-very close spacing, strong |              | 45          | C-8<br>NX CORE  |      | REC=14"/60" =23% | RQD=0"/60" =0%         |   |                    |    | Begin coring C-9<br>Take C-9<br>Difficulty removing core barrel |
|                 |            |                     | C-9: Gray-white m-f MICA SCHIST, m-f grained muscovite biotite, iron staining, slightly weathered, very close spacing, strong       |              | 46          |                 |      | REC=9"/60" =15%  | RQD=0"/60" =0%         |   |                    |    |   |
|                 | -19.3      | Class 1c            | C-10: Gray white c-f MICA SCHIST, c-f grained muscovite, slightly weathered, close-moderate spacing, strong                         |              | 47          | C-10<br>NX CORE |      | REC=56"/60" =93% | RQD=23"/60" =38%       |   |                    |    | Begin coring C-10<br>Take C-10                                  |
|                 |            |                     |   |              | 48          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 49          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 50          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 51          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 52          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 53          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 54          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 55          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 56          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 57          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 58          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     | End of boring at 58'  |              | 59          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 60          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 61          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 62          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 63          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 64          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 65          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 66          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 67          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 68          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 69          |                 |      |                  |                        |   |                    |    |   |
|                 |            |                     |   |              | 70          |                 |      |                  |                        |   |                    |    |   |

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## WELL CONSTRUCTION SUMMARY

Well No. LB-7(OW)

|   |  |                                       |   |  |   |
|---|--|---------------------------------------|---|--|---|
| PROJECT<br>1568 Broadway  |  |                                       | PROJECT NO.<br>170391901  |  |   |
| LOCATION<br>New York, NY  |  |                                       | ELEVATION AND DATUM<br>el. 35.9 ± (NAVD 88)   |  |   |
| DRILLING AGENCY<br>Warren George Inc.   |  |                                       | DATE STARTED<br>5/20/2016   |  | DATE FINISHED<br>5/20/2016                          |
| DRILLING EQUIPMENT<br>Portable Electric Drill Rig   |  |                                       | DRILLER<br>Cyril Farley   |  |   |
| SIZE AND TYPE OF BIT<br>2-15/16" Tricone Roller Bit   |  |                                       | LANGAN REP.<br>Kenan Sooklall   |  |   |
| METHOD OF INSTALLATION<br>After the borehole was completed, 10-feet of slotted PVC pipe with 10-feet of non-slotted PVC pipe (riser) was lowered into the borehole. Clean sand was poured around the slotted PVC section, and bentonite was used to seal 2 feet above the clean sand. Clean sand was placed around the riser to about 2 feet below grade and sealed with bentonite grout to the existing grade elevation. A cap was used to cover the well. |  |                                       |   |  |   |
| METHOD OF WELL DEVELOPMENT<br>Observation well was flushed clean. Observation well was bailed to three times the well volume.   |  |                                       |   |  |   |
| TYPE OF CASING<br>PVC   |  | DIAMETER<br>2"                        | TYPE OF BACKFILL MATERIAL<br>Clean Sand   |  |   |
| TYPE OF SCREEN<br>Slotted PVC   |  | DIAMETER<br>2"                        | TYPE OF SEAL MATERIAL<br>Bentonite  |  |   |
| BOREHOLE DIAMETER<br>4"   |  | TYPE OF FILTER MATERIAL<br>Clean Sand |   |  |   |
| TOP OF CASING<br>ELEVATION<br>35.5<br>DEPTH (ft)<br>-   |  |                                       | <p>The diagram illustrates a vertical well casing with a riser pipe. Key components labeled include: Cover at the top, Riser pipe, Seal (bentonite), PVC casing, and Screen. Below the screen is a Sand Pack. The well is shown intersecting a layer of Rock. The diagram is labeled 'N.T.S.' (Not To Scale).</p> |  | DEPTH (FT)  |
| TOP OF SEAL<br>ELEVATION<br>27.9<br>DEPTH (ft)<br>8   |  |                                       |   |  | 0 feet  |
| TOP OF FILTER<br>ELEVATION<br>26.9<br>DEPTH (ft)<br>9   |  |                                       |   |  | SUMMARY SOIL CLASSIFICATION<br><br>FILL<br><br>ROCK |
| TOP OF SCREEN<br>ELEVATION<br>25.9<br>DEPTH (ft)<br>10  |  |                                       |   |  |   |
| BOTTOM OF BORING<br>ELEVATION<br>-22.1<br>DEPTH (ft)<br>58  |  |                                       |   |  |   |
| SCREEN LENGTH<br>10   |  |                                       |   |  |   |
| SLOT SIZE<br>0.01   |  |                                       |   |  |   |
| GROUNDWATER ELEVATIONS  |  |                                       |   |  |   |
| ELEVATION      DATE      DEPTH TO WATER<br>27.40      6/1/2016      8.5   |  |                                       |   |  |   |
| ELEVATION      DATE      DEPTH TO WATER<br>27.40      6/2/2016      8.5   |  |                                       |   |  |   |
| ELEVATION      DATE      DEPTH TO WATER<br>27.40      6/6/2016      8.5   |  |                                       |   |  |   |
| ELEVATION      DATE      DEPTH TO WATER<br>27.40      6/7/2016      8.5   |  |                                       |   |  |   |
| ELEVATION      DATE      DEPTH TO WATER   |  |                                       | 8 feet  |  |   |
| ELEVATION      DATE      DEPTH TO WATER   |  |                                       | 20 feet   |  |   |
| ELEVATION      DATE      DEPTH TO WATER   |  |                                       | N.T.S.  |  |   |

"Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.", or "Langan Engineering and Environmental Services, Inc.", or "Langan International, LLC", or "Treadwell & Rollo, a Langan Company", or "Langan Engineering & Environmental Services, Inc., PC" (collectively "Langan")

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Log of Boring **LB-8 (OW)** Sheet 1 of 1

|   |  |                        |                 |  |  |                         |                  |           |
|---|--|------------------------|-----------------|--|--|-------------------------|------------------|-----------|
| Project<br>1568 Broadway                      |  |                        |                 | Project No.<br>170391901               |  |                         |                  |           |
| Location<br>New York, N.Y.                    |  |                        |                 | Elevation and Datum<br>El. 35.9 NAVD88 |  |                         |                  |           |
| Drilling Company<br>Warren George             |  |                        |                 | Date Started<br>6/6/16                 |  | Date Finished<br>6/9/16 |                  |           |
| Drilling Equipment<br>Portable Electric Drill |  |                        |                 | Completion Depth<br>21 ft              |  | Rock Depth<br>9 ft      |                  |           |
| Size and Type of Bit<br>2-15/16" Roller Bit   |  |                        |                 | Number of Samples                      |  | Disturbed<br>2          | Undisturbed<br>0 | Core<br>3 |
| Casing Diameter (in)<br>3" O.D.               |  | Casing Depth (ft)<br>8 |                 | Water Level (ft.)<br>First<br>-        |  | Completion<br>-         | 24 HR.<br>-      |           |
| Casing Hammer<br>Donut                        |  | Weight (lbs)<br>140    | Drop (in)<br>30 | Drilling Foreman<br>Greg Williams      |  |                         |                  |           |
| Sampler<br>2" O.D. Split Spoon                |  |                        |                 | Field Engineer<br>Kenan Sooklall       |  |                         |                  |           |
| Sampler Hammer<br>Donut                       |  | Weight (lbs)<br>140    | Drop (in)<br>30 |  |  |                         |                  |           |

| MATERIAL SYMBOL | Elev. (ft) | Building Code | Sample Description  | Depth Scale | Sample Data |         |                   |                      |                    |       | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |  |
|-----------------|------------|---------------|---|-------------|-------------|---------|-------------------|----------------------|--------------------|-------|---|--|
|                 |            |               |   |             | Number      | Type    | Recov. (in)       | Penetr. resist BL/ft | N-Value (Blows/ft) |       |   |  |
|                 | +35.9      |               |   | 0           |             |         |                   |                      |                    |       |   |  |
|                 | +35.7      |               | 2" CONCRETE SLAB  | 1           |             |         |                   |                      |                    |       |   |  |
|                 |            | Class 7       | S-1: Brown m-f SAND, some silt, some decomposed mica schist [FILL] (dry)  | 2           | S-1         | SS      | 14                | 10                   | 8                  | 15    |   | 6/6/16<br>10:00 Langan and Warren George on site<br>Mobilize to LB-8<br>Core through cellar slab<br>Drill to 1'<br>Take S-1                                    |
|                 |            |               | S-2: Brown m-f SAND, some silt, some brick, some decomposed mica schist [FILL] (dry)  | 3           |             |         |                   |                      |                    |       |   |  |
|                 |            |               |   | 4           |             |         |                   |                      |                    |       |   |  |
|                 |            |               |   | 5           | S-2         | SS      | 6                 | 25                   | 50/2"              | 50/2" |   | Drill to 5'<br>Brown wash<br>Install 5' of casing<br>Clean casing<br>Take S-2<br>Install 3' of casing  |
|                 |            |               |   | 6           |             |         |                   |                      |                    |       |   |  |
|                 |            |               |   | 7           |             |         |                   |                      |                    |       |   |  |
|                 |            |               |   | 8           |             |         |                   |                      |                    |       |   |  |
|                 | +26.9      | Class 1d      | C-1: Gray-white c-f MICA SCHIST, some gneiss, iron staining, slightly weathered   | 9           |             |         |                   |                      |                    |       |   | REC=24"/24" =100%<br>RQD=6"/24" =25%   |
|                 | +24.9      |               |   | 10          | C-1         | NX CORE | REC=100%          | RQD=25%              |                    |       |   | Drill to 10'<br>Encountered rock at 9'<br>Begin coring C-1<br>End of day at 11.5'<br>6/8/16  |
|                 |            | Class 1c      | C-2: Gray-white c-f MICA SCHIST, c-f biotite-muscovite, slightly weathered, very close to moderate fracture spacing, moderate fracture angle quartz intrusion 48"-60" | 11          |             |         |                   |                      |                    |       |   | 10:00 Langan and Warren George on site<br>Collect C-1<br>Begin coring C-2<br>Barrel jammed at 12'<br>Empty barrel and re-core<br>Take C-2<br>End of day at 16' |
|                 |            |               |   | 12          |             |         |                   |                      |                    |       |   |  |
|                 |            |               |   | 13          | C-2         | NX CORE | REC=60"/60" =100% | RQD=21"/60" =35%     |                    |       |   |  |
|                 |            |               |   | 14          |             |         |                   |                      |                    |       |   |  |
|                 |            |               |   | 15          |             |         |                   |                      |                    |       |   |  |
|                 | +19.9      | Class 1a      | C-3: gray-white c-f MICA SCHIST, c-f biotite-muscovite, moderate-wide fracture spacing, moderate fracture angles, slightly weathered quartz intrusion 0"-4"           | 16          |             |         |                   |                      |                    |       |   |  |
|                 |            |               |   | 17          |             |         |                   |                      |                    |       |   |  |
|                 |            |               |   | 18          | C-3         | NX CORE | REC=60"/60" =100% | RQD=56"/60" =93%     |                    |       |   | 6/9/16<br>10:00 Langan and Warren George on site<br>Begin coring C-3<br>Barrel jammed at 19'<br>Empty barrel and re-core<br>Take C-3                           |
|                 |            |               |   | 19          |             |         |                   |                      |                    |       |   |  |
|                 |            |               |   | 20          |             |         |                   |                      |                    |       |   |  |
|                 | +14.9      |               | End of boring at 21'  | 21          |             |         |                   |                      |                    |       |   |  |
|                 |            |               |   | 22          |             |         |                   |                      |                    |       |   |  |

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# LANGAN

## WELL CONSTRUCTION SUMMARY

Well No. LB-8(OW)

|   |                |                                       |   |  |                           |
|---|----------------|---------------------------------------|---|--|---------------------------|
| PROJECT<br>1568 Broadway  |                |                                       | PROJECT NO.<br>170391901                    |  |                           |
| LOCATION<br>New York, NY  |                |                                       | ELEVATION AND DATUM<br>el. 36.3 ± (NAVD 88) |  |                           |
| DRILLING AGENCY<br>Warren George Inc.   |                |                                       | DATE STARTED<br>6/9/2016                    |  | DATE FINISHED<br>6/9/2016 |
| DRILLING EQUIPMENT<br>Portable Electric Drill Rig   |                |                                       | DRILLER<br>Gregory Williams                 |  |                           |
| SIZE AND TYPE OF BIT<br>2-15/16" Tricone Roller Bit   |                |                                       | LANGAN REP.<br>Kenan Sooklall               |  |                           |
| METHOD OF INSTALLATION<br>After the borehole was completed, 10-feet of slotted PVC pipe with 11-feet of non-slotted PVC pipe (riser) was lowered into the borehole. Clean sand was poured around the slotted PVC section, and bentonite was used to seal 2 feet above the clean sand. Clean sand was placed around the riser to about 2 feet below grade and sealed with bentonite grout to the existing grade elevation. A cap was used to cover the well. |                |                                       |   |  |                           |
| METHOD OF WELL DEVELOPMENT<br>Observation well was flushed clean. Observation well was bailed to three times the well volume.   |                |                                       |   |  |                           |
| TYPE OF CASING<br>PVC   |                | DIAMETER<br>2"                        | TYPE OF BACKFILL MATERIAL<br>Clean Sand     |  |                           |
| TYPE OF SCREEN<br>Slotted PVC   |                | DIAMETER<br>2"                        | TYPE OF SEAL MATERIAL<br>Bentonite          |  |                           |
| BOREHOLE DIAMETER<br>4"   |                | TYPE OF FILTER MATERIAL<br>Clean Sand |   |  |                           |
| TOP OF CASING   |                |                                       | WELL DETAILS                                |  | DEPTH (FT)                |
| ELEVATION   | DEPTH (ft)     |                                       |   |  |                           |
| 0   | -              |                                       |   |  |                           |
| TOP OF SEAL   |                |                                       |   |  | DEPTH (FT)                |
| ELEVATION   | DEPTH (ft)     | 0 feet                                |   |  |                           |
| 28.3  | 8              |                                       |   |  |                           |
| TOP OF FILTER   |                |                                       |   |  |                           |
| ELEVATION   | DEPTH (ft)     |                                       |   |  |                           |
| 27.3  | 9              |                                       |   |  |                           |
| TOP OF SCREEN   |                |                                       |   |  |                           |
| ELEVATION   | DEPTH (ft)     |                                       |   |  |                           |
| 25.3  | 11             |                                       |   |  |                           |
| BOTTOM OF BORING  |                |                                       |   |  |                           |
| ELEVATION   | DEPTH (ft)     |                                       |   |  |                           |
| 15.3  | 21             |                                       |   |  |                           |
| SCREEN LENGTH   |                |                                       |   |  |                           |
|   | 10             |                                       |   |  |                           |
| SLOT SIZE   |                |                                       |   |  |                           |
|   | 0.01           |                                       |   |  |                           |
| <b>GROUNDWATER ELEVATIONS</b>   |                |                                       |   |  |                           |
| ELEVATION   | DATE           | DEPTH TO WATER                        |   |  |                           |
| 27.10   | 6/15/2016      | 9.2                                   |   |  |                           |
| ELEVATION   |                |                                       |   |  |                           |
| DATE  | DEPTH TO WATER |                                       |   |  |                           |
| 36.30   |                |                                       |   |  |                           |
| ELEVATION   |                |                                       |   |  |                           |
| DATE  | DEPTH TO WATER |                                       |   |  |                           |
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| ELEVATION   |                |                                       |   |  |                           |

# LANGAN

Log of Boring LB-9 Sheet 1 of 2

|   |  |                     |  |                |   |
|---|--|---------------------|--|----------------|---|
| Project<br>1568 Broadway                      |  |                     | Project No.<br>170391901               |                |   |
| Location<br>New York, N.Y.                    |  |                     | Elevation and Datum<br>El. 33.7 NAVD88 |                |   |
| Drilling Company<br>Warren George             |  |                     | Date Started<br>5/10/16                |                | Date Finished<br>5/12/16  |
| Drilling Equipment<br>Portable Electric Drill |  |                     | Completion Depth<br>22 ft              |                | Rock Depth<br>5 ft  |
| Size and Type of Bit<br>2-15/16" Roller Bit   |  |                     | Number of Samples                      | Disturbed<br>1 | Undisturbed<br>0  |
| Casing Diameter (in)<br>3" O.D.               |  |                     | Casing Depth (ft)                      |                | Core<br>4   |
| Casing Hammer<br>Donut                        |  | Weight (lbs)<br>140 | Drop (in)<br>30                        |                | Water Level (ft.)<br>First<br>-<br>Completion<br>-<br>24 HR.<br>- |
| Sampler<br>2" O.D. Split Spoon                |  |                     | Drilling Foreman<br>Greg Williams      |                |   |
| Sampler Hammer<br>Donut                       |  | Weight (lbs)<br>140 | Drop (in)<br>30                        |                | Field Engineer<br>Kenan Sooklall                                  |

| MATERIAL SYMBOL | Elev. (ft)<br>+33.7 | Building Code | Sample Description  | Depth Scale | Sample Data |         |                   |                   |        |                                   | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |                                     |
|-----------------|---------------------|---------------|---|-------------|-------------|---------|-------------------|-------------------|--------|-----------------------------------|---|-------------------------------------|
|                 |                     |               |   |             | Number      | Type    | Recov. (in)       | Penetr. resist    | Blowin | N-Value (Blows/ft)<br>10 20 30 40 |   |                                     |
|                 |                     | Class 7       | S-1: Brown SAND, trace brick, trace blasted rock  | 0           |             |         |                   |                   |        |                                   |   | Sent down core barrel               |
|                 | +28.7               | Class 1d      | C-1: Green-gray AMPHIBOLITE with mica and biotite intrusions  | 5           | C-1         | NX CORE | REC=75%           | RQD=22%           |        |                                   |   | REC=27"/36" =75%<br>RQD=8"/36" =22% |
|                 |                     |               | C-2: First 29" green and gray AMPHIBOLITE with mica and biotite<br>Last 6" Pink and gray PEGMATITE with mica intrusions and feldspar intrusions | 6           | C-2         | NX CORE | REC=35"/48" =73%  | RQD=13"/48" =27%  |        |                                   |   |                                     |
|                 |                     |               | C-3: Pink to gray PEGMATITE with feldspar and mica intrusions   | 9           | C-3         | NX CORE | REC=48"/60" =80%  | RQD=20"/60" =33%  |        |                                   |   |                                     |
|                 |                     |               | C-4: Pink to gray PEGMATITE with mica and feldspar intrusions   | 13          | C-4         | NX CORE | REC=60"/60" =100% | RQD=60"/60" =100% |        |                                   |   |                                     |
|                 | +16.7               | Class 1a      |   | 17          |             |         |                   |                   |        |                                   |   |                                     |

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Log of Boring **LB-10** Sheet 2 of 2

| Project         |            | Project No.         |  |             |                |                   |                  |                        |   |                    |    |    |  |
|-----------------|------------|---------------------|--|-------------|----------------|-------------------|------------------|------------------------|---|--------------------|----|----|--|
| 1568 Broadway   |            | 170391901           |  |             |                |                   |                  |                        |   |                    |    |    |  |
| Location        |            | Elevation and Datum |  |             |                |                   |                  |                        |   |                    |    |    |  |
| New York, N.Y.  |            | El. 33.7 NAVD88     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| MATERIAL SYMBOL | Elev. (ft) | Building Code       | Sample Description   | Depth Scale | Sample Data    |                   |                  |                        | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |                    |    |    |  |
|                 |            |                     |  |             | Number         | Type              | Recov. (in)      | Penetr. resist. BL/6in |   | N-Value (Blows/ft) |    |    |  |
|                 |            |                     |  |             |                |                   |                  |                        | 10  | 20                 | 30 | 40 |  |
|                 | +8.7       | Class 1a            | C-5: Gray-white m-f MICA SCHIST, m-f biotite muscovite, moderate fracture angles, moderate fracture spacing, slightly weathered, quartz intrusion 24'-25', iron staining, strong | 20          | C-5<br>NX CORE | REC=60"/60" =100% | RQD=59"/60" =98% |                        |   |                    |    |    | Begin coring C-5<br>End of day at 22'<br>5/25/16<br>10:00 Langan and Warren George on site<br>Resume coring C-5<br>Barrel jammed at 23'<br>Empty barrel<br>Resume coring<br>Take C-5 |
|                 |            |                     | 21   |             |                |                   |                  |                        |   |                    |    |    |  |
|                 |            |                     | 22   |             |                |                   |                  |                        |   |                    |    |    |  |
|                 |            |                     | 23   |             |                |                   |                  |                        |   |                    |    |    |  |
|                 |            |                     | 24   |             |                |                   |                  |                        |   |                    |    |    |  |
|                 |            |                     | 25   |             |                |                   |                  |                        |   |                    |    |    |  |
|                 |            |                     | 26   |             |                |                   |                  |                        |   |                    |    |    |  |
|                 |            |                     | 27   |             |                |                   |                  |                        |   |                    |    |    |  |
|                 |            |                     | 28   |             |                |                   |                  |                        |   |                    |    |    |  |
|                 |            |                     | 29   |             |                |                   |                  |                        |   |                    |    |    |  |
|                 |            |                     | End of boring at 25'   | 30          |                |                   |                  |                        |   |                    |    |    |  |
| 31              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 32              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 33              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 34              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 35              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 36              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 37              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 38              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 39              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 40              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 41              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 42              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 43              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 44              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |
| 45              |            |                     |  |             |                |                   |                  |                        |   |                    |    |    |  |

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# LANGAN

## WELL CONSTRUCTION SUMMARY

Well No. LB-10(OW)

|   |          |                                       |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
|---|----------|---------------------------------------|---|---|----------------------------|--------------|--|-----------------------------|--|------------|--|--|------|--|--------|--|--|------|--|--------|--|--|--|--|---------|
| PROJECT<br>1568 Broadway  |          |                                       | PROJECT NO.<br>170391901                    |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| LOCATION<br>New York, NY  |          |                                       | ELEVATION AND DATUM<br>el. 33.7 ± (NAVD 88) |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| DRILLING AGENCY<br>Warren George Inc.   |          |                                       | DATE STARTED<br>5/25/2016                   |   | DATE FINISHED<br>5/25/2016 |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| DRILLING EQUIPMENT<br>Portable Electric Drill Rig   |          |                                       | DRILLER<br>Cyril Farley                     |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| SIZE AND TYPE OF BIT<br>2-15/16" Tricone Roller Bit   |          |                                       | LANGAN REP.<br>Kenan Sooklall               |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| METHOD OF INSTALLATION<br>After the borehole was completed, 10-feet of slotted PVC pipe with 10-feet of non-slotted PVC pipe (riser) was lowered into the borehole. Clean sand was poured around the slotted PVC section, and bentonite was used to seal 2 feet above the clean sand. Clean sand was placed around the riser to about 2 feet below grade and sealed with bentonite grout to the existing grade elevation. A cap was used to cover the well. |          |                                       |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| METHOD OF WELL DEVELOPMENT<br>Observation well was flushed clean. Observation well was bailed to three times the well volume.   |          |                                       |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| TYPE OF CASING<br>PVC   |          | DIAMETER<br>2"                        | TYPE OF BACKFILL MATERIAL<br>Clean Sand     |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| TYPE OF SCREEN<br>Slotted PVC   |          | DIAMETER<br>2"                        | TYPE OF SEAL MATERIAL<br>Bentonite          |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| BOREHOLE DIAMETER<br>4"   |          | TYPE OF FILTER MATERIAL<br>Clean Sand |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| TOP OF CASING   |          | ELEVATION                             | DEPTH (ft)                                  |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
|   |          | 0                                     | -   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| TOP OF SEAL   |          | ELEVATION                             | DEPTH (ft)                                  |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
|   |          | 25.7                                  | 8   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| TOP OF FILTER   |          | ELEVATION                             | DEPTH (ft)                                  |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
|   |          | 24.7                                  | 9   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| TOP OF SCREEN   |          | ELEVATION                             | DEPTH (ft)                                  |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
|   |          | 23.7                                  | 10  |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| BOTTOM OF BORING  |          | ELEVATION                             | DEPTH (ft)                                  |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
|   |          | 8.7                                   | 25  |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| SCREEN LENGTH   |          | 10                                    |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| SLOT SIZE   |          | 0.01                                  |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| <b>GROUNDWATER ELEVATIONS</b>   |          |                                       |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| ELEVATION   | DATE     | DEPTH TO WATER                        |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| 26.20   | 6/1/2016 | 7.5                                   |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| ELEVATION   | DATE     | DEPTH TO WATER                        |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| 25.50   | 6/2/2016 | 8.2                                   |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| ELEVATION   | DATE     | DEPTH TO WATER                        |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| -   | 6/6/2016 | 8.3                                   |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| ELEVATION   | DATE     | DEPTH TO WATER                        |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| -   | 6/7/2016 | 8.2                                   |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| ELEVATION   | DATE     | DEPTH TO WATER                        |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| -   | -        | -                                     |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| ELEVATION   | DATE     | DEPTH TO WATER                        |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
| -   | -        | -                                     |   |   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
|   |          |                                       |   | <table border="1"> <tr> <td colspan="2">WELL DETAILS</td> <td colspan="2">SUMMARY SOIL CLASSIFICATION</td> <td colspan="1">DEPTH (FT)</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">FILL</td> <td colspan="1">0 feet</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">ROCK</td> <td colspan="1">9 feet</td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td colspan="1">20 feet</td> </tr> </table> |                            | WELL DETAILS |  | SUMMARY SOIL CLASSIFICATION |  | DEPTH (FT) |  |  | FILL |  | 0 feet |  |  | ROCK |  | 9 feet |  |  |  |  | 20 feet |
| WELL DETAILS  |          | SUMMARY SOIL CLASSIFICATION           |   | DEPTH (FT)  |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
|   |          | FILL                                  |   | 0 feet  |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
|   |          | ROCK                                  |   | 9 feet  |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |
|   |          |                                       |   | 20 feet   |                            |              |  |                             |  |            |  |  |      |  |        |  |  |      |  |        |  |  |  |  |         |

"Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.", or "Langan Engineering and Environmental Services, Inc.", or "Langan International, LLC", or "Treadwell & Rollo, a Langan Company", or "Langan Engineering & Environmental Services, Inc., PC" (collectively "Langan")

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Log of Boring **LB-11** Sheet 1 of 2

|   |  |                        |                 |  |  |                    |             |
|---|--|------------------------|-----------------|--|--|--------------------|-------------|
| Project<br>1568 Broadway                      |  |                        |                 | Project No.<br>170391901               |  |                    |             |
| Location<br>New York, N.Y.                    |  |                        |                 | Elevation and Datum<br>El. 33.7 NAVD88 |  |                    |             |
| Drilling Company<br>Warren George             |  |                        |                 | Date Started<br>5/10/16                |  | Date Finished      |             |
| Drilling Equipment<br>Portable Electric Drill |  |                        |                 | Completion Depth<br>35 ft              |  | Rock Depth<br>8 ft |             |
| Size and Type of Bit<br>2-15/16" Roller Bit   |  |                        |                 | Number of Samples                      |  | Disturbed          | Undisturbed |
| Casing Diameter (in)<br>3" O.D.               |  | Casing Depth (ft)<br>7 |                 | Water Level (ft.)<br>First             |  | Completion         | Core        |
| Casing Hammer<br>Donut                        |  | Weight (lbs)<br>140    | Drop (in)<br>30 | Drilling Foreman<br>Cyril Farley       |  |                    |             |
| Sampler<br>2" O.D. Split Spoon                |  |                        |                 | Field Engineer<br>Nick Fusco           |  |                    |             |
| Sampler Hammer<br>Donut                       |  | Weight (lbs)<br>140    | Drop (in)<br>30 |  |  |                    |             |

| MATERIAL SYMBOL | Elev. (ft) | Building Code | Sample Description   | Depth Scale | Sample Data |         |                  |                  |       |                    | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |   |
|-----------------|------------|---------------|--|-------------|-------------|---------|------------------|------------------|-------|--------------------|---|---|
|                 |            |               |  |             | Number      | Type    | Recov. (in)      | Penetr. resist   | BL/ft | N-Value (Blows/ft) |   |   |
|                 | +33.7      |               | S-1: Heavily decomposed                                      | 0           |             |         |                  |                  |       |                    |   |   |
|                 |            |               | S-2: green very weathered AMPHIBOLITE                        | 1-7         |             |         |                  |                  |       |                    |   |   |
|                 | +25.7      |               | C-1: Gray to black MICA SCHIST                               | 8-10        | C-1         | NX      | REC=33%          | RQD=0%           |       |                    |   | Install 7' of casing<br><br>REC=8"/24" =33%<br>RQD=0"/24" =0% |
|                 |            | Class 1d      | C-2: Pink to gray PEGMATITE with intrusions of feldspar      | 11-14       | C-2         | NX CORE | REC=45"/60" =75% | RQD=20"/60" =33% |       |                    |   |   |
|                 | +18.7      |               | C-3: Gray to pink PEGMATITE with intrusions of mica feldspar | 15-19       | C-3         | NX CORE | REC=46"/60" =77% | RQD=24"/60" =40% |       |                    |   |   |
|                 | +13.7      | Class 1c      |  | 20          |             |         |                  |                  |       |                    |   |   |

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| Project         |            | Project No.         |  |  |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|-----------------|------------|---------------------|--|--|----------------|------------------------------------|--------------------------------------|------------------------|---|--------------------|----|----|--|--|--|
| 1568 Broadway   |            | 170391901           |  |  |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
| Location        |            | Elevation and Datum |  |  |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
| New York, N.Y.  |            | El. 33.7 NAVD88     |  |  |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
| MATERIAL SYMBOL | Elev. (ft) | Building Code       | Sample Description   | Depth Scale  | Sample Data    |                                    |                                      |                        | Remarks<br>(Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) |                    |    |    |  |  |  |
|                 |            |                     |  |  | Number         | Type                               | Recov. (in)                          | Penetr. resist. BL/6in |   | N-Value (Blows/ft) |    |    |  |  |  |
|                 |            |                     |  |  |                |                                    |                                      |                        | 10  | 20                 | 30 | 40 |  |  |  |
|                 |            |                     | C-4: Gray to pink PEGMATITE with intrusions of mica and feldspar | 20   | C-4<br>NX CORE | REC=28"/60" =47%<br>RQD=4"/60" =7% |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 21   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 22   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 23   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | C-5: Pink to gray PEGMATITE with intrusions of mica, quartz and feldspar | 24             | C-5<br>NX CORE                     | REC=48"/60" =80%<br>RQD=10"/60" =17% |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 25   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 26   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 27   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | C-6: Gray to pink PEGMATITE with intrusions of mica, quartz and feldspar | 28             | C-6<br>NX CORE                     | REC=57"/60" =95%<br>RQD=53"/60" =88% |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 29   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 30   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 31   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     | End of boring at 35'   | 32   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 33   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 34   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 35   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 36   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 37   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 38   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 39   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 40   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 41   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 42   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 43   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 44   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |
|                 |            |                     |  | 45   |                |                                    |                                      |                        |   |                    |    |    |  |  |  |

I:\LANGAN.COM\DATA\NYC\DATA9170391901\ENGINEERING DATA\GEO\TECHNICAL\GINTLOGS\170391901.GPJ... 6/24/2016 2:46:21 PM ... Report: Log - LANGAN

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# HAGER-RICHTER GEOSCIENCE, INC.

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CONSULTANTS IN GEOLOGY AND GEOPHYSICS  
846 MAIN STREET  
FORDS, NEW JERSEY 08863  
TELEPHONE (732) 661-0555  
FAX (732) 661-0123

## **BOREHOLE GEOPHYSICAL LOGGING DATA REPORT 1568 BROADWAY NEW YORK, NEW YORK**

*Prepared for:*






Langan Engineering and Environmental Services, Inc.  
21 Penn Plaza  
360 West 31<sup>st</sup> Street, 8<sup>th</sup> Floor  
New York, New York 10001

*Prepared by:*

Hager-Richter Geoscience, Inc.  
846 Main Street  
Fords, New Jersey 08863

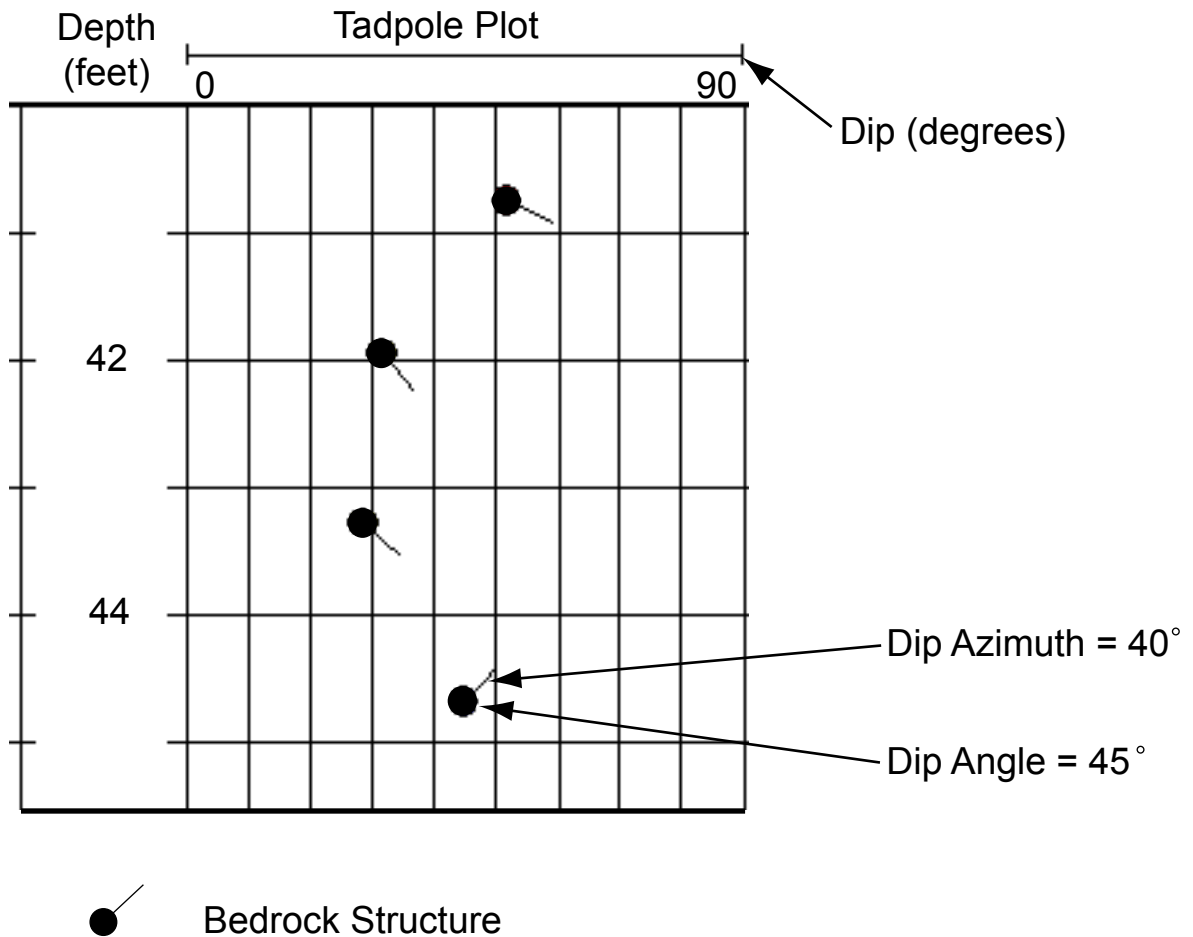
File 16RG57  
June, 2016

©2016 Hager-Richter Geoscience, Inc.

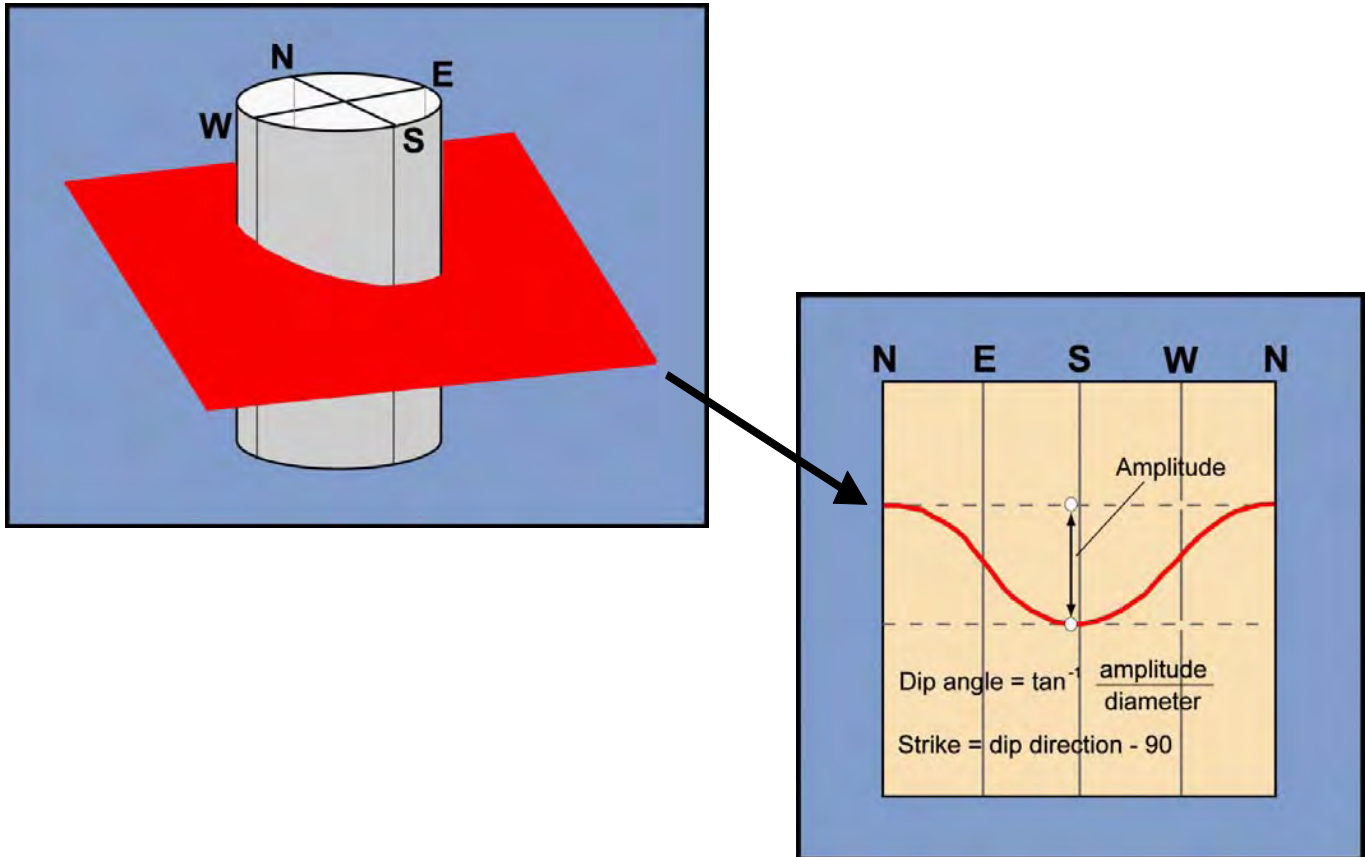
| Tadpole   | Structure Category<br>(Symbol Color) | Description   |
|---|--------------------------------------|---|
|    | Fracture Rank 1<br>(Light Blue)      | Minor Fracture - not distinct and may not be continuous around the borehole                             |
|    | Fracture Rank 2<br>(Blue)            | Intermediate Fracture - distinct and continuous around the borehole with little or no apparent aperture |
|   | Fracture Rank 3<br>(Light Green)     | Intermediate Fracture - distinct and continuous around the borehole with some apparent aperture         |
|  | Fracture Rank 4<br>(Red)             | Major Fracture - distinct with continuous apparent aperture around the borehole                         |
|  | Foliation or Vein<br>(Orange)        | Planar geologic feature interpreted as foliation or a vein  |

**Figure 1.** Key to bedrock structure categories.





**Figure 2.** Tadpole plot explanation. The orientation of the bedrock structures is graphically displayed by a tadpole consisting of a circle, the head, and a line, the tail. The position of the head, left to right on the tadpole plot, gives the dip angle of the structure. The left side of the track indicates a dip angle of 0°, and the right side of the track indicates a dip angle of 90° from horizontal. The orientation of the tail gives the dip azimuth of the structure and can be read like a compass. The tail pointing directly up is 0°, north.



**Figure 3. Televiewer Explanation Figure.** The image on the left depicts a planar structure in red, such as a fracture or bedding plane, intersected by a borehole. The image on the right depicts the same structure unwrapped as it would be displayed in an optical televiewer (OTV) or acoustic televiewer (ATV) log.

Figure modified from: Garfield, R.L., Day-Lewis, F.D., Gray, M.B., Johnson, C.D., Williams, J.H. and Day-Lewis, A.D.F., 2003, Fractured-Rock Aquifer Characterization within a Regional Geologic Context: Results from the Bucknell University Hydrogeophysics Test Site, GSA Northeastern Section, 38th Annual Meeting, Paper No. 25-19.



# HAGER-RICHTER GEOSCIENCE, INC.

846 Main Street  
Fords, NJ 08863  
Phone: 732-661-0555  
Fax: 732-661-0123

## LB-2 - BOREHOLE GEOPHYSICAL LOGS

DATE LOGGED: May 31, 2016

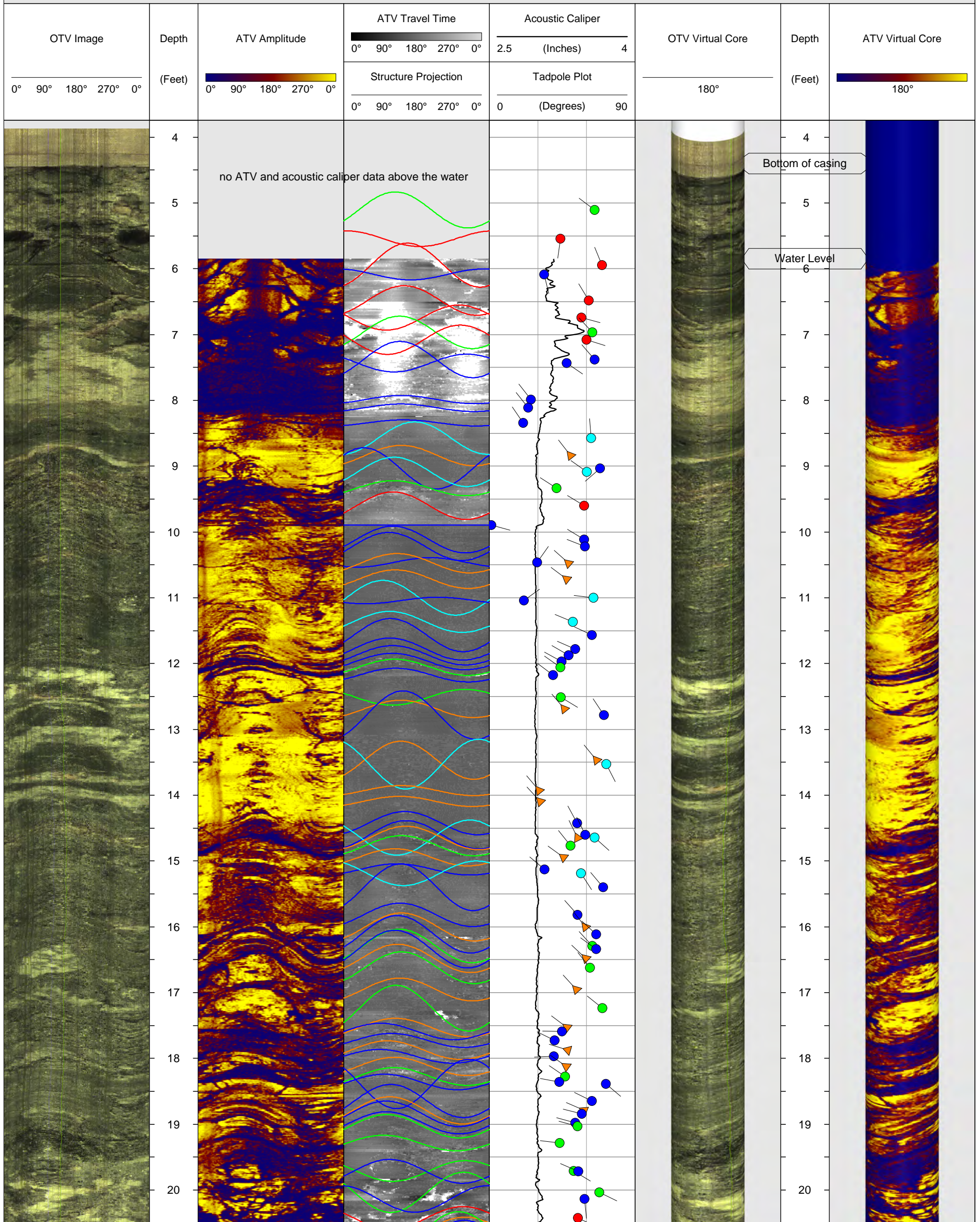
CLIENT: Langan Engineering and Environmental Services, Inc.  
PROJECT: Borehole Geophysical Logging  
LOCATION: 1568 Broadway, New York, New York  
LOGGING GEOPHYSICIST(S): Nick DeCristofaro & Alexis Martinez  
PROJECT REP(S) ON-SITE: Keenan Sooklall

HAGER-RICHTER FILE: 16RG57  
LOG DATUM: Top of the Concrete Floor Slab  
ORIENTATION REFERENCE: True North (Magnetic Declination = 13° West)  
BOREHOLE DIAMETER: 3 Inches  
LOGS PROCESSED BY: Robert Garfield

### STRUCTURE LEGEND

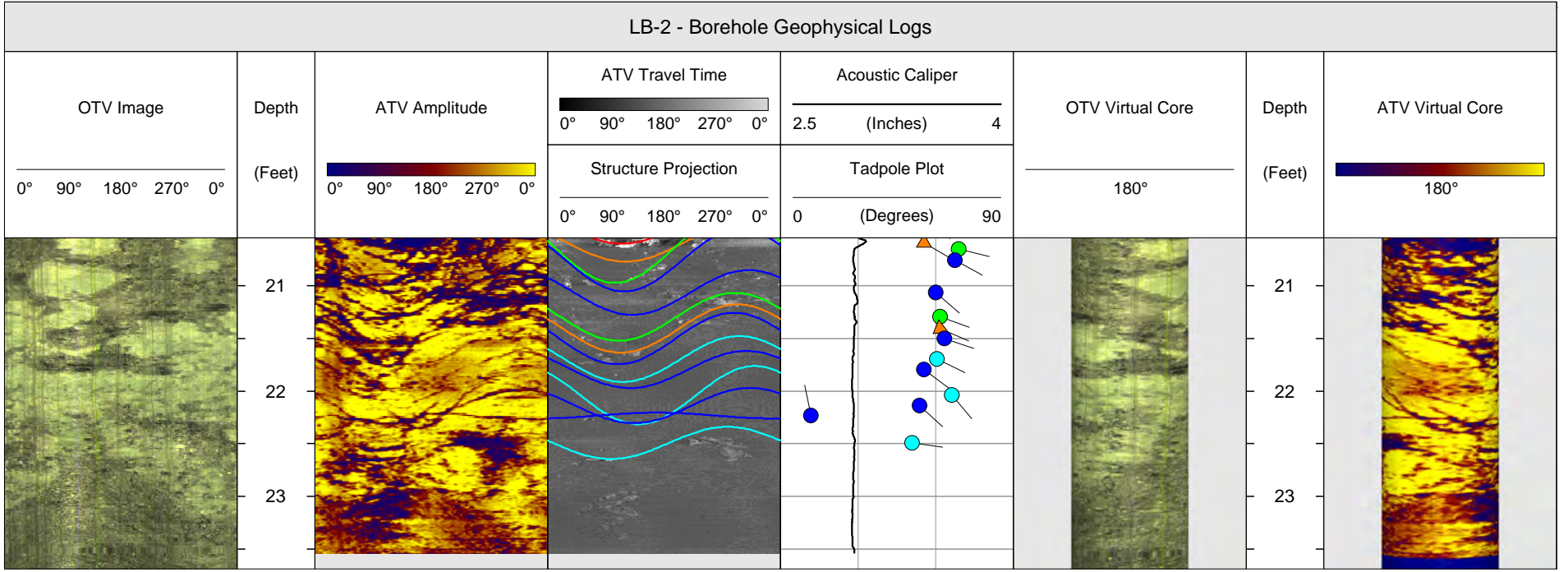
- Fracture Rank 1
- Fracture Rank 2
- Fracture Rank 3
- Fracture Rank 4
- ▲ Foliation / Vein

### LB-2 - Borehole Geophysical Logs





LB-2 - Borehole Geophysical Logs



# HAGER-RICHTER GEOSCIENCE, INC.

846 Main Street  
Fords, NJ 08863  
Phone: 732-661-0555  
Fax: 732-661-0123

## LB-3 - BOREHOLE GEOPHYSICAL LOGS

DATE LOGGED: May 31, 2016

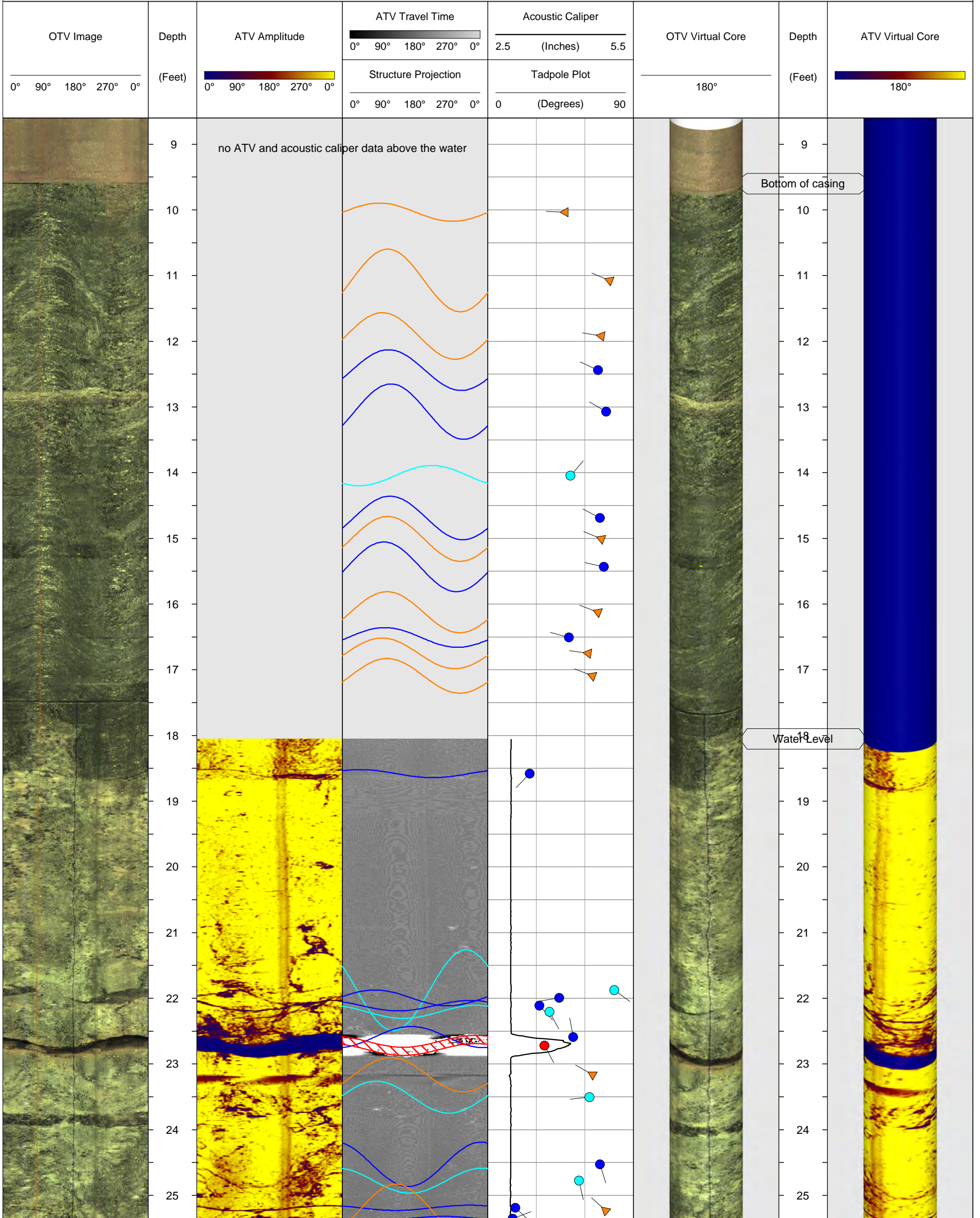
CLIENT: Langan Engineering and Environmental Services, Inc.  
PROJECT: Borehole Geophysical Logging  
LOCATION: 1568 Broadway, New York, New York  
LOGGING GEOPHYSICIST(S): Nick DeCristofaro & Alexis Martinez  
PROJECT REP(S) ON-SITE: Keenan Sooklall

HAGER-RICHTER FILE: 16RG57  
LOG DATUM: Top of the Concrete Floor Slab  
ORIENTATION REFERENCE: True North (Magnetic Declination = 13° West)  
BOREHOLE DIAMETER: 3 Inches  
LOGS PROCESSED BY: Robert Garfield

### STRUCTURE LEGEND

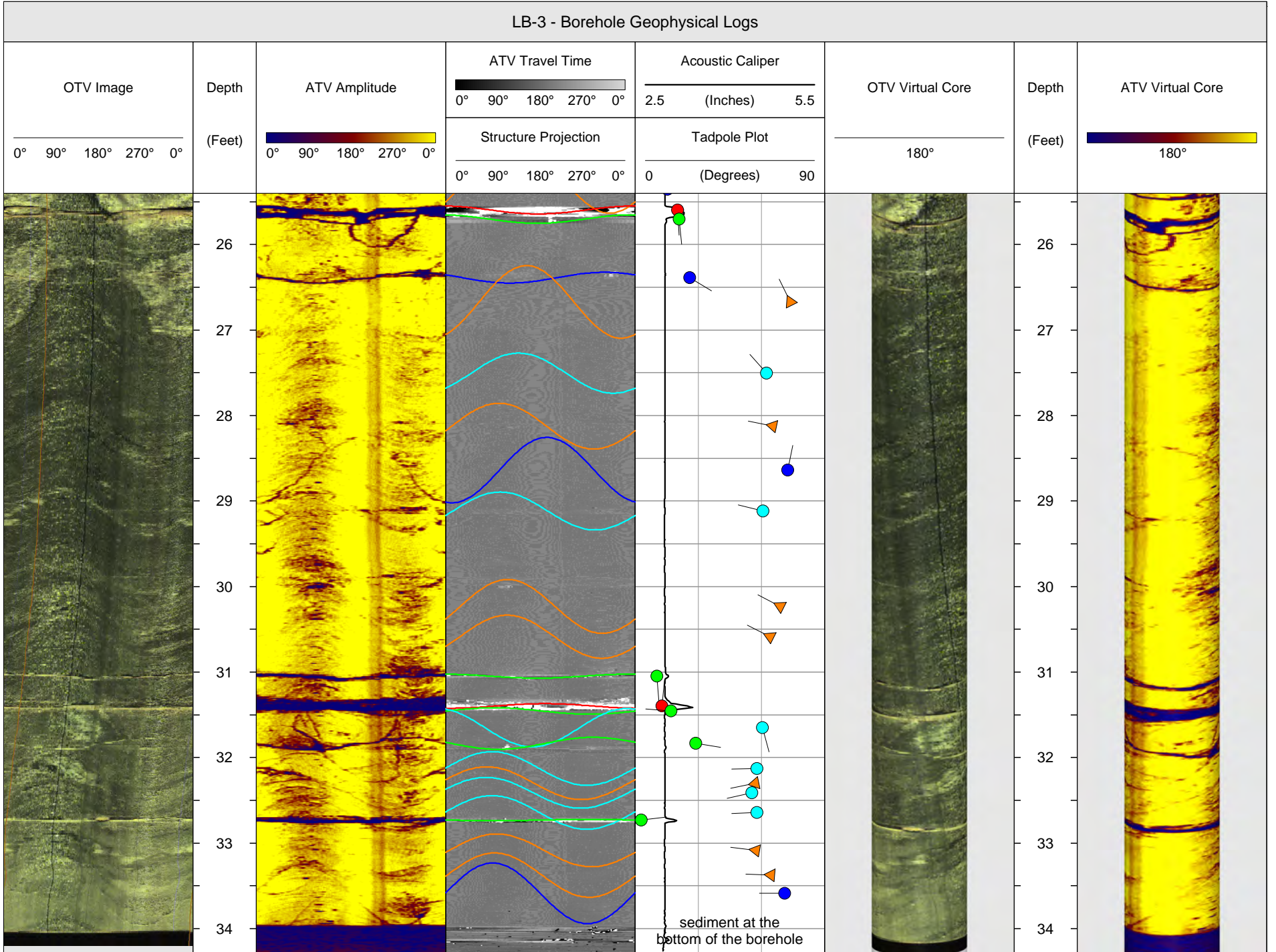
- Fracture Rank 1
- Fracture Rank 2
- Fracture Rank 3
- Fracture Rank 4
- ▲ Foliation / Vein

### LB-3 - Borehole Geophysical Logs





LB-3 - Borehole Geophysical Logs





# HAGER-RICHTER GEOSCIENCE, INC.

846 Main Street  
Fords, NJ 08863  
Phone: 732-661-0555  
Fax: 732-661-0123

## LB-7 - BOREHOLE GEOPHYSICAL LOGS

DATE LOGGED: May 31, 2016

CLIENT: Langan Engineering and Environmental Services, Inc.

HAGER-RICHTER FILE: 16RG57

PROJECT: Borehole Geophysical Logging

LOG DATUM: Top of the Concrete Floor Slab

LOCATION: 1568 Broadway, New York, New York

ORIENTATION REFERENCE: True North (Magnetic Declination = 13° West)

LOGGING GEOPHYSICIST(S): Nick DeCristofaro & Alexis Martinez

BOREHOLE DIAMETER: 3 Inches

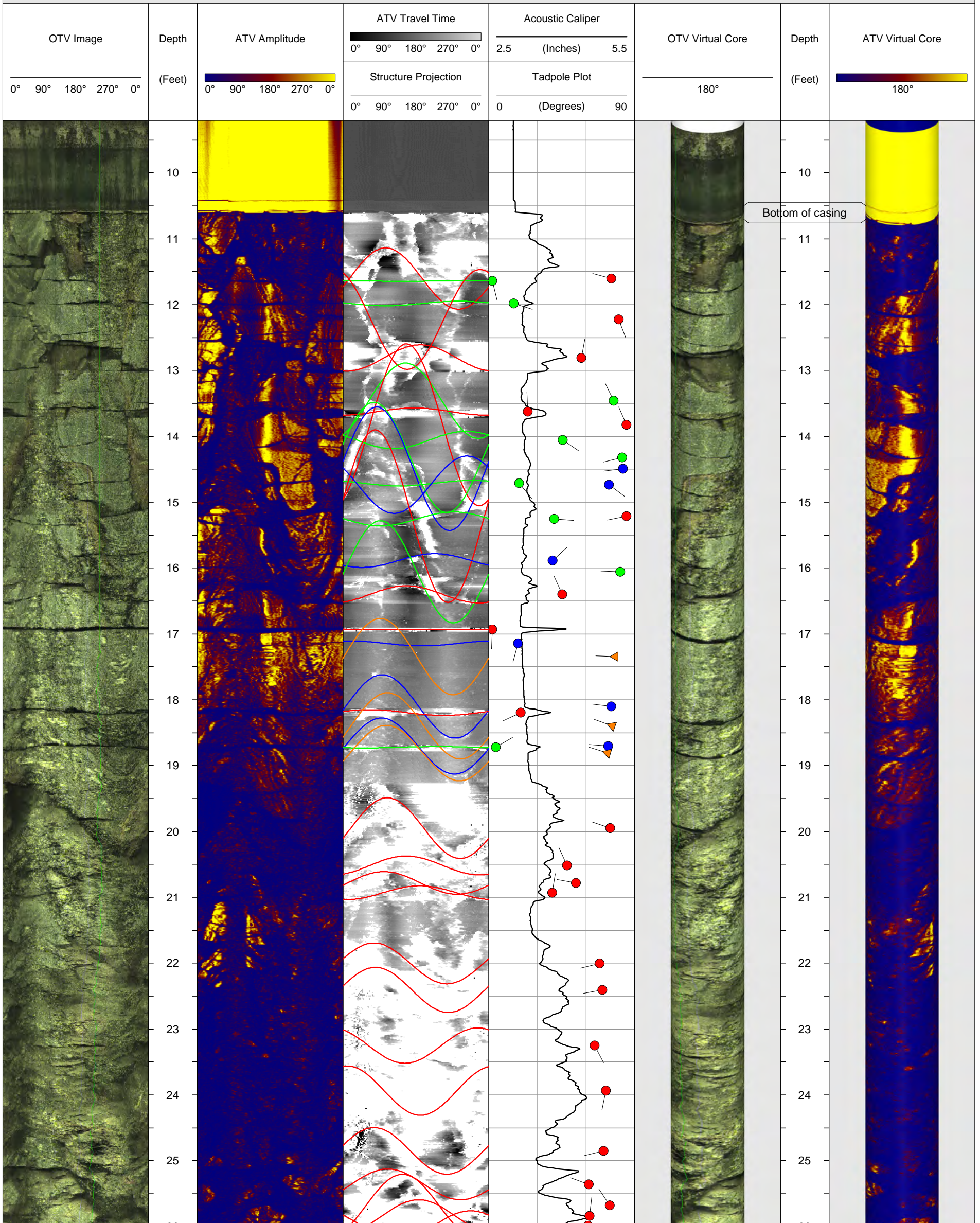
PROJECT REP(S) ON-SITE: Keenan Sooklall

LOGS PROCESSED BY: Robert Garfield

### STRUCTURE LEGEND

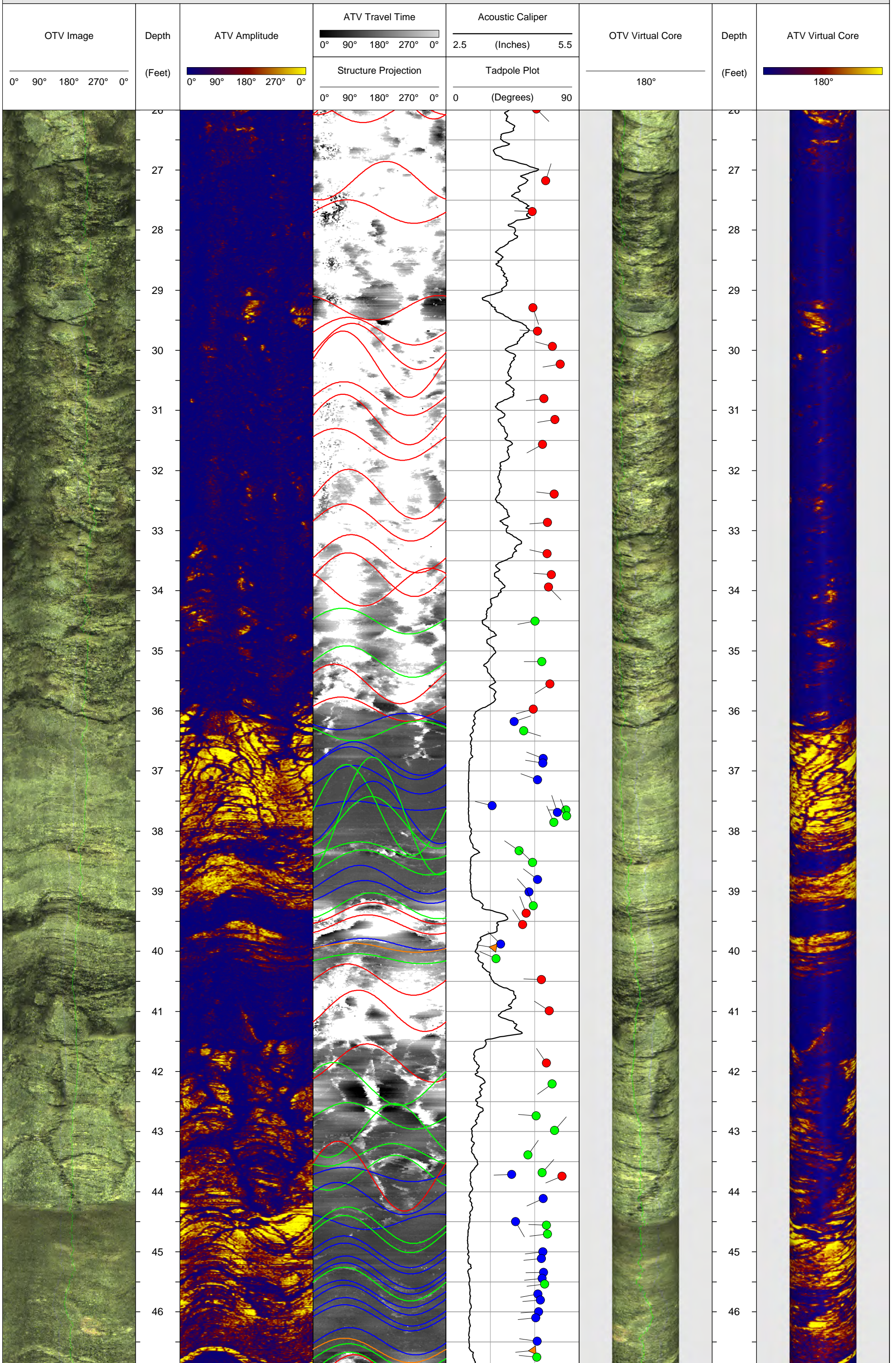
- Fracture Rank 1
- Fracture Rank 2
- Fracture Rank 3
- Fracture Rank 4
- ▲ Foliation / Vein

### LB-7 - Borehole Geophysical Logs



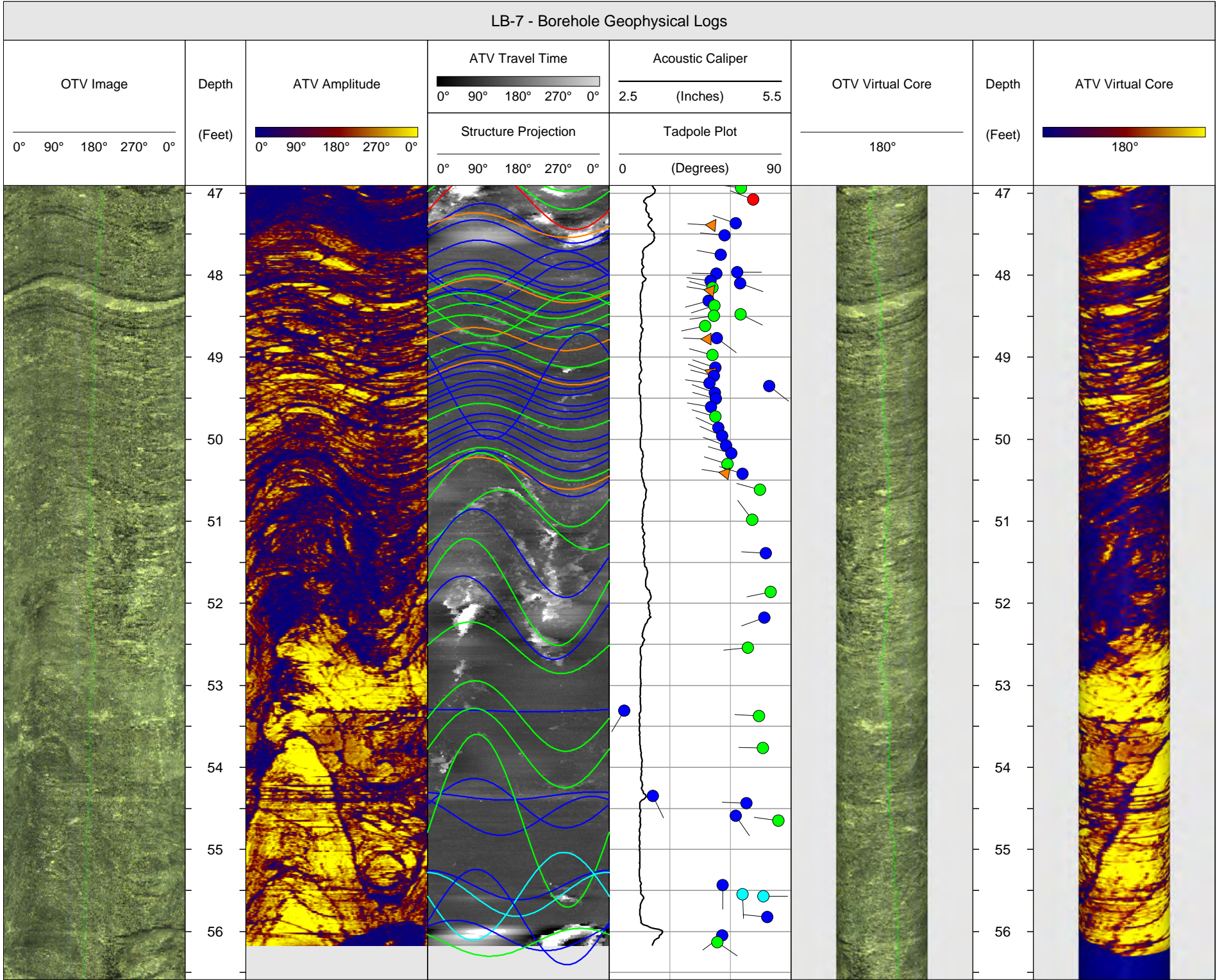


LB-7 - Borehole Geophysical Logs





LB-7 - Borehole Geophysical Logs





# HAGER-RICHTER GEOSCIENCE, INC.

846 Main Street  
Fords, NJ 08863  
Phone: 732-661-0555  
Fax: 732-661-0123

## LB-10 - BOREHOLE GEOPHYSICAL LOGS

DATE LOGGED: May 31, 2016

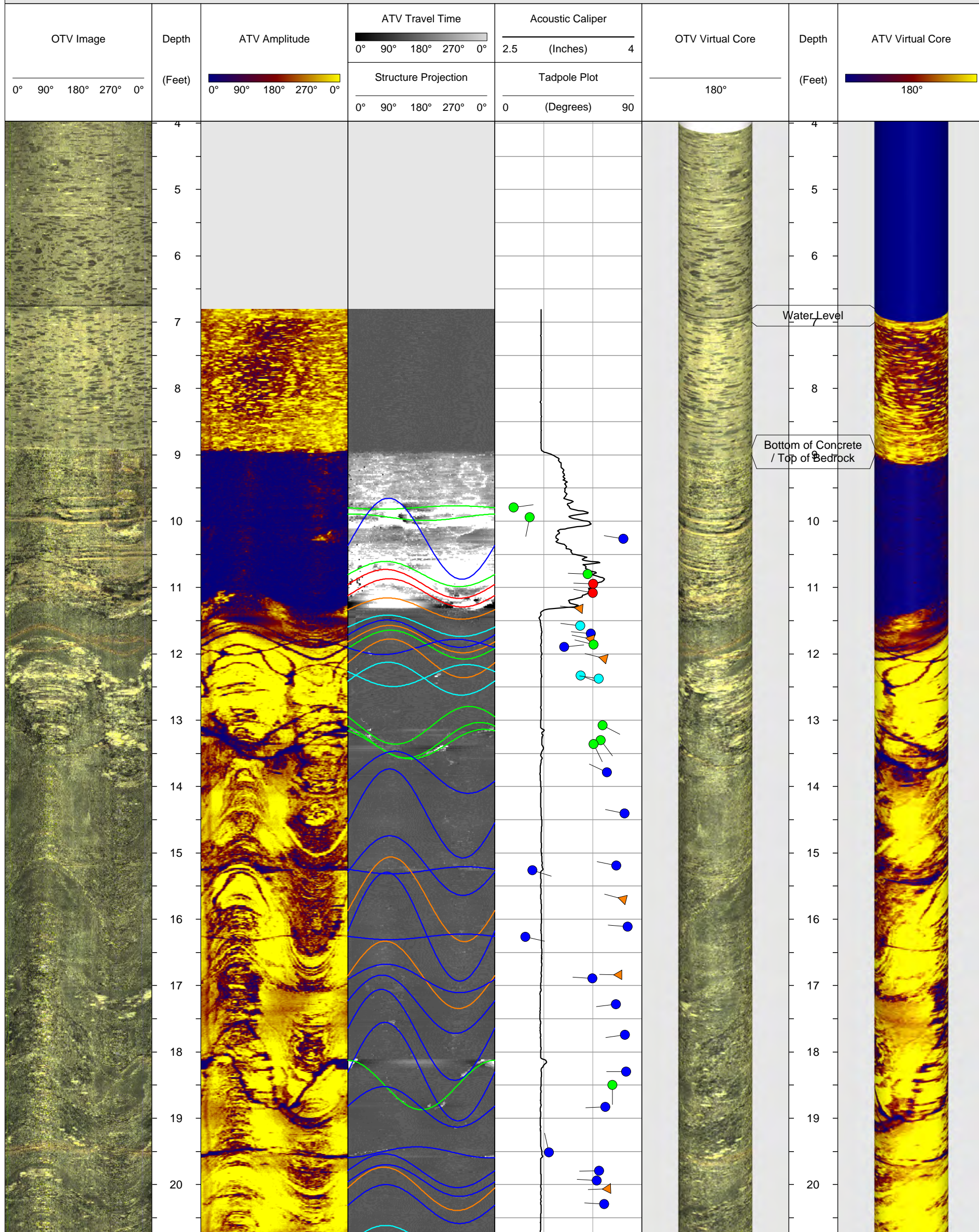
CLIENT: Langan Engineering and Environmental Services, Inc.  
PROJECT: Borehole Geophysical Logging  
LOCATION: 1568 Broadway, New York, New York  
LOGGING GEOPHYSICIST(S): Nick DeCristofaro & Alexis Martinez  
PROJECT REP(S) ON-SITE: Keenan Sooklall

HAGER-RICHTER FILE: 16RG57  
LOG DATUM: Top of the Concrete Floor Slab  
ORIENTATION REFERENCE: True North (Magnetic Declination = 13° West)  
BOREHOLE DIAMETER: 3 Inches  
LOGS PROCESSED BY: Robert Garfield

### STRUCTURE LEGEND

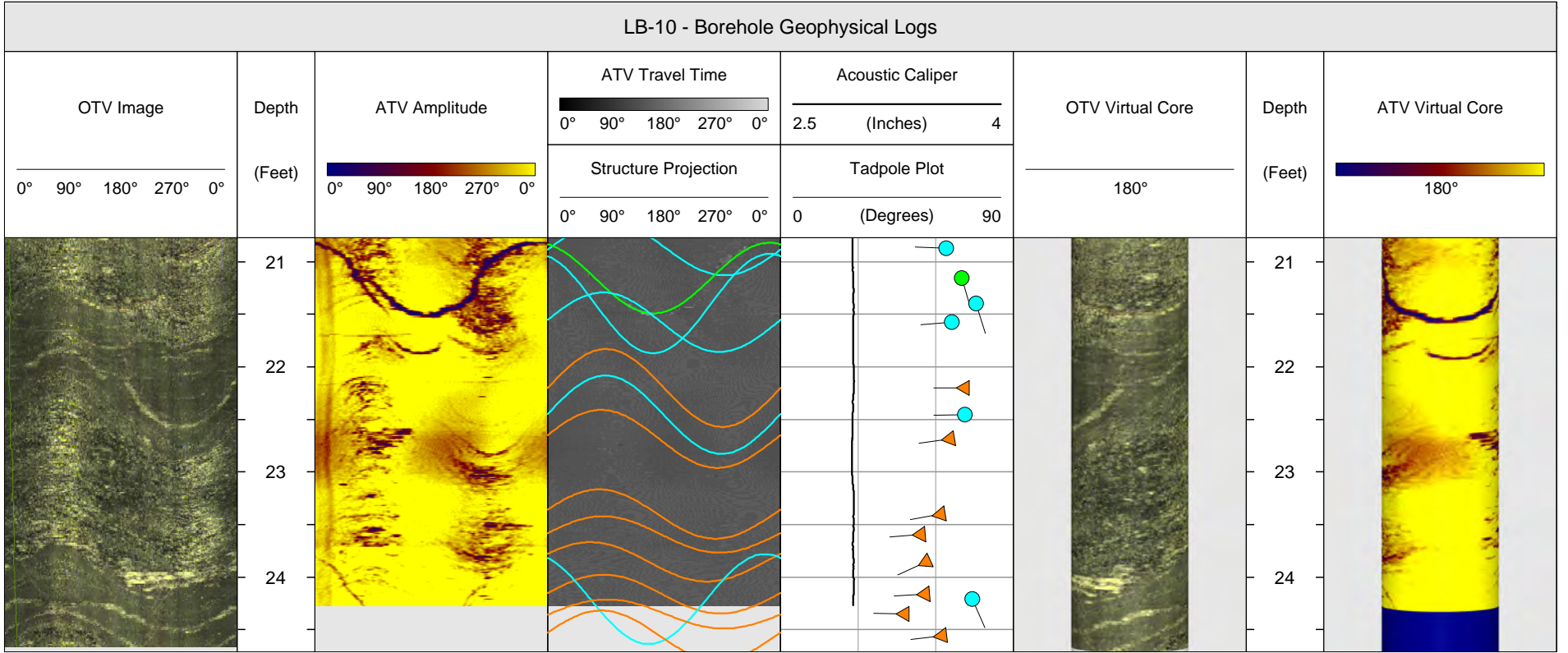
- Fracture Rank 1
- Fracture Rank 2
- Fracture Rank 3
- Fracture Rank 4
- ▲ Foliation / Vein

### LB-10 - Borehole Geophysical Logs





LB-10 - Borehole Geophysical Logs





# HAGER-RICHTER GEOSCIENCE, INC.

846 Main Street  
Fords, NJ 08863  
Phone: 732-661-0555  
Fax: 732-661-0123

## LB-11 - BOREHOLE GEOPHYSICAL LOGS

DATE LOGGED: May 31, 2016

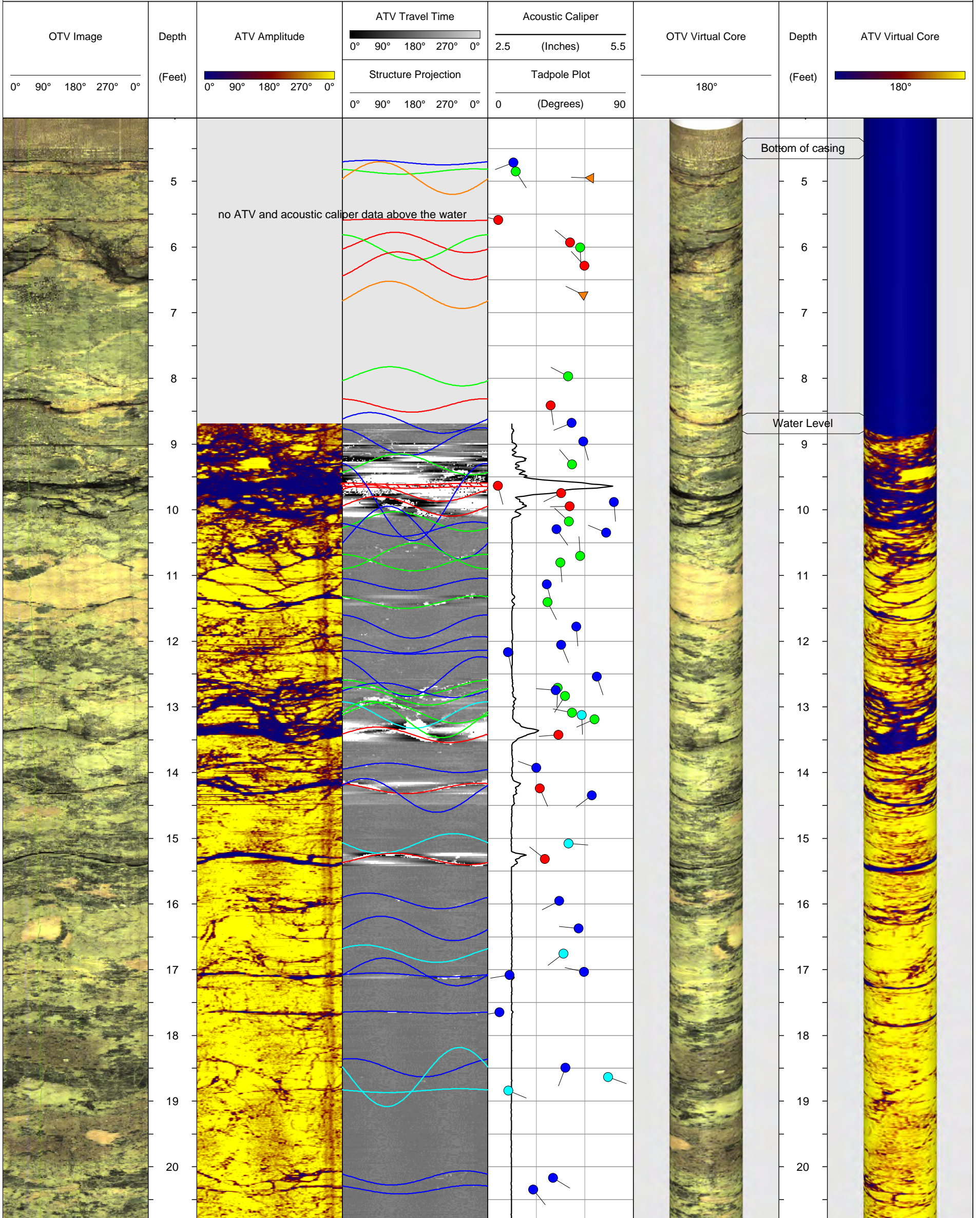
CLIENT: Langan Engineering and Environmental Services, Inc.  
PROJECT: Borehole Geophysical Logging  
LOCATION: 1568 Broadway, New York, New York  
LOGGING GEOPHYSICIST(S): Nick DeCristofaro & Alexis Martinez  
PROJECT REP(S) ON-SITE: Keenan Sooklall

HAGER-RICHTER FILE: 16RG57  
LOG DATUM: Top of the Concrete Floor Slab  
ORIENTATION REFERENCE: True North (Magnetic Declination = 13° West)  
BOREHOLE DIAMETER: 3 Inches  
LOGS PROCESSED BY: Robert Garfield

### STRUCTURE LEGEND

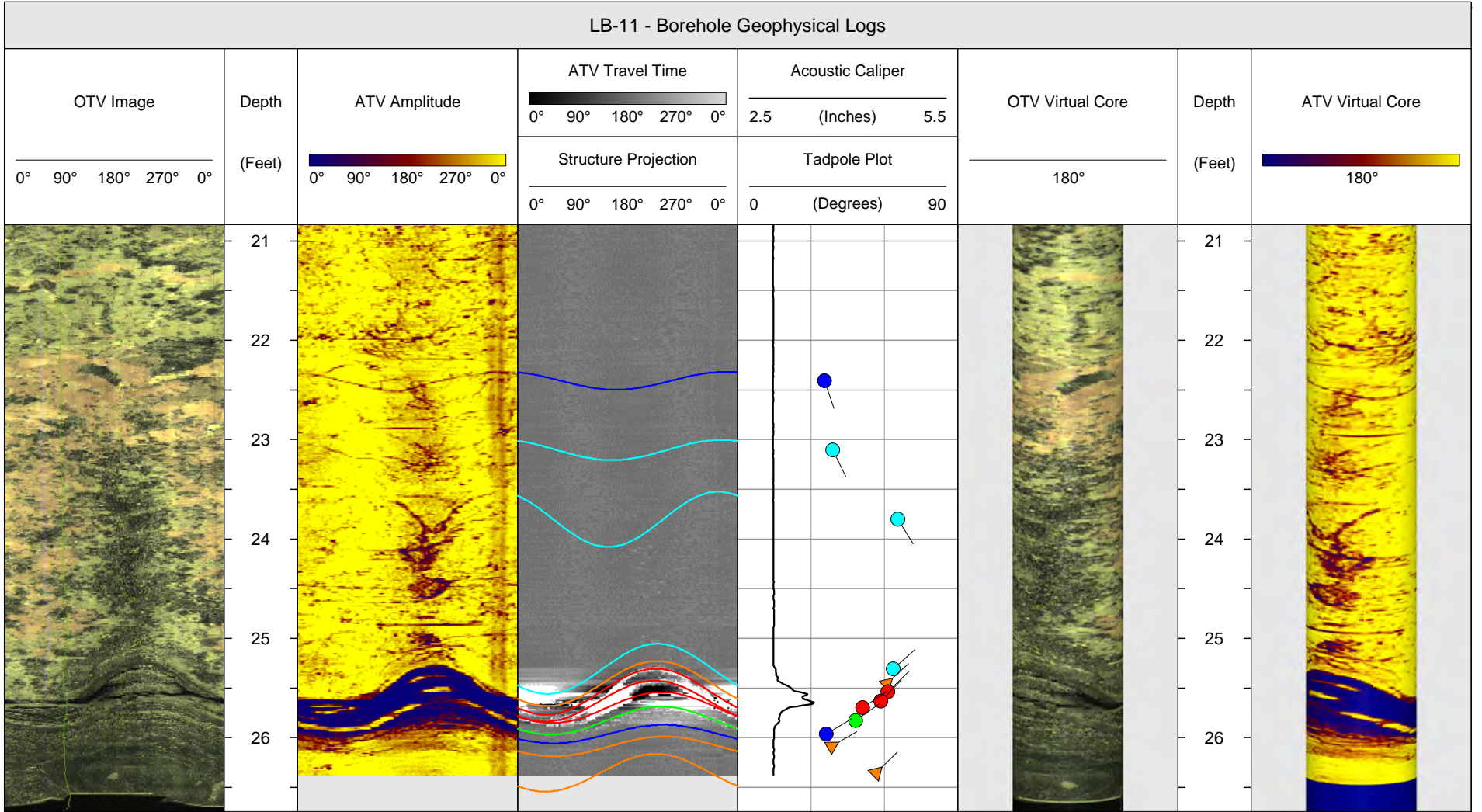
- Fracture Rank 1
- Fracture Rank 2
- Fracture Rank 3
- Fracture Rank 4
- ▲ Foliation / Vein

### LB-11 - Borehole Geophysical Logs





LB-11 - Borehole Geophysical Logs



# HAGER-RICHTER GEOSCIENCE, INC.

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Fords, NJ 08863  
Phone: 732-661-0555  
Fax: 732-661-0123

## ALL BOREHOLES - BEDROCK STRUCTURE STATISTICS PLOTS

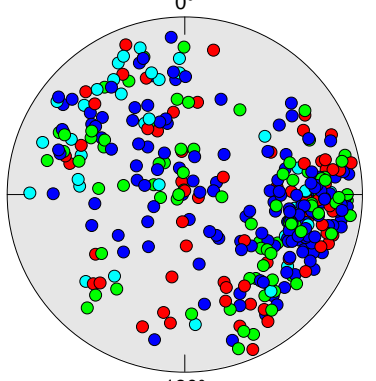
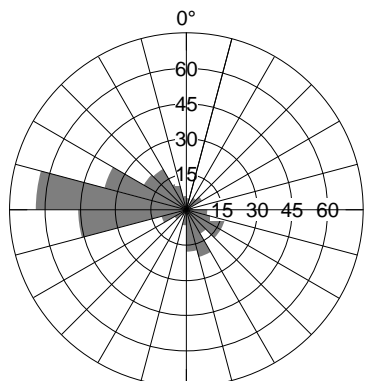
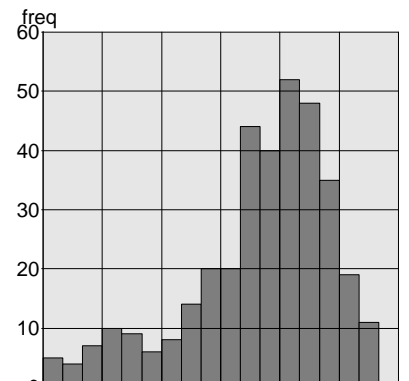
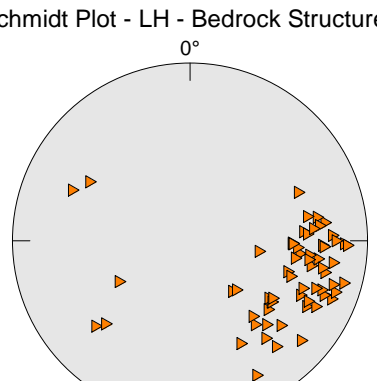
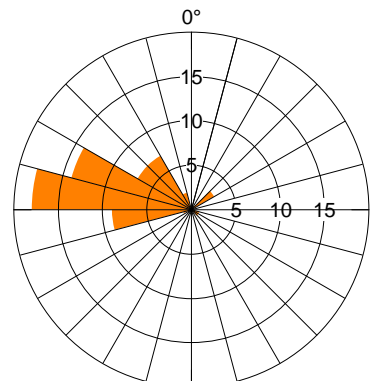
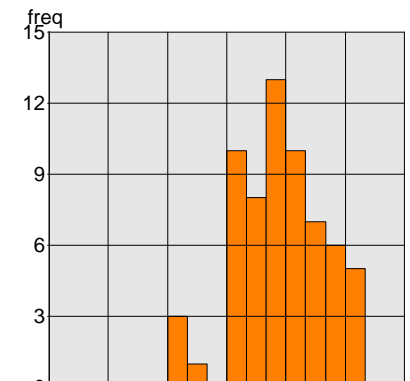
DATE LOGGED: May 31, 2016

CLIENT: Langan Engineering and Environmental Services, Inc.  
PROJECT: Borehole Geophysical Logging  
LOCATION: 1568 Broadway, New York, New York

HAGER-RICHTER FILE: 16RG57  
ORIENTATION REFERENCE: True North  
MAGNETIC DECLINATION: 13° West

### STRUCTURE LEGEND

● Fracture Rank 1 ● Fracture Rank 2 ● Fracture Rank 3 ▲ Foliation / Vein

| Stereogram - Lower Hemisphere of Bedrock Fractures  | Dip Azimuth Rose Diagram of Bedrock Fractures | Dip Angle Histogram of Bedrock Fractures | Stereogram - Lower Hemisphere of Foliation & Veins | Dip Azimuth Rose Diagram of Foliation & Veins | Dip Angle Histogram of Foliation & Veins |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
|---|---|--|--|---|--|-----|-------|--------|---|-----|-------|--------|---|----|-------|--------|---|----|-------|--------|---|----|-------|--------|--|-----------|---------|--------|--------|-----------|--------|-----------|-------|------|------|------|--------|--|-----------|-------|--------|--------|-----------|-------|-----------|-------|------|------|------|-------|--|--|--------|----------|----------|------|----|-------|--------|---|----|-------|--------|---|-----------|---------|--------|-------|-----------|--------|-----------|-------|------|-------|------|--------|--|-----------|-------|--------|-------|-----------|-------|-----------|-------|------|-------|------|-------|
| <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th></th> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>352</td> <td>54.99</td> <td>267.61</td> </tr> <tr> <td>●</td> <td>155</td> <td>53.29</td> <td>270.26</td> </tr> <tr> <td>●</td> <td>88</td> <td>54.17</td> <td>270.26</td> </tr> <tr> <td>●</td> <td>70</td> <td>57.09</td> <td>279.30</td> </tr> <tr> <td>●</td> <td>39</td> <td>59.73</td> <td>181.23</td> </tr> </tbody> </table> |   | Counts                                   | Dip[deg]   | Azi[deg]                                      | Mean                                     | 352 | 54.99 | 267.61 | ● | 155 | 53.29 | 270.26 | ● | 88 | 54.17 | 270.26 | ● | 70 | 57.09 | 279.30 | ● | 39 | 59.73 | 181.23 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Component</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>Counts</td> <td>352.00</td> </tr> <tr> <td>Mean (2D)</td> <td>267.61</td> </tr> <tr> <td>Std.Dev.:</td> <td>83.14</td> </tr> <tr> <td>Min:</td> <td>6.03</td> </tr> <tr> <td>Max:</td> <td>357.76</td> </tr> </tbody> </table> | Component | Azimuth | Counts | 352.00 | Mean (2D) | 267.61 | Std.Dev.: | 83.14 | Min: | 6.03 | Max: | 357.76 | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Statistic</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Counts</td> <td>352.00</td> </tr> <tr> <td>Mean (2D)</td> <td>54.99</td> </tr> <tr> <td>Std.Dev.:</td> <td>18.14</td> </tr> <tr> <td>Min:</td> <td>1.28</td> </tr> <tr> <td>Max:</td> <td>84.95</td> </tr> </tbody> </table> | Statistic | Value | Counts | 352.00 | Mean (2D) | 54.99 | Std.Dev.: | 18.14 | Min: | 1.28 | Max: | 84.95 | <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th></th> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>63</td> <td>58.68</td> <td>291.20</td> </tr> <tr> <td>▲</td> <td>63</td> <td>58.68</td> <td>291.20</td> </tr> </tbody> </table> |  | Counts | Dip[deg] | Azi[deg] | Mean | 63 | 58.68 | 291.20 | ▲ | 63 | 58.68 | 291.20 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Component</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>Counts</td> <td>63.00</td> </tr> <tr> <td>Mean (2D)</td> <td>291.20</td> </tr> <tr> <td>Std.Dev.:</td> <td>37.60</td> </tr> <tr> <td>Min:</td> <td>45.35</td> </tr> <tr> <td>Max:</td> <td>333.54</td> </tr> </tbody> </table> | Component | Azimuth | Counts | 63.00 | Mean (2D) | 291.20 | Std.Dev.: | 37.60 | Min: | 45.35 | Max: | 333.54 | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Statistic</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Counts</td> <td>63.00</td> </tr> <tr> <td>Mean (2D)</td> <td>58.68</td> </tr> <tr> <td>Std.Dev.:</td> <td>11.07</td> </tr> <tr> <td>Min:</td> <td>30.75</td> </tr> <tr> <td>Max:</td> <td>78.79</td> </tr> </tbody> </table> | Statistic | Value | Counts | 63.00 | Mean (2D) | 58.68 | Std.Dev.: | 11.07 | Min: | 30.75 | Max: | 78.79 |
|   | Counts  | Dip[deg]                                 | Azi[deg]   |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Mean  | 352   | 54.99                                    | 267.61   |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| ●   | 155   | 53.29                                    | 270.26   |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| ●   | 88  | 54.17                                    | 270.26   |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| ●   | 70  | 57.09                                    | 279.30   |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| ●   | 39  | 59.73                                    | 181.23   |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Component   | Azimuth                                       |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Counts  | 352.00  |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Mean (2D)   | 267.61  |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Std.Dev.:   | 83.14   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Min:  | 6.03  |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Max:  | 357.76  |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Statistic   | Value   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Counts  | 352.00  |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Mean (2D)   | 54.99   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Std.Dev.:   | 18.14   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Min:  | 1.28  |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Max:  | 84.95   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
|   | Counts  | Dip[deg]                                 | Azi[deg]   |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Mean  | 63  | 58.68                                    | 291.20   |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| ▲   | 63  | 58.68                                    | 291.20   |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Component   | Azimuth                                       |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Counts  | 63.00   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Mean (2D)   | 291.20  |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Std.Dev.:   | 37.60   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Min:  | 45.35   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Max:  | 333.54  |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Statistic   | Value   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Counts  | 63.00   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Mean (2D)   | 58.68   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Std.Dev.:   | 11.07   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Min:  | 30.75   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |
| Max:  | 78.79   |  |  |   |  |     |       |        |   |     |       |        |   |    |       |        |   |    |       |        |   |    |       |        |  |           |         |        |        |           |        |           |       |      |      |      |        |  |           |       |        |        |           |       |           |       |      |      |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |   |           |         |        |       |           |        |           |       |      |       |      |        |  |           |       |        |       |           |       |           |       |      |       |      |       |



# HAGER-RICHTER GEOSCIENCE, INC.

846 Main Street  
Fords, NJ 08863  
Phone: 732-661-0555  
Fax: 732-661-0123

## LB-2 - BEDROCK STRUCTURE STATISTICS PLOTS

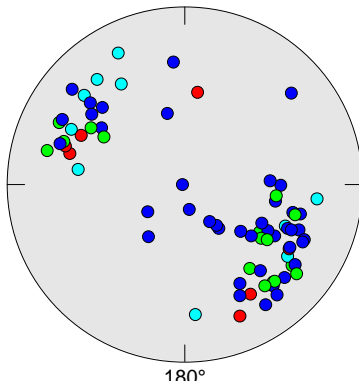
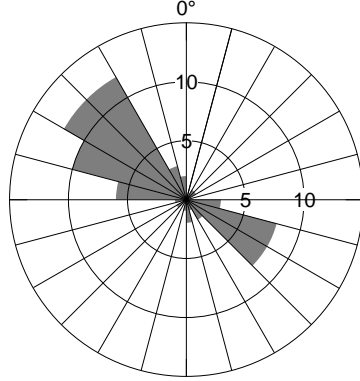
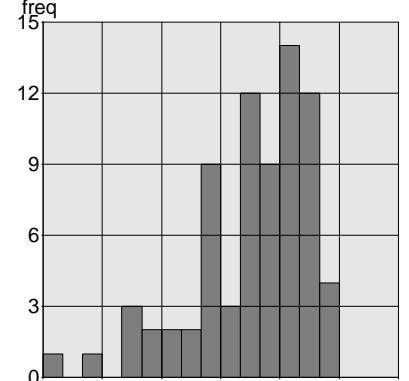
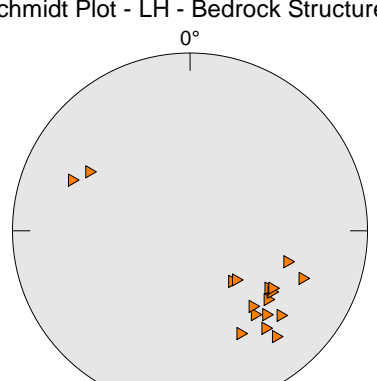
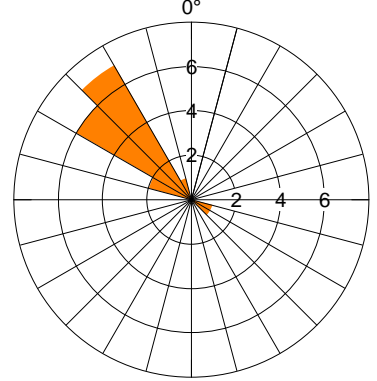
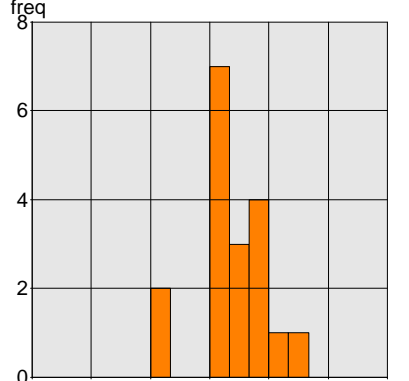
DATE LOGGED: May 31, 2016

CLIENT: Langan Engineering and Environmental Services, Inc.  
PROJECT: Borehole Geophysical Logging  
LOCATION: 1568 Broadway, New York, New York

HAGER-RICHTER FILE: 16RG57  
ORIENTATION REFERENCE: True North  
MAGNETIC DECLINATION: 13° West

### STRUCTURE LEGEND

● Fracture Rank 1 ● Fracture Rank 2 ● Fracture Rank 3 ▲ Foliation / Vein

| Stereogram - Lower Hemisphere of Bedrock Fractures  | Dip Azimuth Rose Diagram of Bedrock Fractures | Dip Angle Histogram of Bedrock Fractures | Stereogram - Lower Hemisphere of Foliation & Veins | Dip Azimuth Rose Diagram of Foliation & Veins | Dip Angle Histogram of Foliation & Veins |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
|---|---|--|--|---|--|----|-------|--------|---|----|-------|--------|---|---|-------|-------|---|----|-------|--------|---|----|-------|--------|--|-------------|---------|---------|-------|------------|--------|-----------|-------|------|-------|------|--------|--|---------|----------|----------|-------|-------|--------|------------|-------|--------|-----------|-------|--|------|------|--|------|-------|--|---|------|--------|----------|----------|---|----|-------|--------|---|----|-------|--------|--|-------------|---------|---------|-------|------------|--------|-----------|-------|------|--------|------|--------|--|---------|----------|----------|-------|-------|--------|------------|-------|--------|-----------|------|--|------|-------|--|------|-------|--|
| <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th>Mean</th> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td></td> <td>74</td> <td>53.38</td> <td>309.57</td> </tr> <tr> <td>●</td> <td>16</td> <td>56.23</td> <td>316.47</td> </tr> <tr> <td>●</td> <td>7</td> <td>57.87</td> <td>71.42</td> </tr> <tr> <td>●</td> <td>41</td> <td>49.49</td> <td>305.69</td> </tr> <tr> <td>●</td> <td>10</td> <td>61.09</td> <td>139.59</td> </tr> </tbody> </table> | Mean  | Counts                                   | Dip[deg]   | Azi[deg]                                      |  | 74 | 53.38 | 309.57 | ● | 16 | 56.23 | 316.47 | ● | 7 | 57.87 | 71.42 | ● | 41 | 49.49 | 305.69 | ● | 10 | 61.09 | 139.59 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Components:</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>Counts:</td> <td>74.00</td> </tr> <tr> <td>Mean (2D):</td> <td>309.57</td> </tr> <tr> <td>Std.Dev.:</td> <td>92.25</td> </tr> <tr> <td>Min:</td> <td>35.26</td> </tr> <tr> <td>Max:</td> <td>355.20</td> </tr> </tbody> </table> | Components: | Azimuth | Counts: | 74.00 | Mean (2D): | 309.57 | Std.Dev.: | 92.25 | Min: | 35.26 | Max: | 355.20 | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Counts:</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td>74.00</td> <td>53.38</td> <td>309.57</td> </tr> <tr> <td>Mean (2D):</td> <td>53.38</td> <td>309.57</td> </tr> <tr> <td>Std.Dev.:</td> <td>14.55</td> <td></td> </tr> <tr> <td>Min:</td> <td>1.28</td> <td></td> </tr> <tr> <td>Max:</td> <td>72.27</td> <td></td> </tr> </tbody> </table> | Counts: | Dip[deg] | Azi[deg] | 74.00 | 53.38 | 309.57 | Mean (2D): | 53.38 | 309.57 | Std.Dev.: | 14.55 |  | Min: | 1.28 |  | Max: | 72.27 |  | <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th>Mean</th> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td>▲</td> <td>18</td> <td>50.82</td> <td>315.12</td> </tr> <tr> <td>▲</td> <td>18</td> <td>50.82</td> <td>315.12</td> </tr> </tbody> </table> | Mean | Counts | Dip[deg] | Azi[deg] | ▲ | 18 | 50.82 | 315.12 | ▲ | 18 | 50.82 | 315.12 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Components:</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>Counts:</td> <td>18.00</td> </tr> <tr> <td>Mean (2D):</td> <td>315.12</td> </tr> <tr> <td>Std.Dev.:</td> <td>41.83</td> </tr> <tr> <td>Min:</td> <td>113.28</td> </tr> <tr> <td>Max:</td> <td>333.50</td> </tr> </tbody> </table> | Components: | Azimuth | Counts: | 18.00 | Mean (2D): | 315.12 | Std.Dev.: | 41.83 | Min: | 113.28 | Max: | 333.50 | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Counts:</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td>18.00</td> <td>50.82</td> <td>315.12</td> </tr> <tr> <td>Mean (2D):</td> <td>50.82</td> <td>315.12</td> </tr> <tr> <td>Std.Dev.:</td> <td>9.04</td> <td></td> </tr> <tr> <td>Min:</td> <td>30.75</td> <td></td> </tr> <tr> <td>Max:</td> <td>66.29</td> <td></td> </tr> </tbody> </table> | Counts: | Dip[deg] | Azi[deg] | 18.00 | 50.82 | 315.12 | Mean (2D): | 50.82 | 315.12 | Std.Dev.: | 9.04 |  | Min: | 30.75 |  | Max: | 66.29 |  |
| Mean  | Counts  | Dip[deg]                                 | Azi[deg]   |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
|   | 74  | 53.38                                    | 309.57   |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| ●   | 16  | 56.23                                    | 316.47   |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| ●   | 7   | 57.87                                    | 71.42  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| ●   | 41  | 49.49                                    | 305.69   |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| ●   | 10  | 61.09                                    | 139.59   |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Components:   | Azimuth                                       |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Counts:   | 74.00   |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Mean (2D):  | 309.57  |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Std.Dev.:   | 92.25   |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Min:  | 35.26   |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Max:  | 355.20  |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Counts:   | Dip[deg]                                      | Azi[deg]                                 |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| 74.00   | 53.38   | 309.57                                   |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Mean (2D):  | 53.38   | 309.57                                   |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Std.Dev.:   | 14.55   |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Min:  | 1.28  |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Max:  | 72.27   |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Mean  | Counts  | Dip[deg]                                 | Azi[deg]   |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| ▲   | 18  | 50.82                                    | 315.12   |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| ▲   | 18  | 50.82                                    | 315.12   |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Components:   | Azimuth                                       |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Counts:   | 18.00   |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Mean (2D):  | 315.12  |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Std.Dev.:   | 41.83   |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Min:  | 113.28  |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Max:  | 333.50  |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Counts:   | Dip[deg]                                      | Azi[deg]                                 |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| 18.00   | 50.82   | 315.12                                   |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Mean (2D):  | 50.82   | 315.12                                   |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Std.Dev.:   | 9.04  |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Min:  | 30.75   |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |
| Max:  | 66.29   |  |  |   |  |    |       |        |   |    |       |        |   |   |       |       |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |          |          |       |       |        |            |       |        |           |       |  |      |      |  |      |       |  |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |          |          |       |       |        |            |       |        |           |      |  |      |       |  |      |       |  |

# HAGER-RICHTER GEOSCIENCE, INC.

846 Main Street  
Fords, NJ 08863  
Phone: 732-661-0555  
Fax: 732-661-0123

## LB-3 - BEDROCK STRUCTURE STATISTICS PLOTS

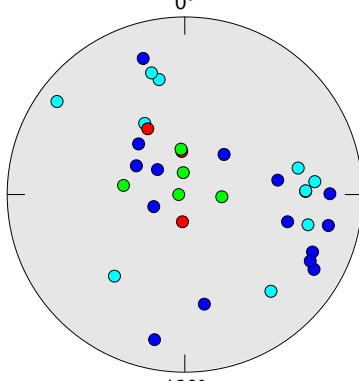
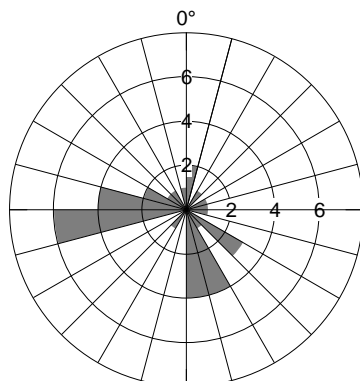
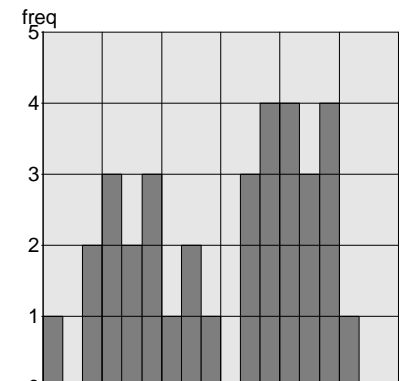
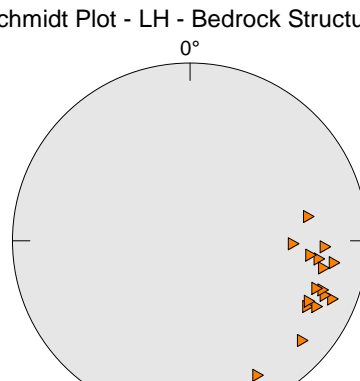
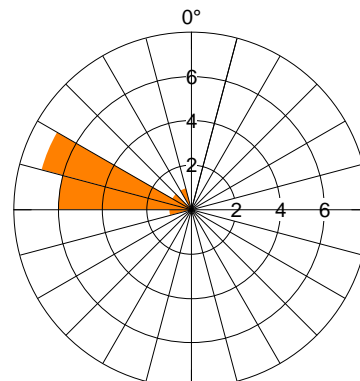
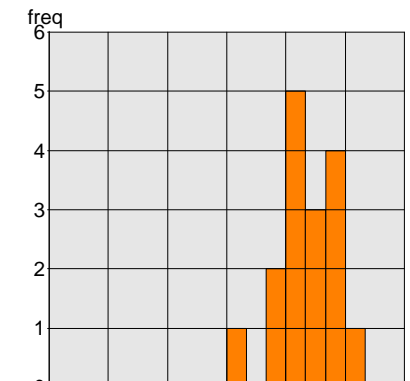
DATE LOGGED: May 31, 2016

CLIENT: Langan Engineering and Environmental Services, Inc.  
PROJECT: Borehole Geophysical Logging  
LOCATION: 1568 Broadway, New York, New York

HAGER-RICHTER FILE: 16RG57  
ORIENTATION REFERENCE: True North  
MAGNETIC DECLINATION: 13° West

### STRUCTURE LEGEND

● Fracture Rank 1 ● Fracture Rank 2 ● Fracture Rank 3 ▼ Foliation / Vein

| Stereogram - Lower Hemisphere of Bedrock Fractures  | Dip Azimuth Rose Diagram of Bedrock Fractures | Dip Angle Histogram of Bedrock Fractures | Stereogram - Lower Hemisphere of Foliation & Veins | Dip Azimuth Rose Diagram of Foliation & Veins | Dip Angle Histogram of Foliation & Veins |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
|---|---|--|--|---|--|----|-------|--------|---|----|-------|--------|---|----|-------|--------|---|---|-------|--------|---|---|-------|--------|--|-------------|---------|---------|-------|------------|--------|-----------|--------|------|------|------|--------|--|---------|-------|------------|-------|-----------|-------|------|------|------|-------|---|------|--------|----------|----------|---|----|-------|--------|---|----|-------|--------|--|-------------|---------|---------|-------|------------|--------|-----------|-------|------|--------|------|--------|--|---------|-------|------------|-------|-----------|------|------|-------|------|-------|
| <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th>Mean</th> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td></td> <td>34</td> <td>45.69</td> <td>228.84</td> </tr> <tr> <td>●</td> <td>15</td> <td>50.74</td> <td>276.22</td> </tr> <tr> <td>●</td> <td>11</td> <td>58.34</td> <td>237.12</td> </tr> <tr> <td>●</td> <td>3</td> <td>22.62</td> <td>142.77</td> </tr> <tr> <td>●</td> <td>5</td> <td>15.97</td> <td>149.16</td> </tr> </tbody> </table> | Mean  | Counts                                   | Dip[deg]   | Azi[deg]                                      |  | 34 | 45.69 | 228.84 | ● | 15 | 50.74 | 276.22 | ● | 11 | 58.34 | 237.12 | ● | 3 | 22.62 | 142.77 | ● | 5 | 15.97 | 149.16 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Components:</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>Counts:</td> <td>34.00</td> </tr> <tr> <td>Mean (2D):</td> <td>228.84</td> </tr> <tr> <td>Std.Dev.:</td> <td>102.85</td> </tr> <tr> <td>Min:</td> <td>6.03</td> </tr> <tr> <td>Max:</td> <td>349.81</td> </tr> </tbody> </table> | Components: | Azimuth | Counts: | 34.00 | Mean (2D): | 228.84 | Std.Dev.: | 102.85 | Min: | 6.03 | Max: | 349.81 | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Counts:</th> <th>34.00</th> </tr> </thead> <tbody> <tr> <td>Mean (2D):</td> <td>45.69</td> </tr> <tr> <td>Std.Dev.:</td> <td>22.23</td> </tr> <tr> <td>Min:</td> <td>2.78</td> </tr> <tr> <td>Max:</td> <td>78.26</td> </tr> </tbody> </table> | Counts: | 34.00 | Mean (2D): | 45.69 | Std.Dev.: | 22.23 | Min: | 2.78 | Max: | 78.26 | <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th>Mean</th> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td>▶</td> <td>16</td> <td>65.50</td> <td>288.84</td> </tr> <tr> <td>▶</td> <td>16</td> <td>65.50</td> <td>288.84</td> </tr> </tbody> </table> | Mean | Counts | Dip[deg] | Azi[deg] | ▶ | 16 | 65.50 | 288.84 | ▶ | 16 | 65.50 | 288.84 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Components:</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>Counts:</td> <td>16.00</td> </tr> <tr> <td>Mean (2D):</td> <td>288.84</td> </tr> <tr> <td>Std.Dev.:</td> <td>17.11</td> </tr> <tr> <td>Min:</td> <td>258.10</td> </tr> <tr> <td>Max:</td> <td>333.54</td> </tr> </tbody> </table> | Components: | Azimuth | Counts: | 16.00 | Mean (2D): | 288.84 | Std.Dev.: | 17.11 | Min: | 258.10 | Max: | 333.54 | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Counts:</th> <th>16.00</th> </tr> </thead> <tbody> <tr> <td>Mean (2D):</td> <td>65.50</td> </tr> <tr> <td>Std.Dev.:</td> <td>6.81</td> </tr> <tr> <td>Min:</td> <td>47.99</td> </tr> <tr> <td>Max:</td> <td>75.30</td> </tr> </tbody> </table> | Counts: | 16.00 | Mean (2D): | 65.50 | Std.Dev.: | 6.81 | Min: | 47.99 | Max: | 75.30 |
| Mean  | Counts  | Dip[deg]                                 | Azi[deg]   |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
|   | 34  | 45.69                                    | 228.84   |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| ●   | 15  | 50.74                                    | 276.22   |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| ●   | 11  | 58.34                                    | 237.12   |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| ●   | 3   | 22.62                                    | 142.77   |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| ●   | 5   | 15.97                                    | 149.16   |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Components:   | Azimuth                                       |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Counts:   | 34.00   |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Mean (2D):  | 228.84  |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Std.Dev.:   | 102.85  |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Min:  | 6.03  |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Max:  | 349.81  |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Counts:   | 34.00   |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Mean (2D):  | 45.69   |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Std.Dev.:   | 22.23   |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Min:  | 2.78  |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Max:  | 78.26   |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Mean  | Counts  | Dip[deg]                                 | Azi[deg]   |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| ▶   | 16  | 65.50                                    | 288.84   |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| ▶   | 16  | 65.50                                    | 288.84   |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Components:   | Azimuth                                       |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Counts:   | 16.00   |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Mean (2D):  | 288.84  |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Std.Dev.:   | 17.11   |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Min:  | 258.10  |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Max:  | 333.54  |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Counts:   | 16.00   |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Mean (2D):  | 65.50   |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Std.Dev.:   | 6.81  |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Min:  | 47.99   |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Max:  | 75.30   |  |  |   |  |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |        |      |      |      |        |  |         |       |            |       |           |       |      |      |      |       |   |      |        |          |          |   |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |

# HAGER-RICHTER GEOSCIENCE, INC.

846 Main Street  
Fords, NJ 08863  
Phone: 732-661-0555  
Fax: 732-661-0123

## LB-7 - BEDROCK STRUCTURE STATISTICS PLOTS

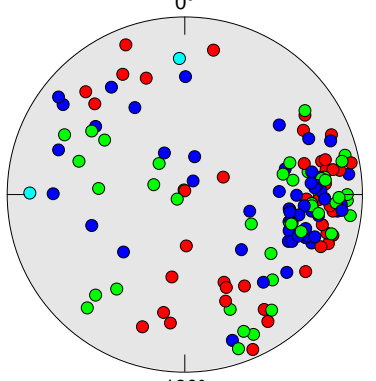
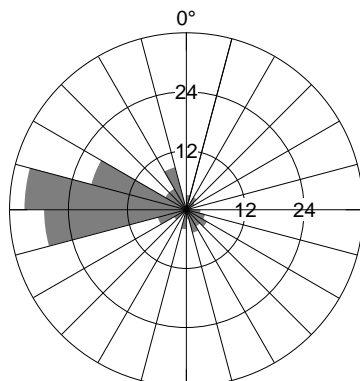
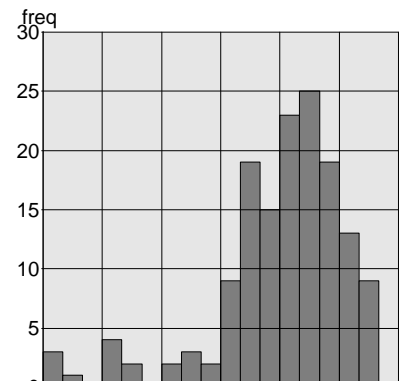
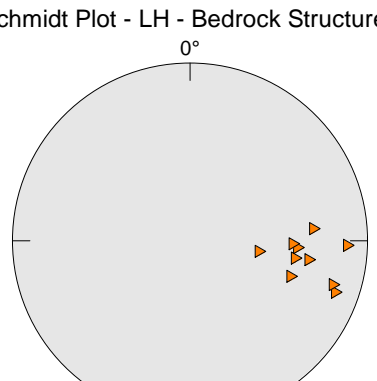
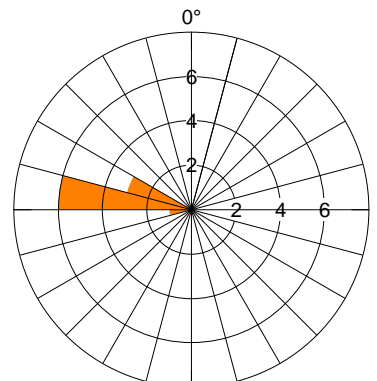
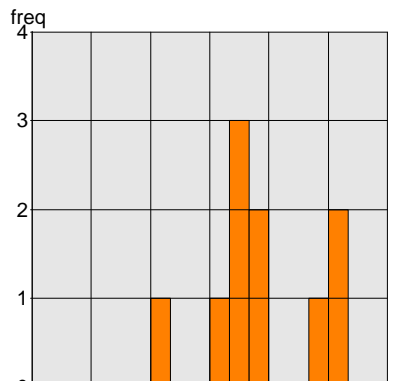
DATE LOGGED: May 31, 2016

CLIENT: Langan Engineering and Environmental Services, Inc.  
PROJECT: Borehole Geophysical Logging  
LOCATION: 1568 Broadway, New York, New York

HAGER-RICHTER FILE: 16RG57  
ORIENTATION REFERENCE: True North  
MAGNETIC DECLINATION: 13° West

### STRUCTURE LEGEND

● Fracture Rank 1 ● Fracture Rank 2 ● Fracture Rank 3 ▲ Foliation / Vein

| Stereogram - Lower Hemisphere of Bedrock Fractures  | Dip Azimuth Rose Diagram of Bedrock Fractures | Dip Angle Histogram of Bedrock Fractures | Stereogram - Lower Hemisphere of Foliation & Veins | Dip Azimuth Rose Diagram of Foliation & Veins | Dip Angle Histogram of Foliation & Veins |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
|---|---|--|--|---|--|--------|-------|--------|---|----|-------|--------|---|----|-------|--------|---|----|-------|--------|---|---|-------|--------|---|-----------|---------|--------|-----------|----------|-----|-----|-------------|---------|--------|--------|-------|------|--------|---------|--|--------|--|--|--|--|------------|--|--------|--|--|--|--|-----------|--|-------|--|--|--|--|------|--|------|--|--|--|--|------|--|--------|--|--|--|--|---|--------|-----------|----------|-----|-----|--------|-------|-------|------|-------|--|--|--------|----------|----------|------|----|-------|--------|---|----|-------|--------|--|-----------|---------|--------|-----------|----------|-----|-----|-------------|---------|-------|--------|------|--------|--------|---------|--|-------|--|--|--|--|------------|--|--------|--|--|--|--|-----------|--|------|--|--|--|--|------|--|--------|--|--|--|--|------|--|--------|--|--|--|--|---|--------|-----------|----------|-----|-----|-------|-------|-------|-------|-------|
| <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th></th> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>149</td> <td>60.18</td> <td>275.47</td> </tr> <tr> <td>●</td> <td>45</td> <td>63.39</td> <td>279.64</td> </tr> <tr> <td>●</td> <td>45</td> <td>59.35</td> <td>283.34</td> </tr> <tr> <td>●</td> <td>57</td> <td>57.90</td> <td>269.22</td> </tr> <tr> <td>●</td> <td>2</td> <td>71.14</td> <td>134.04</td> </tr> </tbody> </table> |   | Counts                                   | Dip[deg]   | Azi[deg]                                      | Mean                                     | 149    | 60.18 | 275.47 | ● | 45 | 63.39 | 279.64 | ● | 45 | 59.35 | 283.34 | ● | 57 | 57.90 | 269.22 | ● | 2 | 71.14 | 134.04 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Component</th> <th>Azimuth</th> <th>Counts</th> <th>Mean (2D)</th> <th>Std.Dev.</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>Components:</td> <td>Azimuth</td> <td>149.00</td> <td>275.47</td> <td>64.58</td> <td>6.44</td> <td>357.76</td> </tr> <tr> <td>Counts:</td> <td></td> <td>149.00</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mean (2D):</td> <td></td> <td>275.47</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Std.Dev.:</td> <td></td> <td>64.58</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Min:</td> <td></td> <td>6.44</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Max:</td> <td></td> <td>357.76</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | Component | Azimuth | Counts | Mean (2D) | Std.Dev. | Min | Max | Components: | Azimuth | 149.00 | 275.47 | 64.58 | 6.44 | 357.76 | Counts: |  | 149.00 |  |  |  |  | Mean (2D): |  | 275.47 |  |  |  |  | Std.Dev.: |  | 64.58 |  |  |  |  | Min: |  | 6.44 |  |  |  |  | Max: |  | 357.76 |  |  |  |  | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Counts</th> <th>Mean (2D)</th> <th>Std.Dev.</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>149.00</td> <td>60.18</td> <td>16.57</td> <td>2.05</td> <td>84.95</td> </tr> </tbody> </table> | Counts | Mean (2D) | Std.Dev. | Min | Max | 149.00 | 60.18 | 16.57 | 2.05 | 84.95 | <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th></th> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>10</td> <td>57.65</td> <td>278.60</td> </tr> <tr> <td>▲</td> <td>10</td> <td>57.65</td> <td>278.60</td> </tr> </tbody> </table> |  | Counts | Dip[deg] | Azi[deg] | Mean | 10 | 57.65 | 278.60 | ▲ | 10 | 57.65 | 278.60 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Component</th> <th>Azimuth</th> <th>Counts</th> <th>Mean (2D)</th> <th>Std.Dev.</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>Components:</td> <td>Azimuth</td> <td>10.00</td> <td>278.60</td> <td>7.98</td> <td>264.20</td> <td>289.72</td> </tr> <tr> <td>Counts:</td> <td></td> <td>10.00</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mean (2D):</td> <td></td> <td>278.60</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Std.Dev.:</td> <td></td> <td>7.98</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Min:</td> <td></td> <td>264.20</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Max:</td> <td></td> <td>289.72</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | Component | Azimuth | Counts | Mean (2D) | Std.Dev. | Min | Max | Components: | Azimuth | 10.00 | 278.60 | 7.98 | 264.20 | 289.72 | Counts: |  | 10.00 |  |  |  |  | Mean (2D): |  | 278.60 |  |  |  |  | Std.Dev.: |  | 7.98 |  |  |  |  | Min: |  | 264.20 |  |  |  |  | Max: |  | 289.72 |  |  |  |  | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Counts</th> <th>Mean (2D)</th> <th>Std.Dev.</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>10.00</td> <td>57.65</td> <td>13.71</td> <td>32.30</td> <td>77.90</td> </tr> </tbody> </table> | Counts | Mean (2D) | Std.Dev. | Min | Max | 10.00 | 57.65 | 13.71 | 32.30 | 77.90 |
|   | Counts  | Dip[deg]                                 | Azi[deg]   |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Mean  | 149   | 60.18                                    | 275.47   |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| ●   | 45  | 63.39                                    | 279.64   |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| ●   | 45  | 59.35                                    | 283.34   |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| ●   | 57  | 57.90                                    | 269.22   |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| ●   | 2   | 71.14                                    | 134.04   |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Component   | Azimuth                                       | Counts                                   | Mean (2D)  | Std.Dev.                                      | Min                                      | Max    |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Components:   | Azimuth                                       | 149.00                                   | 275.47   | 64.58   | 6.44                                     | 357.76 |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Counts:   |   | 149.00                                   |  |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Mean (2D):  |   | 275.47                                   |  |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Std.Dev.:   |   | 64.58                                    |  |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Min:  |   | 6.44                                     |  |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Max:  |   | 357.76                                   |  |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Counts  | Mean (2D)                                     | Std.Dev.                                 | Min  | Max   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| 149.00  | 60.18   | 16.57                                    | 2.05   | 84.95   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
|   | Counts  | Dip[deg]                                 | Azi[deg]   |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Mean  | 10  | 57.65                                    | 278.60   |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| ▲   | 10  | 57.65                                    | 278.60   |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Component   | Azimuth                                       | Counts                                   | Mean (2D)  | Std.Dev.                                      | Min                                      | Max    |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Components:   | Azimuth                                       | 10.00                                    | 278.60   | 7.98  | 264.20                                   | 289.72 |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Counts:   |   | 10.00                                    |  |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Mean (2D):  |   | 278.60                                   |  |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Std.Dev.:   |   | 7.98                                     |  |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Min:  |   | 264.20                                   |  |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Max:  |   | 289.72                                   |  |   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| Counts  | Mean (2D)                                     | Std.Dev.                                 | Min  | Max   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |
| 10.00   | 57.65   | 13.71                                    | 32.30  | 77.90   |  |        |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |   |           |         |        |           |          |     |     |             |         |        |        |       |      |        |         |  |        |  |  |  |  |            |  |        |  |  |  |  |           |  |       |  |  |  |  |      |  |      |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |        |       |       |      |       |  |  |        |          |          |      |    |       |        |   |    |       |        |  |           |         |        |           |          |     |     |             |         |       |        |      |        |        |         |  |       |  |  |  |  |            |  |        |  |  |  |  |           |  |      |  |  |  |  |      |  |        |  |  |  |  |      |  |        |  |  |  |  |   |        |           |          |     |     |       |       |       |       |       |

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## LB-10 - BEDROCK STRUCTURE STATISTICS PLOTS

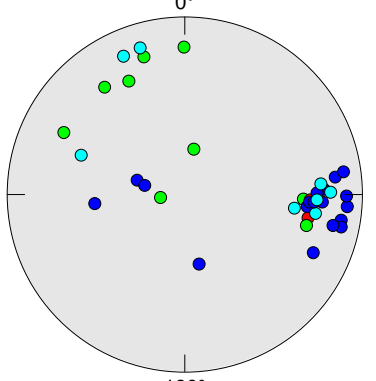
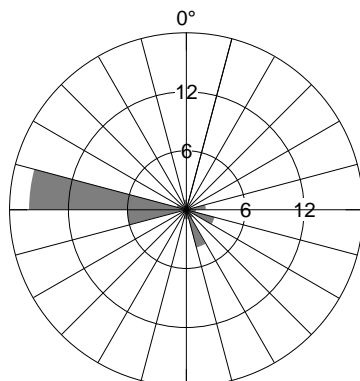
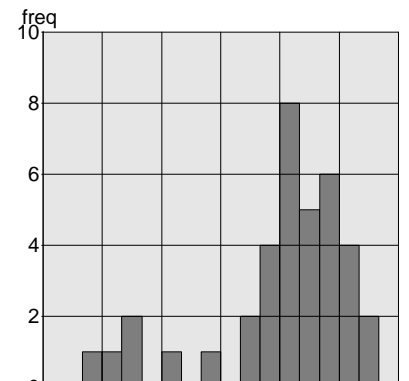
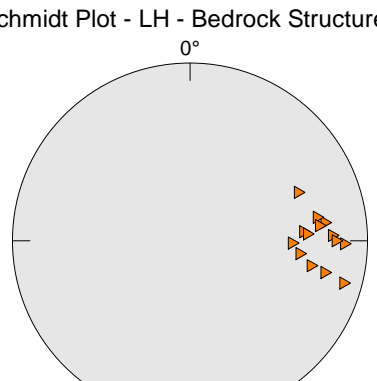
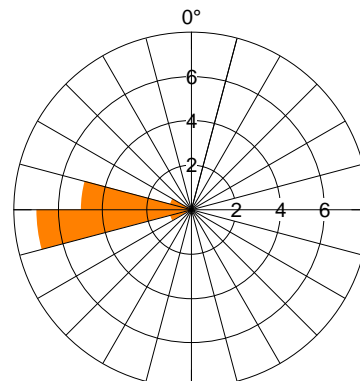
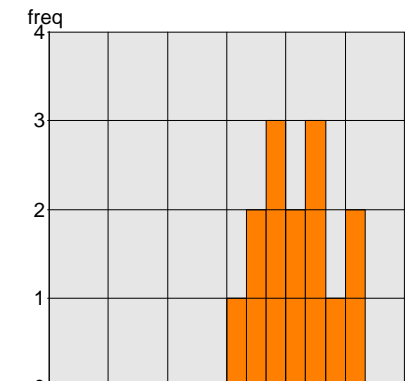
DATE LOGGED: May 31, 2016

CLIENT: Langan Engineering and Environmental Services, Inc.  
PROJECT: Borehole Geophysical Logging  
LOCATION: 1568 Broadway, New York, New York

HAGER-RICHTER FILE: 16RG57  
ORIENTATION REFERENCE: True North  
MAGNETIC DECLINATION: 13° West

### STRUCTURE LEGEND

● Fracture Rank 1 ● Fracture Rank 2 ● Fracture Rank 3 ▼ Foliation / Vein

| Stereogram - Lower Hemisphere of Bedrock Fractures   | Dip Azimuth Rose Diagram of Bedrock Fractures | Dip Angle Histogram of Bedrock Fractures | Stereogram - Lower Hemisphere of Foliation & Veins | Dip Azimuth Rose Diagram of Foliation & Veins | Dip Angle Histogram of Foliation & Veins |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
|--|---|--|--|---|--|----|-------|--------|---|---|-------|--------|---|----|-------|--------|---|---|-------|--------|---|---|-------|--------|--|-------------|---------|---------|-------|------------|--------|-----------|-------|------|-------|------|--------|---|---------|-------|------------|-------|-----------|-------|------|-------|------|-------|--|------|--------|----------|----------|--|----|-------|--------|---|----|-------|--------|--|-------------|---------|---------|-------|------------|--------|-----------|-------|------|--------|------|--------|--|---------|-------|------------|-------|-----------|------|------|-------|------|-------|
| <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th>Mean</th> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td></td> <td>37</td> <td>60.85</td> <td>252.50</td> </tr> <tr> <td>●</td> <td>9</td> <td>54.28</td> <td>167.31</td> </tr> <tr> <td>●</td> <td>18</td> <td>62.25</td> <td>278.19</td> </tr> <tr> <td>●</td> <td>2</td> <td>60.13</td> <td>276.66</td> </tr> <tr> <td>●</td> <td>8</td> <td>64.99</td> <td>238.99</td> </tr> </tbody> </table> | Mean  | Counts                                   | Dip[deg]   | Azi[deg]                                      |  | 37 | 60.85 | 252.50 | ● | 9 | 54.28 | 167.31 | ● | 18 | 62.25 | 278.19 | ● | 2 | 60.13 | 276.66 | ● | 8 | 64.99 | 238.99 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Components:</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>Counts:</td> <td>37.00</td> </tr> <tr> <td>Mean (2D):</td> <td>252.50</td> </tr> <tr> <td>Std.Dev.:</td> <td>73.84</td> </tr> <tr> <td>Min:</td> <td>82.10</td> </tr> <tr> <td>Max:</td> <td>347.87</td> </tr> </tbody> </table> | Components: | Azimuth | Counts: | 37.00 | Mean (2D): | 252.50 | Std.Dev.: | 73.84 | Min: | 82.10 | Max: | 347.87 | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Counts:</th> <th>37.00</th> </tr> </thead> <tbody> <tr> <td>Mean (2D):</td> <td>60.85</td> </tr> <tr> <td>Std.Dev.:</td> <td>17.62</td> </tr> <tr> <td>Min:</td> <td>11.42</td> </tr> <tr> <td>Max:</td> <td>81.27</td> </tr> </tbody> </table> | Counts: | 37.00 | Mean (2D): | 60.85 | Std.Dev.: | 17.62 | Min: | 11.42 | Max: | 81.27 | <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th>Mean</th> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td></td> <td>14</td> <td>62.71</td> <td>269.25</td> </tr> <tr> <td>▼</td> <td>14</td> <td>62.71</td> <td>269.25</td> </tr> </tbody> </table> | Mean | Counts | Dip[deg] | Azi[deg] |  | 14 | 62.71 | 269.25 | ▼ | 14 | 62.71 | 269.25 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Components:</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>Counts:</td> <td>14.00</td> </tr> <tr> <td>Mean (2D):</td> <td>269.25</td> </tr> <tr> <td>Std.Dev.:</td> <td>10.18</td> </tr> <tr> <td>Min:</td> <td>245.61</td> </tr> <tr> <td>Max:</td> <td>285.40</td> </tr> </tbody> </table> | Components: | Azimuth | Counts: | 14.00 | Mean (2D): | 269.25 | Std.Dev.: | 10.18 | Min: | 245.61 | Max: | 285.40 | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Counts:</th> <th>14.00</th> </tr> </thead> <tbody> <tr> <td>Mean (2D):</td> <td>62.71</td> </tr> <tr> <td>Std.Dev.:</td> <td>8.80</td> </tr> <tr> <td>Min:</td> <td>47.97</td> </tr> <tr> <td>Max:</td> <td>78.79</td> </tr> </tbody> </table> | Counts: | 14.00 | Mean (2D): | 62.71 | Std.Dev.: | 8.80 | Min: | 47.97 | Max: | 78.79 |
| Mean   | Counts  | Dip[deg]                                 | Azi[deg]   |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
|  | 37  | 60.85                                    | 252.50   |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| ●  | 9   | 54.28                                    | 167.31   |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| ●  | 18  | 62.25                                    | 278.19   |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| ●  | 2   | 60.13                                    | 276.66   |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| ●  | 8   | 64.99                                    | 238.99   |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Components:  | Azimuth                                       |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Counts:  | 37.00   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Mean (2D):   | 252.50  |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Std.Dev.:  | 73.84   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Min:   | 82.10   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Max:   | 347.87  |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Counts:  | 37.00   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Mean (2D):   | 60.85   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Std.Dev.:  | 17.62   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Min:   | 11.42   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Max:   | 81.27   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Mean   | Counts  | Dip[deg]                                 | Azi[deg]   |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
|  | 14  | 62.71                                    | 269.25   |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| ▼  | 14  | 62.71                                    | 269.25   |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Components:  | Azimuth                                       |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Counts:  | 14.00   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Mean (2D):   | 269.25  |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Std.Dev.:  | 10.18   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Min:   | 245.61  |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Max:   | 285.40  |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Counts:  | 14.00   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Mean (2D):   | 62.71   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Std.Dev.:  | 8.80  |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Min:   | 47.97   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |
| Max:   | 78.79   |  |  |   |  |    |       |        |   |   |       |        |   |    |       |        |   |   |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |   |         |       |            |       |           |       |      |       |      |       |  |      |        |          |          |  |    |       |        |   |    |       |        |  |             |         |         |       |            |        |           |       |      |        |      |        |  |         |       |            |       |           |      |      |       |      |       |



# HAGER-RICHTER GEOSCIENCE, INC.

846 Main Street  
Fords, NJ 08863  
Phone: 732-661-0555  
Fax: 732-661-0123

## LB-11 - BEDROCK STRUCTURE STATISTICS PLOTS

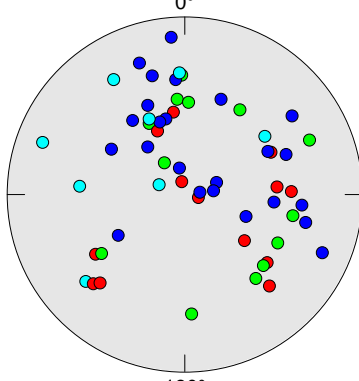
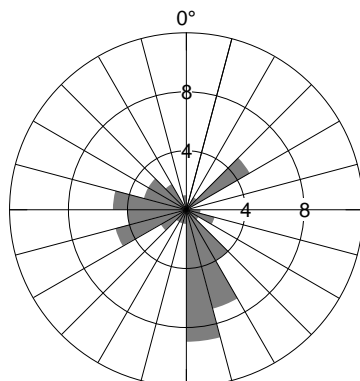
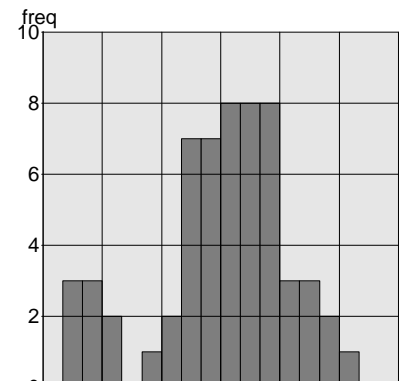
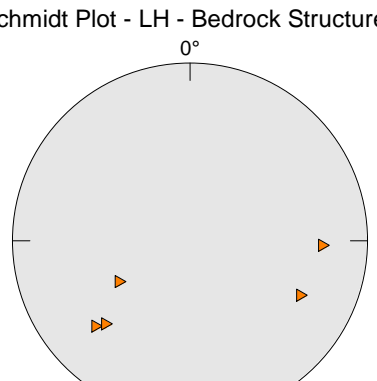
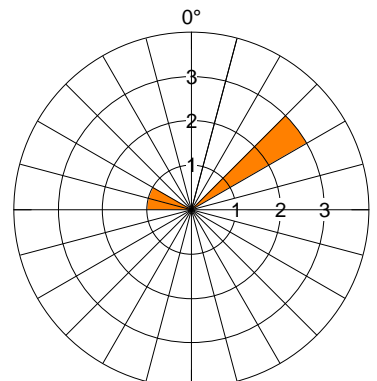
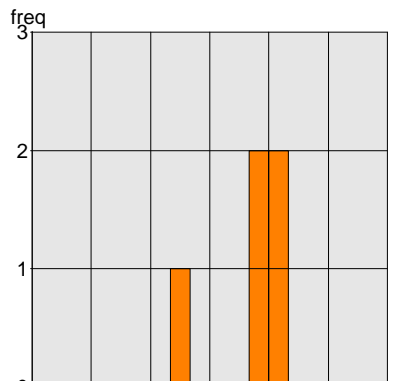
DATE LOGGED: May 31, 2016

CLIENT: Langan Engineering and Environmental Services, Inc.  
PROJECT: Borehole Geophysical Logging  
LOCATION: 1568 Broadway, New York, New York

HAGER-RICHTER FILE: 16RG57  
ORIENTATION REFERENCE: True North  
MAGNETIC DECLINATION: 13° West

### STRUCTURE LEGEND

● Fracture Rank 1 ● Fracture Rank 2 ● Fracture Rank 3 ▲ Foliation / Vein

| Stereogram - Lower Hemisphere of Bedrock Fractures   | Dip Azimuth Rose Diagram of Bedrock Fractures | Dip Angle Histogram of Bedrock Fractures | Stereogram - Lower Hemisphere of Foliation & Veins | Dip Azimuth Rose Diagram of Foliation & Veins | Dip Angle Histogram of Foliation & Veins |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
|--|---|--|--|---|--|-------|--------|---|----|-------|--------|---|----|-------|--------|---|----|-------|--------|---|---|-------|--------|--|-------------|---------|---------|-------|------------|--------|-----------|-------|------|-------|------|--------|--|---------|-------|------------|-------|-----------|-------|------|------|------|-------|--|--------|----------|----------|------|---|-------|-------|---|---|-------|-------|---|-------------|---------|---------|------|------------|-------|-----------|-------|------|-------|------|--------|---|---------|------|------------|-------|-----------|------|------|-------|------|-------|
| <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>58</td> <td>45.23</td> <td>206.42</td> </tr> <tr> <td>●</td> <td>24</td> <td>43.48</td> <td>207.73</td> </tr> <tr> <td>●</td> <td>13</td> <td>47.99</td> <td>231.68</td> </tr> <tr> <td>●</td> <td>13</td> <td>41.79</td> <td>283.59</td> </tr> <tr> <td>●</td> <td>8</td> <td>51.48</td> <td>132.40</td> </tr> </tbody> </table> | Counts  | Dip[deg]                                 | Azi[deg]   | Mean  | 58                                       | 45.23 | 206.42 | ● | 24 | 43.48 | 207.73 | ● | 13 | 47.99 | 231.68 | ● | 13 | 41.79 | 283.59 | ● | 8 | 51.48 | 132.40 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Components:</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>Counts:</td> <td>58.00</td> </tr> <tr> <td>Mean (2D):</td> <td>206.42</td> </tr> <tr> <td>Std.Dev.:</td> <td>87.38</td> </tr> <tr> <td>Min:</td> <td>43.74</td> </tr> <tr> <td>Max:</td> <td>356.65</td> </tr> </tbody> </table> | Components: | Azimuth | Counts: | 58.00 | Mean (2D): | 206.42 | Std.Dev.: | 87.38 | Min: | 43.74 | Max: | 356.65 | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Counts:</th> <th>58.00</th> </tr> </thead> <tbody> <tr> <td>Mean (2D):</td> <td>45.23</td> </tr> <tr> <td>Std.Dev.:</td> <td>17.25</td> </tr> <tr> <td>Min:</td> <td>6.28</td> </tr> <tr> <td>Max:</td> <td>77.99</td> </tr> </tbody> </table> | Counts: | 58.00 | Mean (2D): | 45.23 | Std.Dev.: | 17.25 | Min: | 6.28 | Max: | 77.99 | <p>Schmidt Plot - LH - Bedrock Structures</p>  <table border="1"> <thead> <tr> <th>Counts</th> <th>Dip[deg]</th> <th>Azi[deg]</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>5</td> <td>55.77</td> <td>10.18</td> </tr> <tr> <td>▲</td> <td>5</td> <td>55.77</td> <td>10.18</td> </tr> </tbody> </table> | Counts | Dip[deg] | Azi[deg] | Mean | 5 | 55.77 | 10.18 | ▲ | 5 | 55.77 | 10.18 | <p>Azimuth - Absolute (Count)</p>  <table border="1"> <thead> <tr> <th>Components:</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>Counts:</td> <td>5.00</td> </tr> <tr> <td>Mean (2D):</td> <td>10.18</td> </tr> <tr> <td>Std.Dev.:</td> <td>69.50</td> </tr> <tr> <td>Min:</td> <td>45.35</td> </tr> <tr> <td>Max:</td> <td>296.43</td> </tr> </tbody> </table> | Components: | Azimuth | Counts: | 5.00 | Mean (2D): | 10.18 | Std.Dev.: | 69.50 | Min: | 45.35 | Max: | 296.43 | <p>Dip Histogram (Count)</p>  <table border="1"> <thead> <tr> <th>Counts:</th> <th>5.00</th> </tr> </thead> <tbody> <tr> <td>Mean (2D):</td> <td>55.77</td> </tr> <tr> <td>Std.Dev.:</td> <td>9.00</td> </tr> <tr> <td>Min:</td> <td>38.33</td> </tr> <tr> <td>Max:</td> <td>63.65</td> </tr> </tbody> </table> | Counts: | 5.00 | Mean (2D): | 55.77 | Std.Dev.: | 9.00 | Min: | 38.33 | Max: | 63.65 |
| Counts   | Dip[deg]                                      | Azi[deg]                                 |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Mean   | 58  | 45.23                                    | 206.42   |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| ●  | 24  | 43.48                                    | 207.73   |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| ●  | 13  | 47.99                                    | 231.68   |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| ●  | 13  | 41.79                                    | 283.59   |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| ●  | 8   | 51.48                                    | 132.40   |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Components:  | Azimuth                                       |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Counts:  | 58.00   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Mean (2D):   | 206.42  |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Std.Dev.:  | 87.38   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Min:   | 43.74   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Max:   | 356.65  |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Counts:  | 58.00   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Mean (2D):   | 45.23   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Std.Dev.:  | 17.25   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Min:   | 6.28  |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Max:   | 77.99   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Counts   | Dip[deg]                                      | Azi[deg]                                 |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Mean   | 5   | 55.77                                    | 10.18  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| ▲  | 5   | 55.77                                    | 10.18  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Components:  | Azimuth                                       |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Counts:  | 5.00  |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Mean (2D):   | 10.18   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Std.Dev.:  | 69.50   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Min:   | 45.35   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Max:   | 296.43  |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Counts:  | 5.00  |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Mean (2D):   | 55.77   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Std.Dev.:  | 9.00  |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Min:   | 38.33   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |
| Max:   | 63.65   |  |  |   |  |       |        |   |    |       |        |   |    |       |        |   |    |       |        |   |   |       |        |  |             |         |         |       |            |        |           |       |      |       |      |        |  |         |       |            |       |           |       |      |      |      |       |  |        |          |          |      |   |       |       |   |   |       |       |   |             |         |         |      |            |       |           |       |      |       |      |        |   |         |      |            |       |           |      |      |       |      |       |

| <b>HAGER-RICHTER GEOSCIENCE, INC.</b>     |   |
|---|---|
| <b>LB-2 - TABLE OF BEDROCK STRUCTURES</b> |   |
| CLIENT                                    | Langan Engineering and Environmental Services, Inc. |
| PROJECT                                   | Borehole Geophysical Logging                        |
| LOCATION                                  | 1568 Broadway, New York, New York                   |
| H-R FILE                                  | 16RG57  |
| DATE LOGGED                               | May 31, 2016  |
| LOG DATUM                                 | Top of the Concrete Floor Slab                      |
| DIP AZIMUTH                               | True North (Magnetic Declination = 13° West)        |
| DIP ANGLE                                 | Measured from Horizontal                            |

**LB-2 - TABLE OF BEDROCK STRUCTURES**

| <b>Depth (Feet)</b> | <b>Dip Azimuth (Degrees)</b> | <b>Dip Angle (Degrees)</b> | <b>Bedrock Structure Category</b> |
|---------------------|------------------------------|----------------------------|-----------------------------------|
| 5.1                 | 307                          | 65                         | Fracture Rank 3                   |
| 5.6                 | 188                          | 44                         | Fracture Rank 4                   |
| 5.9                 | 337                          | 70                         | Fracture Rank 4                   |
| 6.1                 | 166                          | 34                         | Fracture Rank 2                   |
| 6.5                 | 329                          | 61                         | Fracture Rank 4                   |
| 6.7                 | 105                          | 57                         | Fracture Rank 4                   |
| 7.0                 | 318                          | 64                         | Fracture Rank 3                   |
| 7.1                 | 108                          | 60                         | Fracture Rank 4                   |
| 7.4                 | 319                          | 65                         | Fracture Rank 2                   |
| 7.4                 | 124                          | 48                         | Fracture Rank 2                   |
| 8.0                 | 322                          | 26                         | Fracture Rank 2                   |
| 8.1                 | 322                          | 24                         | Fracture Rank 2                   |
| 8.3                 | 326                          | 21                         | Fracture Rank 2                   |
| 8.6                 | 355                          | 63                         | Fracture Rank 1                   |
| 8.8                 | 322                          | 50                         | Foliation / Vein                  |
| 9.0                 | 229                          | 68                         | Fracture Rank 2                   |
| 9.1                 | 305                          | 60                         | Fracture Rank 1                   |
| 9.3                 | 303                          | 42                         | Fracture Rank 3                   |
| 9.6                 | 302                          | 59                         | Fracture Rank 4                   |
| 9.9                 | 105                          | 1                          | Fracture Rank 2                   |
| 10.1                | 301                          | 59                         | Fracture Rank 2                   |
| 10.2                | 292                          | 59                         | Fracture Rank 2                   |
| 10.5                | 35                           | 30                         | Fracture Rank 2                   |
| 10.5                | 311                          | 49                         | Foliation / Vein                  |
| 10.7                | 307                          | 48                         | Foliation / Vein                  |
| 11.0                | 276                          | 64                         | Fracture Rank 1                   |
| 11.0                | 54                           | 21                         | Fracture Rank 2                   |
| 11.4                | 293                          | 52                         | Fracture Rank 1                   |
| 11.6                | 295                          | 63                         | Fracture Rank 2                   |
| 11.8                | 293                          | 53                         | Fracture Rank 2                   |
| 11.9                | 300                          | 49                         | Fracture Rank 2                   |
| 12.0                | 299                          | 45                         | Fracture Rank 2                   |
| 12.1                | 305                          | 44                         | Fracture Rank 3                   |
| 12.2                | 308                          | 39                         | Fracture Rank 2                   |
| 12.5                | 121                          | 44                         | Fracture Rank 3                   |
| 12.7                | 320                          | 46                         | Foliation / Vein                  |

LB-2 - TABLE OF BEDROCK STRUCTURES

| Depth (Feet) | Dip Azimuth (Degrees) | Dip Angle (Degrees) | Bedrock Structure Category |
|--------------|-----------------------|---------------------|----------------------------|
| 12.8         | 326                   | 71                  | Fracture Rank 2            |
| 13.5         | 321                   | 66                  | Foliation / Vein           |
| 13.5         | 153                   | 72                  | Fracture Rank 1            |
| 13.9         | 320                   | 31                  | Foliation / Vein           |
| 14.1         | 317                   | 31                  | Foliation / Vein           |
| 14.4         | 331                   | 54                  | Fracture Rank 2            |
| 14.6         | 334                   | 59                  | Fracture Rank 2            |
| 14.6         | 132                   | 65                  | Fracture Rank 1            |
| 14.7         | 334                   | 54                  | Foliation / Vein           |
| 14.8         | 322                   | 50                  | Fracture Rank 3            |
| 15.0         | 306                   | 46                  | Foliation / Vein           |
| 15.1         | 310                   | 34                  | Fracture Rank 2            |
| 15.2         | 148                   | 57                  | Fracture Rank 1            |
| 15.4         | 320                   | 70                  | Fracture Rank 2            |
| 15.8         | 319                   | 55                  | Fracture Rank 2            |
| 16.0         | 322                   | 59                  | Foliation / Vein           |
| 16.1         | 313                   | 66                  | Fracture Rank 2            |
| 16.3         | 317                   | 64                  | Fracture Rank 3            |
| 16.3         | 306                   | 66                  | Fracture Rank 2            |
| 16.5         | 313                   | 60                  | Foliation / Vein           |
| 16.6         | 322                   | 62                  | Fracture Rank 3            |
| 17.0         | 318                   | 54                  | Foliation / Vein           |
| 17.2         | 309                   | 70                  | Fracture Rank 3            |
| 17.5         | 307                   | 48                  | Foliation / Vein           |
| 17.6         | 271                   | 45                  | Fracture Rank 2            |
| 17.7         | 297                   | 40                  | Fracture Rank 2            |
| 17.9         | 288                   | 48                  | Foliation / Vein           |
| 18.0         | 267                   | 40                  | Fracture Rank 2            |
| 18.1         | 305                   | 48                  | Foliation / Vein           |
| 18.3         | 304                   | 47                  | Fracture Rank 3            |
| 18.4         | 280                   | 43                  | Fracture Rank 2            |
| 18.4         | 130                   | 72                  | Fracture Rank 2            |
| 18.7         | 296                   | 63                  | Fracture Rank 2            |
| 18.8         | 293                   | 59                  | Foliation / Vein           |
| 18.8         | 284                   | 57                  | Fracture Rank 2            |
| 19.0         | 285                   | 53                  | Fracture Rank 2            |
| 19.0         | 285                   | 55                  | Fracture Rank 3            |
| 19.3         | 277                   | 43                  | Fracture Rank 3            |
| 19.7         | 121                   | 52                  | Fracture Rank 3            |
| 19.7         | 293                   | 55                  | Fracture Rank 2            |
| 20.0         | 116                   | 68                  | Fracture Rank 3            |
| 20.1         | 175                   | 59                  | Fracture Rank 2            |
| 20.4         | 115                   | 55                  | Fracture Rank 4            |
| 20.6         | 120                   | 55                  | Foliation / Vein           |
| 20.7         | 104                   | 69                  | Fracture Rank 3            |
| 20.8         | 118                   | 67                  | Fracture Rank 2            |
| 21.1         | 131                   | 60                  | Fracture Rank 2            |

**LB-2 - TABLE OF BEDROCK STRUCTURES**

| <b>Depth<br/>(Feet)</b> | <b>Dip Azimuth<br/>(Degrees)</b> | <b>Dip Angle<br/>(Degrees)</b> | <b>Bedrock Structure<br/>Category</b> |
|-------------------------|----------------------------------|--------------------------------|---------------------------------------|
| 21.3                    | 110                              | 62                             | Fracture Rank 3                       |
| 21.4                    | 113                              | 62                             | Foliation / Vein                      |
| 21.5                    | 108                              | 63                             | Fracture Rank 2                       |
| 21.7                    | 116                              | 61                             | Fracture Rank 1                       |
| 21.8                    | 127                              | 56                             | Fracture Rank 2                       |
| 22.0                    | 140                              | 66                             | Fracture Rank 1                       |
| 22.1                    | 133                              | 54                             | Fracture Rank 2                       |
| 22.2                    | 349                              | 12                             | Fracture Rank 2                       |
| 22.5                    | 98                               | 51                             | Fracture Rank 1                       |



| HAGER-RICHTER GEOSCIENCE, INC.     |   |
|------------------------------------|---|
| LB-3 - TABLE OF BEDROCK STRUCTURES |   |
| CLIENT                             | Langan Engineering and Environmental Services, Inc. |
| PROJECT                            | Borehole Geophysical Logging                        |
| LOCATION                           | 1568 Broadway, New York, New York                   |
| H-R FILE                           | 16RG57  |
| DATE LOGGED                        | May 31, 2016  |
| LOG DATUM                          | Top of the Concrete Floor Slab                      |
| DIP AZIMUTH                        | True North (Magnetic Declination = 13° West)        |
| DIP ANGLE                          | Measured from Horizontal                            |

**LB-3 - TABLE OF BEDROCK STRUCTURES**

| Depth (Feet) | Dip Azimuth (Degrees) | Dip Angle (Degrees) | Bedrock Structure Category |
|--------------|-----------------------|---------------------|----------------------------|
| 10.0         | 272                   | 48                  | Foliation / Vein           |
| 11.1         | 292                   | 75                  | Foliation / Vein           |
| 11.9         | 279                   | 70                  | Foliation / Vein           |
| 12.4         | 294                   | 68                  | Fracture Rank 2            |
| 13.1         | 300                   | 73                  | Fracture Rank 2            |
| 14.0         | 41                    | 51                  | Fracture Rank 1            |
| 14.7         | 298                   | 69                  | Fracture Rank 2            |
| 15.0         | 292                   | 70                  | Foliation / Vein           |
| 15.4         | 282                   | 72                  | Fracture Rank 2            |
| 16.1         | 291                   | 68                  | Foliation / Vein           |
| 16.5         | 285                   | 50                  | Fracture Rank 2            |
| 16.8         | 278                   | 62                  | Foliation / Vein           |
| 17.1         | 291                   | 65                  | Foliation / Vein           |
| 18.6         | 224                   | 26                  | Fracture Rank 2            |
| 21.9         | 126                   | 78                  | Fracture Rank 1            |
| 22.0         | 261                   | 44                  | Fracture Rank 2            |
| 22.1         | 138                   | 32                  | Fracture Rank 2            |
| 22.2         | 151                   | 38                  | Fracture Rank 1            |
| 22.6         | 350                   | 53                  | Fracture Rank 2            |
| 22.7         | 151                   | 35                  | Fracture Rank 4            |
| 23.2         | 300                   | 65                  | Foliation / Vein           |
| 23.5         | 264                   | 63                  | Fracture Rank 1            |
| 24.5         | 163                   | 69                  | Fracture Rank 2            |
| 24.8         | 167                   | 56                  | Fracture Rank 1            |
| 25.2         | 133                   | 17                  | Fracture Rank 2            |
| 25.2         | 312                   | 73                  | Foliation / Vein           |
| 25.4         | 69                    | 15                  | Fracture Rank 2            |
| 25.6         | 176                   | 20                  | Fracture Rank 4            |
| 25.7         | 174                   | 21                  | Fracture Rank 3            |
| 26.4         | 121                   | 26                  | Fracture Rank 2            |
| 26.7         | 334                   | 74                  | Foliation / Vein           |
| 27.5         | 318                   | 63                  | Fracture Rank 1            |
| 28.1         | 282                   | 65                  | Foliation / Vein           |
| 28.6         | 12                    | 72                  | Fracture Rank 2            |
| 29.1         | 284                   | 61                  | Fracture Rank 1            |
| 30.2         | 298                   | 69                  | Foliation / Vein           |

**LB-3 - TABLE OF BEDROCK STRUCTURES**

| <b>Depth<br/>(Feet)</b> | <b>Dip Azimuth<br/>(Degrees)</b> | <b>Dip Angle<br/>(Degrees)</b> | <b>Bedrock Structure<br/>Category</b> |
|-------------------------|----------------------------------|--------------------------------|---------------------------------------|
| 30.6                    | 297                              | 64                             | Foliation / Vein                      |
| 31.1                    | 175                              | 10                             | Fracture Rank 3                       |
| 31.4                    | 6                                | 13                             | Fracture Rank 4                       |
| 31.5                    | 274                              | 17                             | Fracture Rank 3                       |
| 31.7                    | 165                              | 60                             | Fracture Rank 1                       |
| 31.8                    | 99                               | 29                             | Fracture Rank 3                       |
| 32.1                    | 268                              | 58                             | Fracture Rank 1                       |
| 32.3                    | 258                              | 57                             | Foliation / Vein                      |
| 32.4                    | 257                              | 55                             | Fracture Rank 1                       |
| 32.6                    | 268                              | 58                             | Fracture Rank 1                       |
| 32.7                    | 83                               | 3                              | Fracture Rank 3                       |
| 33.1                    | 277                              | 57                             | Foliation / Vein                      |
| 33.4                    | 273                              | 65                             | Foliation / Vein                      |
| 33.6                    | 270                              | 71                             | Fracture Rank 2                       |

| <b>HAGER-RICHTER GEOSCIENCE, INC.</b>     |   |
|---|---|
| <b>LB-7 - TABLE OF BEDROCK STRUCTURES</b> |   |
| CLIENT                                    | Langan Engineering and Environmental Services, Inc. |
| PROJECT                                   | Borehole Geophysical Logging                        |
| LOCATION                                  | 1568 Broadway, New York, New York                   |
| H-R FILE                                  | 16RG57  |
| DATE LOGGED                               | May 31, 2016  |
| LOG DATUM                                 | Top of the Concrete Floor Slab                      |
| DIP AZIMUTH                               | True North (Magnetic Declination = 13° West)        |
| DIP ANGLE                                 | Measured from Horizontal                            |

**LB-7 - TABLE OF BEDROCK STRUCTURES**

| <b>Depth (Feet)</b> | <b>Dip Azimuth (Degrees)</b> | <b>Dip Angle (Degrees)</b> | <b>Bedrock Structure Category</b> |
|---------------------|------------------------------|----------------------------|-----------------------------------|
| 11.6                | 285                          | 76                         | Fracture Rank 4                   |
| 11.6                | 166                          | 2                          | Fracture Rank 3                   |
| 12.0                | 108                          | 15                         | Fracture Rank 3                   |
| 12.2                | 158                          | 80                         | Fracture Rank 4                   |
| 12.8                | 10                           | 57                         | Fracture Rank 4                   |
| 13.5                | 334                          | 77                         | Fracture Rank 3                   |
| 13.6                | 358                          | 24                         | Fracture Rank 4                   |
| 13.8                | 336                          | 85                         | Fracture Rank 4                   |
| 14.1                | 124                          | 46                         | Fracture Rank 3                   |
| 14.3                | 256                          | 82                         | Fracture Rank 3                   |
| 14.5                | 263                          | 83                         | Fracture Rank 2                   |
| 14.7                | 140                          | 19                         | Fracture Rank 3                   |
| 14.7                | 126                          | 74                         | Fracture Rank 2                   |
| 15.2                | 259                          | 85                         | Fracture Rank 4                   |
| 15.3                | 94                           | 40                         | Fracture Rank 3                   |
| 15.9                | 47                           | 39                         | Fracture Rank 2                   |
| 16.1                | 272                          | 81                         | Fracture Rank 3                   |
| 16.4                | 336                          | 45                         | Fracture Rank 4                   |
| 16.9                | 183                          | 2                          | Fracture Rank 4                   |
| 17.2                | 195                          | 18                         | Fracture Rank 2                   |
| 17.3                | 272                          | 78                         | Foliation / Vein                  |
| 18.1                | 276                          | 76                         | Fracture Rank 2                   |
| 18.2                | 245                          | 20                         | Fracture Rank 4                   |
| 18.4                | 290                          | 76                         | Foliation / Vein                  |
| 18.7                | 275                          | 74                         | Fracture Rank 2                   |
| 18.7                | 60                           | 4                          | Fracture Rank 3                   |
| 18.8                | 287                          | 73                         | Foliation / Vein                  |
| 20.0                | 289                          | 75                         | Fracture Rank 4                   |
| 20.5                | 336                          | 48                         | Fracture Rank 4                   |
| 20.8                | 281                          | 54                         | Fracture Rank 4                   |
| 20.9                | 9                            | 39                         | Fracture Rank 4                   |
| 22.0                | 256                          | 68                         | Fracture Rank 4                   |
| 22.4                | 260                          | 70                         | Fracture Rank 4                   |
| 23.3                | 153                          | 65                         | Fracture Rank 4                   |
| 23.9                | 191                          | 72                         | Fracture Rank 4                   |
| 24.9                | 256                          | 71                         | Fracture Rank 4                   |

**LB-7 - TABLE OF BEDROCK STRUCTURES**

| <b>Depth<br/>(Feet)</b> | <b>Dip Azimuth<br/>(Degrees)</b> | <b>Dip Angle<br/>(Degrees)</b> | <b>Bedrock Structure<br/>Category</b> |
|-------------------------|----------------------------------|--------------------------------|---------------------------------------|
| 25.4                    | 290                              | 62                             | Fracture Rank 4                       |
| 25.7                    | 327                              | 75                             | Fracture Rank 4                       |
| 25.8                    | 6                                | 62                             | Fracture Rank 4                       |
| 26.0                    | 135                              | 61                             | Fracture Rank 4                       |
| 27.2                    | 18                               | 67                             | Fracture Rank 4                       |
| 27.7                    | 272                              | 58                             | Fracture Rank 4                       |
| 29.3                    | 161                              | 59                             | Fracture Rank 4                       |
| 29.7                    | 274                              | 62                             | Fracture Rank 4                       |
| 29.9                    | 285                              | 72                             | Fracture Rank 4                       |
| 30.2                    | 261                              | 77                             | Fracture Rank 4                       |
| 30.8                    | 263                              | 66                             | Fracture Rank 4                       |
| 31.2                    | 260                              | 74                             | Fracture Rank 4                       |
| 31.6                    | 242                              | 65                             | Fracture Rank 4                       |
| 32.4                    | 276                              | 73                             | Fracture Rank 4                       |
| 32.9                    | 265                              | 69                             | Fracture Rank 4                       |
| 33.4                    | 282                              | 68                             | Fracture Rank 4                       |
| 33.7                    | 275                              | 71                             | Fracture Rank 4                       |
| 33.9                    | 136                              | 69                             | Fracture Rank 4                       |
| 34.5                    | 259                              | 60                             | Fracture Rank 3                       |
| 35.2                    | 270                              | 65                             | Fracture Rank 3                       |
| 35.6                    | 237                              | 70                             | Fracture Rank 4                       |
| 36.0                    | 255                              | 59                             | Fracture Rank 4                       |
| 36.2                    | 71                               | 46                             | Fracture Rank 2                       |
| 36.3                    | 107                              | 53                             | Fracture Rank 3                       |
| 36.8                    | 291                              | 66                             | Fracture Rank 2                       |
| 36.9                    | 279                              | 65                             | Fracture Rank 2                       |
| 37.1                    | 290                              | 62                             | Fracture Rank 2                       |
| 37.6                    | 284                              | 31                             | Fracture Rank 2                       |
| 37.7                    | 270                              | 81                             | Fracture Rank 3                       |
| 37.7                    | 342                              | 75                             | Fracture Rank 2                       |
| 37.8                    | 341                              | 82                             | Fracture Rank 3                       |
| 37.9                    | 337                              | 73                             | Fracture Rank 3                       |
| 38.3                    | 304                              | 49                             | Fracture Rank 3                       |
| 38.5                    | 314                              | 59                             | Fracture Rank 3                       |
| 38.8                    | 307                              | 62                             | Fracture Rank 2                       |
| 39.0                    | 318                              | 56                             | Fracture Rank 2                       |
| 39.2                    | 338                              | 59                             | Fracture Rank 3                       |
| 39.4                    | 339                              | 54                             | Fracture Rank 4                       |
| 39.6                    | 327                              | 52                             | Fracture Rank 4                       |
| 39.9                    | 314                              | 37                             | Fracture Rank 2                       |
| 39.9                    | 279                              | 32                             | Foliation / Vein                      |
| 40.1                    | 294                              | 34                             | Fracture Rank 3                       |
| 40.5                    | 272                              | 65                             | Fracture Rank 4                       |
| 41.0                    | 303                              | 70                             | Fracture Rank 4                       |
| 41.9                    | 325                              | 68                             | Fracture Rank 4                       |
| 42.2                    | 235                              | 72                             | Fracture Rank 3                       |
| 42.7                    | 274                              | 61                             | Fracture Rank 3                       |



**LB-7 - TABLE OF BEDROCK STRUCTURES**

| <b>Depth<br/>(Feet)</b> | <b>Dip Azimuth<br/>(Degrees)</b> | <b>Dip Angle<br/>(Degrees)</b> | <b>Bedrock Structure<br/>Category</b> |
|-------------------------|----------------------------------|--------------------------------|---------------------------------------|
| 43.0                    | 41                               | 73                             | Fracture Rank 3                       |
| 43.4                    | 36                               | 55                             | Fracture Rank 3                       |
| 43.7                    | 42                               | 65                             | Fracture Rank 3                       |
| 43.7                    | 268                              | 44                             | Fracture Rank 2                       |
| 43.7                    | 248                              | 79                             | Fracture Rank 4                       |
| 44.1                    | 246                              | 66                             | Fracture Rank 2                       |
| 44.5                    | 150                              | 47                             | Fracture Rank 2                       |
| 44.6                    | 272                              | 68                             | Fracture Rank 3                       |
| 44.7                    | 263                              | 69                             | Fracture Rank 3                       |
| 45.0                    | 263                              | 65                             | Fracture Rank 2                       |
| 45.1                    | 265                              | 65                             | Fracture Rank 2                       |
| 45.4                    | 268                              | 66                             | Fracture Rank 2                       |
| 45.4                    | 264                              | 65                             | Fracture Rank 2                       |
| 45.5                    | 263                              | 67                             | Fracture Rank 3                       |
| 45.7                    | 260                              | 62                             | Fracture Rank 2                       |
| 45.8                    | 266                              | 64                             | Fracture Rank 2                       |
| 46.0                    | 267                              | 63                             | Fracture Rank 2                       |
| 46.1                    | 265                              | 61                             | Fracture Rank 2                       |
| 46.5                    | 278                              | 62                             | Fracture Rank 2                       |
| 46.6                    | 264                              | 59                             | Foliation / Vein                      |
| 46.8                    | 275                              | 61                             | Fracture Rank 3                       |
| 46.9                    | 278                              | 65                             | Fracture Rank 3                       |
| 47.1                    | 291                              | 71                             | Fracture Rank 4                       |
| 47.4                    | 289                              | 63                             | Fracture Rank 2                       |
| 47.4                    | 274                              | 51                             | Foliation / Vein                      |
| 47.5                    | 275                              | 57                             | Fracture Rank 2                       |
| 47.8                    | 280                              | 55                             | Fracture Rank 2                       |
| 48.0                    | 91                               | 63                             | Fracture Rank 2                       |
| 48.0                    | 271                              | 53                             | Fracture Rank 2                       |
| 48.1                    | 279                              | 50                             | Fracture Rank 2                       |
| 48.1                    | 110                              | 65                             | Fracture Rank 2                       |
| 48.2                    | 285                              | 51                             | Fracture Rank 3                       |
| 48.2                    | 279                              | 50                             | Foliation / Vein                      |
| 48.3                    | 255                              | 49                             | Fracture Rank 2                       |
| 48.4                    | 253                              | 52                             | Fracture Rank 3                       |
| 48.5                    | 116                              | 65                             | Fracture Rank 3                       |
| 48.5                    | 262                              | 52                             | Fracture Rank 3                       |
| 48.6                    | 258                              | 47                             | Fracture Rank 3                       |
| 48.8                    | 127                              | 53                             | Fracture Rank 2                       |
| 48.8                    | 272                              | 49                             | Foliation / Vein                      |
| 49.0                    | 285                              | 51                             | Fracture Rank 3                       |
| 49.1                    | 289                              | 52                             | Fracture Rank 2                       |
| 49.2                    | 290                              | 50                             | Foliation / Vein                      |
| 49.2                    | 284                              | 52                             | Fracture Rank 2                       |
| 49.3                    | 278                              | 50                             | Fracture Rank 2                       |
| 49.4                    | 128                              | 79                             | Fracture Rank 2                       |
| 49.4                    | 289                              | 52                             | Fracture Rank 2                       |

**LB-7 - TABLE OF BEDROCK STRUCTURES**

| <b>Depth<br/>(Feet)</b> | <b>Dip Azimuth<br/>(Degrees)</b> | <b>Dip Angle<br/>(Degrees)</b> | <b>Bedrock Structure<br/>Category</b> |
|-------------------------|----------------------------------|--------------------------------|---------------------------------------|
| 49.5                    | 285                              | 53                             | Fracture Rank 2                       |
| 49.6                    | 280                              | 50                             | Fracture Rank 2                       |
| 49.7                    | 286                              | 53                             | Fracture Rank 3                       |
| 49.9                    | 294                              | 54                             | Fracture Rank 2                       |
| 50.0                    | 294                              | 56                             | Fracture Rank 2                       |
| 50.1                    | 290                              | 58                             | Fracture Rank 2                       |
| 50.2                    | 286                              | 60                             | Fracture Rank 2                       |
| 50.3                    | 288                              | 59                             | Fracture Rank 3                       |
| 50.4                    | 279                              | 58                             | Foliation / Vein                      |
| 50.4                    | 288                              | 66                             | Fracture Rank 2                       |
| 50.6                    | 285                              | 75                             | Fracture Rank 3                       |
| 51.0                    | 323                              | 71                             | Fracture Rank 3                       |
| 51.4                    | 274                              | 77                             | Fracture Rank 2                       |
| 51.9                    | 258                              | 80                             | Fracture Rank 3                       |
| 52.2                    | 250                              | 77                             | Fracture Rank 2                       |
| 52.5                    | 264                              | 69                             | Fracture Rank 3                       |
| 53.3                    | 211                              | 7                              | Fracture Rank 2                       |
| 53.4                    | 273                              | 74                             | Fracture Rank 3                       |
| 53.8                    | 271                              | 76                             | Fracture Rank 3                       |
| 54.4                    | 154                              | 22                             | Fracture Rank 2                       |
| 54.4                    | 272                              | 68                             | Fracture Rank 2                       |
| 54.6                    | 146                              | 63                             | Fracture Rank 2                       |
| 54.7                    | 277                              | 84                             | Fracture Rank 3                       |
| 55.4                    | 180                              | 56                             | Fracture Rank 2                       |
| 55.6                    | 178                              | 66                             | Fracture Rank 1                       |
| 55.6                    | 91                               | 76                             | Fracture Rank 1                       |
| 55.8                    | 276                              | 78                             | Fracture Rank 2                       |
| 56.1                    | 234                              | 56                             | Fracture Rank 2                       |
| 56.1                    | 124                              | 54                             | Fracture Rank 3                       |

| <b>HAGER-RICHTER GEOSCIENCE, INC.</b>      |   |
|--|---|
| <b>LB-10 - TABLE OF BEDROCK STRUCTURES</b> |   |
| CLIENT                                     | Langan Engineering and Environmental Services, Inc. |
| PROJECT                                    | Borehole Geophysical Logging                        |
| LOCATION                                   | 1568 Broadway, New York, New York                   |
| H-R FILE                                   | 16RG57  |
| DATE LOGGED                                | May 31, 2016  |
| LOG DATUM                                  | Top of the Concrete Floor Slab                      |
| DIP AZIMUTH                                | True North (Magnetic Declination = 13° West)        |
| DIP ANGLE                                  | Measured from Horizontal                            |

**LB-10 - TABLE OF BEDROCK STRUCTURES**

| <b>Depth (Feet)</b> | <b>Dip Azimuth (Degrees)</b> | <b>Dip Angle (Degrees)</b> | <b>Bedrock Structure Category</b> |
|---------------------|------------------------------|----------------------------|-----------------------------------|
| 9.8                 | 82                           | 11                         | Fracture Rank 3                   |
| 9.9                 | 191                          | 21                         | Fracture Rank 3                   |
| 10.3                | 279                          | 79                         | Fracture Rank 2                   |
| 10.8                | 272                          | 57                         | Fracture Rank 3                   |
| 10.9                | 273                          | 60                         | Fracture Rank 4                   |
| 11.1                | 281                          | 60                         | Fracture Rank 4                   |
| 11.3                | 277                          | 52                         | Foliation / Vein                  |
| 11.6                | 277                          | 52                         | Fracture Rank 1                   |
| 11.7                | 276                          | 59                         | Fracture Rank 2                   |
| 11.8                | 282                          | 59                         | Foliation / Vein                  |
| 11.9                | 284                          | 60                         | Fracture Rank 3                   |
| 11.9                | 84                           | 42                         | Fracture Rank 2                   |
| 12.1                | 283                          | 67                         | Foliation / Vein                  |
| 12.3                | 111                          | 53                         | Fracture Rank 1                   |
| 12.4                | 278                          | 64                         | Fracture Rank 1                   |
| 13.1                | 117                          | 66                         | Fracture Rank 3                   |
| 13.3                | 143                          | 65                         | Fracture Rank 3                   |
| 13.4                | 154                          | 61                         | Fracture Rank 3                   |
| 13.8                | 295                          | 69                         | Fracture Rank 2                   |
| 14.4                | 282                          | 79                         | Fracture Rank 2                   |
| 15.2                | 282                          | 74                         | Fracture Rank 2                   |
| 15.3                | 107                          | 23                         | Fracture Rank 2                   |
| 15.7                | 285                          | 79                         | Foliation / Vein                  |
| 16.1                | 274                          | 81                         | Fracture Rank 2                   |
| 16.3                | 103                          | 19                         | Fracture Rank 2                   |
| 16.8                | 271                          | 76                         | Foliation / Vein                  |
| 16.9                | 274                          | 60                         | Fracture Rank 2                   |
| 17.3                | 263                          | 74                         | Fracture Rank 2                   |
| 17.7                | 262                          | 80                         | Fracture Rank 2                   |
| 18.3                | 271                          | 80                         | Fracture Rank 2                   |
| 18.5                | 180                          | 72                         | Fracture Rank 3                   |
| 18.8                | 268                          | 68                         | Fracture Rank 2                   |
| 19.5                | 348                          | 33                         | Fracture Rank 2                   |
| 19.8                | 269                          | 64                         | Fracture Rank 2                   |
| 19.9                | 274                          | 62                         | Fracture Rank 2                   |
| 20.1                | 268                          | 69                         | Foliation / Vein                  |

**LB-10 - TABLE OF BEDROCK STRUCTURES**

| <b>Depth<br/>(Feet)</b> | <b>Dip Azimuth<br/>(Degrees)</b> | <b>Dip Angle<br/>(Degrees)</b> | <b>Bedrock Structure<br/>Category</b> |
|-------------------------|----------------------------------|--------------------------------|---------------------------------------|
| 20.3                    | 273                              | 67                             | Fracture Rank 2                       |
| 20.9                    | 273                              | 64                             | Fracture Rank 1                       |
| 21.2                    | 163                              | 70                             | Fracture Rank 3                       |
| 21.4                    | 163                              | 76                             | Fracture Rank 1                       |
| 21.6                    | 265                              | 66                             | Fracture Rank 1                       |
| 22.2                    | 270                              | 71                             | Foliation / Vein                      |
| 22.5                    | 269                              | 71                             | Fracture Rank 1                       |
| 22.7                    | 262                              | 66                             | Foliation / Vein                      |
| 23.4                    | 259                              | 62                             | Foliation / Vein                      |
| 23.6                    | 265                              | 54                             | Foliation / Vein                      |
| 23.9                    | 246                              | 56                             | Foliation / Vein                      |
| 24.2                    | 266                              | 56                             | Foliation / Vein                      |
| 24.2                    | 156                              | 74                             | Fracture Rank 1                       |
| 24.4                    | 272                              | 48                             | Foliation / Vein                      |
| 24.6                    | 263                              | 63                             | Foliation / Vein                      |



| <b>HAGER-RICHTER GEOSCIENCE, INC.</b>      |   |
|--|---|
| <b>LB-11 - TABLE OF BEDROCK STRUCTURES</b> |   |
| CLIENT                                     | Langan Engineering and Environmental Services, Inc. |
| PROJECT                                    | Borehole Geophysical Logging                        |
| LOCATION                                   | 1568 Broadway, New York, New York                   |
| H-R FILE                                   | 16RG57  |
| DATE LOGGED                                | May 31, 2016  |
| LOG DATUM                                  | Top of the Concrete Floor Slab                      |
| DIP AZIMUTH                                | True North (Magnetic Declination = 13° West)        |
| DIP ANGLE                                  | Measured from Horizontal                            |

**LB-11 - TABLE OF BEDROCK STRUCTURES**

| <b>Depth (Feet)</b> | <b>Dip Azimuth (Degrees)</b> | <b>Dip Angle (Degrees)</b> | <b>Bedrock Structure Category</b> |
|---------------------|------------------------------|----------------------------|-----------------------------------|
| 4.7                 | 249                          | 16                         | Fracture Rank 2                   |
| 4.9                 | 147                          | 17                         | Fracture Rank 3                   |
| 5.0                 | 272                          | 64                         | Foliation / Vein                  |
| 5.6                 | 282                          | 6                          | Fracture Rank 4                   |
| 5.9                 | 310                          | 51                         | Fracture Rank 4                   |
| 6.0                 | 178                          | 57                         | Fracture Rank 3                   |
| 6.3                 | 317                          | 60                         | Fracture Rank 4                   |
| 6.7                 | 296                          | 59                         | Foliation / Vein                  |
| 8.0                 | 298                          | 50                         | Fracture Rank 3                   |
| 8.4                 | 172                          | 39                         | Fracture Rank 4                   |
| 8.7                 | 248                          | 52                         | Fracture Rank 2                   |
| 9.0                 | 165                          | 59                         | Fracture Rank 2                   |
| 9.3                 | 320                          | 52                         | Fracture Rank 3                   |
| 9.6                 | 165                          | 6                          | Fracture Rank 4                   |
| 9.8                 | 244                          | 45                         | Fracture Rank 4                   |
| 9.9                 | 175                          | 78                         | Fracture Rank 2                   |
| 10.0                | 268                          | 51                         | Fracture Rank 4                   |
| 10.2                | 312                          | 50                         | Fracture Rank 3                   |
| 10.3                | 144                          | 42                         | Fracture Rank 2                   |
| 10.4                | 293                          | 73                         | Fracture Rank 2                   |
| 10.7                | 357                          | 57                         | Fracture Rank 3                   |
| 10.8                | 175                          | 45                         | Fracture Rank 3                   |
| 11.1                | 166                          | 36                         | Fracture Rank 2                   |
| 11.4                | 153                          | 37                         | Fracture Rank 3                   |
| 11.8                | 175                          | 55                         | Fracture Rank 2                   |
| 12.1                | 157                          | 45                         | Fracture Rank 2                   |
| 12.2                | 168                          | 12                         | Fracture Rank 2                   |
| 12.5                | 161                          | 67                         | Fracture Rank 2                   |
| 12.7                | 183                          | 43                         | Fracture Rank 3                   |
| 12.8                | 275                          | 42                         | Fracture Rank 2                   |
| 12.8                | 213                          | 48                         | Fracture Rank 3                   |
| 13.1                | 281                          | 52                         | Fracture Rank 3                   |
| 13.1                | 177                          | 58                         | Fracture Rank 1                   |
| 13.2                | 246                          | 66                         | Fracture Rank 3                   |
| 13.4                | 265                          | 44                         | Fracture Rank 4                   |
| 13.9                | 290                          | 30                         | Fracture Rank 2                   |

**LB-11 - TABLE OF BEDROCK STRUCTURES**

| <b>Depth<br/>(Feet)</b> | <b>Dip Azimuth<br/>(Degrees)</b> | <b>Dip Angle<br/>(Degrees)</b> | <b>Bedrock Structure<br/>Category</b> |
|-------------------------|----------------------------------|--------------------------------|---------------------------------------|
| 14.2                    | 157                              | 32                             | Fracture Rank 4                       |
| 14.3                    | 234                              | 64                             | Fracture Rank 2                       |
| 15.1                    | 95                               | 50                             | Fracture Rank 1                       |
| 15.3                    | 308                              | 35                             | Fracture Rank 4                       |
| 16.0                    | 243                              | 44                             | Fracture Rank 2                       |
| 16.4                    | 275                              | 56                             | Fracture Rank 2                       |
| 16.8                    | 234                              | 47                             | Fracture Rank 1                       |
| 17.0                    | 283                              | 60                             | Fracture Rank 2                       |
| 17.1                    | 261                              | 13                             | Fracture Rank 2                       |
| 17.7                    | 260                              | 7                              | Fracture Rank 2                       |
| 18.5                    | 201                              | 48                             | Fracture Rank 2                       |
| 18.6                    | 110                              | 74                             | Fracture Rank 1                       |
| 18.8                    | 112                              | 13                             | Fracture Rank 1                       |
| 20.2                    | 122                              | 40                             | Fracture Rank 2                       |
| 20.4                    | 142                              | 28                             | Fracture Rank 2                       |
| 22.4                    | 161                              | 36                             | Fracture Rank 2                       |
| 23.1                    | 154                              | 39                             | Fracture Rank 1                       |
| 23.8                    | 148                              | 66                             | Fracture Rank 1                       |
| 25.3                    | 49                               | 63                             | Fracture Rank 1                       |
| 25.5                    | 48                               | 61                             | Foliation / Vein                      |
| 25.5                    | 46                               | 61                             | Fracture Rank 4                       |
| 25.6                    | 44                               | 59                             | Fracture Rank 4                       |
| 25.7                    | 56                               | 51                             | Fracture Rank 4                       |
| 25.8                    | 54                               | 48                             | Fracture Rank 3                       |
| 26.0                    | 58                               | 36                             | Fracture Rank 2                       |
| 26.1                    | 60                               | 38                             | Foliation / Vein                      |
| 26.4                    | 45                               | 57                             | Foliation / Vein                      |

**APPENDIX C**  
**BOREHOLE GEOPHYSICAL LOGGING REPORT**

# Severud Associates CONSULTING ENGINEERS P.C.

Project No. \_\_\_\_\_

Sheet No. 1

Client \_\_\_\_\_

Date 1/7/2015

Project \_\_\_\_\_

Subject Footing Design

Des. By JRG

**Bearing Capacity:** 8 tsf = 16 ksf LF: 1.60  
**Concrete Strength:** 8000 psi  $\rho = 0.0018$  temperature steel  
**Steel Strength:** 60 ksi  $\phi_v = 0.75$   
**Clear Cover:** 3 in.  $\phi_B = 0.90$

### SQUARE FOOTING (PUNCHING SHEAR)

| P<br>(kips) | Pres<br>(ksf) | Dimensions |        |        | Column |    |        | Shear                 |            |       | Moment (b)            |  |                       | A <sub>s, min</sub><br>(in <sup>2</sup> ) | Dev. Lg.<br>Avail. | Moment (h)                               |       |      | A <sub>s, min</sub><br>(in <sup>2</sup> ) | Dev. Lg.<br>Avail. |
|-------------|---------------|------------|--------|--------|--------|----|--------|-----------------------|------------|-------|-----------------------|--|-----------------------|---|--------------------|--|-------|------|---|--------------------|
|             |               | B (ft)     | H (ft) | t (in) | b      | h  | d (in) | V <sub>U</sub> (kips) | $\phi V_N$ | Shear | M <sub>U</sub> (k-ft) | A <sub>s, req'd</sub> (in <sup>2</sup> ) | M <sub>U</sub> (k-ft) |   |                    | A <sub>s, req'd</sub> (in <sup>2</sup> ) |       |      |   |                    |
| 256         | 16.0          | 4          | 4      | 18     | 20     | 20 | 14.0   | 204                   | 511        | OK    | 70                    | 1.23                                     | 1.56                  | 11  | 70                 | 1.23                                     | 1.56  | 11.0 |   |                    |
| 400         | 16.0          | 5          | 5      | 24     | 20     | 20 | 20.0   | 356                   | 859        | OK    | 178                   | 2.19                                     | 2.59                  | 17  | 178                | 2.19                                     | 2.59  | 17.0 |   |                    |
| 576         | 16.0          | 6          | 6      | 30     | 20     | 20 | 26.0   | 545                   | 1284       | OK    | 361                   | 3.42                                     | 3.89                  | 23  | 361                | 3.42                                     | 3.89  | 23.0 |   |                    |
| 784         | 16.0          | 7          | 7      | 36     | 20     | 20 | 32.0   | 774                   | 1786       | OK    | 637                   | 4.92                                     | 5.44                  | 29  | 637                | 4.92                                     | 5.44  | 29.0 |   |                    |
| 1024        | 16.0          | 8          | 8      | 42     | 20     | 20 | 38.0   | 1040                  | 2366       | OK    | 1027                  | 6.67                                     | 7.26                  | 35  | 1027               | 6.67                                     | 7.26  | 35.0 |   |                    |
| 1296        | 16.0          | 9          | 9      | 48     | 20     | 20 | 44.0   | 1345                  | 3022       | OK    | 1549                  | 8.69                                     | 9.33                  | 41  | 1549               | 8.69                                     | 9.33  | 41.0 |   |                    |
| 1600        | 16.0          | 10         | 10     | 40     | 20     | 20 | 36.0   | 2002                  | 2164       | OK    | 2222                  | 15.24                                    | 8.64                  | 47  | 2222               | 15.24                                    | 8.64  | 47.0 |   |                    |
| 1936        | 16.0          | 11         | 11     | 60     | 20     | 20 | 56.0   | 2071                  | 4568       | OK    | 3066                  | 13.52                                    | 14.26                 | 53  | 3066               | 13.52                                    | 14.26 | 53.0 |   |                    |
| 2304        | 16.0          | 12         | 12     | 66     | 20     | 20 | 62.0   | 2491                  | 5457       | OK    | 4100                  | 16.33                                    | 17.11                 | 59  | 4100               | 16.33                                    | 17.11 | 59.0 |   |                    |
| 2704        | 16.0          | 13         | 13     | 72     | 20     | 20 | 68.0   | 2950                  | 6423       | OK    | 5343                  | 19.40                                    | 20.22                 | 65  | 5343               | 19.40                                    | 20.22 | 65.0 |   |                    |
| 3136        | 16.0          | 14         | 14     | 78     | 20     | 20 | 74.0   | 3447                  | 7466       | OK    | 6815                  | 22.74                                    | 23.59                 | 71  | 6815               | 22.74                                    | 23.59 | 71.0 |   |                    |
| 3600        | 16.0          | 15         | 15     | 84     | 20     | 20 | 80.0   | 3982                  | 8587       | OK    | 8533                  | 26.34                                    | 27.22                 | 77  | 8533               | 26.34                                    | 27.22 | 77.0 |   |                    |
| 4096        | 16.0          | 16         | 16     | 90     | 20     | 20 | 86.0   | 4556                  | 9784       | OK    | 10519                 | 30.20                                    | 31.10                 | 83  | 10519              | 30.20                                    | 31.10 | 83.0 |   |                    |
| 16          | 16.0          | 1          | 1      | 12     | 20     | 20 | 8.0    | 0                     | 240        | OK    | 1                     | 0.04                                     | 0.26                  | -7  | 1                  | 0.04                                     | 0.26  | -7.0 |   |                    |
| 16          | 16.0          | 1          | 1      | 12     | 20     | 20 | 8.0    | 0                     | 240        | OK    | 1                     | 0.04                                     | 0.26                  | -7  | 1                  | 0.04                                     | 0.26  | -7.0 |   |                    |
| 16          | 16.0          | 1          | 1      | 12     | 20     | 20 | 8.0    | 0                     | 240        | OK    | 1                     | 0.04                                     | 0.26                  | -7  | 1                  | 0.04                                     | 0.26  | -7.0 |   |                    |







DEPT OF BLDGS 121191236

Job Number



ES138525050

Scan Code

# CONCRETE WALL LOADING

| Location | Height | Load |      |
|----------|--------|------|------|
| 0.5      | 27.5   | 360  |      |
| 0.5      | 26.5   | 420  |      |
| 0.5      | 25.5   | 480  |      |
| 0.5      | 24.5   | 540  |      |
| 0.5      | 23.5   | 600  |      |
| 0.5      | 22.5   | 660  |      |
| 0.5      | 21.5   | 720  |      |
| 0.5      | 20.5   | 780  |      |
| 0.5      | 19.5   | 840  |      |
| 0.5      | 18.5   | 900  |      |
| 0.5      | 17.5   | 960  |      |
| 0.5      | 16.5   | 1020 |      |
| 0.5      | 15.5   | 1080 |      |
| 0.5      | 14.5   | 1140 |      |
| 0.5      | 13.5   | 1200 | 1.2  |
| 0.5      | 12.5   | 1260 | 1.26 |
| 0.5      | 11.5   | 1320 | 1.32 |
| 0.5      | 10.5   | 1380 | 1.38 |
| 0.5      | 9.5    | 1440 | 1.44 |
| 0.5      | 8.5    | 1500 | 1.5  |
| 0.5      | 7.5    | 1560 | 1.56 |
| 0.5      | 6.5    | 1620 | 1.62 |
| 0.5      | 5.5    | 1680 | 1.68 |
| 0.5      | 4.5    | 1740 | 1.74 |
| 0.5      | 3.5    | 1800 | 1.8  |
| 0.5      | 2.5    | 1860 | 1.86 |
| 0.5      | 1.5    | 1920 | 1.92 |
| 0.5      | 0.5    | 1980 | 1.98 |
| 1.5      | 27.5   | 360  | 0.36 |
| 1.5      | 26.5   | 420  | 0.42 |
| 1.5      | 25.5   | 480  | 0.48 |
| 1.5      | 24.5   | 540  | 0.54 |
| 1.5      | 23.5   | 600  | 0.6  |
| 1.5      | 22.5   | 660  | 0.66 |
| 1.5      | 21.5   | 720  | 0.72 |
| 1.5      | 20.5   | 780  | 0.78 |
| 1.5      | 19.5   | 840  | 0.84 |
| 1.5      | 18.5   | 900  | 0.9  |
| 1.5      | 17.5   | 960  | 0.96 |
| 1.5      | 16.5   | 1020 | 1.02 |
| 1.5      | 15.5   | 1080 | 1.08 |
| 1.5      | 14.5   | 1140 | 1.14 |
| 1.5      | 13.5   | 1200 | 1.2  |
| 1.5      | 12.5   | 1260 | 1.26 |
| 1.5      | 11.5   | 1320 | 1.32 |
| 1.5      | 10.5   | 1380 | 1.38 |

|     |     |      |      |
|-----|-----|------|------|
| 1.5 | 9.5 | 1440 | 1.44 |
| 1.5 | 8.5 | 1500 | 1.5  |
| 1.5 | 7.5 | 1560 | 1.56 |
| 1.5 | 6.5 | 1620 | 1.62 |
| 1.5 | 5.5 | 1680 | 1.68 |
| 1.5 | 4.5 | 1740 | 1.74 |
| 1.5 | 3.5 | 1800 | 1.8  |
| 1.5 | 2.5 | 1860 | 1.86 |
| 1.5 | 1.5 | 1920 | 1.92 |
| 1.5 | 0.5 | 1980 | 1.98 |





Project No. 14442

Client \_\_\_\_\_

Project 1568 BWAY

Subject SUPER COLUMN CELLS

Sheet No. 1

Date 6/14/16

Des. By JRB

$$4.71 \sqrt{\frac{E}{F_y}}$$

$$E = 29,000 \text{ ksi}$$

$$F_y = 50 \text{ ksi}$$

$$F_y = 60 \text{ ksi} \quad 60 \text{ ksi} / L = 100$$

$$4.71 \left( \frac{29,000}{50} \right)^{1/2} = 113$$

$$= 103.5$$

51

$$\frac{KL}{r}$$

$$K=1; L = \text{LARGEST FIB TO FIB} = 16.5'$$

$$r_y = 7.32''$$

$$\frac{KL}{r}$$

$$L = 100'$$

$$K=1 \quad L = 1 \text{ ST. 9TH} = 117'$$

$$r_x = 15.5''$$

$$\frac{KL}{r} = \frac{(1)(16.5')(12\%)}{7.32''}$$

$$= 27 < 113$$

$$\frac{KL}{r} = \frac{(1)(117')(12\%)}{15.5''} = 77.4$$

$$= 90.5 < 113$$

$$F_{cr} = \left[ 0.658 \frac{F_y}{F_c} \right] F_y$$

$$F_c = \frac{\pi^2 E}{(KL/r)^2}$$

$$F_c = \frac{(\pi^2)(29,000 \text{ ksi})}{(27)^2}$$

$$= 393 \text{ ksi}$$

$$F_c = \frac{\pi^2 (29,000 \text{ ksi})}{(90.5)^2}$$

$$= 35 \text{ ksi} = 47.8 \text{ ksi}$$

$$F_{cr} = \left( 0.658 \frac{50 \text{ ksi}}{393 \text{ ksi}} \right) 50 \text{ ksi}$$

$$F_{cr} = 47 \text{ ksi}$$

$$F_{cr} = \left( 0.658 \frac{50 \text{ ksi}}{35 \text{ ksi}} \right) 50 \text{ ksi}$$

$$= 35.48$$

$$F_{cr} = 27.5 \text{ ksi} = 29.3 \text{ ksi}$$

$$= 32.27 \text{ ksi}$$

LRFD  $\phi P_n = (0.9)(A_s)(F_{cr})$

$$\phi P_n = (0.9)(748 \text{ in}^2)(47 \text{ ksi})$$

$$= 31,600 \text{ kips}$$

$$\phi P_n = (0.9)(744 \text{ in}^2)(27.5 \text{ ksi})$$

$$= 18,400 \text{ kips} = 21,605 \text{ k}$$

16 410 BARS

$$\phi P_n = (0.9)(16(1.27 \text{ in}^2))(29.3 \text{ ksi})$$

$$= 536 \text{ k} = 649 \text{ k}$$

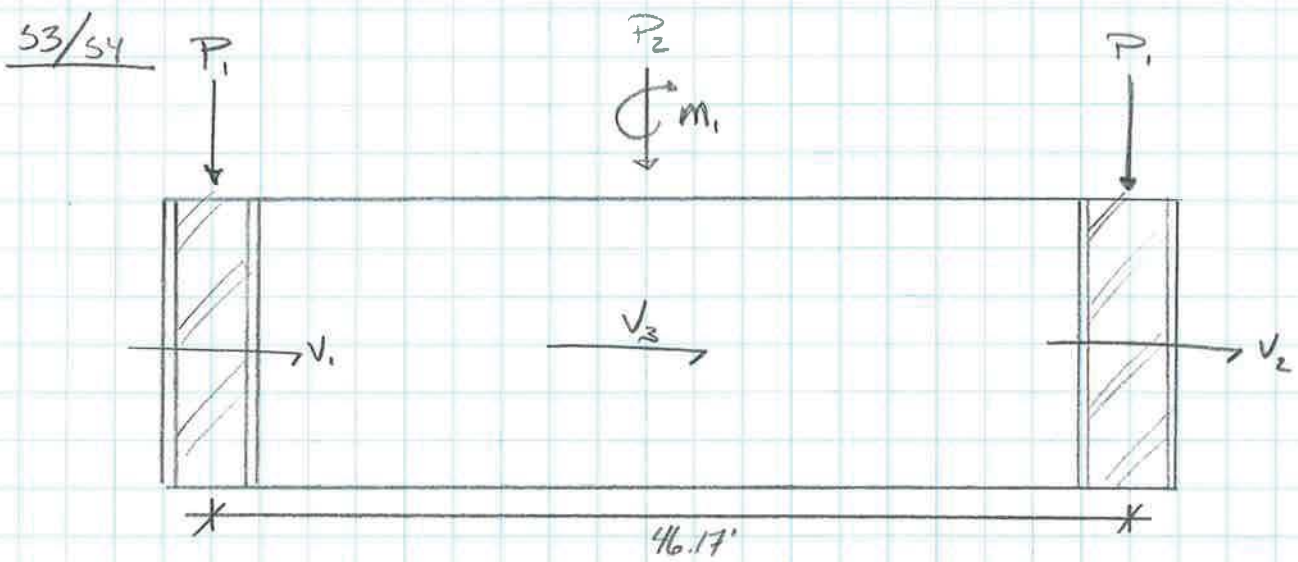
$$\phi P_n \text{ TOTAL} = 18,400 + 536 = 18,936 \text{ k} = 22,254 \text{ k}$$



Project No. 14442  
Client \_\_\_\_\_  
Project 1568 Bway

Sheet No. 2  
Date 6/14/16  
Des. By JRB

Subject Super Columns Check



|                  | $P_1 (k)$    | $P_2 (k)$ | $M_1 (k')$ |   | $V_1$ | $V_2$ | $V_3$ |
|------------------|--------------|-----------|------------|---|-------|-------|-------|
| DL               | 2700         | 14768     | 31,598     | ← | 0     | 0     | 269k  |
| LL <sup>+</sup>  | 721          | 2132      | 7,016      | ← | 0     | 0     | 66k   |
| LL <sup>-</sup>  | -18          | -94       | -242       |   | 0     | 0     | -52k  |
| W <sub>x</sub>   | 252 / -120   | 491       | -19,288    |   | 0     | 0     | 97k   |
| W <sub>y</sub>   | 1940 / -1960 | -57       | 104,732    |   | 20k   | 20k   | 1047k |
| W <sub>y+E</sub> | -2025 / 2000 | -90       | 108,276    | ← | 20k   | 20k   | 1034k |

1.4D  
1.2D + 1.6L  
1.2D + 1.6W + 1.0L

|          | $P_1$ | $P_2$   | $M_1$    | $V_1$ | $V_2$ | $V_3$ |
|----------|-------|---------|----------|-------|-------|-------|
| ULTIMATE | 7201k | 21,133k | 218,175k | 32k   | 32k   | 2031k |

$$P_u = P_1 + \frac{P_2}{2} + \frac{M_1}{46.17'}$$

$$= 7,201k + \frac{21,133k}{2} + \frac{218,175k}{46.17'}$$

$$P_u = 22,493k$$

$$\frac{P_u}{\phi P_n} = \frac{22,493k}{18,400k} = 1.22$$

$$\frac{22,493}{18,936} = 1.19$$

$$\frac{22,493k}{21,605k} = 1.04$$

$$\frac{22,493k}{22,254k} = 1.01$$

Project No. 14442

Sheet No. 3

Client

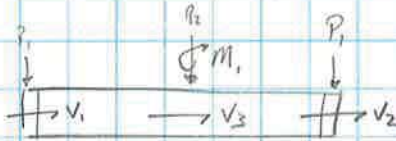
Date 6/14/16

Project 1568 BWAY

Subject Super Columns CHECK

Des. By JRV

S3/S4 REVISION



|           | $P_1 (k)$ | $P_2 (k)$ | $M_1 (k)$ | $V_1 (k)$ | $V_2 (k)$ | $V_3 (k)$ |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| DL        | 2482      | 14473     | 27873     | 0         | 0         | 251       |
| LL+       | 672       | 2127      | 6312      | 0         | 0         | 66        |
| $W_y$     | 1570      | 58        | 855.17    | 20        | 20        | 791       |
| $W_y + E$ | 1840      | 90        | 89283     | 20        | 20        | 785       |
| ULTIMATE  | 6594      | 20771     | 182612    | 32        | 32        | 1638      |

$$\begin{aligned}
 P_u &= P_1 + P_2/2 + M_1/46.17' \\
 &= 6594 + (20771)/2 + 182612/46.17' \\
 &= 20,939 \text{ k}
 \end{aligned}$$

$$L = 100' \quad P_u / \phi P_n = \frac{20,939 \text{ k}}{21,605 \text{ k}} = 0.97$$

$$V_u = V_1 + V_2 + V_3 = 32 + 32 + 1638 = 1702 \text{ k}$$

$$\begin{aligned}
 \phi V_c &= \phi 2 \sqrt{f'_c} b d & \phi &= 0.75 & f'_c &= 6000 \text{ psi} & b &= 18" & d &= 42" \\
 \phi V_c &= (0.75)(2)(\sqrt{6000 \text{ psi}})(18")(42") \\
 &= 1054 \text{ k}
 \end{aligned}$$

$$\begin{aligned}
 \phi V_s &= \frac{\phi A_s f_y d}{s} = \frac{(0.75)(0.9 \text{ in}^2)(60 \text{ ksi})(0.9(42'))}{10"} \\
 &= 816 \text{ k}
 \end{aligned}$$

$$\phi V = \phi V_c + \phi V_s = 1054 \text{ k} + 816 \text{ k} = 1870 \text{ k} > 1638 \text{ k}$$



Project No. 14442Sheet No. 1

Client \_\_\_\_\_

Date 6/17/16Project 1568 BWAYSubject 5/32 SUPER COLUMN CHECKDes. By JRG

$$4.71 \sqrt{E/F_y} = 113$$

$$E = 29,000 \text{ ksi} \quad F_y = 50 \text{ ksi}$$

5/32  $k=1$ ;  $L = \text{LARGE} = \text{FIX TO FIX } 16.5'$

$$r_y = 7.32''$$

$$\frac{KL}{r} = \frac{(1)(16.5')(12/in)}{7.32''} = 27 < 113$$

$$F_{cr} = \left[ 0.658^{F_y/F_c} \right] F_y$$

$$= \left( 0.658^{\left( \frac{50 \text{ ksi}}{392.6 \text{ ksi}} \right)} \right) 50 \text{ ksi}$$

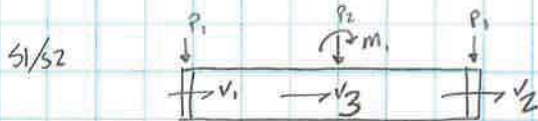
$$= 47.4 \text{ ksi}$$

$$F_c = \frac{(\pi^2)(E)}{(kL/r)^2} = \frac{\pi^2 (29,000 \text{ ksi})}{(27)^2} = 392.6 \text{ ksi}$$

$$\phi P_n = (0.9)(A_s)(F_{cr})$$

$$= (0.9)(748 \text{ in}^2)(47.4 \text{ ksi})$$

$$= 31,900 \text{ k}$$



|                 | $P_1$ (k) | $P_2$ (k) | $M_1$ (k) | $V_1$ (k) | $V_2$ (k) | $V_3$ (k) |
|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|
| DL              | 4320      | 11852     | 5539      | 144       | 900       | 492       |
| LL <sup>+</sup> | 1051      | 1827      | 1989      | 66        | 220       | 103       |
| $W_y$           | 2632      | 2317      | 37131     | 111       | 286       | 762       |
| $W_y + E$       | 1805      | 1710      | 24847     | 99        | 156       | 550       |
| ULTIMATE        | 10446     | 19757     | 68045     | 416       | 1758      | 1913      |

Project No. 14442

Sheet No. 2

Client

Date 6/17/16 / 6/23

Project 1568 B'WAY

Subject S1/S2 Surex Column Check

Des. By JRG

$$\begin{aligned}
 P_u &= P_1 + P_2/2 + M_1/46.17' \\
 &= 10446 + 19757/2 + 68045/46.17' \\
 &= 21798 \text{ k}
 \end{aligned}$$

$$\phi P_n = 31,900 \text{ k}$$

$$21798/31,900 = 0.68\%$$

6/23

From 8-9 (A6)

$$\begin{aligned}
 K=1 \quad L &= 15' \\
 r_x &= 7.18 \quad r_y = 8.5
 \end{aligned}$$

$$\begin{aligned}
 KL/r &= (15')(12/i)(1.0)/7.18 \\
 &= 25
 \end{aligned}$$

$$F_{cr} = \left( \frac{F_y/F_c}{0.658} \right) F_y$$

$$F_c = \frac{\pi^2 E}{(KL/r)^2} = \frac{(\pi^2)(29,000 \text{ ksi})}{25^2} = 455 \text{ ksi}$$

$$F_{cr} = \left( \frac{50/455}{0.658} \right) 50 \text{ ksi} = 47.7 \text{ ksi}$$

$$\begin{aligned}
 \phi P_n &= (0.9)(A_g)(F_{cr}) \\
 &= (0.9)(435 \text{ in}^2)(47.7 \text{ ksi}) \\
 &= 18,696 \text{ k}
 \end{aligned}$$

$$P_u/\phi P_n = 21798/18,696 = 1.17$$

From 9-10 (A7) K=1 L=16'

$$r_x = 8.38' \quad r_y = 6.49''$$

$$\begin{aligned}
 KL/r &= (11)(16')(12/i)/6.49'' \\
 &= 296
 \end{aligned}$$

$$\begin{aligned}
 F_{cr} &= 0.658 \left( \frac{F_y/F_c}{50/327} \right) F_y \\
 &= 0.658 \left( \frac{50/327}{50/327} \right) 50 \text{ ksi} \\
 &= 46.9 \text{ ksi}
 \end{aligned}$$

$$F_c = \pi^2 E / (KL/r)^2 = (\pi^2)(29,000 \text{ ksi}) / (296)^2 = 327 \text{ ksi}$$

$$\begin{aligned}
 \phi P_n &= 0.9 A_g F_{cr} = (0.9)(256 \text{ in}^2)(46.9 \text{ ksi}) \\
 &= 10805 \text{ k}
 \end{aligned}$$

$$\frac{P_u}{\phi P_n} = \frac{21798}{10805} = 2.02$$

Project No. 14442

Sheet No. 2

Client \_\_\_\_\_

Date 6/22/10

Project 1568 B'WAY

Subject S3/S4 REINFORCED  
AT TRUSSES

Des. By JRL

$$P_u = 20,939 \text{ k}$$

$$\phi P_n = (0.9)(A_s)(F_{cr}) \quad A_s = 957 \text{ in}^2$$

$$\frac{kL}{R} = \frac{(1.0)(100)}{14.5} = 82.76$$

$$K = 1.0$$

$$L = 100'$$

$$r = r_y = 14.5''$$

$$F_{cr} = \left[ \begin{matrix} F_y / F_c \\ 0.658 \end{matrix} \right] F_y$$

$$= (0.658^{(4.8)}) 50 \text{ ksi}$$

$$F_{cr} = 30.3 \text{ ksi}$$

$$F_c = \frac{\pi^2 E}{(kL/r)^2} = \frac{(\pi^2)(29,000)}{(82.76)^2}$$

$$= 41.8 \text{ ksi}$$

$$\phi P_n = (0.9)(957 \text{ in}^2)(30.3 \text{ ksi})$$

$$= 26,100 \text{ k}$$

$$\frac{P_u}{\phi P_n} = \frac{20,939 \text{ k}}{26,100 \text{ k}} = \underline{0.80}$$



Project No. \_\_\_\_\_

Sheet No. \_\_\_\_\_

Client \_\_\_\_\_

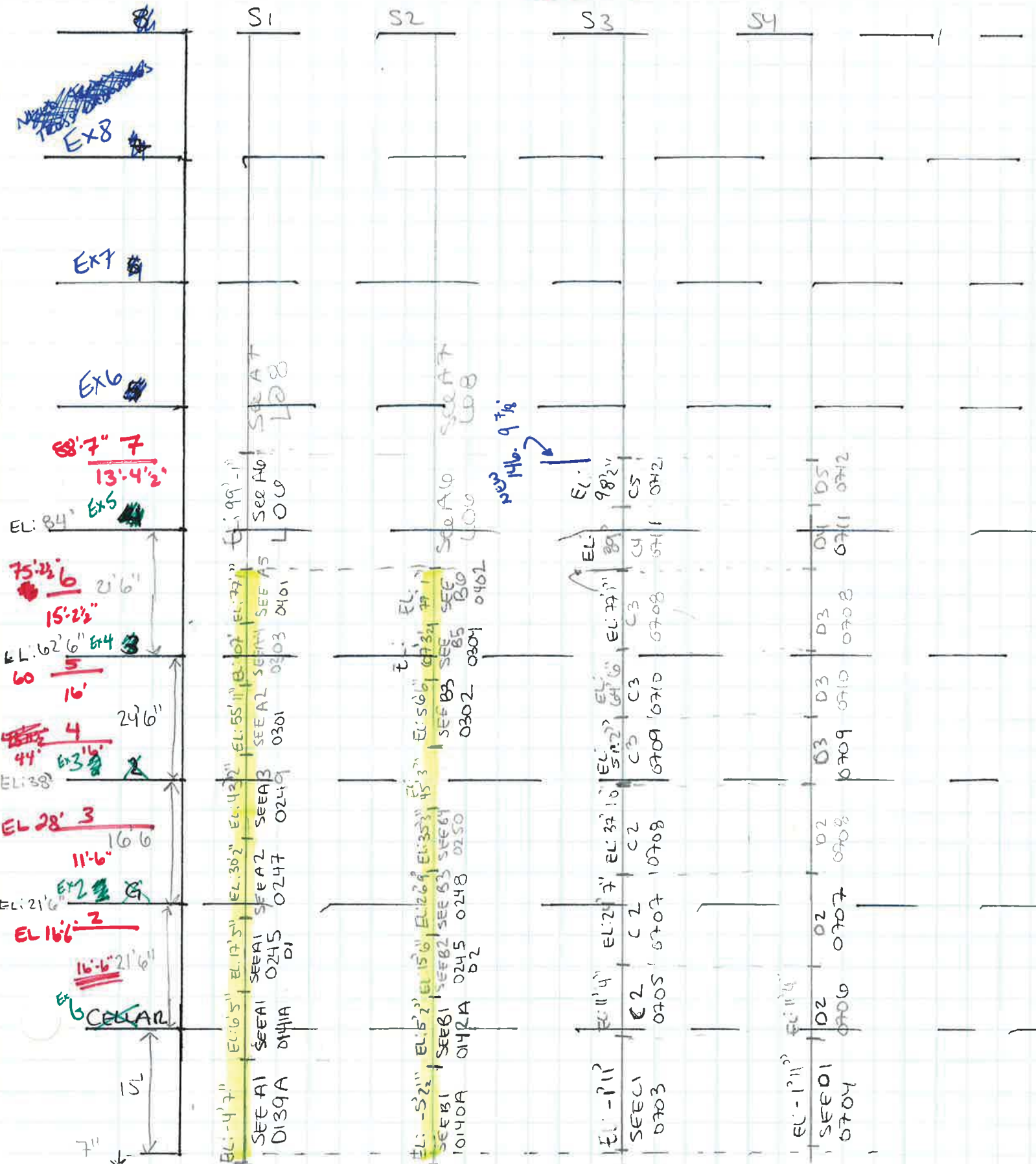
Date \_\_\_\_\_

Project \_\_\_\_\_

Subject **STEEL GR 50**

Des. By \_\_\_\_\_

ADD TO 48.7



Project No. \_\_\_\_\_

Sheet No. \_\_\_\_\_

Client \_\_\_\_\_

Date \_\_\_\_\_

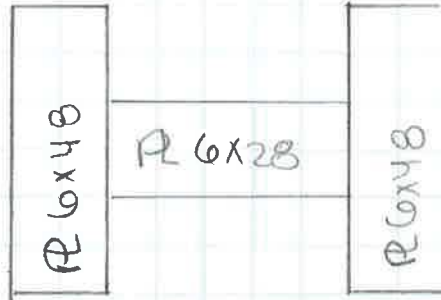
Project \_\_\_\_\_

Subject \_\_\_\_\_

Des. By \_\_\_\_\_

S3

GR SD



C1: 13'9"  
 C2: 13'3"  
 C3: 13'4"  
 C4: 12'  
 C5: 8'4"

D1: 12'3"  
 D2: 13'3"  
 D3: 13'4"  
 D4: 12'  
 D5: 8'4"

SECTION PROPERTIES

A = 744 in<sup>2</sup>  
 I<sub>x</sub> = 179,168  
 I<sub>y</sub> = 111,098  
 r<sub>x</sub> = 15.5  
 r<sub>y</sub> = 12.2  
 Z<sub>x</sub> = 10,968  
 Z<sub>y</sub> = 7164  
 S<sub>x</sub> = 8958  
 S<sub>y</sub> = 4629

Project No. \_\_\_\_\_

Sheet No. \_\_\_\_\_

Client \_\_\_\_\_

Date \_\_\_\_\_

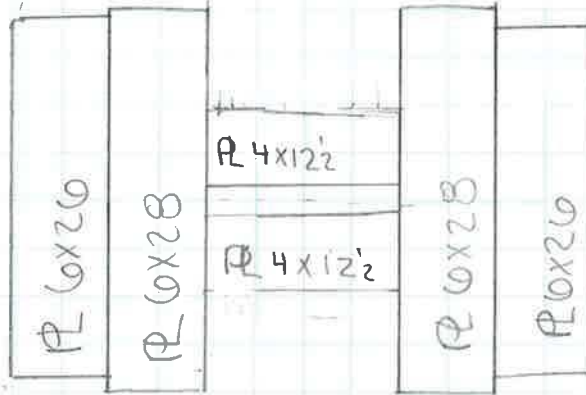
Project \_\_\_\_\_

Subject \_\_\_\_\_

Des. By \_\_\_\_\_

S1

Gr SD



HEIGHT

A1: 11"

A2: 12' 9"

A3: 13"

A4: 11' 1"

A5: 10' 1"

S2

HEIGHT

B1: 10' 4 1/2"

B2: 10' 4"

B3: 11' 3"

B4: 8' 6"

B5: 10' 9 1/2"

B6: 9' 9 1/2"

SECTION PROPERTIES

A = 748 in<sup>2</sup>

I<sub>x</sub> = 104,555

I<sub>y</sub> = 40,061

r<sub>x</sub> = 11.82

r<sub>y</sub> = 7.32

Z<sub>x</sub> = 8178.5

Z<sub>y</sub> = 4580

S<sub>x</sub> = 5729

S<sub>y</sub> = 2862

L08 → SCALE COLUMNS ABOVE.

Project No. \_\_\_\_\_

Sheet No. \_\_\_\_\_

Client \_\_\_\_\_

Date \_\_\_\_\_

Project \_\_\_\_\_

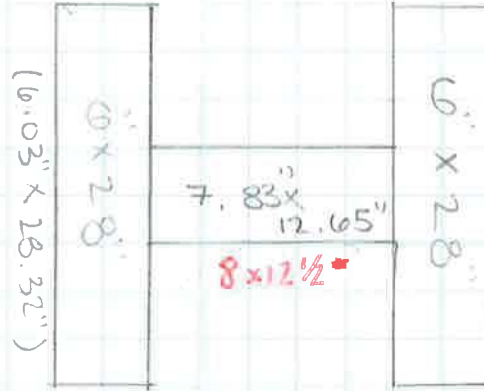
Subject \_\_\_\_\_

Des. By \_\_\_\_\_

S1 & S2

EL 77'-1" to 99'-1"

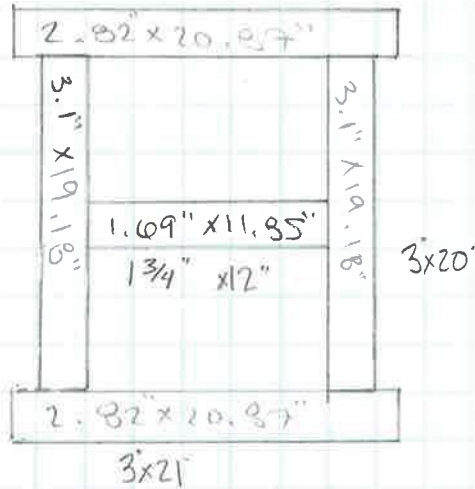
A6



15'

EL 99'-1" to

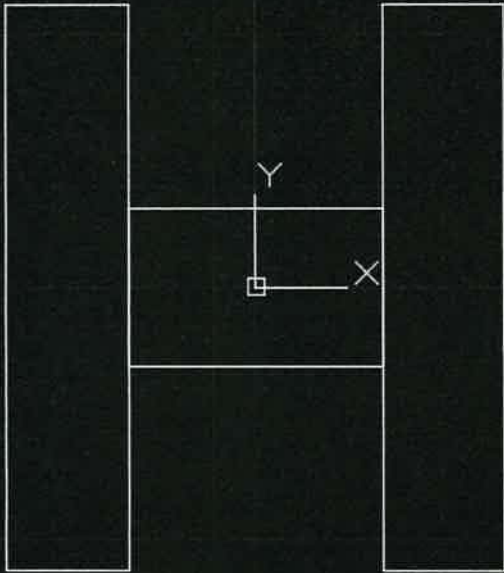
A7



16'



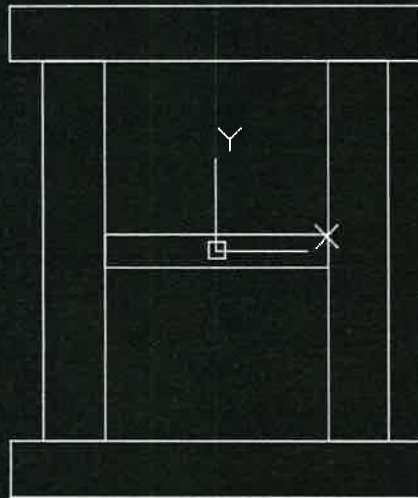
AG



```
AutoCAD Text Window - Drawing1.dwg
Edit
Command: MASSPROP
Select objects: Specify opposite corner: 4 found
Select objects:
----- REGIONS -----
Area:                435.0495 sq in
Perimeter:           176.9600 in
Bounding box:        X: -12.3250 -- 12.3250 in
                    Y: -14.0000 -- 14.0000 in
Centroid:            X: 0.0000 in
                    Y: 0.0000 in
Moments of inertia:  X: 22458.0513 sq in sq in
                    Y: 31545.9357 sq in sq in
Product of inertia:  XY: 0.0000 sq in sq in
Radii of gyration:   X: 7.1848 in
                    Y: 8.5153 in
Principal moments (sq in sq in) and X-Y directions about centroid:
                    I: 22458.0513 along [1.0000 0.0000]
                    J: 31545.9357 along [0.0000 1.0000]
Write analysis to a file? [Yes/No] <N>:
```



A7



```
AutoCAD Text Window - Drawing1.dwg
Edit
Command: MASSPROP
Select objects: Specify opposite corner: 5 found
Select objects:

----- REGIONS -----
Area:                255.8043 sq in
Perimeter:           209.9600 in
Bounding box:        X: -10.4350 -- 10.4350 in
                    Y: -12.4100 -- 12.4100 in
Centroid:            X: 0.0000 in
                    Y: 0.0000 in
Moments of inertia:  X: 17970.5853 sq in sq in
                    Y: 10780.9729 sq in sq in
Product of inertia: XY: 0.0000 sq in sq in
Radii of gyration:   X: 8.3816 in
                    Y: 6.4919 in
Principal moments (sq in sq in) and X-Y directions about centroid:
                    I: 17970.5853 along [1.0000 0.0000]
                    J: 10780.9729 along [0.0000 1.0000]

Write analysis to a file? [Yes/No] <N>: |
```

Project No. 15597-02  
 Client  
 Project 1568 BROADWAY

Sheet No. 1 OF 4  
 Date 9/21/2016  
 Des. By TS

Subject BASEPLATES

| COL SIZE |   |        | GRAV/LA F-Z |      | Base PL dim sq | thickness | old load |
|----------|---|--------|-------------|------|----------------|-----------|----------|
| W14      | X | 370    | G           | 1326 | 28             | 3         | 1859     |
| W14      | X | 283    | G           | 1628 | 30             | 3.75      | 1594     |
| W14      | X | 257    | G           | 1543 | 44             | 4.25      | 1383     |
| W14      | X | 233    | G           | 1425 | 28             | 3.25      | 1146     |
| W14      | X | 211    | G           | 1080 | 26             | 2.75      | 1045     |
| W14      | X | 193    | G           | 3405 | ng             | ng        | 2563     |
| W14      | X | 176    | G           | 819  | 26             | 2.5       | 787      |
| W14      | X | 159    | G           | 743  | 1229 ng        | ng        | 704      |
| W14      | X | 159    | G           | 1192 | 26             | 2.75      | 1192     |
| W14      | X | 145    | G           | 636  | 26             | 2.25      | 615 ##   |
| W14      | X | 132    | G           | 958  | 27             | 2.75      | 817      |
| W14      | X | 120    | G           | 713  | 26             | 2.25      | 735      |
| W14      | X | 109    | G           | 645  | 26             | 2.25      | 603 ##   |
| W14      | X | 99     | G           | 551  | 26             | 2         | 536      |
| W14      | X | 90     | G           | 423  | 26             | 1.75      | 369 ##   |
| W14      | X | 82     | G           | 381  | 26             | 2.25      | 381      |
| HSS12X12 | X | 0.625  | G           | 539  |                |           | 539      |
| HSS12X12 | X | 0.375  | G           | 194  |                |           | 225      |
| HSS12X12 | X | 0.3125 | G           | 375  |                |           | 231      |
| HSS12X12 | X | 0.25   | G           | 83   |                |           | 81       |

Project No. 15597-02

Sheet No. 1 OF 4

Client

Date 9/21/2016

Project 1568 BROADWAY

Subject BASEPLATES

Des. By TS

| COL # | COL SIZE |      | GRAV/LAT | F-Z | V2    | V3    | M33  | M22    | BRACE? | BRACE SIZE | BRACE LOAD | BRACE Base PL dim sq | thickness |
|-------|----------|------|----------|-----|-------|-------|------|--------|--------|------------|------------|----------------------|-----------|
| E5    | W14      | X    | 311      | L   | 1560  | 7.44  | 296  | 113.77 | 155.11 | Y          | 14X500     | 1900.61              | 68        |
| E10   | W14      | X    | 283      | L   | 3548  | 10.5  | 537  | 172.02 | 229.47 | N          |            | 0                    | 0         |
|       | 951 W14  | X    | 193      | L   | 2214  | 1.08  | 0.62 | 27.83  | 24.5   | Y          | 14X500     | 2212                 | 68        |
|       | 952 W14  | X    | 193      | L   | 3818  | 214   | 1.15 | 29.05  | 34.47  | N          |            | 0                    | 0         |
| E23   | W14      | X    | 233      | L   | 4942  | 329   |      |        |        | N          |            | 0                    | 0         |
| E24   | W14      | X    | 132      | L   | 4264  | 257   |      |        |        | N          |            | 0                    | 0         |
| S1    | W14      | X BU |          | L   | 15382 | -59.3 |      |        |        | N          |            | 0                    | 0         |
| S2    | W14      | X BU |          | L   | 14647 | 20.7  |      |        |        | N          |            | 0                    | 0         |
| E20   | W14      | X    | 257      | L   | 8566  |       |      |        |        | N          |            | 0                    | 0         |
| E21   | W14      | X    | 283      | L   | 3053  |       |      |        |        | N          |            | 0                    | 0         |
| E22   | W14      | X    | 82       | L   | 386   |       |      |        |        | N          |            | 0                    | 0         |
| S3    | W14      | X BU |          | L   | 18337 |       |      |        |        | N          |            | 0                    | 0         |
| S4    | W14      | X BU |          | L   | 20490 |       |      |        |        | N          |            | 0                    | 0         |
|       | 954 W14  | X    | 193      | L   | 3404  |       |      |        |        | N          |            | 0                    | 0         |
|       | W14      | X    |          | L   |       |       |      |        |        | N          |            | 0                    | 0         |
|       | W14      | X    |          | L   |       |       |      |        |        | N          |            | 0                    | 0         |
|       | HSS12X12 | X    |          | L   |       |       |      |        |        | N          |            | 0                    | 0         |
|       | HSS12X12 | X    |          | G   |       |       |      |        |        | N          |            | 0                    | 0         |
|       | HSS12X12 | X    |          | G   |       |       |      |        |        | N          |            | 0                    | 0         |
|       | HSS12X12 | X    |          | G   |       |       |      |        |        | N          |            | 0                    | 0         |

Project No. \_\_\_\_\_

Sheet No. \_\_\_\_\_

Client \_\_\_\_\_

Date \_\_\_\_\_

Project \_\_\_\_\_

Subject Column Capacity \_\_\_\_\_

Des. By \_\_\_\_\_

**COLUMN CAPACITY - AISC 13TH EDITION**

$\phi_c = 0.90$  (LRFD) (E1)

$\Omega_c = 1.67$  (ASD)

$P_n = F_{cr} A_g$  (E3-1)

$F_{cr} = [0.658^{(F_y/F_e)}] F_y$  for  $KL/r < 4.71 \sqrt{E/F_y}$  (E3-2)

$F_{cr} = 0.877 F_e$  for  $KL/r > 4.71 \sqrt{E/F_y}$  (E3-3)

$F_e = \frac{\pi^2 E}{(KL/r)^2}$  (E3-4)

**Column: HSS4X4X3/8**

$F_y = 46$  ksi       $4.71 \sqrt{E/F_y} = 118.3$

$E = 29000$  ksi

$A_g = \#REF!$  in<sup>2</sup>

$r_x = \#REF!$  in<sup>4</sup>

$K_x = 1.00$        $L_x = 5.00$  ft       $(KL/r)_x = \#REF!$  ##

$r_y = \#REF!$  in<sup>4</sup>

$K_y = 1.00$        $L_y = 10.00$  ft       $(KL/r)_y = \#REF!$  ##

$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(\#REF!)^2} = \#REF!$  ksi

$(KL/r) = \#REF!$  ##  $4.71 \sqrt{E/F_y} = 118.3$        $F_{cr} = \#$        $= \#REF!$  ksi

$P_n = F_{cr} A_g = \#REF!$  ksi x  $\#REF!$  in<sup>2</sup> =  $\#REF!$  kips      ##

$\phi_c P_n = \#REF!$  kips (LRFD)

$P_n / \Omega = \#REF!$  kips (ASD)

Project No. 14900-01  
 Client  
 Project Moynihan Station- Phase II

Sheet No. 1  
 Date 11/4/2015  
 Des. By AHA

Subject ConEd Column Capacity Checks

**COLUMN CAPACITY - AISC 13TH EDITION**

$\phi_c = 0.90$  (LRFD) (E1)

$\Omega_c = 1.67$  (ASD)

$P_n = F_{cr} A_g$  (E3-1)

$F_{cr} = [0.658^{(F_y/F_e)}] F_y$  for  $KL/r < 4.71 \sqrt{E/F_y}$  (E3-2)

$F_{cr} = 0.877 F_e$  for  $KL/r > 4.71 \sqrt{E/F_y}$  (E3-3)

$F_e = \frac{\pi^2 E}{(KL/r)^2}$  (E3-4)

Column: **w12x40** w14x43

$F_y = 36$  ksi 2 plates 4.71 $\sqrt{E/F_y} = 133.7$   
 1.5" thick

$E = 29000$  ksi

$A_g = 49.30$  in<sup>2</sup>

$r_x = 4.016$  in  $K_x = 1.00$   $L_x = 32.02$  ft  $(KL/r)_x = 95.7$  controls

$r_y = 4.266$  in  $K_y = 1.00$   $L_y = 32.02$  ft  $(KL/r)_y = 90.1$

$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(95.7)^2} = 31.265 \text{ ksi}$

$(KL/r) = 95.7 < 4.71\sqrt{E/F_y} = 133.7$   $F_{cr} = [0.658^{(F_y/F_e)}] F_y = 22.233 \text{ ksi}$

$P_n = F_{cr} A_g = 22.2330545 \text{ ksi} \times 49.30 \text{ in}^2 = 1096.1 \text{ kips}$

$\phi_c P_n = 986.5$  kips (LRFD)

$P_n / \Omega = 656.3$  kips (ASD)



Project No. 14900-01  
 Client  
 Project Moynihan Station- Phase II

Sheet No. 1  
 Date 11/4/2015  
 Subject ConEd Column Capacity Checks  
 Des. By AHA

**COLUMN CAPACITY - AISC 13TH EDITION**

$\phi_c = 0.90$  (LRFD) (E1)

$\Omega_c = 1.67$  (ASD)

$P_n = F_{cr} A_g$  (E3-1)

$F_{cr} = [0.658^{(F_y/F_e)}] F_y$  for  $KL/r < 4.71 \sqrt{E/F_y}$  (E3-2)

$F_{cr} = 0.877 F_e$  for  $KL/r > 4.71 \sqrt{E/F_y}$  (E3-3)

$F_e = \frac{\pi^2 E}{(KL/r)^2}$  (E3-4)

Column: **w12x72**

$F_y = 36$  ksi      2 plates  
 1.5" thick       $4.71\sqrt{E/F_y} = 133.7$   
 $E = 29000$  ksi

$A_g = 58.60$  in<sup>2</sup>  
 $r_x = 4.304$  in       $K_x = 1.00$        $L_x = 19.00$  ft       $(KL/r)_x = 53.0$  controls  
 $r_y = 5.710$  in       $K_y = 1.00$        $L_y = 19.00$  ft       $(KL/r)_y = 39.9$

$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(53.0)^2} = 101.99 \text{ ksi}$

$(KL/r) = 53.0 < 4.71\sqrt{E/F_y} = 133.7$        $F_{cr} = [0.658^{(F_y/F_e)}] F_y = 31.056 \text{ ksi}$

$P_n = F_{cr} A_g = 31.056097 \text{ ksi} \times 58.60 \text{ in}^2 = 1819.9 \text{ kips}$

$\phi_c P_n = 1637.9$  kips (LRFD)

$P_n / \Omega = 1089.7$  kips (ASD)

Project No. 14900-01  
 Client  
 Project Moynihan Station- Phase II

Sheet No. 1  
 Date 11/4/2015  
 Subject ConEd Column Capacity Checks  
 Des. By AHA

**COLUMN CAPACITY - AISC 13TH EDITION**

$\phi_c = 0.90$  (LRFD) (E1)

$\Omega_c = 1.67$  (ASD)

$P_n = F_{cr} A_g$  (E3-1)

$F_{cr} = [0.658^{(F_y/F_e)}] F_y$  for  $KL/r < 4.71 \sqrt{E/F_y}$  (E3-2)

$F_{cr} = 0.877 F_e$  for  $KL/r > 4.71 \sqrt{E/F_y}$  (E3-3)

$F_e = \frac{\pi^2 E}{(KL/r)^2}$  (E3-4)

Column: **w14x82**

$F_y = 36$  ksi      2 plates  
 1.5" thick       $4.71\sqrt{E/F_y} = 133.7$   
 $E = 29000$  ksi  
 $A_g = 67.60$  in<sup>2</sup>  
 $r_x = 4.932$  in       $K_x = 1.00$        $L_x = 22.00$  ft       $(KL/r)_x = 53.5$   
 $r_y = 4.856$  in       $K_y = 1.00$        $L_y = 22.00$  ft       $(KL/r)_y = 54.4$  controls

$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(54.4)^2} = 96.838 \text{ ksi}$

$(KL/r) = 54.4 < 4.71\sqrt{E/F_y} = 133.7$        $F_{cr} = [0.658^{(F_y/F_e)}] F_y = 30.813 \text{ ksi}$

$P_n = F_{cr} A_g = 30.8125266 \text{ ksi} \times 67.60 \text{ in}^2 = 2082.9 \text{ kips}$

$\phi_c P_n = 1874.6$  kips (LRFD)

$P_n / \Omega_c = 1247.3$  kips (ASD)

Project No. 14900-01  
 Client  
 Project Moynihan Station- Phase II

Sheet No. 1  
 Date 11/4/2015  
 Subject ConEd Column Capacity Checks  
 Des. By AHA

**COLUMN CAPACITY - AISC 13TH EDITION**

$\phi_c = 0.90$  (LRFD) (E1)

$\Omega_c = 1.67$  (ASD)

$P_n = F_{cr} A_g$  (E3-1)

$F_{cr} = [0.658^{(F_y/F_e)}] F_y$  for  $KL/r < 4.71 \sqrt{E/F_y}$  (E3-2)

$F_{cr} = 0.877 F_e$  for  $KL/r > 4.71 \sqrt{E/F_y}$  (E3-3)

$F_e = \frac{\pi^2 E}{(KL/r)^2}$  (E3-4)

Column: **w12x96**

$F_y = 36$  ksi      2 plates  
 1.5" thick       $4.71\sqrt{E/F_y} = 133.7$

$E = 29000$  ksi

$A_g = 67.20$  in<sup>2</sup>

$r_x = 4.535$  in       $K_x = 1.00$        $L_x = 19.00$  ft       $(KL/r)_x = 50.3$  controls

$r_y = 5.290$  in       $K_y = 1.00$        $L_y = 19.00$  ft       $(KL/r)_y = 43.1$

$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(50.3)^2} = 113.24 \text{ ksi}$

$(KL/r) = 50.3 < 4.71\sqrt{E/F_y} = 133.7$        $F_{cr} = [0.658^{(F_y/F_e)}] F_y = 31.515 \text{ ksi}$

$P_n = F_{cr} A_g = 31.5146587 \text{ ksi} \times 67.20 \text{ in}^2 = 2117.8 \text{ kips}$

$\phi_c P_n = 1906.0$  kips (LRFD)

$P_n / \Omega = 1268.1$  kips (ASD)

Project No. 14900-01  
 Client  
 Project Moynihan Station- Phase II

Sheet No. 1  
 Date 11/4/2015  
 Subject ConEd Column Capacity Checks  
 Des. By AHA

**COLUMN CAPACITY - AISC 13TH EDITION**

$\phi_c = 0.90$  (LRFD) (E1)

$\Omega_c = 1.67$  (ASD)

$P_n = F_{cr} A_g$  (E3-1)

$F_{cr} = [0.658^{(F_y/F_e)}] F_y$  for  $KL/r < 4.71 \sqrt{E/F_y}$  (E3-2)

$F_{cr} = 0.877 F_e$  for  $KL/r > 4.71 \sqrt{E/F_y}$  (E3-3)

$F_e = \frac{\pi^2 E}{(KL/r)^2}$  (E3-4)

Column: **w12x106**

$F_y = 36$  ksi      2 plates  
 1.5" thick       $4.71\sqrt{E/F_y} = 133.7$   
 $E = 29000$  ksi

$A_g = 71.70$  in<sup>2</sup>  
 $r_x = 4.647$  in       $K_x = 1.00$        $L_x = 19.00$  ft       $(KL/r)_x = 49.1$  controls  
 $r_y = 5.551$  in       $K_y = 1.00$        $L_y = 19.00$  ft       $(KL/r)_y = 41.1$

$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(49.1)^2} = 118.9$  ksi

$(KL/r) = 49.1 < 4.71\sqrt{E/F_y} = 133.7$        $F_{cr} = [0.658^{(F_y/F_e)}] F_y = 31.715$  ksi

$P_n = F_{cr} A_g = 31.7149984 \text{ ksi} \times 71.70 \text{ in}^2 = 2274$  kips

$\phi_c P_n = 2046.6$  kips (LRFD)

$P_n / \Omega = 1361.7$  kips (ASD)

Project No. 14900-01  
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 Project Moynihan Station- Phase II

Sheet No. 1  
 Date 11/4/2015  
 Subject ConEd Column Capacity Checks  
 Des. By AHA

**COLUMN CAPACITY - AISC 13TH EDITION**

$\phi_c = 0.90$  (LRFD) (E1)

$\Omega_c = 1.67$  (ASD)

$P_n = F_{cr} A_g$  (E3-1)

$F_{cr} = [0.658^{(F_y/F_e)}] F_y$  for  $KL/r < 4.71 \sqrt{E/F_y}$  (E3-2)

$F_{cr} = 0.877 F_e$  for  $KL/r > 4.71 \sqrt{E/F_y}$  (E3-3)

$F_e = \frac{\pi^2 E}{(KL/r)^2}$  (E3-4)

Column: **w12x152**

$F_y = 36$  ksi      2 plates  
 1.5" thick       $4.71\sqrt{E/F_y} = 133.7$   
 $E = 29000$  ksi

$A_g = 88.20$  in<sup>2</sup>  
 $r_x = 4.985$  in       $K_x = 1.00$        $L_x = 14.00$  ft       $(KL/r)_x = 33.7$  controls  
 $r_y = 5.423$  in       $K_y = 1.00$        $L_y = 14.00$  ft       $(KL/r)_y = 31.0$

$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(33.7)^2} = 252.01 \text{ ksi}$

$(KL/r) = 33.7 < 4.71\sqrt{E/F_y} = 133.7$        $F_{cr} = [0.658^{(F_y/F_e)}] F_y = 33.911 \text{ ksi}$

$P_n = F_{cr} A_g = 33.910587 \text{ ksi} \times 88.20 \text{ in}^2 = 2990.9 \text{ kips}$

$\phi_c P_n = 2691.8$  kips (LRFD)

$P_n / \Omega_c = 1791.0$  kips (ASD)



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 Des. By AHA

Subject ConEd Column Capacity Checks

**COLUMN CAPACITY - AISC 13TH EDITION**

$\phi_c = 0.90$  (LRFD) (E1)

$\Omega_c = 1.67$  (ASD)

$P_n = F_{cr} A_g$  (E3-1)

$F_{cr} = [0.658^{(F_y/F_e)}] F_y$  for  $KL/r < 4.71 \sqrt{E/F_y}$  (E3-2)

$F_{cr} = 0.877 F_e$  for  $KL/r > 4.71 \sqrt{E/F_y}$  (E3-3)

$F_e = \frac{\pi^2 E}{(KL/r)^2}$  (E3-4)

Column: **w14x43** w14x43

2 plates  
 1.5" thick

$F_y = 36$  ksi  $4.71 \sqrt{E/F_y} = 133.7$

$E = 29000$  ksi

$A_g = 54.60$  in<sup>2</sup>

$r_x = 4.517$  in

$K_x = 1.00$   $L_x = 32.02$  ft

$(KL/r)_x = 85.1$

$r_y = 4.281$  in

$K_y = 1.00$   $L_y = 32.02$  ft

$(KL/r)_y = 89.8$  controls

$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(89.8)^2} = 35.527$  ksi

$(KL/r) = 89.8 < 4.71 \sqrt{E/F_y} = 133.7$   $F_{cr} = [0.658^{(F_y/F_e)}] F_y = 23.556$  ksi

$P_n = F_{cr} A_g = 23.5564304 \text{ ksi} \times 54.60 \text{ in}^2 = 1286.2$  kips

$\phi_c P_n = 1157.6$  kips (LRFD)

$P_n / \Omega = 770.2$  kips (ASD)

Project No. 14900-01

Sheet No. 1

Client

Date 11/4/2015

Project Moynihan Station- Phase II

Subject ConEd Column Capacity Checks

Des. By AHA

**COLUMN CAPACITY - AISC 13TH EDITION**

$$\phi_c = 0.90 \quad (\text{LRFD}) \quad (\text{E1})$$

$$\Omega_c = 1.67 \quad (\text{ASD})$$

$$P_n = F_{cr} A_g \quad (\text{E3-1})$$

$$F_{cr} = [0.658^{(F_y/F_e)}] F_y \quad \text{for } KL/r < 4.71 \sqrt{E/F_y} \quad (\text{E3-2})$$

$$F_{cr} = 0.877 F_e \quad \text{for } KL/r > 4.71 \sqrt{E/F_y} \quad (\text{E3-3})$$

$$F_e = \frac{\pi^2 E}{(KL/r)^2} \quad (\text{E3-4})$$

Column: **w14x61** w14x61

$F_y = 36$  ksi 2 plates 4.71sqrt(E/F<sub>y</sub>) = 133.7  
1.5" thick

$E = 29000$  ksi

$A_g = 61.40$  in<sup>2</sup>

$r_x = 4.779$  in  $K_x = 1.00$   $L_x = 32.02$  ft  $(KL/r)_x = 80.4$  controls

$r_y = 5.030$  in  $K_y = 1.00$   $L_y = 32.02$  ft  $(KL/r)_y = 76.4$

$$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(80.4)^2} = 44.274 \text{ ksi}$$

$$(KL/r) = 80.4 < 4.71\sqrt{E/F_y} = 133.7 \quad F_{cr} = [0.658^{(F_y/F_e)}] F_y = 25.615 \text{ ksi}$$

$$P_n = F_{cr} A_g = 25.6151765 \text{ ksi} \times 61.40 \text{ in}^2 = 1572.8 \text{ kips}$$

$$\phi_c P_n = 1415.5 \text{ kips} \quad (\text{LRFD})$$

$$P_n / \Omega = 941.8 \text{ kips} \quad (\text{ASD})$$

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 Client  
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**COLUMN CAPACITY - AISC 13TH EDITION**

$\phi_c = 0.90$  (LRFD) (E1)

$\Omega_c = 1.67$  (ASD)

$P_n = F_{cr} A_g$  (E3-1)

$F_{cr} = [0.658^{(F_y/F_e)}] F_y$  for  $KL/r < 4.71 \sqrt{E/F_y}$  (E3-2)

$F_{cr} = 0.877 F_e$  for  $KL/r > 4.71 \sqrt{E/F_y}$  (E3-3)

$F_e = \frac{\pi^2 E}{(KL/r)^2}$  (E3-4)

Column: **w14x99**

$F_y = 36$  ksi      2 plates  
 1.5" thick       $4.71\sqrt{E/F_y} = 133.7$

$E = 29000$  ksi

$A_g = 72.60$  in<sup>2</sup>

$r_x = 5.078$  in       $K_x = 1.00$        $L_x = 16.00$  ft       $(KL/r)_x = 37.8$  controls

$r_y = 6.669$  in       $K_y = 1.00$        $L_y = 16.00$  ft       $(KL/r)_y = 28.8$

$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(37.8)^2} = 200.21 \text{ ksi}$

$(KL/r) = 37.8 < 4.71\sqrt{E/F_y} = 133.7$        $F_{cr} = [0.658^{(F_y/F_e)}] F_y = 33.39 \text{ ksi}$

$P_n = F_{cr} A_g = 33.3900522 \text{ ksi} \times 72.60 \text{ in}^2 = 2424.1 \text{ kips}$

$\phi_c P_n = 2181.7$  kips (LRFD)

$P_n / \Omega_c = 1451.6$  kips (ASD)

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Sheet No. 1  
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 Des. By AHA

**COLUMN CAPACITY - AISC 13TH EDITION**

$\phi_c = 0.90$  (LRFD) (E1)

$\Omega_c = 1.67$  (ASD)

$P_n = F_{cr} A_g$  (E3-1)

$F_{cr} = [0.658^{(F_y/F_e)}] F_y$  for  $KL/r < 4.71 \sqrt{E/F_y}$  (E3-2)

$F_{cr} = 0.877 F_e$  for  $KL/r > 4.71 \sqrt{E/F_y}$  (E3-3)

$F_e = \frac{\pi^2 E}{(KL/r)^2}$  (E3-4)

Column: **w14x99**

$F_y = 36$  ksi      2 plates  
 1.5" thick       $4.71\sqrt{E/F_y} = 133.7$   
 $E = 29000$  ksi

$A_g = 72.60$  in<sup>2</sup>  
 $r_x = 5.078$  in       $K_x = 1.00$        $L_x = 19.00$  ft       $(KL/r)_x = 44.9$  controls  
 $r_y = 6.669$  in       $K_y = 1.00$        $L_y = 19.00$  ft       $(KL/r)_y = 34.2$

$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(44.9)^2} = 141.98 \text{ ksi}$

$(KL/r) = 44.9 < 4.71\sqrt{E/F_y} = 133.7$        $F_{cr} = [0.658^{(F_y/F_e)}] F_y = 32.375 \text{ ksi}$

$P_n = F_{cr} A_g = 32.3750894 \text{ ksi} \times 72.60 \text{ in}^2 = 2350.4 \text{ kips}$

$\phi_c P_n = 2115.4$  kips (LRFD)

$P_n / \Omega_c = 1407.4$  kips (ASD)

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 Project Moynihan Station- Phase II

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 Subject ConEd Column Capacity Checks  
 Des. By AHA

**COLUMN CAPACITY - AISC 13TH EDITION**

$\phi_c = 0.90$  (LRFD) (E1)

$\Omega_c = 1.67$  (ASD)

$P_n = F_{cr} A_g$  (E3-1)

$F_{cr} = [0.658^{(F_y/F_e)}] F_y$  for  $KL/r < 4.71 \sqrt{E/F_y}$  (E3-2)

$F_{cr} = 0.877 F_e$  for  $KL/r > 4.71 \sqrt{E/F_y}$  (E3-3)

$F_e = \frac{\pi^2 E}{(KL/r)^2}$  (E3-4)

Column: **w14x43** w14x43

2 plates  
 1.5" thick

$F_y = 36$  ksi  $4.71 \sqrt{E/F_y} = 133.7$

$E = 29000$  ksi

$A_g = 54.60$  in<sup>2</sup>

$r_x = 4.517$  in

$K_x = 1.00$   $L_x = 32.02$  ft

$(KL/r)_x = 85.1$

$r_y = 4.281$  in

$K_y = 1.00$   $L_y = 32.02$  ft

$(KL/r)_y = 89.8$  controls

$F_e = \frac{\pi^2 E}{(KL/r)^2} = \frac{\pi^2 \times 29000 \text{ ksi}}{(89.8)^2} = 35.527$  ksi

$(KL/r) = 89.8 < 4.71 \sqrt{E/F_y} = 133.7$   $F_{cr} = [0.658^{(F_y/F_e)}] F_y = 23.556$  ksi

$P_n = F_{cr} A_g = 23.5564304 \text{ ksi} \times 54.60 \text{ in}^2 = 1286.2$  kips

$\phi_c P_n = 1157.6$  kips (LRFD)

$P_n / \Omega = 770.2$  kips (ASD)





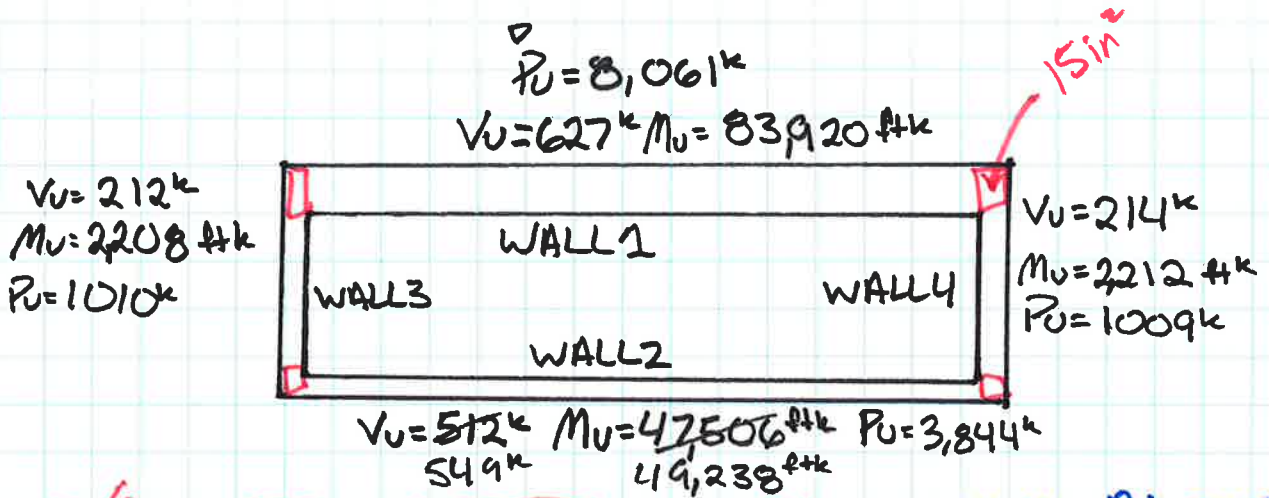
RING BEAM DESIGN

| FLOOR BEAM SCHEDULE |           |       |       |        |                        |   |      |     |     |   |                     |        |         |     |         |           |                 |                           |         |      |          |              |              |                    |                          |                   |                          |    |    |
|---------------------|-----------|-------|-------|--------|------------------------|---|------|-----|-----|---|---------------------|--------|---------|-----|---------|-----------|-----------------|---------------------------|---------|------|----------|--------------|--------------|--------------------|--------------------------|-------------------|--------------------------|----|----|
| MARK                | BEAM SIZE |       | Cover |        | FLEXURAL REINFORCEMENT |   |      |     |     |   | SHEAR REINFORCEMENT |        |         |     | F'c     | LWT CONC. | 4*sqrt(F'c)*b*d | Vs>4*sqrt(F'c)*b*d<br>Y/N | SUMMARY |      |          | As,min Check | Av,min Check | Ties Max Spa Check | Max Number of Bars Check | Max Spa Bet. Bars | Vs<=8*sqrt(F'c) bd Check |    |    |
|                     | WIDTH     | DEPTH | Top   | Bottom | BOTTOM                 |   |      | TOP |     |   | SIZE                | # LEGS | SPACING | ksi | ØMn BOT |           |                 |                           | ØMn TOP | ØVn  |          |              |              |                    |                          |                   |                          |    |    |
|                     | in        | in    | in    | in     | NUM                    | # | SIZE | LAY | NUM | # | SIZE                | LAY    | in      | in  | k-ft    |           |                 |                           | k-ft    | kips |          |              |              |                    |                          |                   |                          |    |    |
| 4'                  | 24        | 48    | 1.5   | 1.5    | 16                     | # | 10   | 3   | 16  | # | 10                  | 2      | #       | 6   | 4       | 6         | 10              | N                         | 415.2   | N    | 3624.39  | 3738.69      | 718.35       | OK                 | OK                       | OK                | OK                       | OK | OK |
| 6'                  | 24        | 72    | 1.5   | 1.5    | 28                     | # | 10   | 4   | 28  | # | 10                  | 4      | #       | 5   | 4       | 5         | 10              | N                         | 628.8   | N    | 9644.50  | 9644.50      | 966.78       | OK                 | OK                       | OK                | OK                       | OK | OK |
| 7'                  | 24        | 84    | 1.5   | 1.5    | 24                     | # | 10   | 4   | 24  | # | 10                  | 4      | #       | 5   | 5       | 5         | 10              | N                         | 744.0   | N    | 10015.10 | 10015.10     | 1360.13      | OK                 | OK                       | OK                | OK                       | OK | OK |

Project No. 1568 SHEAR WALL Sheet No. \_\_\_\_\_  
 Client DESIGN Date \_\_\_\_\_  
 Project \_\_\_\_\_ Subject \_\_\_\_\_ Des. By \_\_\_\_\_

OPENINGS = 8'-6"

FOUNDATION: SUB CELLAR - CELLAR



~~WALL 1: VERT = 2#6 @ 10" O.C. #7 @ 12"  $M_u = 186,575 k$   
 HORIZ = 2#6 @ 12" O.C.  $P_u = 13924 k$   
 $M_u = 31600 k$~~

WALL 2: VERT = ~~2#5 @ 8" O.C.~~ #7 @ 12"

HORIZ = 2#5 @ 12" O.C.

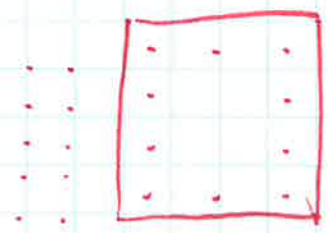
WALL 3: VERT = ~~2#4 @ 10" O.C.~~ #5 @ 12" 2#7 @ 12"

HORIZ = 2#4 @ 12" O.C.

WALL 4: VERT = ~~2#4 @ 10" O.C.~~ #5 @ 12" 2#7 @ 12"

HORIZ = 2#4 @ 12" O.C.

VERT. IN ALL WALLS = 2#7 @ 12" O.C.



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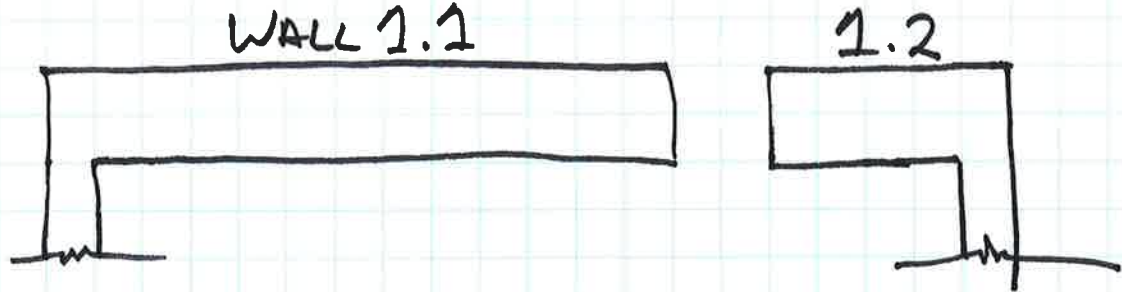
Date \_\_\_\_\_

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Subject \_\_\_\_\_

Des. By \_\_\_\_\_

### SUB CELLAR: WALL 1 RANGE



WALL 1.1:  $VU = 793^k$

$MU = 42245^{1k}$   $RU = 6938^k$

VERT. = 2#7 @ 12" O.C.

HORI = 2#6 @ 12" O.C.

WALL 1.2:  $VU = 203^k$  <sup>337<sup>k</sup></sup>

$MU = 2640^{1k}$   $RU = 1123^k$

VERT. = 2#7 @ 6"  
2#11 @ 6"

HORI = 2#6 @ 6"



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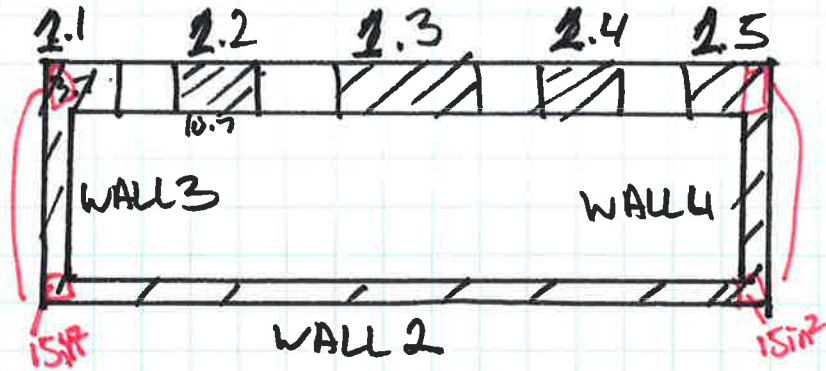
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1st Floor:



WALL 1.1:  $V_u = 83^k$   $M_u = 897^k'$   $P_u = 970^k$

VERT = 2#6 @ 6" O.C.

HORI = 2#4 @ 6" O.C.

WALL 1.2:  $V_u = 145^k$   $M_u = 1943^k'$   $P_u = 1463^k$

VERT = 2#6 @ 16" O.C.

HORI = 2#6 @ 12" O.C. ✓

WALL 1.3:  $V_u = 128^k$   $M_u = 1363^k'$   $P_u = 1773^k$

VERT = 2#6 @ 6" O.C.

HORI = 2#6 @ 12" O.C. ✓

WALL 1.4:  $V_u = 132^k$   $M_u = 1668^k'$   $P_u = 1788^k$

VERT = 2#6 @ 6" O.C.

HORI = 2#6 @ 12" O.C. ✓

WALL 1.5:  $V_u = 98^k$   $M_u = 1132^k'$   $P_u = 1028^k$

VERT = 2#6 @ 6" O.C.

HORI = 2#4 @ 6" O.C.



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1ST FLOORWALL 2:  $V_U = 511^k$   $M_U = 37,249^k$   $P_U = 3,310^k$ VERT = ~~.....~~  
 $2\#7 @ 12" O.C.$       HORIZ =  $2\#4 @ 12" O.C.$ WALL 3:  $V_U = 157^k$   $M_U = 2,508^k$   $P_U = 1,176^k$ VERT = ~~.....~~  
 $2\#7 @ 12" O.C.$       HORIZ =  $2\#4 @ 12" O.C.$ WALL 4:  $V_U = 160^k$   $M_U = 2,465^k$   $P_U = 976^k$ VERT = ~~.....~~  
 $2\#7 @ 12" O.C.$       HORIZ =  $2\#4 @ 12" O.C.$ 

$$A_1 = \frac{1}{4} A_2$$

$$r_1^2 \cancel{\pi} = \frac{1}{4} r_2^2 \cancel{\pi}$$

$$r_1 = \sqrt{\frac{1}{4} r_2^2}$$

$$r_1 = \frac{1}{2} r_2$$

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2ND FLOOR:  $P_D = 12,179^k$   
~~-6TH FLOOR~~  $M_x = 13,266^k$   $M_y = 133,825^k$

WALL 1:  $V_U = 562^k$   $M_U = 59,824^k$   $P_U = 7,645^k$

VERT = 2#6 @ 12" O.C. HORIZ = 2#6 @ 12" O.C.

WALL 2.1:  $V_U = ~~549~~ 383^k$   $M_U = 19,019^k$   $P_U = 2,121^k$

VERT = 2#4 @ 12" O.C. HORIZ = 2#4 @ 12" O.C.

★ WALL 2.2:  $V_U = 120^k$   $M_U = 805^k$   $P_U = 380^k$

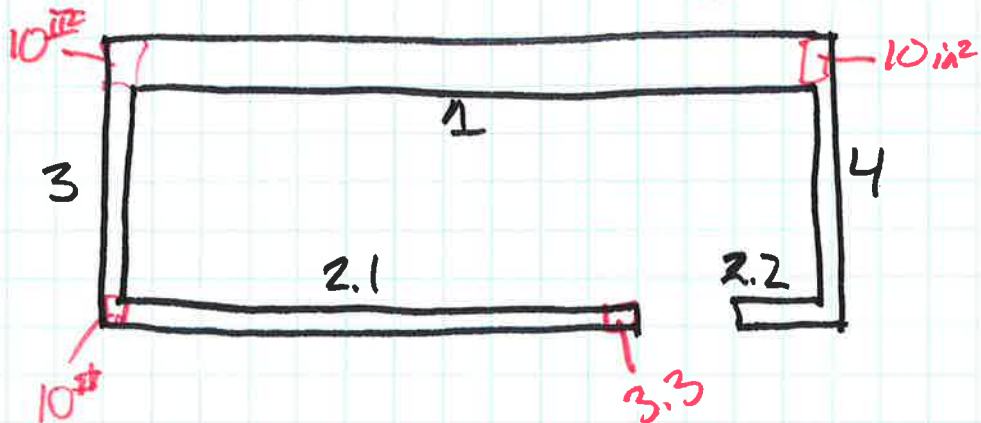
VERT = 2#6 @ 6" O.C. HORIZ = 2#4 @ 6" O.C.

WALL 3:  $V_U = 124^k$   $M_U = 1,122^k$   $P_U = 1,095^k$

VERT = 2#4 @ 12" O.C. HORIZ = 2#4 @ 12" O.C.

WALL 4:  $V_U = 127^k$   $M_U = 1,368^k$   $P_U = 938^k$

VERT = 2#4 @ 12" O.C. HORIZ = 2#4 @ 12" O.C.



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Project 7-8

Subject \_\_\_\_\_ Des. By \_\_\_\_\_

~~8TH~~ FLOOR: ~~→ 8TH FLOOR~~  $P_0 = 10,242^k$   
 $M_x = 935^k$   $M_y = 64,491^k$

WALL 1:  $V_U = 469^k$   $M_U = 31,920^k$   $P_U = 7076^k$

VERT = 2#6@12" O.C. HORIZ = 2#6@12" O.C.

WALL 2:  $V_U = 367^k$   $M_U = 14,969^k$   $P_U = 1849^k$

VERT = 2#4@12" O.C. HORIZ = 2#4@12" O.C.

WALL 3:  $V_U = 35^k$   $M_U = 234^k$   $P_U = 816^k$

VERT = 2#4@12" O.C. HORIZ = 2#4@12" O.C.

WALL 4:  $V_U = 33^k$   $M_U = 206^k$   $P_U = 501^k$

VERT = 2#4@12" O.C. HORIZ = 2#4@12" O.C.



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10<sup>TH</sup> FLOOR: WALL 2 CHANGE

or #6@6"  
#4@6"

WALL 2.1:  $V_U = 47^k$

$M_U = 386^k$   $P_U = 205^k$

VERT:  $2\#6@6" O.C.$

HORI =  $2\#4@6" O.C.$

WALL 2.2:  $V_U = 78^k$

$M_U = 630^k$   $P_U = 382^k$

VERT =  $2\#4@6" O.C.$

HORIZ =  $2\#4@12" O.C.$

WALL 2.3:  $V_U = 68^k$

$M_U = 586^k$   $P_U = 390^k$

VERT =  $2\#4@6" O.C.$

HORI =  $2\#4@12" O.C.$

WALL 2.4:  $V_U = 73^k$

$M_U = 631^k$   $P_U = 382^k$

VERT =  $2\#4@6" O.C.$

HORI =  $2\#4@12" O.C.$

#4@6"  
#4@6"

WALL 2.5:  $V_U = 54^k$

$M_U = 452^k$   $P_U = 244^k$

VERT =  $2\#4@6" O.C.$

HORI =  $2\#4@6" O.C.$

Full  $P_U = 8,362^k$

WALL  $M_x = 0$

$M_y = 42,397^k$

WALL 1: VERT =  $2\#6@12" O.C.$

HORI =  $2\#6@12" O.C.$

WALL 3: VERT =  $2\#4@12" O.C.$

HORI =  $2\#4@12" O.C.$

WALL 4: VERT

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3<sup>rd</sup> FLOOR:  
 WALL 2 CHANGE:

✓ WALL 2.1:  $V_U = 45^k$   
 VERT = 2#4@6" O.C.

$M_U = 195^k$        $P_U = 210^k$   
 HORIZ = 2#4@6" O.C.

✓ WALL 2.2:  $V_U = 107^k$   
 VERT = 2#4@6" O.C.

$M_U = 486^k$        $P_U = 618^k$   
 HORIZ = 2#4@12" O.C.

✓ WALL 2.3:  $V_U = 88^k$   
 VERT = 2#4@6" O.C.

$M_U = 392^k$        $P_U = 565^k$   
 HORIZ = 2#4@12" O.C.  
 $S_{MAX} = 11.232in$

✓ WALL 2.4:  $V_U = 57^k$   
 VERT = 2#4@6" O.C.

$M_U = 251^k$        $P_U = 210^k$   
 HORIZ = 2#4@6" O.C.

WALL 1, 3, 4 SAME AS BELOW



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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier Wall 1.2 Level Subcellar

f'c 12000 psi  
 fy 60000 psi  
 hw 14 ft  
 lw 4.92 ft  
 h 24 in  
 Mu 2640 ft-kips  
 Vu 337.0 kips  
 Pu 1123 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #11  
 Spacing 6 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #6  
 Spacing 6 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  931.3 kips OK

Shear Strength Provided by Concrete  
 $\Phi V_c$  475.8 kips  
 $\Phi V_c$  285.8 kips  
 =====  
 $\Phi V_c$  285.8 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  311.7312 kips  
 $\Phi V_n$  597.57 kips OK  
 $\rho_h$  0.0061 OK  
 $\rho_{h,min}$  0.0025  
 $s_p, max$  11.808 in OK

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0019  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0025  
 $\rho_v$  0.0217 OK  
 $s_p, max$  18 in OK

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2** Level **Subcellar**

f'c 12000 psi  
 fy 60000 psi  
 hw 14 ft  
 lw 40 ft  
 h 12 in

Mu 49238 ft-kips  
 Vu 549.0 kips  
 Pu 3844 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #7  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #5  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  3785.9 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  1825.9 kips  
 $\Phi V_c$  763.6 kips  
 =====  
 $\Phi V_c$  763.6 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  892.8 kips  
 $\Phi V_n$  1656.36 kips **OK**  
 $\rho_h$  0.0043 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0044  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0044  
 $\rho_v$  0.0083 **OK**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 3** Level **Subcellar**

f'c 12000 psi  
 fy 60000 psi  
 hw 14 ft  
 lw 10 ft  
 h 12 in

Mu 2208 ft-kips  
 Vu 212.0 kips  
 Pu 1010 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #7  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  463.8 kips  
 $\Phi V_c$  499.1 kips  
 =====  
 $\Phi V_c$  463.8 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  607.83 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0083 **OK**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 4** Level **Subcellar**

f'c **12000** psi  
 fy **60000** psi  
 hw **14** ft  
 lw **10** ft  
 h **12** in  
 Mu **2212** ft-kips  
 Vu **214.0** kips  
 Pu **1009** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#7**  
 Spacing **12** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **946.5** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **463.7** kips  
 $\Phi V_c$  **505.4** kips  
 =====  
 $\Phi V_c$  **463.7** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **144** kips  
 $\Phi V_n$  **607.68** kips **OK**  
 $\rho_h$  **0.0028** **OK**  
 $\rho_{h,min}$  **0.0025**  
 sp, max **18** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0027**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0027**  
 $\rho_v$  **0.0083** **OK**  
 sp, max **18** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 1.1** Level **Sub Cellar**

f'c **12000** psi  
 fy **60000** psi  
 hw **14** ft  
 lw **32.8** ft  
 h **24** in

Mu **42245** ft-kips  
 Vu **793.0** kips  
 Pu **6938** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#7**  
 Spacing **12** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **12** in, oc

Shear Check  
 Maximum Shear Permitted  
 $\Phi V_n$  **6208.8** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **3089.6** kips  
 $\Phi V_c$  **1803.5** kips  
 =====  
 $\Phi V_c$  **1803.5** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **1039.104** kips  
 $\Phi V_n$  **2842.62** kips **OK**  
 $\rho_h$  **0.0031** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **18** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0031**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0031**  
 $\rho_v$  **0.0042** **OK**  
 $s_p, max$  **18** in **OK**



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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier Wall 1.1 Level 1st Floor

f'c 12000 psi  
 fy 60000 psi  
 hw 19 ft  
 lw 3.7 ft  
 h 24 in  
 Mu 1435.2 ft-kips  
 Vu 132.8 kips  
 Pu 873 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #6  
 Spacing 6 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 6 in, oc

Shear Check  
 Maximum Shear Permitted  
 $\Phi V_n$  700.4 kips OK

Shear Strength Provided by Concrete  
 $\Phi V_c$  362.1 kips  
 $\Phi V_c$  121.5 kips  
 =====  
 $\Phi V_c$  121.5 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  106.56 kips  
 $\Phi V_n$  228.02 kips OK  
 $\rho_h$  0.0028 OK  
 $\rho_{h,min}$  0.0025  
 $s_p, max$  8.88 in OK

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0021  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0025  
 $\rho_v$  0.0061 OK  
 $s_p, max$  14.8 in OK

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 1.2** Level **1st Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **19** ft  
 lw **6.95** ft  
 h **24** in  
 Mu **1943** ft-kips  
 Vu **145.0** kips  
 Pu **1963** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **1315.6** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **728.6** kips  
 $\Phi V_c$  **359.0** kips  
 =====  
 $\Phi V_c$  **359.0** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **220.176** kips  
 $\Phi V_n$  **579.22** kips **OK**  
 $\rho_h$  **0.0031** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **16.68** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0024**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0061** **OK**  
 $s_p, max$  **18** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier Wall 1.3 Level 1st Floor

f'c 12000 psi  
 fy 60000 psi  
 hw 19 ft  
 lw 6.5 ft  
 h 24 in  
 Mu 1363 ft-kips  
 Vu 128.0 kips  
 Pu 1773 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #6  
 Spacing 6 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #6  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  1230.4 kips OK

Shear Strength Provided by Concrete  
 $\Phi V_c$  672.0 kips  
 $\Phi V_c$  395.9 kips  
 =====  
 $\Phi V_c$  395.9 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  205.92 kips  
 $\Phi V_n$  601.79 kips OK  
 $\rho_h$  0.0031 OK  
 $\rho_{h,min}$  0.0025  
 sp, max 15.6 in OK

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0024  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0025  
 $\rho_v$  0.0061 OK  
 sp, max 18 in OK

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 1.4** Level **1st Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **19** ft  
 lw **6.58** ft  
 h **24** in  
 Mu **1668** ft-kips  
 Vu **132.0** kips  
 Pu **1788** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **1245.5** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **679.2** kips  
 $\Phi V_c$  **335.4** kips  
 =====  
 $\Phi V_c$  **335.4** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **208.4544** kips  
 $\Phi V_n$  **543.85** kips **OK**  
 $\rho_h$  **0.0031** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **15.792** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0024**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0061** **OK**  
 $s_p, max$  **18** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 4** Level **1st Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **14** ft  
 lw **10** ft  
 h **12** in  
  
 Mu **2465** ft-kips  
 Vu **160.0** kips  
 Pu **976** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#7**  
 Spacing **12** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **946.5** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **458.7** kips  
 $\Phi V_c$  **283.0** kips  
 =====  
 $\Phi V_c$  **283.0** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **144** kips  
  
 $\Phi V_n$  **427.03** kips **OK**  
  
 $\rho_h$  **0.0028** **OK**  
 $\rho_{h,min}$  **0.0025**  
  
 sp, max **18** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0027**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0027**  
  
 $\rho_v$  **0.0083** **OK**  
  
 sp, max **18** in **OK**



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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier Wall 1.5 Level 1st Floor

f'c 12000 psi  
 fy 60000 psi  
 hw 19 ft  
 lw 4.5 ft  
 h 24 in  
 Mu 1811 ft-kips  
 Vu 156.8 kips  
 Pu 925.2 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #6  
 Spacing 6 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 6 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  851.8 kips OK

Shear Strength Provided by Concrete  
 $\Phi V_c$  419.9 kips  
 $\Phi V_c$  156.4 kips  
 =====  
 $\Phi V_c$  156.4 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  129.6 kips  
 $\Phi V_n$  285.95 kips OK  
 $\rho_h$  0.0028 OK  
 $\rho_{h,min}$  0.0025  
 $s_p, max$  10.8 in OK

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0023  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0025  
 $\rho_v$  0.0061 OK  
 $s_p, max$  18 in OK

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2** Level **1st Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 19 ft  
 lw 40 ft  
 h 12 in  
 Mu 59598 ft-kips  
 Vu 817.6 kips  
 Pu 2979 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #7  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  3785.9 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  1696.2 kips  
 $\Phi V_c$  855.4 kips  
 =====  
 $\Phi V_c$  855.4 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  576 kips  
 $\Phi V_n$  1431.36 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0028  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0028  
 $\rho_v$  0.0083 **OK**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 3** Level **1st Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 14 ft  
 lw 10 ft  
 h 12 in  
 Mu 2508 ft-kips  
 Vu 157.0 kips  
 Pu 1176 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #7  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  488.7 kips  
 $\Phi V_c$  293.2 kips  
 =====  
 $\Phi V_c$  293.2 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  437.18 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0083 **OK**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.2** Level **2nd Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **11.5** ft  
 lw **4.3** ft  
 h **12** in  
 Mu **1288** ft-kips  
 Vu **192.0** kips  
 Pu **342** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **407.0** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **185.6** kips  
 $\Phi V_c$  **111.1** kips  
 =====  
 $\Phi V_c$  **111.1** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **123.84** kips  
 $\Phi V_n$  **234.96** kips **OK**  
 $\rho_h$  **0.0056** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **10.32** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0022**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0122** **OK**  
 $s_p, max$  **17.2** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 3** Level **2nd Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 11.5 ft  
 lw 10 ft  
 h 12 in  
 Mu 1122 ft-kips  
 Vu 124.0 kips  
 Pu 1095 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  476.6 kips  
 $\Phi V_c$  673.6 kips  
 =====  
 $\Phi V_c$  476.6 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  620.58 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0028 **OK**  
 sp, max 18 in **OK**



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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 1** Level **2nd Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 11.5 ft  
 lw 40 ft  
 h 24 in  
 Mu 95726 ft-kips  
 Vu 899.0 kips  
 Pu 6881 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #6  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #6  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  7571.7 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  3530.8 kips  
 $\Phi V_c$  1274.0 kips  
 =====  
 $\Phi V_c$  1274.0 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  1267.2 kips  
 $\Phi V_n$  2541.19 kips **OK**  
 $\rho_h$  0.0031 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0031  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0031  
 $\rho_v$  0.0031 **NG**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.1** Level **2nd Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 11.5 ft  
 lw 32.95 ft  
 h 12 in  
 Mu 30430 ft-kips  
 Vu 613.0 kips  
 Pu 1909 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  3118.6 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  1315.5 kips  
 $\Phi V_c$  802.0 kips  
 =====  
 $\Phi V_c$  802.0 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  474.48 kips  
 $\Phi V_n$  1276.47 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0028  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0028  
 $\rho_v$  0.0028 **NG**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 4** Level **2nd Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 11.5 ft  
 lw 10 ft  
 h 12 in  
 Mu 1368 ft-kips  
 Vu 127.0 kips  
 Pu 938 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  453.0 kips  
 $\Phi V_c$  456.8 kips  
 =====  
 $\Phi V_c$  453.0 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  597.03 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0028 **OK**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier Wall 1 Level 8th Floor

f'c 12000 psi  
 fy 60000 psi  
 hw 12 ft  
 lw 40 ft  
 h 24 in  
 Mu 51072 ft-kips  
 Vu 750.4 kips  
 Pu 6368 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #6  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #6  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  7571.7 kips OK

Shear Strength Provided by Concrete  
 $\Phi V_c$  3453.9 kips  
 $\Phi V_c$  1878.1 kips  
 =====  
 $\Phi V_c$  1878.1 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  1267.2 kips  
 $\Phi V_n$  3145.25 kips OK  
 $\rho_h$  0.0031 OK  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in OK

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0031  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0031  
 $\rho_v$  0.0031 NG  
 sp, max 18 in OK

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2** Level **8th Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 12 ft  
 lw 40 ft  
 h 12 in  
 Mu 14969 ft-kips  
 Vu 367.0 kips  
 Pu 1849 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  3785.9 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  1526.7 kips  
 $\Phi V_c$  1564.7 kips  
 =====  
 $\Phi V_c$  1526.7 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  576 kips  
 $\Phi V_n$  2102.68 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 $s_p, max$  18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0028  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0028  
 $\rho_v$  0.0028 **NG**  
 $s_p, max$  18 in **OK**



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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 4** Level **8th Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 12 ft  
 lw 10 ft  
 h 12 in  
 Mu 206 ft-kips  
 Vu 33.0 kips  
 Pu 501 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  387.5 kips  
 $\Phi V_c$  1492.9 kips  
 =====  
 $\Phi V_c$  387.5 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  531.48 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 $s_p, max$  18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0028 **OK**  
 $s_p, max$  18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 3** Level **8th Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 12 ft  
 lw 10 ft  
 h 12 in  
 Mu 234 ft-kips  
 Vu 35.0 kips  
 Pu 816 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  434.7 kips  
 $\Phi V_c$  1339.5 kips  
 =====  
 $\Phi V_c$  434.7 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  578.73 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0028 **OK**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.1** Level **10th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **16** ft  
 lw **3.42** ft  
 h **12** in

Mu **617.6** ft-kips  
 Vu **75.2** kips  
 Pu **184.5** kips (Negative for Tension)

Vertical Steel - Concentrated

Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed

Quantity **2**  
 Bar Size **#6**  
 Spacing **6** in, oc

Horizontal Steel

Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **323.7** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **134.5** kips  
 $\Phi V_c$  **52.3** kips  
 =====  
 $\Phi V_c$  **52.3** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **98.496** kips  
 $\Phi V_n$  **150.84** kips **OK**  
 $\rho_h$  **0.0056** **OK**  
 $\rho_{h,min}$  **0.0025**  
 sp, max **8.208** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **-0.0008**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0122** **OK**  
 sp, max **13.68** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.5** Level **10th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **16** ft  
 lw **4.3** ft  
 h **12** in

Mu **723.2** ft-kips  
 Vu **86.4** kips  
 Pu **219.6** kips (Negative for Tension)

Vertical Steel - Concentrated

Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed

Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel

Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **407.0** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **167.2** kips  
 $\Phi V_c$  **77.8** kips  
 =====  
 $\Phi V_c$  **77.8** kips

Horizontal Shear Reinforcement

$\Phi V_s$  **123.84** kips  
 $\Phi V_n$  **201.64** kips **OK**  
 $\rho_h$  **0.0056** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **10.32** in **OK**

Vertical Shear Reinforcement

$\rho_{v,r}$  **0.0006**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **17.2** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.3** Level **10th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **16** ft  
 lw **6.31** ft  
 h **12** in

Mu **937.6** ft-kips  
 Vu **108.8** kips  
 Pu **351** kips (Negative for Tension)

Vertical Steel - Concentrated

Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed

Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel

Quantity **2**  
 Bar Size **#4**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **597.2** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **249.7** kips  
 $\Phi V_c$  **170.7** kips  
 =====  
 $\Phi V_c$  **170.7** kips

Horizontal Shear Reinforcement

$\Phi V_s$  **90.864** kips  
 $\Phi V_n$  **261.58** kips **OK**  
 $\rho_h$  **0.0028** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **15.144** in **OK**

Vertical Shear Reinforcement

$\rho_{v,r}$  **0.0025**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **18** in **OK**



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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.2** Level **10th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **16** ft  
 lw **6.1** ft  
 h **12** in

Mu **1088** ft-kips  
 Vu **124.8** kips  
 Pu **343.8** kips (Negative for Tension)

Vertical Steel - Concentrated

Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed

Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel

Quantity **2**  
 Bar Size **#4**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **577.3** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **242.1** kips  
 $\Phi V_c$  **156.7** kips  
 =====  
 $\Phi V_c$  **156.7** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **87.84** kips  
 $\Phi V_n$  **244.55** kips **OK**  
 $\rho_h$  **0.0028** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **14.64** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0025**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **18** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.4** Level **10th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **16** ft  
 lw **6.31** ft  
 h **12** in

Mu **937.6** ft-kips  
 Vu **108.8** kips  
 Pu **351** kips (Negative for Tension)

Vertical Steel - Concentrated

Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed

Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel

Quantity **2**  
 Bar Size **#4**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **597.2** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **249.7** kips  
 $\Phi V_c$  **170.7** kips  
 =====  
 $\Phi V_c$  **170.7** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **90.864** kips  
 $\Phi V_n$  **261.58** kips **OK**  
 $\rho_h$  **0.0028** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **15.144** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0025**  
 $\rho_{v, min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **18** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.2** Level **13th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **9** ft  
 lw **6** ft  
 h **12** in  
 Mu **777.6** ft-kips  
 Vu **171.2** kips  
 Pu **556.2** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **567.9** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **270.8** kips  
 $\Phi V_c$  **570.0** kips  
 =====  
 $\Phi V_c$  **270.8** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **86.4** kips  
 $\Phi V_n$  **357.23** kips **OK**  
 $\rho_h$  **0.0028** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **14.4** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0026**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0026**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **18** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.3** Level **13th Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 9 ft  
 lw 4.68 ft  
 h 12 in

Mu 627.2 ft-kips  
 Vu 140.8 kips  
 Pu 508.5 kips (Negative for Tension)

Vertical Steel - Concentrated

Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed

Quantity 2  
 Bar Size #4  
 Spacing 6 in, oc

Horizontal Steel

Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  442.9 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  222.4 kips  
 $\Phi V_c$  284.2 kips  
 =====  
 $\Phi V_c$  222.4 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  67.392 kips  
 $\Phi V_n$  289.84 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 11.232 in **NG**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0026  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0026  
 $\rho_v$  0.0056 **OK**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.4** Level **13th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **9** ft  
 lw **4.3** ft  
 h **12** in  
 Mu **402** ft-kips  
 Vu **91.2** kips  
 Pu **189** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **407.0** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **162.7** kips  
 $\Phi V_c$  **164.5** kips  
 =====  
 $\Phi V_c$  **162.7** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **123.84** kips  
 $\Phi V_n$  **286.49** kips **OK**  
 $\rho_h$  **0.0056** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **10.32** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0031**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0031**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **17.2** in **OK**



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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.1** Level **13th Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 9 ft  
 lw 3.42 ft  
 h 12 in  
 Mu 312 ft-kips  
 Vu 72.0 kips  
 Pu 189 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 6 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 6 in, oc

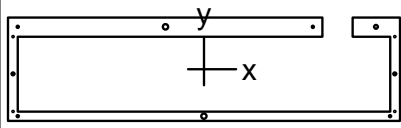
Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  323.7 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  135.2 kips  
 $\Phi V_c$  101.7 kips  
 =====  
 $\Phi V_c$  101.7 kips

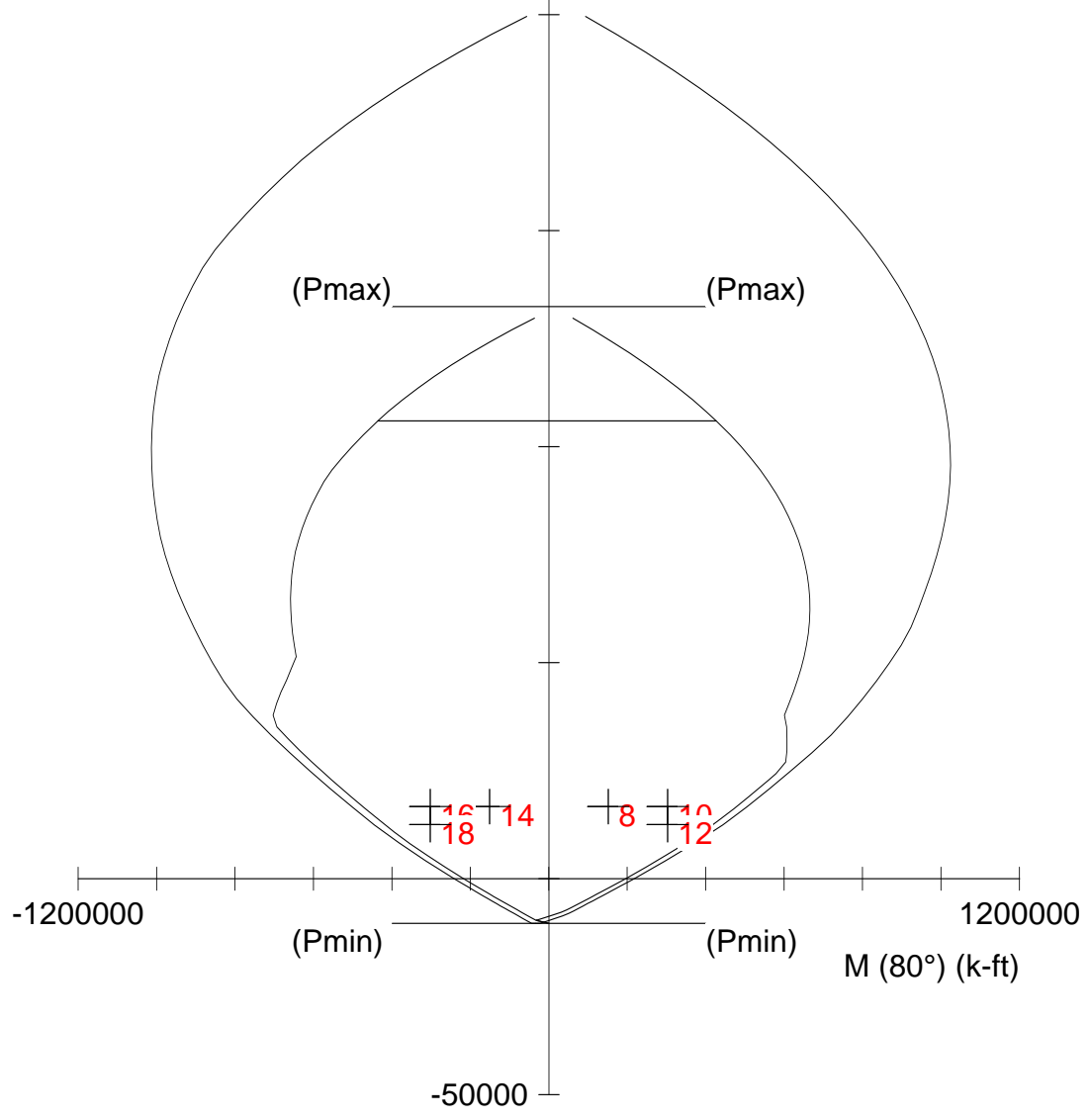
Horizontal Shear Reinforcement  
 $\Phi V_s$  98.496 kips  
 $\Phi V_n$  200.23 kips **OK**  
 $\rho_h$  0.0056 **OK**  
 $\rho_{h,min}$  0.0025  
 $s_p, max$  8.208 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0023  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0025  
 $\rho_v$  0.0056 **OK**  
 $s_p, max$  13.68 in **OK**



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/13/16  
 Time: 17:43:48



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File: S:\14442-01\SPCo\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_subcellar C wall.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 Beta1 = 0.65  
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 19034.6$  in<sup>2</sup>  
 $A_s = 191.96$  in<sup>2</sup>  
 $X_o = -8.03$  in  
 $Y_o = 11.35$  in  
 Min clear spacing = 5.54 in  
 Clear cover = N/A

13 bars  
 $\rho = 1.01\%$   
 $I_x = 5.13426e+007$  in<sup>4</sup>  
 $I_y = 4.58528e+008$  in<sup>4</sup>



DEPT OF BLDGS121191236 Job Number



ES738993711 Scan Code

```

          oooooo          o
          oo   oo          oo
oooooo  oooooo  oo      oooooo  oo   oo   o oooooooo  o ooooo
oo   o  oo oo oo  oo      oo oo  oo      oo oo  oo oo oo oo
oo      oo oo oo  oo      oo oo  oo      oo oo  oo oo oo oo
ooooo  oo oo oo  oo      oo oo  oo      oo oo  oo oo oo oo
o   oo  oo oo      oo   oo  oo oo  oo  oo  oo oo oo oo oo
ooooo  oo      oooooo  ooooo  ooo  oooooo o  oo oo oo oo oo (TM)

```

=====  
spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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S:\14442-01\SPCol\Shear



General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_subcellar C wall.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: Biaxial Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Beta1 = 0.65

Section:  
=====

Exterior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | 186.6  | 65.2   | 2   | 245.6  | 65.2   | 3   | 245.6  | -65.2  |
| 4   | -245.6 | -65.2  | 5   | -245.6 | 65.2   | 6   | 148.6  | 65.2   |
| 7   | 148.6  | 41.2   | 8   | -233.6 | 41.2   | 9   | -233.6 | -53.2  |
| 10  | 233.6  | -53.2  | 11  | 233.6  | 41.2   | 12  | 186.6  | 41.2   |

Gross section area, Ag = 19034.6 in^2  
Ix = 5.13426e+007 in^4 Iy = 4.58528e+008 in^4  
rx = 51.9358 in ry = 155.207 in  
Xo = -8.02867 in Yo = 11.3518 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 191.96 in^2 at rho = 1.01%  
Minimum clear spacing = 5.54 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 38.40     | -48.5  | 53.2   | 48.00     | 0.0    | -59.2  | 12.50     | -239.6 | -6.0   |
| 12.50     | 239.6  | -6.0   | 9.60      | -233.6 | 53.2   | 3.10      | -239.6 | 41.2   |
| 24.96     | 216.1  | 53.2   | 3.10      | 239.6  | 41.2   | 12.00     | -233.6 | -59.2  |
| 3.10      | -239.6 | -53.2  | 12.00     | 233.6  | -59.2  | 3.10      | 239.6  | -53.2  |
| 9.60      | 136.6  | 53.2   |           |        |        |           |        |        |

Service Loads:  
=====

| No. | Load Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|-----------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead      | 13924.00       | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 31600.00      | -31600.00     | 186575.00     | -186575.00    |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |

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S:\14442-01\SPCol\Sh



DEPT OF BLDGS121191236

Job Number



ES749442320

Scan Code

Sustained Load Factors:

```

=====
Load      Factor
Case      (%)
-----
Dead      100
Live      0
Wind      0
EQ        0
Snow      0

```

Load Combinations:

- ```

=====
U1 = 1.400*Dead + 0.000*Live + 0.000*Wind + 0.000*EarthQuake + 0.000*Snow
U2 = 1.200*Dead + 1.600*Live + 0.000*Wind + 0.000*EarthQuake + 0.500*Snow
U3 = 1.200*Dead + 1.000*Live + 0.000*Wind + 0.000*EarthQuake + 1.600*Snow
U4 = 1.200*Dead + 0.000*Live + 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U5 = 1.200*Dead + 1.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U6 = 0.900*Dead + 0.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U7 = 1.200*Dead + 0.000*Live - 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U8 = 1.200*Dead + 1.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U9 = 0.900*Dead + 0.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U10 = 1.200*Dead + 1.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.200*Snow
U11 = 0.900*Dead + 0.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.000*Snow
U12 = 1.200*Dead + 1.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.200*Snow
U13 = 0.900*Dead + 0.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.000*Snow

```

Factored Loads and Moments with Corresponding Capacities:

NOTE: Each loading combination includes the following cases:

```

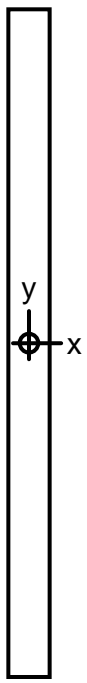
First line - at column top
Second line - at column bottom

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| No. | Load Combo | Pu kip   | Mux k-ft  | Muy k-ft   | PhiMnx k-ft | PhiMny k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|----------|-----------|------------|-------------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 19493.60 | 0.00      | 0.00       | 171909.03   | 0.00        | 999.999  | 8.49        | 118.70      | 0.03972 | 0.900 |
| 2   |            | 19493.60 | -0.00     | -0.00      | 171909.03   | 0.00        | 999.999  | 8.49        | 118.70      | 0.03972 | 0.900 |
| 3   | 1 U2       | 16708.80 | 0.00      | 0.00       | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 4   |            | 16708.80 | -0.00     | -0.00      | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 5   | 1 U3       | 16708.80 | 0.00      | 0.00       | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 6   |            | 16708.80 | -0.00     | -0.00      | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 7   | 1 U4       | 16708.80 | 25280.00  | 149260.00  | 80405.45    | 474735.75   | 3.181    | 118.47      | 420.03      | 0.00763 | 0.900 |
| 8   |            | 16708.80 | 25280.00  | 149260.00  | 80405.45    | 474735.75   | 3.181    | 118.47      | 420.03      | 0.00763 | 0.900 |
| 9   | 1 U5       | 16708.80 | 50560.00  | 298520.00  | 80405.45    | 474735.75   | 1.590    | 118.47      | 420.03      | 0.00763 | 0.900 |
| 10  |            | 16708.80 | 50560.00  | 298520.00  | 80405.45    | 474735.75   | 1.590    | 118.47      | 420.03      | 0.00763 | 0.900 |
| 11  | 1 U6       | 12531.60 | 50560.00  | 298520.00  | 70363.65    | 415446.22   | 1.392    | 103.09      | 425.63      | 0.00939 | 0.900 |
| 12  |            | 12531.60 | 50560.00  | 298520.00  | 70363.65    | 415446.22   | 1.392    | 103.09      | 425.63      | 0.00939 | 0.900 |
| 13  | 1 U7       | 16708.80 | -25280.00 | -149260.00 | -79871.08   | -471580.97  | 3.159    | 91.14       | 387.02      | 0.00973 | 0.900 |
| 14  |            | 16708.80 | -25280.00 | -149260.00 | -79871.08   | -471580.97  | 3.159    | 91.14       | 387.02      | 0.00973 | 0.900 |
| 15  | 1 U8       | 16708.80 | -50560.00 | -298520.00 | -79871.08   | -471580.97  | 1.580    | 91.14       | 387.02      | 0.00973 | 0.900 |
| 16  |            | 16708.80 | -50560.00 | -298520.00 | -79871.08   | -471580.97  | 1.580    | 91.14       | 387.02      | 0.00973 | 0.900 |
| 17  | 1 U9       | 12531.60 | -50560.00 | -298520.00 | -70463.04   | -416033.31  | 1.394    | 81.38       | 391.63      | 0.01143 | 0.900 |
| 18  |            | 12531.60 | -50560.00 | -298520.00 | -70463.04   | -416033.31  | 1.394    | 81.38       | 391.63      | 0.01143 | 0.900 |
| 19  | 1 U10      | 16708.80 | 0.00      | 0.00       | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 20  |            | 16708.80 | -0.00     | -0.00      | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 21  | 1 U11      | 12531.60 | 0.00      | 0.00       | 130398.54   | 0.00        | 999.999  | 6.82        | 119.27      | 0.05227 | 0.900 |
| 22  |            | 12531.60 | -0.00     | -0.00      | 130398.54   | 0.00        | 999.999  | 6.82        | 119.27      | 0.05227 | 0.900 |
| 23  | 1 U12      | 16708.80 | 0.00      | 0.00       | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 24  |            | 16708.80 | 0.00      | 0.00       | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 25  | 1 U13      | 12531.60 | 0.00      | 0.00       | 130398.54   | 0.00        | 999.999  | 6.82        | 119.27      | 0.05227 | 0.900 |
| 26  |            | 12531.60 | 0.00      | 0.00       | 130398.54   | 0.00        | 999.999  | 6.82        | 119.27      | 0.05227 | 0.900 |

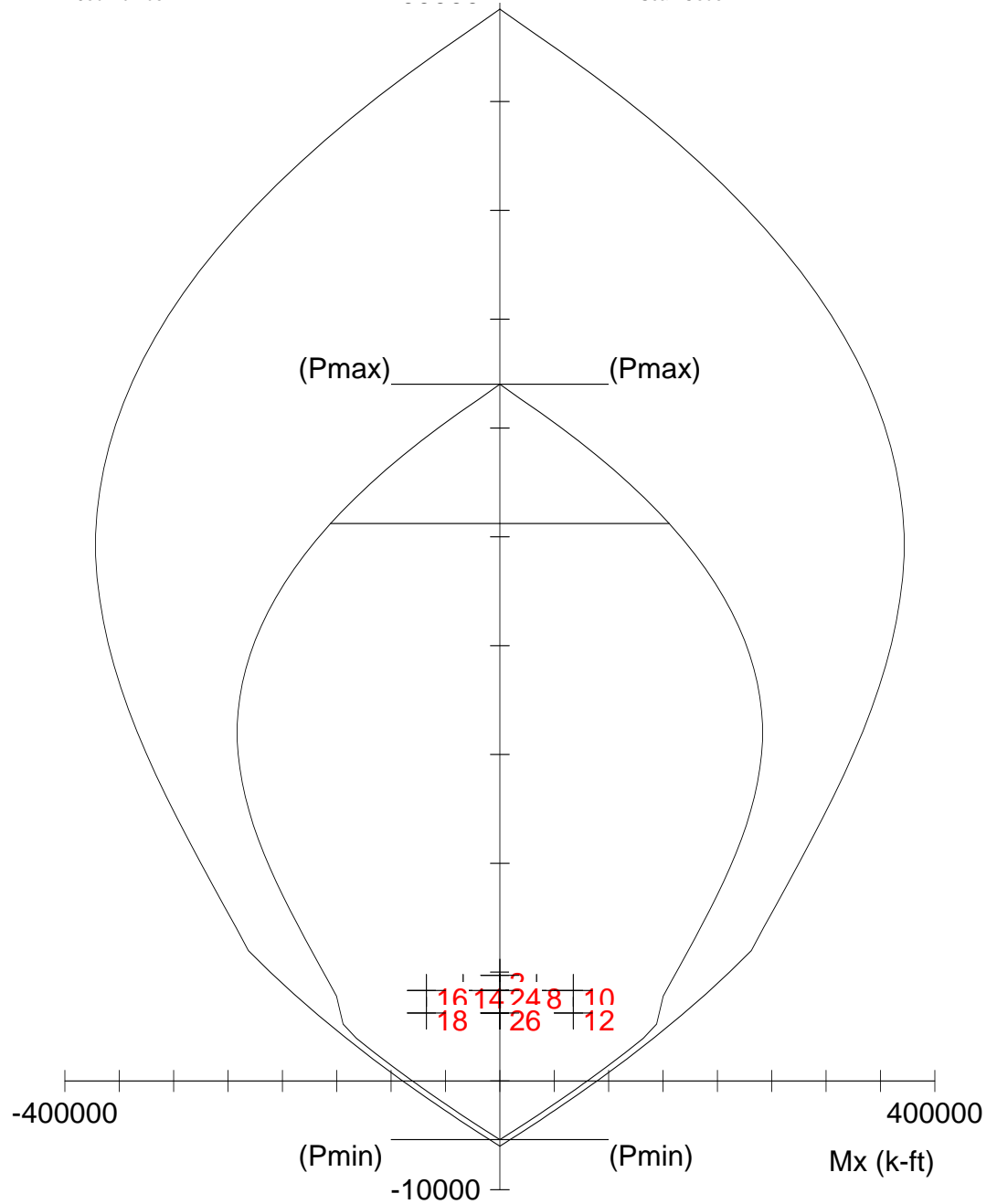
\*\*\* End of output \*\*\*





24 x 382 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:10:04



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File: S:\14442-01\SPCo\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_Wall 1.1 subcellar.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_{1} = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 9168$  in<sup>2</sup>  
 $A_s = 100.00$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 0.00$  in  
 Min clear spacing = 181.65 in Clear cover = 2.50 in

1 bars  
 $\rho = 1.09\%$   
 $I_x = 1.11486e+008$  in<sup>4</sup>  
 $I_y = 440064$  in<sup>4</sup>

$f_y = 60$  ksi

$E_s = 29000$  ksi

$e_{yt} = 0.00206897$  in/in



```

                oooooo          o
                oo   oo          oo
    oooooo   oooooo   oo          oooooo   oo   oo   o oooooo        o oooooo
oo   o   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
oo          oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
    oooooo   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
o   oo   oo   oo          oo   oo   oo   o   oo   oo   oo   oo   oo   oo   oo
    oooooo   oo          oooooo   oooooo   ooo   oooooo o   oo   oo   oo   oo   oo (TM)

```

```

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    Computer program for the Strength Design of Reinforced Concrete Sections
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General Information:

File Name: S:\14442-01\SPCol\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_Wall 1.1 subcellar.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:

Rectangular: Width = 24 in Depth = 382 in  
 Gross section area, Ag = 9168 in^2  
 Ix = 1.11486e+008 in^4 Iy = 440064 in^4  
 rx = 110.274 in ry = 6.9282 in  
 Xo = 0 in Yo = 0 in

Reinforcement:

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 100.00 in^2 at rho = 1.09%  
 Minimum clear spacing = 181.65 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 100.00    | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 6938.00             | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 42245.00      | -42245.00     | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES367572536

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

=====

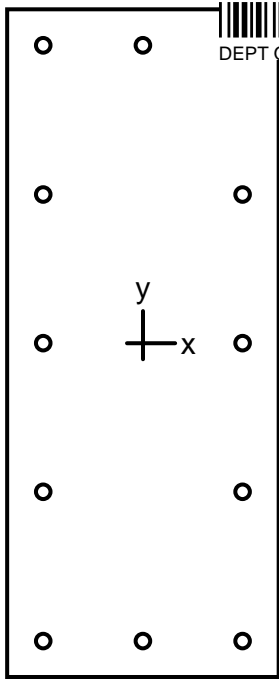
NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

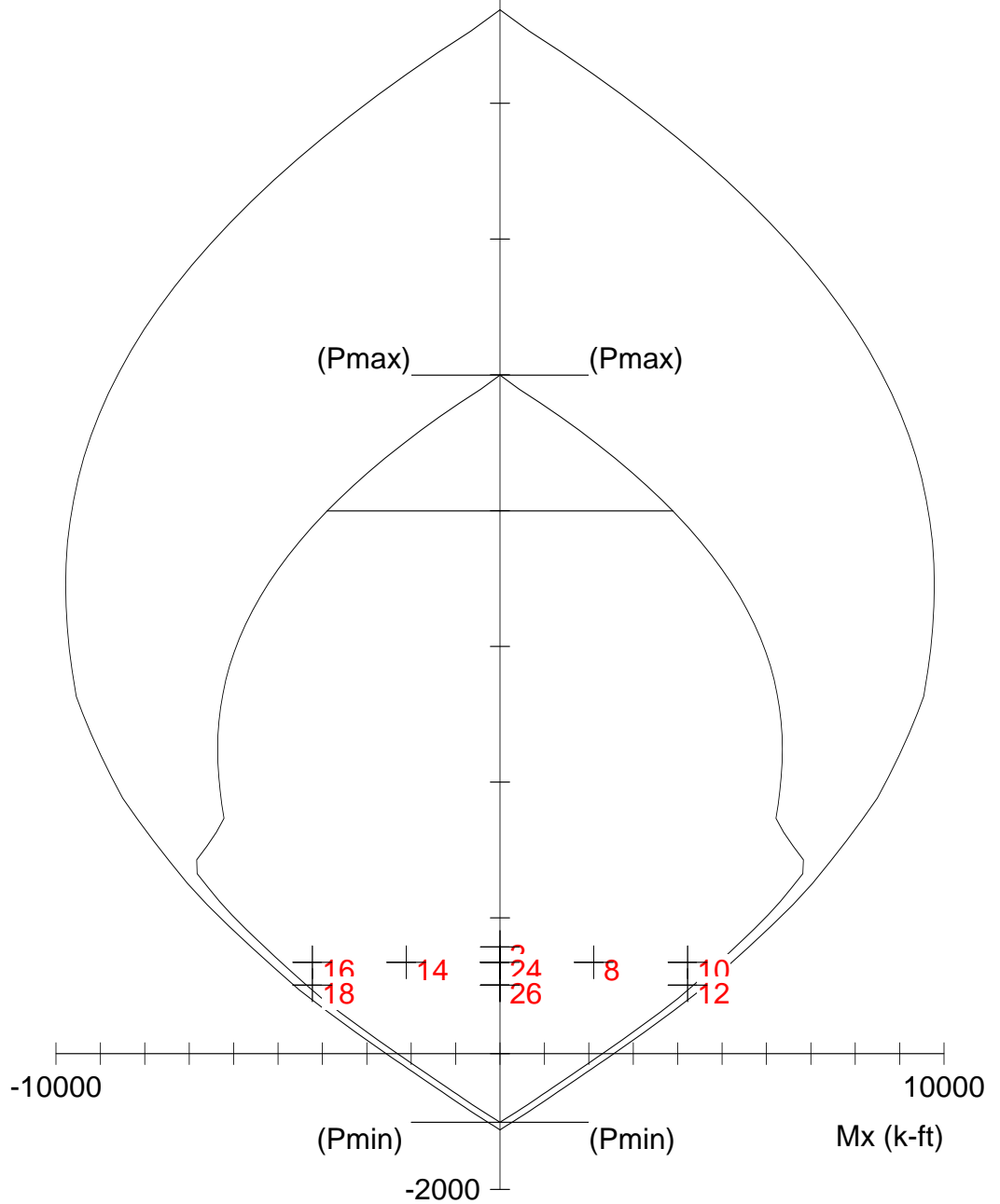
| No. | Load Combo | Pu kip  | Mux k-ft  | PhiMnx k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|---------|-----------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 9713.20 | 0.00      | 160752.86   | 999.999  | 123.68      | 191.00      | 0.00163 | 0.650 |
| 2   |            | 9713.20 | -0.00     | 160752.86   | 999.999  | 123.68      | 191.00      | 0.00163 | 0.650 |
| 3   | 1 U2       | 8325.60 | 0.00      | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 4   |            | 8325.60 | -0.00     | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 5   | 1 U3       | 8325.60 | 0.00      | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 6   |            | 8325.60 | -0.00     | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 7   | 1 U4       | 8325.60 | 33796.00  | 153184.31   | 4.533    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 8   |            | 8325.60 | 33796.00  | 153184.31   | 4.533    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 9   | 1 U5       | 8325.60 | 67592.00  | 153184.31   | 2.266    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 10  |            | 8325.60 | 67592.00  | 153184.31   | 2.266    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 11  | 1 U6       | 6244.20 | 67592.00  | 146630.36   | 2.169    | 88.80       | 191.00      | 0.00345 | 0.768 |
| 12  |            | 6244.20 | 67592.00  | 146630.36   | 2.169    | 88.80       | 191.00      | 0.00345 | 0.768 |
| 13  | 1 U7       | 8325.60 | -33796.00 | -153184.31  | 4.533    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 14  |            | 8325.60 | -33796.00 | -153184.31  | 4.533    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 15  | 1 U8       | 8325.60 | -67592.00 | -153184.31  | 2.266    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 16  |            | 8325.60 | -67592.00 | -153184.31  | 2.266    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 17  | 1 U9       | 6244.20 | -67592.00 | -146630.36  | 2.169    | 88.80       | 191.00      | 0.00345 | 0.768 |
| 18  |            | 6244.20 | -67592.00 | -146630.36  | 2.169    | 88.80       | 191.00      | 0.00345 | 0.768 |
| 19  | 1 U10      | 8325.60 | 0.00      | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 20  |            | 8325.60 | -0.00     | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 21  | 1 U11      | 6244.20 | 0.00      | 146630.36   | 999.999  | 88.80       | 191.00      | 0.00345 | 0.768 |
| 22  |            | 6244.20 | -0.00     | 146630.36   | 999.999  | 88.80       | 191.00      | 0.00345 | 0.768 |
| 23  | 1 U12      | 8325.60 | 0.00      | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 24  |            | 8325.60 | 0.00      | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 25  | 1 U13      | 6244.20 | 0.00      | 146630.36   | 999.999  | 88.80       | 191.00      | 0.00345 | 0.768 |
| 26  |            | 6244.20 | 0.00      | 146630.36   | 999.999  | 88.80       | 191.00      | 0.00345 | 0.768 |

\*\*\* End of output \*\*\*



24 x 59 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:16:35



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File: S:\14442-01\SPCo\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_Wall 1.2 subcellar.col

Project:

Column:

$f'_c = 12$  ksi

$E_c = 6244$  ksi

$f_c = 10.2$  ksi

$e_u = 0.003$  in/in

Beta1 = 0.65

Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 1416$  in<sup>2</sup>

$A_s = 18.72$  in<sup>2</sup>

$X_o = 0.00$  in

$Y_o = 0.00$  in

Min clear spacing = 7.39 in

12 #11 bars

$\rho = 1.32\%$

$I_x = 410758$  in<sup>4</sup>

$I_y = 67968$  in<sup>4</sup>

Clear cover = 2.50 in



```

          oooooo          o
          oo   oo          oo
oooooo  oooooo          oo      oo  o oooooooo  o ooooo
oo   o  oo oo oo          oo oo  oo  oo oo  oo oo oo oo
oo      oo oo oo          oo oo  oo  oo oo  oo oo oo oo
ooooo  oo oo oo          oo oo  oo  oo oo  oo oo oo oo
o   oo  oo oooooo        oo      oo oo oo  oo oo oo oo
ooooo  oo          oo oo  oo oo  oo oo  oo oo  oo oo oo (TM)

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spColumn v5.10 (TM)

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S:\14442-01\SPCol\Sh



DEPT OF BLDGS 121191236

Job Number



ES387118069

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_Wall 1.2 subcellar.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:  
=====

Rectangular: Width = 24 in Depth = 59 in  
Gross section area, Ag = 1416 in^2  
Ix = 410758 in^4 Iy = 67968 in^4  
rx = 17.0318 in ry = 6.9282 in  
Xo = 0 in Yo = 0 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Layout: Rectangular  
Pattern: Equal Bar Spacing (Cover to transverse reinforcement)  
Total steel area: As = 18.72 in^2 at rho = 1.32%  
Minimum clear spacing = 7.39 in

12 #11 Cover = 2 in

Service Loads:  
=====

| No. | Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 1123.00        | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00           | 2640.00       | -2640.00      | 0.00          | 0.00          |
|     | EQ   | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
=====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow

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DEPT OF BLDGS121191236

Job Number



ES137975841

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

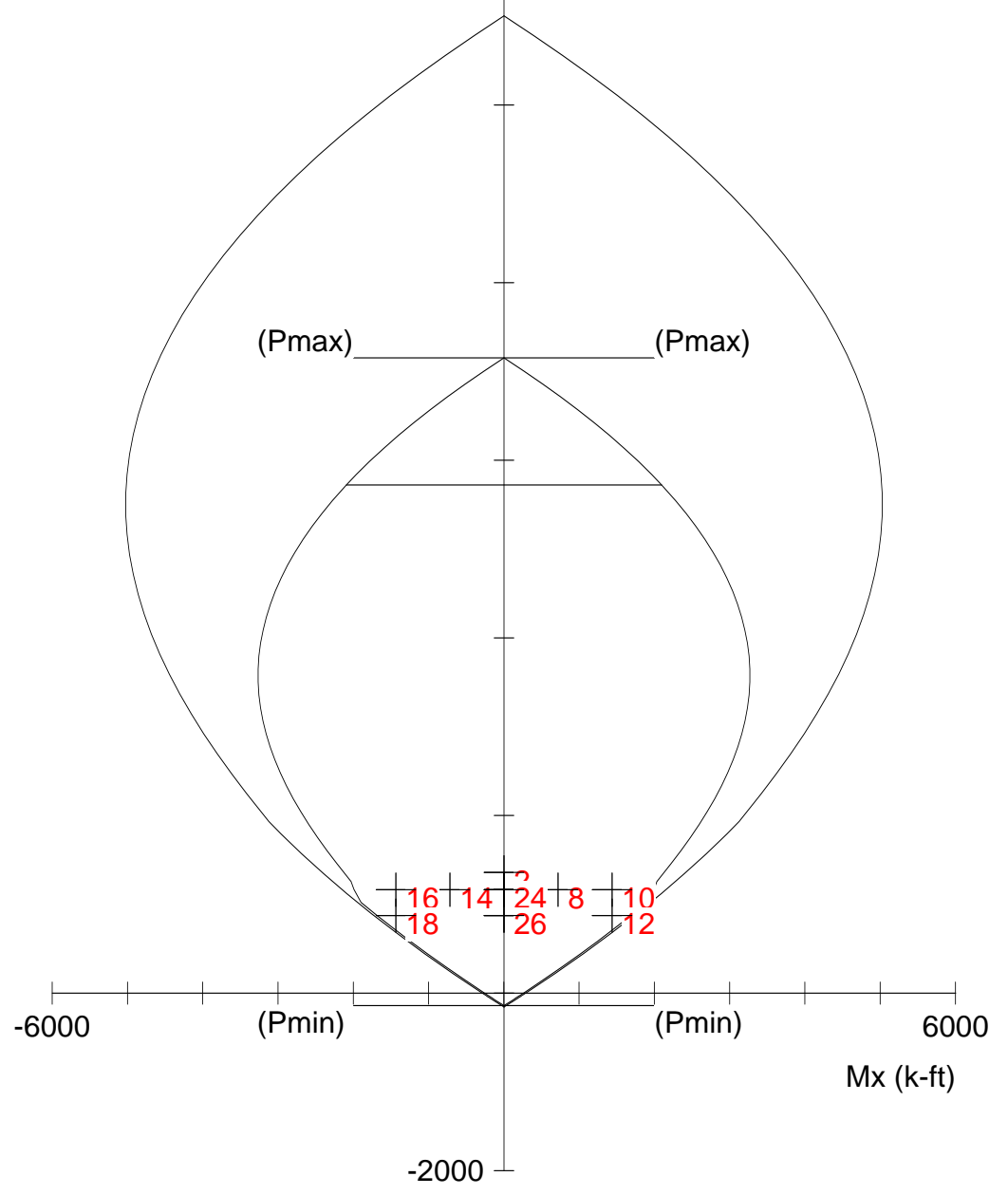
| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 1572.20 | 0.00     | 5302.49     | 999.999  |    | 13.93    |    | 55.79    | 0.00902 | 0.900 |
| 2   |            | 1572.20 | -0.00    | 5302.49     | 999.999  |    | 13.93    |    | 55.79    | 0.00902 | 0.900 |
| 3   | 1 U2       | 1347.60 | 0.00     | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 4   |            | 1347.60 | -0.00    | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 5   | 1 U3       | 1347.60 | 0.00     | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 6   |            | 1347.60 | -0.00    | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 7   | 1 U4       | 1347.60 | 2112.00  | 4931.39     | 2.335    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 8   |            | 1347.60 | 2112.00  | 4931.39     | 2.335    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 9   | 1 U5       | 1347.60 | 4224.00  | 4931.39     | 1.167    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 10  |            | 1347.60 | 4224.00  | 4931.39     | 1.167    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 11  | 1 U6       | 1010.70 | 4224.00  | 4357.68     | 1.032    |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 12  |            | 1010.70 | 4224.00  | 4357.68     | 1.032    |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 13  | 1 U7       | 1347.60 | -2112.00 | -4931.39    | 2.335    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 14  |            | 1347.60 | -2112.00 | -4931.39    | 2.335    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 15  | 1 U8       | 1347.60 | -4224.00 | -4931.39    | 1.167    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 16  |            | 1347.60 | -4224.00 | -4931.39    | 1.167    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 17  | 1 U9       | 1010.70 | -4224.00 | -4357.68    | 1.032    |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 18  |            | 1010.70 | -4224.00 | -4357.68    | 1.032    |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 19  | 1 U10      | 1347.60 | 0.00     | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 20  |            | 1347.60 | -0.00    | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 21  | 1 U11      | 1010.70 | 0.00     | 4357.68     | 999.999  |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 22  |            | 1010.70 | -0.00    | 4357.68     | 999.999  |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 23  | 1 U12      | 1347.60 | 0.00     | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 24  |            | 1347.60 | 0.00     | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 25  | 1 U13      | 1010.70 | 0.00     | 4357.68     | 999.999  |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 26  |            | 1010.70 | 0.00     | 4357.68     | 999.999  |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |

\*\*\* End of output \*\*\*



24 x 44.4 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:40:26



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.1 1st Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_1 = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 1065.6$  in<sup>2</sup>  
 $A_s = 2.64$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 0.00$  in  
 Min clear spacing = -0.92 in  
 Clear cover = 11.08 in

1 bars  
 $\rho = 0.25\%$   
 $I_x = 175057$  in<sup>4</sup>  
 $I_y = 51148.8$  in<sup>4</sup>



DEPT OF BLDGS121191236

Job Number



ES590078190

Scan Code

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                oooooo          o
                oo   oo          oo
    oooooo  oooooo  oo          oooooo  oo   oo   o oooooo  oo   oooooo
oo   o  oo   oo   oo          oo   oo   oo   oo   oo   oo   oo   oo   oo
oo          oo   oo   oo          oo   oo   oo   oo   oo   oo   oo   oo   oo
    oooooo  oo   oo   oo          oo   oo   oo   oo   oo   oo   oo   oo   oo
o   oo   oo   oooooo  oo          oo   oo   oo   oo   oo   oo   oo   oo   oo
o   oo   oo          oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
ooooo  oo          oooooo  oooooo  ooo   oooooo  o   oo   oo   oo   oo (TM)

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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.3 1st Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 24 in Depth = 78 in  
 Gross section area, Ag = 1872 in^2  
 Ix = 949104 in^4 Iy = 89856 in^4  
 rx = 22.5167 in ry = 6.9282 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 5.28 in^2 at rho = 0.28% (Note: rho < 0.50%)  
 Minimum clear spacing = -1.30 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 5.28      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 1773.00             | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 1363.00       | -1363.00      | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES666707484

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 2482.20 | 0.00     | 6754.69     | 999.999  |    | 25.52    |    | 39.00    | 0.00158 | 0.650 |
| 2   |            | 2482.20 | -0.00    | 6754.69     | 999.999  |    | 25.52    |    | 39.00    | 0.00158 | 0.650 |
| 3   | 1 U2       | 2127.60 | 0.00     | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 4   |            | 2127.60 | -0.00    | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 5   | 1 U3       | 2127.60 | 0.00     | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 6   |            | 2127.60 | -0.00    | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 7   | 1 U4       | 2127.60 | 1090.40  | 6230.24     | 5.714    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 8   |            | 2127.60 | 1090.40  | 6230.24     | 5.714    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 9   | 1 U5       | 2127.60 | 2180.80  | 6230.24     | 2.857    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 10  |            | 2127.60 | 2180.80  | 6230.24     | 2.857    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 11  | 1 U6       | 1595.70 | 2180.80  | 5443.66     | 2.496    |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 12  |            | 1595.70 | 2180.80  | 5443.66     | 2.496    |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 13  | 1 U7       | 2127.60 | -1090.40 | -6230.24    | 5.714    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 14  |            | 2127.60 | -1090.40 | -6230.24    | 5.714    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 15  | 1 U8       | 2127.60 | -2180.80 | -6230.24    | 2.857    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 16  |            | 2127.60 | -2180.80 | -6230.24    | 2.857    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 17  | 1 U9       | 1595.70 | -2180.80 | -5443.66    | 2.496    |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 18  |            | 1595.70 | -2180.80 | -5443.66    | 2.496    |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 19  | 1 U10      | 2127.60 | 0.00     | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 20  |            | 2127.60 | -0.00    | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 21  | 1 U11      | 1595.70 | 0.00     | 5443.66     | 999.999  |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 22  |            | 1595.70 | -0.00    | 5443.66     | 999.999  |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 23  | 1 U12      | 2127.60 | 0.00     | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 24  |            | 2127.60 | 0.00     | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 25  | 1 U13      | 1595.70 | 0.00     | 5443.66     | 999.999  |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 26  |            | 1595.70 | 0.00     | 5443.66     | 999.999  |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |

\*\*\* End of output \*\*\*





DEPT OF BLDGS 121191236 Job Number



ES381392742 Scan Code

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spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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S:\14442-01\SPCol\Sh



DEPT OF BLDGS121191236

Job Number



ES064177924

Scan Code

General Information:

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.1 1st Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:

Rectangular: Width = 24 in Depth = 44.4 in  
Gross section area, Ag = 1065.6 in^2  
Ix = 175057 in^4 Iy = 51148.8 in^4  
rx = 12.8172 in ry = 6.9282 in  
Xo = 0 in Yo = 0 in

Reinforcement:

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 2.64 in^2 at rho = 0.25% (Note: rho < 0.50%)  
Minimum clear spacing = -0.92 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 2.64      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 970.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 897.00        | -897.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



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Job Number



ES666275892

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

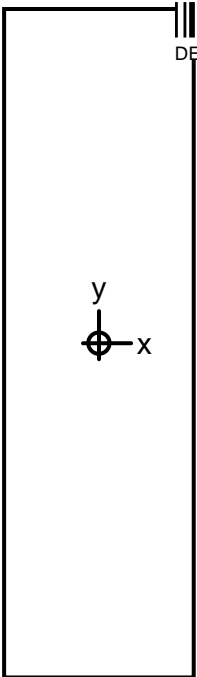
NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

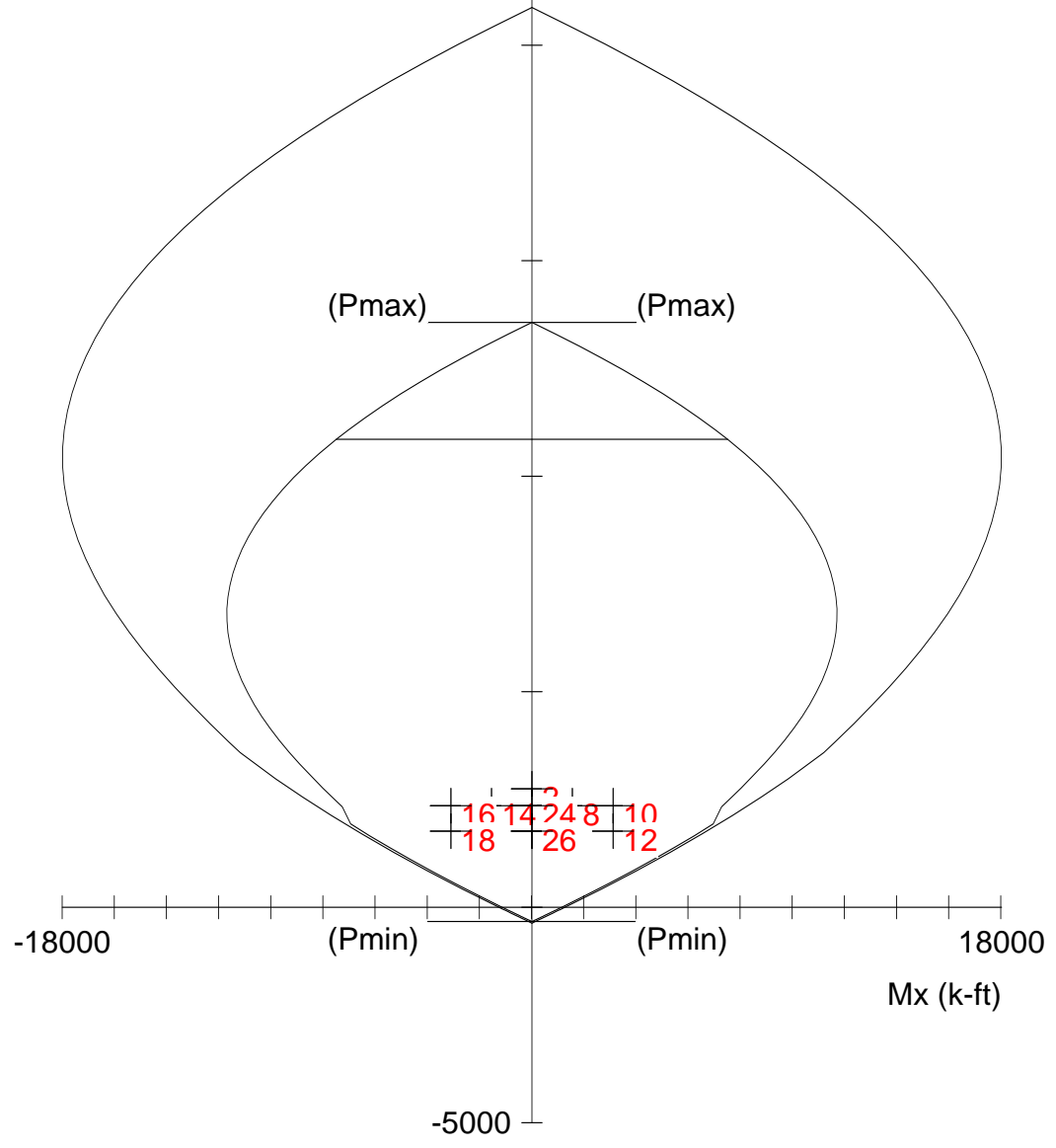
| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 1358.00 | 0.00     | 2127.38     | 999.999  |    | 13.98    |    | 22.20    | 0.00176 | 0.650 |
| 2   |            | 1358.00 | -0.00    | 2127.38     | 999.999  |    | 13.98    |    | 22.20    | 0.00176 | 0.650 |
| 3   | 1 U2       | 1164.00 | 0.00     | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 4   |            | 1164.00 | -0.00    | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 5   | 1 U3       | 1164.00 | 0.00     | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 6   |            | 1164.00 | -0.00    | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 7   | 1 U4       | 1164.00 | 717.60   | 1992.14     | 2.776    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 8   |            | 1164.00 | 717.60   | 1992.14     | 2.776    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 9   | 1 U5       | 1164.00 | 1435.20  | 1992.14     | 1.388    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 10  |            | 1164.00 | 1435.20  | 1992.14     | 1.388    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 11  | 1 U6       | 873.00  | 1435.20  | 1683.74     | 1.173    |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 12  |            | 873.00  | 1435.20  | 1683.74     | 1.173    |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 13  | 1 U7       | 1164.00 | -717.60  | -1992.14    | 2.776    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 14  |            | 1164.00 | -717.60  | -1992.14    | 2.776    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 15  | 1 U8       | 1164.00 | -1435.20 | -1992.14    | 1.388    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 16  |            | 1164.00 | -1435.20 | -1992.14    | 1.388    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 17  | 1 U9       | 873.00  | -1435.20 | -1683.74    | 1.173    |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 18  |            | 873.00  | -1435.20 | -1683.74    | 1.173    |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 19  | 1 U10      | 1164.00 | 0.00     | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 20  |            | 1164.00 | -0.00    | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 21  | 1 U11      | 873.00  | 0.00     | 1683.74     | 999.999  |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 22  |            | 873.00  | -0.00    | 1683.74     | 999.999  |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 23  | 1 U12      | 1164.00 | 0.00     | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 24  |            | 1164.00 | 0.00     | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 25  | 1 U13      | 873.00  | 0.00     | 1683.74     | 999.999  |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 26  |            | 873.00  | 0.00     | 1683.74     | 999.999  |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |

\*\*\* End of output \*\*\*



24 x 84 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:48:31



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.2 1st Floor.col

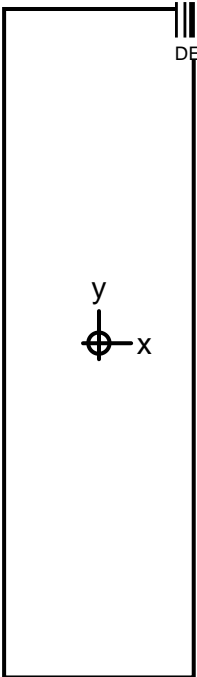
Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_1 = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

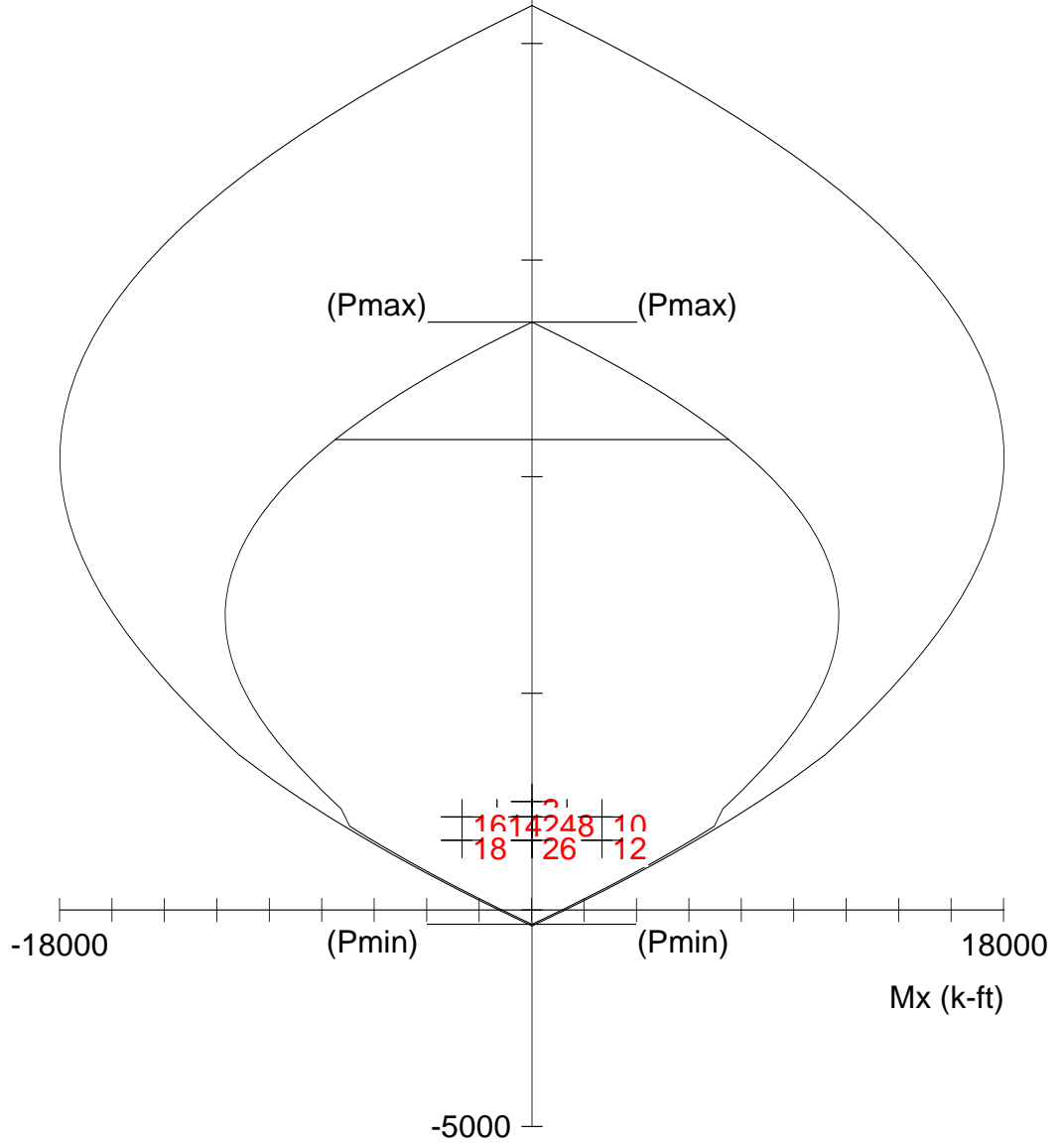
Engineer:

$A_g = 2016$  in<sup>2</sup>  
 $A_s = 6.16$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 0.00$  in  
 Min clear spacing = -1.40 in  
 1 bars  
 $\rho = 0.31\%$   
 $I_x = 1.18541e+006$  in<sup>4</sup>  
 $I_y = 96768$  in<sup>4</sup>  
 Clear cover = 10.60 in



24 x 84 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:30:12



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.4 1st Floor.col

Project:

Column:

f'c = 12 ksi

Ec = 6244 ksi

fc = 10.2 ksi

e\_u = 0.003 in/in

Beta1 = 0.65

Confinement: Tied

phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Engineer:

Ag = 2016 in^2

As = 6.16 in^2

Xo = 0.00 in

Yo = 0.00 in

Min clear spacing = -1.40 in

1 bars

rho = 0.31%

Ix = 1.18541e+006 in^4

Iy = 96768 in^4

Clear cover = 10.60 in



DEPT OF BLDGS121191236

Job Number



ES500783858

Scan Code

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Computer program for the Strength Design of Reinforced Concrete Sections
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S:\14442-01\SPCol\Shear



DEPT OF BLDGS 121191236

Job Number



ES879926052

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall C 1st Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: Biaxial Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Beta1 = 0.65

Section:  
=====

Exterior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | -233.6 | 41.2   | 2   | -201.2 | 41.2   | 3   | -201.2 | 65.2   |
| 4   | -245.6 | 65.2   | 5   | -245.6 | -65.2  | 6   | 245.6  | -65.2  |
| 7   | 245.6  | 65.2   | 8   | 191.1  | 65.2   | 9   | 191.1  | 41.2   |
| 10  | 233.6  | 41.2   | 11  | 233.6  | -53.2  | 12  | -233.6 | -53.2  |

Gross section area, Ag = 10532.5 in^2  
Ix = 2.40229e+007 in^4 Iy = 3.6431e+008 in^4  
rx = 47.7582 in ry = 185.982 in  
Xo = 4.50488 in Yo = -22.4311 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 125.60 in^2 at rho = 1.19%  
Minimum clear spacing = 5.55 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 48.00     | 0.0    | -59.2  | 12.00     | -239.6 | -6.0   | 12.00     | 239.6  | -6.0   |
| 8.80      | -233.6 | 53.2   | 3.00      | -239.6 | 41.2   | 8.80      | 233.6  | 53.2   |
| 3.00      | 239.6  | 41.2   | 12.00     | -233.6 | -59.2  | 3.00      | -239.6 | -53.2  |
| 12.00     | 233.6  | -59.2  | 3.00      | 239.6  | -53.2  |           |        |        |

Service Loads:  
=====

| No. | Load Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|-----------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead      | 7460.00        | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 19529.00      | -19529.00     | 0.00          | 0.00          |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
| 2   | Dead      | 7460.00        | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 0.00          | 0.00          | 154683.00     | -154683.00    |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |



DEPT OF BLDGS 121191236

Job Number



ES783365410

Scan Code

Sustained Load Factors:

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=====
Load      Factor
Case      (%)
-----
Dead      100
Live      0
Wind      0
EQ        0
Snow      0

```

Load Combinations:

- ```

=====
U1 = 1.400*Dead + 0.000*Live + 0.000*Wind + 0.000*EarthQuake + 0.000*Snow
U2 = 1.200*Dead + 1.600*Live + 0.000*Wind + 0.000*EarthQuake + 0.500*Snow
U3 = 1.200*Dead + 1.000*Live + 0.000*Wind + 0.000*EarthQuake + 1.600*Snow
U4 = 1.200*Dead + 0.000*Live + 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U5 = 1.200*Dead + 1.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U6 = 0.900*Dead + 0.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U7 = 1.200*Dead + 0.000*Live - 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U8 = 1.200*Dead + 1.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U9 = 0.900*Dead + 0.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U10 = 1.200*Dead + 1.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.200*Snow
U11 = 0.900*Dead + 0.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.000*Snow
U12 = 1.200*Dead + 1.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.200*Snow
U13 = 0.900*Dead + 0.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.000*Snow

```

Factored Loads and Moments with Corresponding Capacities:

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load Combo | Pu kip   | Mux k-ft  | Muy k-ft   | PhiMnx k-ft | PhiMny k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|----------|-----------|------------|-------------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 10444.00 | 0.00      | 0.00       | 54728.48    | 0.00        | 999.999  | 5.48        | 119.66      | 0.06780 | 0.900 |
| 2   |            | 10444.00 | -0.00     | -0.00      | 54728.48    | 0.00        | 999.999  | 5.48        | 119.66      | 0.06780 | 0.900 |
| 3   | 1 U2       | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 4   |            | 8952.00  | -0.00     | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 5   | 1 U3       | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 6   |            | 8952.00  | -0.00     | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 7   | 1 U4       | 8952.00  | 15623.20  | 0.00       | 49939.65    | 0.00        | 3.197    | 5.07        | 119.55      | 0.07307 | 0.900 |
| 8   |            | 8952.00  | 15623.20  | -0.00      | 49939.65    | 0.00        | 3.197    | 5.07        | 119.55      | 0.07307 | 0.900 |
| 9   | 1 U5       | 8952.00  | 31246.40  | 0.00       | 49939.65    | 0.00        | 1.598    | 5.07        | 119.55      | 0.07307 | 0.900 |
| 10  |            | 8952.00  | 31246.40  | -0.00      | 49939.65    | 0.00        | 1.598    | 5.07        | 119.55      | 0.07307 | 0.900 |
| 11  | 1 U6       | 6714.00  | 31246.40  | 0.00       | 42741.97    | 0.00        | 1.368    | 4.49        | 119.36      | 0.08197 | 0.900 |
| 12  |            | 6714.00  | 31246.40  | -0.00      | 42741.97    | 0.00        | 1.368    | 4.49        | 119.36      | 0.08197 | 0.900 |
| 13  | 1 U7       | 8952.00  | -15623.20 | 0.00       | -104988.91  | -0.01       | 6.720    | 28.91       | 130.18      | 0.01211 | 0.900 |
| 14  |            | 8952.00  | -15623.20 | -0.00      | -104988.91  | -0.01       | 6.720    | 28.91       | 130.18      | 0.01211 | 0.900 |
| 15  | 1 U8       | 8952.00  | -31246.40 | 0.00       | -104988.91  | -0.01       | 3.360    | 28.91       | 130.18      | 0.01211 | 0.900 |
| 16  |            | 8952.00  | -31246.40 | -0.00      | -104988.91  | -0.01       | 3.360    | 28.91       | 130.18      | 0.01211 | 0.900 |
| 17  | 1 U9       | 6714.00  | -31246.40 | 0.00       | -92762.08   | -0.01       | 2.969    | 22.99       | 129.62      | 0.01492 | 0.900 |
| 18  |            | 6714.00  | -31246.40 | -0.00      | -92762.08   | -0.01       | 2.969    | 22.99       | 129.62      | 0.01492 | 0.900 |
| 19  | 1 U10      | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 20  |            | 8952.00  | -0.00     | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 21  | 1 U11      | 6714.00  | 0.00      | 0.00       | 42741.97    | 0.00        | 999.999  | 4.49        | 119.36      | 0.08197 | 0.900 |
| 22  |            | 6714.00  | -0.00     | -0.00      | 42741.97    | 0.00        | 999.999  | 4.49        | 119.36      | 0.08197 | 0.900 |
| 23  | 1 U12      | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 24  |            | 8952.00  | 0.00      | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 25  | 1 U13      | 6714.00  | 0.00      | 0.00       | 42741.97    | 0.00        | 999.999  | 4.49        | 119.36      | 0.08197 | 0.900 |
| 26  |            | 6714.00  | 0.00      | -0.00      | 42741.97    | 0.00        | 999.999  | 4.49        | 119.36      | 0.08197 | 0.900 |
| 27  | 2 U1       | 10444.00 | 0.00      | 0.00       | 54728.48    | 0.00        | 999.999  | 5.48        | 119.66      | 0.06780 | 0.900 |
| 28  |            | 10444.00 | -0.00     | -0.00      | 54728.48    | 0.00        | 999.999  | 5.48        | 119.66      | 0.06780 | 0.900 |
| 29  | 2 U2       | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 30  |            | 8952.00  | -0.00     | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 31  | 2 U3       | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 32  |            | 8952.00  | -0.00     | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 33  | 2 U4       | 8952.00  | 0.00      | 123746.40  | -0.01       | 306598.22   | 2.478    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 34  |            | 8952.00  | -0.00     | 123746.40  | -0.01       | 306598.22   | 2.478    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 35  | 2 U5       | 8952.00  | 0.00      | 247492.80  | -0.01       | 306598.22   | 1.239    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 36  |            | 8952.00  | -0.00     | 247492.80  | -0.01       | 306598.22   | 1.239    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 37  | 2 U6       | 6714.00  | 0.00      | 247492.80  | -0.01       | 265049.19   | 1.071    | 38.72       | 494.63      | 0.03691 | 0.900 |
| 38  |            | 6714.00  | -0.00     | 247492.80  | -0.01       | 265049.19   | 1.071    | 38.72       | 494.63      | 0.03691 | 0.900 |
| 39  | 2 U7       | 8952.00  | 0.00      | -123746.40 | 0.00        | -313319.50  | 2.532    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 40  |            | 8952.00  | -0.00     | -123746.40 | 0.00        | -313319.50  | 2.532    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 41  | 2 U8       | 8952.00  | 0.00      | -247492.80 | 0.00        | -313319.50  | 1.266    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 42  |            | 8952.00  | -0.00     | -247492.80 | 0.00        | -313319.50  | 1.266    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 43  | 2 U9       | 6714.00  | 0.00      | -247492.80 | 0.00        | -270090.16  | 1.091    | 38.72       | 494.63      | 0.03691 | 0.900 |
| 44  |            | 6714.00  | -0.00     | -247492.80 | 0.00        | -270090.16  | 1.091    | 38.72       | 494.63      | 0.03691 | 0.900 |



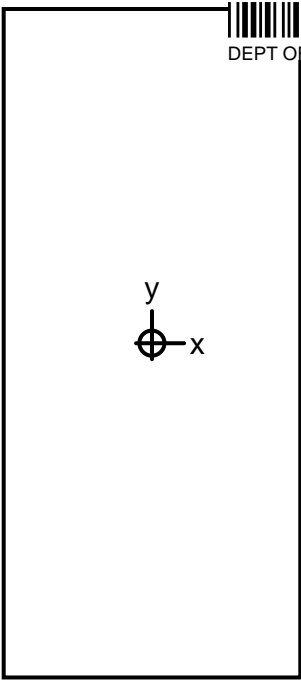
DEPT OF BLDGS121191236 Job Number



ES908092665 Scan Code

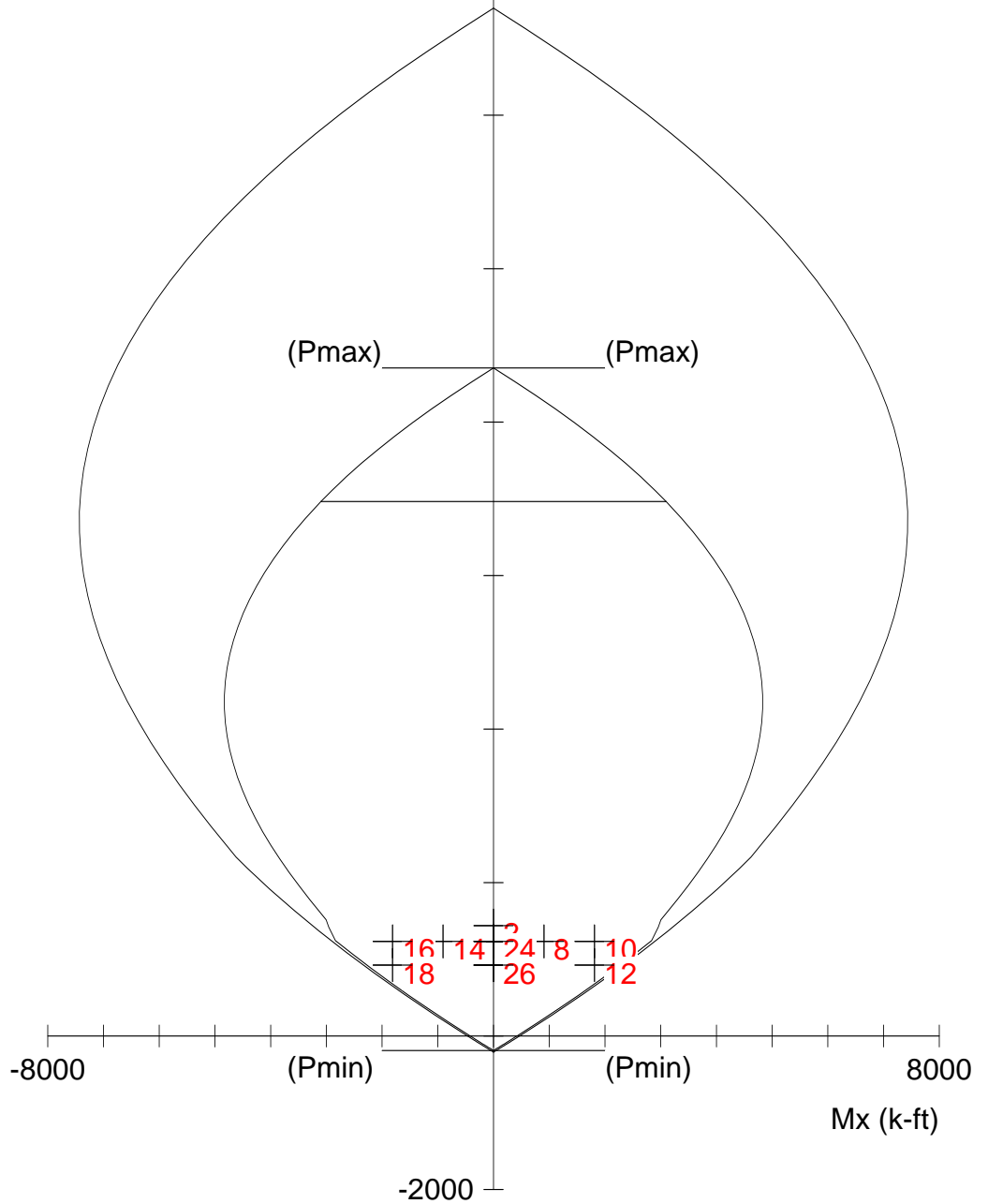
|    |       |         |       |       |          |      |         |      |        |         |       |
|----|-------|---------|-------|-------|----------|------|---------|------|--------|---------|-------|
| 45 | 2 U10 | 8952.00 | 0.00  | 0.00  | 49939.65 | 0.00 | 999.999 | 5.07 | 119.55 | 0.07307 | 0.900 |
| 46 |       | 8952.00 | -0.00 | -0.00 | 49939.65 | 0.00 | 999.999 | 5.07 | 119.55 | 0.07307 | 0.900 |
| 47 | 2 U11 | 6714.00 | 0.00  | 0.00  | 42741.97 | 0.00 | 999.999 | 4.49 | 119.36 | 0.08197 | 0.900 |
| 48 |       | 6714.00 | -0.00 | -0.00 | 42741.97 | 0.00 | 999.999 | 4.49 | 119.36 | 0.08197 | 0.900 |
| 49 | 2 U12 | 8952.00 | 0.00  | 0.00  | 49939.65 | 0.00 | 999.999 | 5.07 | 119.55 | 0.07307 | 0.900 |
| 50 |       | 8952.00 | -0.00 | 0.00  | 49939.65 | 0.00 | 999.999 | 5.07 | 119.55 | 0.07307 | 0.900 |
| 51 | 2 U13 | 6714.00 | 0.00  | 0.00  | 42741.97 | 0.00 | 999.999 | 4.49 | 119.36 | 0.08197 | 0.900 |
| 52 |       | 6714.00 | -0.00 | 0.00  | 42741.97 | 0.00 | 999.999 | 4.49 | 119.36 | 0.08197 | 0.900 |

\*\*\* End of output \*\*\*



24 x 54 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:42:51



STRUCTUREPOINT - spColumn v5.10 (TM). Licensed to: Severud Associates Consulting Engineers P.C.. License ID: 65661-1053340-4-2C47C-231

File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.5 1st Floor.col

Project:

Column:

$f'_c = 12$  ksi

$E_c = 6244$  ksi

$f_c = 10.2$  ksi

$e_u = 0.003$  in/in

Beta1 = 0.65

Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 1296$  in<sup>2</sup>

$A_s = 3.52$  in<sup>2</sup>

$X_o = 0.00$  in

$Y_o = 0.00$  in

Min clear spacing = -1.06 in

1 bars

$\rho = 0.27\%$

$I_x = 314928$  in<sup>4</sup>

$I_y = 62208$  in<sup>4</sup>

Clear cover = 10.94 in



```

          oooooo          o
        oo  oo
ooooo  oooooo  oo          ooooo  oo  oo  o oooooooo  o ooooo
oo  o  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo
oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo
ooooo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo
o  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo  oo
ooooo  oo  oooooo  ooooo  ooo  ooooo o  oo  oo  oo  oo  oo (TM)

```

```

=====
                        spColumn v5.10 (TM)
Computer program for the Strength Design of Reinforced Concrete Sections
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=====

```

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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.2 1st Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 24 in Depth = 84 in  
 Gross section area, Ag = 2016 in^2  
 Ix = 1.18541e+006 in^4 Iy = 96768 in^4  
 rx = 24.2487 in ry = 6.9282 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 6.16 in^2 at rho = 0.31% (Note: rho < 0.50%)  
 Minimum clear spacing = -1.40 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 6.16      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 1963.00             | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 1943.00       | -1943.00      | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow





DEPT OF BLDGS121191236

Job Number



ES493026268

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

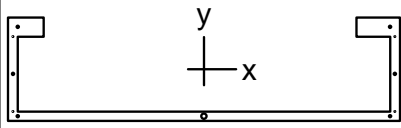
Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

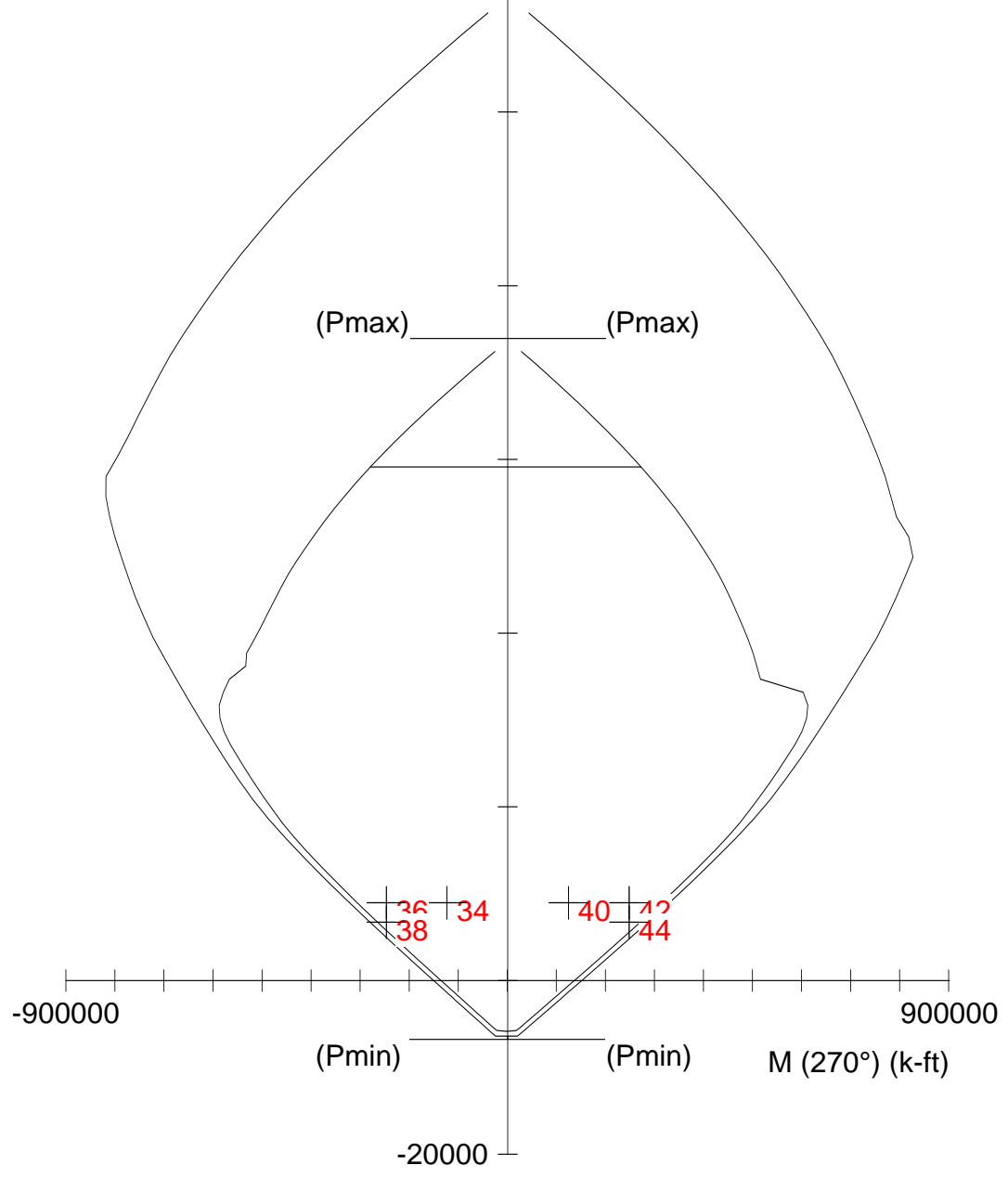
| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|-------------|---------|-------|
| 1   | 1 U1       | 2748.20 | 0.00     | 7984.09     | 999.999  |    | 28.22    | 42.00       | 0.00147 | 0.650 |
| 2   |            | 2748.20 | -0.00    | 7984.09     | 999.999  |    | 28.22    | 42.00       | 0.00147 | 0.650 |
| 3   | 1 U2       | 2355.60 | 0.00     | 7311.07     | 999.999  |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 4   |            | 2355.60 | -0.00    | 7311.07     | 999.999  |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 5   | 1 U3       | 2355.60 | 0.00     | 7311.07     | 999.999  |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 6   |            | 2355.60 | -0.00    | 7311.07     | 999.999  |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 7   | 1 U4       | 2355.60 | 1554.40  | 7311.07     | 4.703    |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 8   |            | 2355.60 | 1554.40  | 7311.07     | 4.703    |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 9   | 1 U5       | 2355.60 | 3108.80  | 7311.07     | 2.352    |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 10  |            | 2355.60 | 3108.80  | 7311.07     | 2.352    |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 11  | 1 U6       | 1766.70 | 3108.80  | 6514.20     | 2.095    |    | 14.66    | 42.00       | 0.00560 | 0.900 |
| 12  |            | 1766.70 | 3108.80  | 6514.20     | 2.095    |    | 14.66    | 42.00       | 0.00560 | 0.900 |
| 13  | 1 U7       | 2355.60 | -1554.40 | -7311.07    | 4.703    |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 14  |            | 2355.60 | -1554.40 | -7311.07    | 4.703    |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 15  | 1 U8       | 2355.60 | -3108.80 | -7311.07    | 2.352    |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 16  |            | 2355.60 | -3108.80 | -7311.07    | 2.352    |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 17  | 1 U9       | 1766.70 | -3108.80 | -6514.20    | 2.095    |    | 14.66    | 42.00       | 0.00560 | 0.900 |
| 18  |            | 1766.70 | -3108.80 | -6514.20    | 2.095    |    | 14.66    | 42.00       | 0.00560 | 0.900 |
| 19  | 1 U10      | 2355.60 | 0.00     | 7311.07     | 999.999  |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 20  |            | 2355.60 | -0.00    | 7311.07     | 999.999  |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 21  | 1 U11      | 1766.70 | 0.00     | 6514.20     | 999.999  |    | 14.66    | 42.00       | 0.00560 | 0.900 |
| 22  |            | 1766.70 | -0.00    | 6514.20     | 999.999  |    | 14.66    | 42.00       | 0.00560 | 0.900 |
| 23  | 1 U12      | 2355.60 | 0.00     | 7311.07     | 999.999  |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 24  |            | 2355.60 | 0.00     | 7311.07     | 999.999  |    | 25.05    | 42.00       | 0.00203 | 0.650 |
| 25  | 1 U13      | 1766.70 | 0.00     | 6514.20     | 999.999  |    | 14.66    | 42.00       | 0.00560 | 0.900 |
| 26  |            | 1766.70 | 0.00     | 6514.20     | 999.999  |    | 14.66    | 42.00       | 0.00560 | 0.900 |

\*\*\* End of output \*\*\*



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:35:38



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall C 1st Floor.col

Project:

Column:

f'c = 12 ksi  
 Ec = 6244 ksi  
 fc = 10.2 ksi  
 e\_u = 0.003 in/in  
 Beta1 = 0.65  
 Confinement: Tied  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Engineer:

Ag = 10532.5 in^2  
 As = 125.60 in^2  
 Xo = 4.50 in  
 Yo = -22.43 in  
 Min clear spacing = 5.55 in  
 11 bars  
 rho = 1.19%  
 lx = 2.40229e+007 in^4  
 ly = 3.6431e+008 in^4  
 Clear cover = N/A



```

                oooooo          o
                oo   oo          oo
oooooo  oooooo  oo          oooooo  oo  oo  ooooooooooooo  o ooooo
oo   o  oo oo oo          oo oo  oo  oo oo  oo oo oo oo oo oo
oo          oo oo  oo          oo oo  oo  oo oo  oo oo oo oo oo
oooooo  oo oo oo  oo          oo oo  oo  oo oo  oo oo oo oo oo
o   oo  oo          oo oo  oo oo oo  oo oo  oo oo  oo oo oo
oooooo  oo          ooooooo  oooooo  ooo  oooooo o  oo oo oo oo oo (TM)

```

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=====
                        spColumn v5.10 (TM)
Computer program for the Strength Design of Reinforced Concrete Sections
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=====

```

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License to: Severud

S:\14442-01\SPCol\Sh



DEPT OF BLDGS121191236

Job Number



ES382029571

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.4 1st Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Beta1 = 0.65

Section:  
=====

Rectangular: Width = 24 in Depth = 84 in  
Gross section area, Ag = 2016 in^2  
Ix = 1.18541e+006 in^4 Iy = 96768 in^4  
rx = 24.2487 in ry = 6.9282 in  
Xo = 0 in Yo = 0 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 6.16 in^2 at rho = 0.31% (Note: rho < 0.50%)  
Minimum clear spacing = -1.40 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 6.16      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
=====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 1788.00             | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 1668.00       | -1668.00      | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
=====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES343629273

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

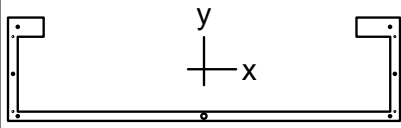
Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

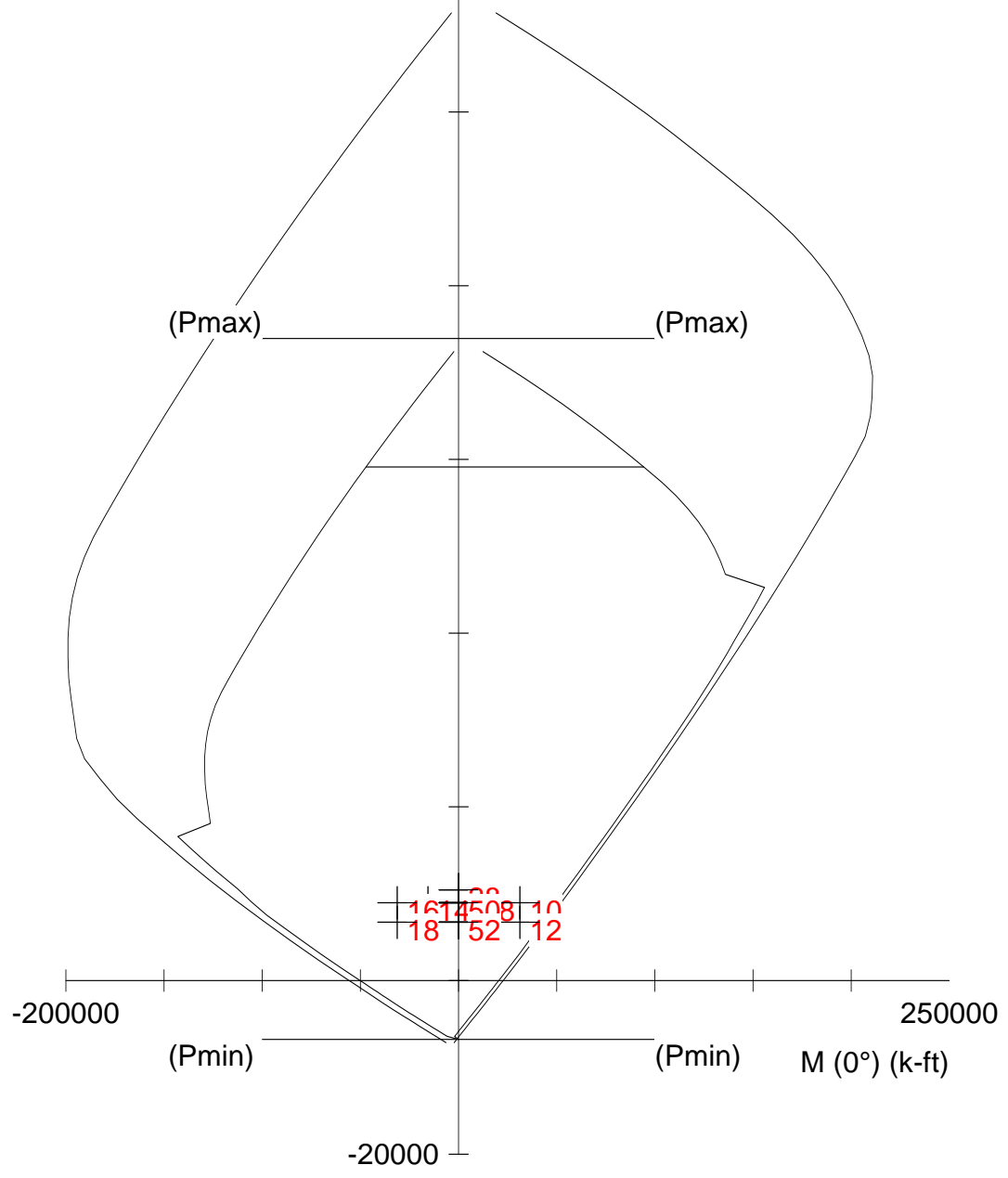
| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 2503.20 | 0.00     | 7567.56     | 999.999  |    | 26.23    |    | 42.00    | 0.00180 | 0.650 |
| 2   |            | 2503.20 | -0.00    | 7567.56     | 999.999  |    | 26.23    |    | 42.00    | 0.00180 | 0.650 |
| 3   | 1 U2       | 2145.60 | 0.00     | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 4   |            | 2145.60 | -0.00    | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 5   | 1 U3       | 2145.60 | 0.00     | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 6   |            | 2145.60 | -0.00    | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 7   | 1 U4       | 2145.60 | 1334.40  | 7126.32     | 5.340    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 8   |            | 2145.60 | 1334.40  | 7126.32     | 5.340    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 9   | 1 U5       | 2145.60 | 2668.80  | 7126.32     | 2.670    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 10  |            | 2145.60 | 2668.80  | 7126.32     | 2.670    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 11  | 1 U6       | 1609.20 | 2668.80  | 6083.32     | 2.279    |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 12  |            | 1609.20 | 2668.80  | 6083.32     | 2.279    |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 13  | 1 U7       | 2145.60 | -1334.40 | -7126.32    | 5.340    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 14  |            | 2145.60 | -1334.40 | -7126.32    | 5.340    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 15  | 1 U8       | 2145.60 | -2668.80 | -7126.32    | 2.670    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 16  |            | 2145.60 | -2668.80 | -7126.32    | 2.670    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 17  | 1 U9       | 1609.20 | -2668.80 | -6083.32    | 2.279    |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 18  |            | 1609.20 | -2668.80 | -6083.32    | 2.279    |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 19  | 1 U10      | 2145.60 | 0.00     | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 20  |            | 2145.60 | -0.00    | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 21  | 1 U11      | 1609.20 | 0.00     | 6083.32     | 999.999  |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 22  |            | 1609.20 | -0.00    | 6083.32     | 999.999  |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 23  | 1 U12      | 2145.60 | 0.00     | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 24  |            | 2145.60 | 0.00     | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 25  | 1 U13      | 1609.20 | 0.00     | 6083.32     | 999.999  |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 26  |            | 1609.20 | 0.00     | 6083.32     | 999.999  |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |

\*\*\* End of output \*\*\*



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:35:23



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall C 1st Floor.col

Project:

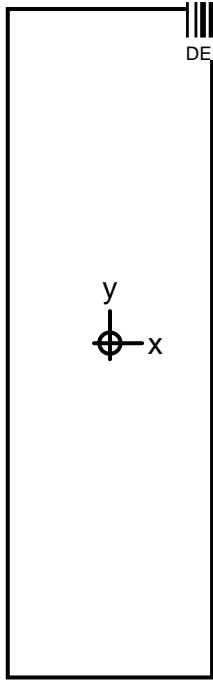
Column:

f'c = 12 ksi  
 Ec = 6244 ksi  
 fc = 10.2 ksi  
 e\_u = 0.003 in/in  
 Beta1 = 0.65  
 Confinement: Tied  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Engineer:

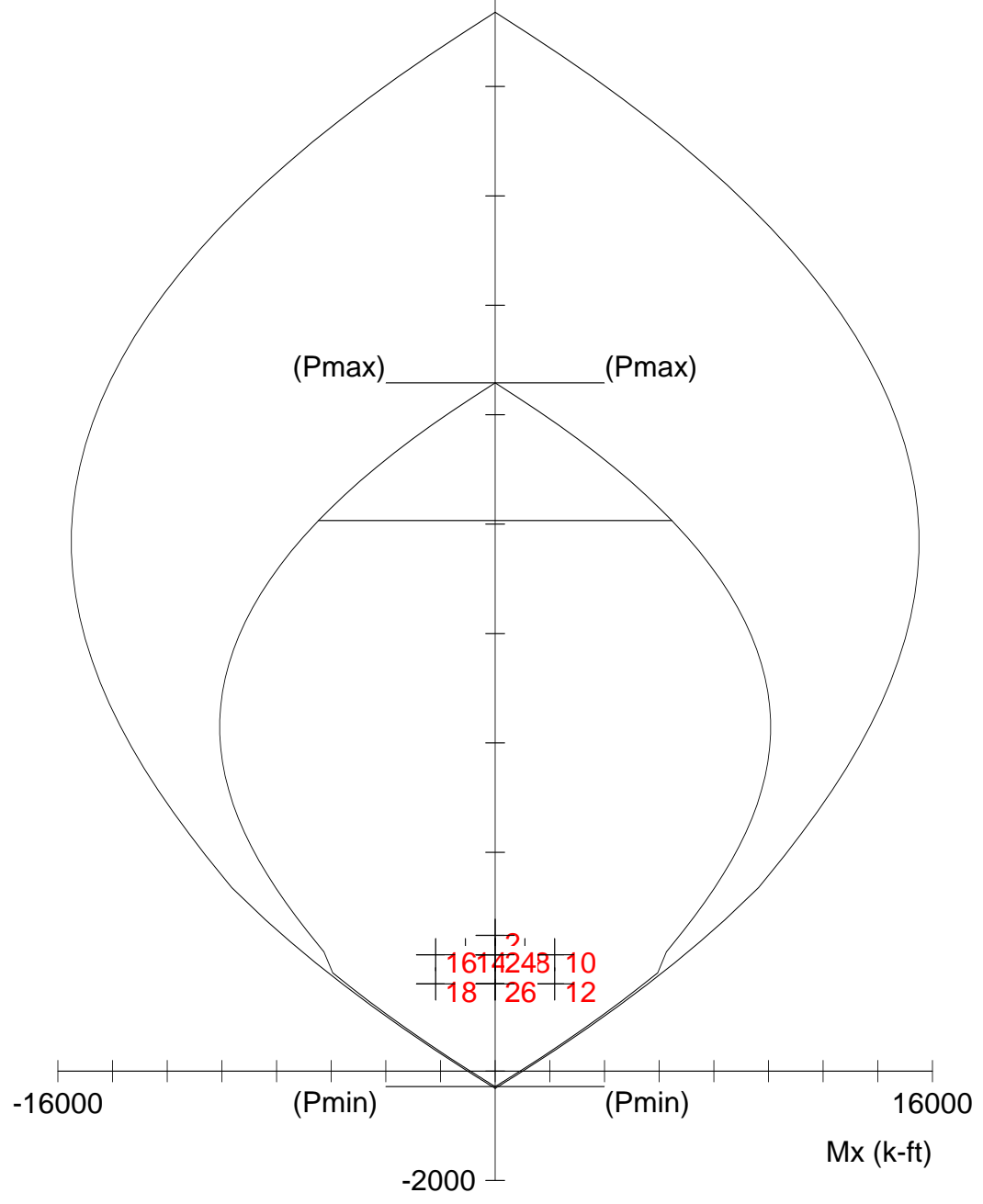
Ag = 10532.5 in^2  
 As = 125.60 in^2  
 Xo = 4.50 in  
 Yo = -22.43 in  
 Min clear spacing = 5.55 in  
 11 bars  
 rho = 1.19%  
 lx = 2.40229e+007 in^4  
 ly = 3.6431e+008 in^4  
 Clear cover = N/A





24 x 78 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:24:59



STRUCTUREPOINT - spColumn v5.10 (TM). Licensed to: Severud Associates Consulting Engineers P.C.. License ID: 65661-1053340-4-2C47C-231

File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.3 1st Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_1 = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 1872$  in<sup>2</sup>  
 $A_s = 5.28$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 0.00$  in  
 Min clear spacing = -1.30 in  
 Clear cover = 10.70 in

1 bars  
 $\rho = 0.28\%$   
 $I_x = 949104$  in<sup>4</sup>  
 $I_y = 89856$  in<sup>4</sup>



DEPT OF BLDGS 121191236

Job Number



ES659622703

Scan Code

```

                oooooo          o
                oo   oo          oo
    oooooo   oooooo   oo          oooooo   oo   oo   o oooooo          o oooooo
oo   o   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
oo          oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
    oooooo   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
o   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
    oooooo   oo          oooooo   oooooo   ooo   oooooo o   oo   oo   oo   oo   oo (TM)

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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.5 1st Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 24 in Depth = 54 in  
 Gross section area, Ag = 1296 in^2  
 Ix = 314928 in^4 Iy = 62208 in^4  
 rx = 15.5885 in ry = 6.9282 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 3.52 in^2 at rho = 0.27% (Note: rho < 0.50%)  
 Minimum clear spacing = -1.06 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 3.52      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 1028.00             | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 1132.00       | -1132.00      | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES314044633

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

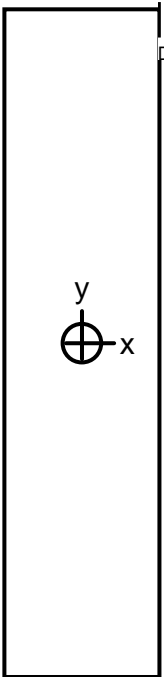
Factored Loads and Moments with Corresponding Capacities:

NOTE: Each loading combination includes the following cases:

First line - at column top  
Second line - at column bottom

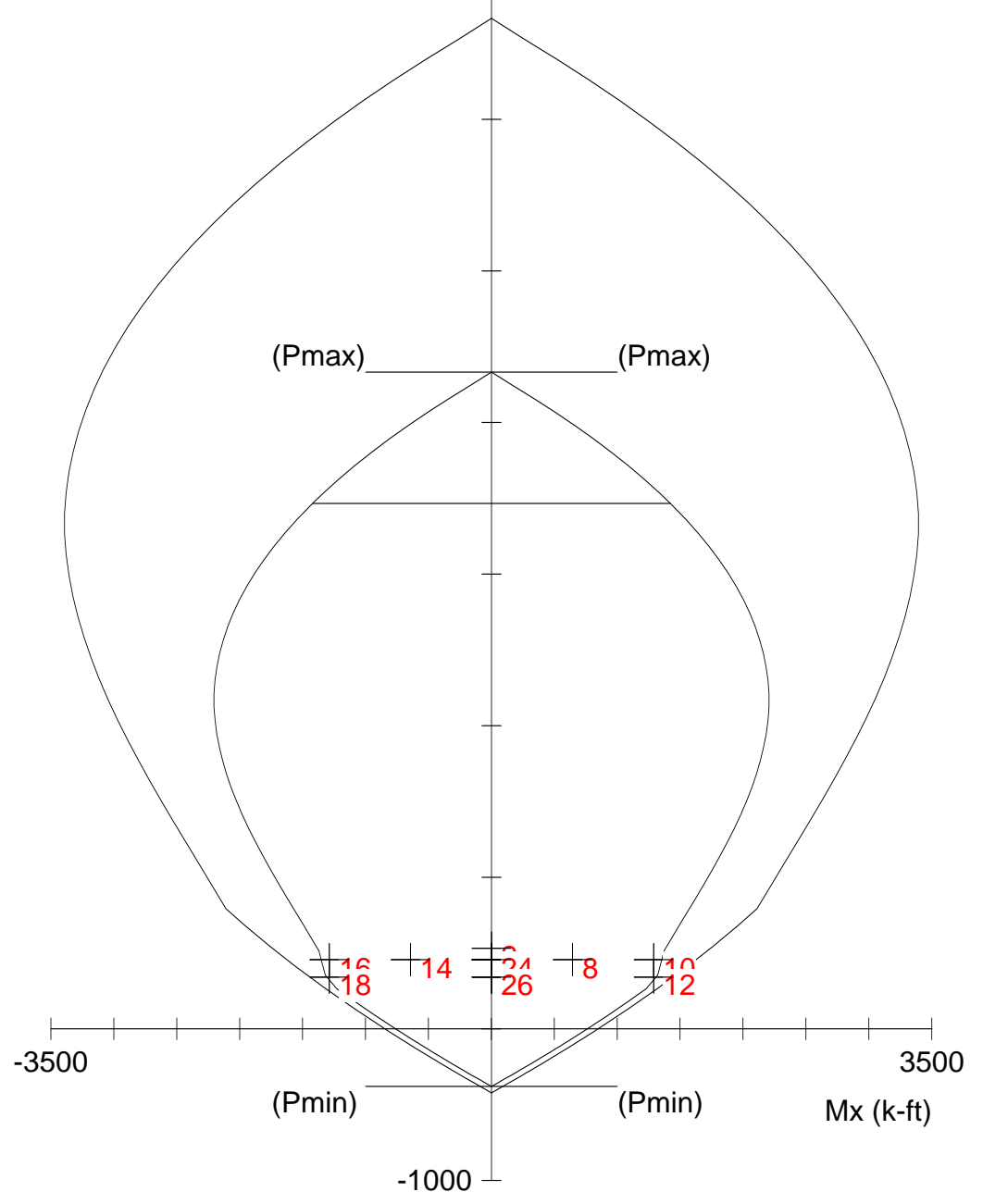
| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 1439.20 | 0.00     | 2966.46     | 999.999  |    | 14.13    |    | 27.00    | 0.00273 | 0.707 |
| 2   |            | 1439.20 | -0.00    | 2966.46     | 999.999  |    | 14.13    |    | 27.00    | 0.00273 | 0.707 |
| 3   | 1 U2       | 1233.60 | 0.00     | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 4   |            | 1233.60 | -0.00    | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 5   | 1 U3       | 1233.60 | 0.00     | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 6   |            | 1233.60 | -0.00    | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 7   | 1 U4       | 1233.60 | 905.60   | 2819.96     | 3.114    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 8   |            | 1233.60 | 905.60   | 2819.96     | 3.114    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 9   | 1 U5       | 1233.60 | 1811.20  | 2819.96     | 1.557    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 10  |            | 1233.60 | 1811.20  | 2819.96     | 1.557    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 11  | 1 U6       | 925.20  | 1811.20  | 2274.14     | 1.256    |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 12  |            | 925.20  | 1811.20  | 2274.14     | 1.256    |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 13  | 1 U7       | 1233.60 | -905.60  | -2819.96    | 3.114    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 14  |            | 1233.60 | -905.60  | -2819.96    | 3.114    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 15  | 1 U8       | 1233.60 | -1811.20 | -2819.96    | 1.557    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 16  |            | 1233.60 | -1811.20 | -2819.96    | 1.557    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 17  | 1 U9       | 925.20  | -1811.20 | -2274.14    | 1.256    |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 18  |            | 925.20  | -1811.20 | -2274.14    | 1.256    |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 19  | 1 U10      | 1233.60 | 0.00     | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 20  |            | 1233.60 | -0.00    | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 21  | 1 U11      | 925.20  | 0.00     | 2274.14     | 999.999  |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 22  |            | 925.20  | -0.00    | 2274.14     | 999.999  |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 23  | 1 U12      | 1233.60 | 0.00     | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 24  |            | 1233.60 | 0.00     | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 25  | 1 U13      | 925.20  | 0.00     | 2274.14     | 999.999  |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 26  |            | 925.20  | 0.00     | 2274.14     | 999.999  |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |

\*\*\* End of output \*\*\*



12 x 51.6 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:48:54

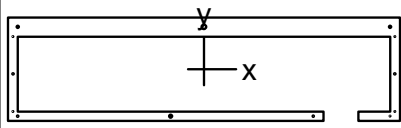


STRUCTUREPOINT - spColumn v5.10 (TM). Licensed to: Severud Associates Consulting Engineers P.C.. License ID: 65661-1053340-4-2C47C-231

File: S:\14442-01\SPCo\ShearWall\SW3\2nd Floor\14442-01\_aja\_20160926\_Wall 2.2 2nd Floor.col

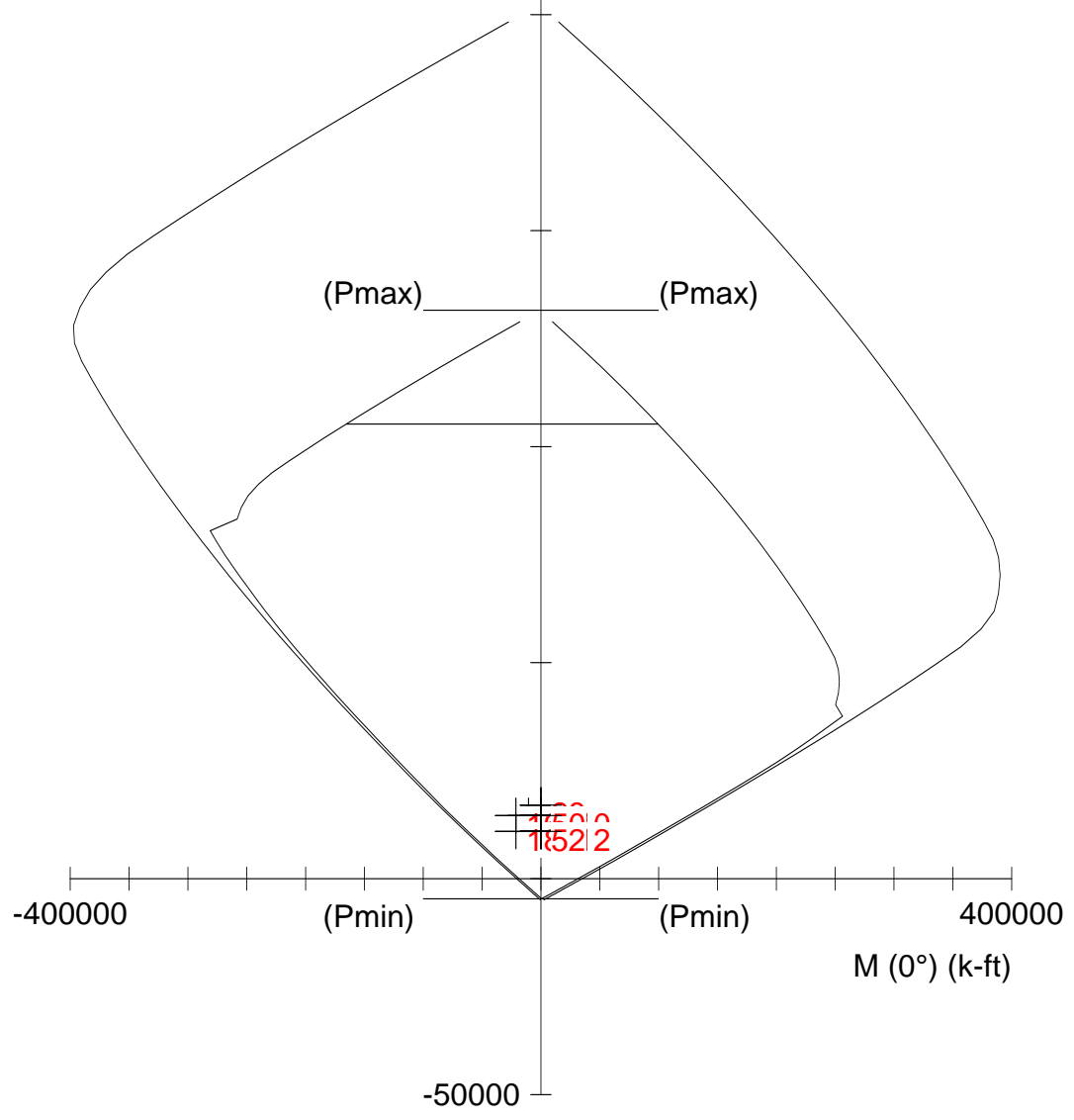
Project:

|   |                              |
|---|------------------------------|
| Column:                                   | Engineer:                    |
| f'c = 12 ksi                              | fy = 60 ksi                  |
| Ec = 6244 ksi                             | Ag = 619.2 in <sup>2</sup>   |
| fc = 10.2 ksi                             | As = 7.04 in <sup>2</sup>    |
| e_u = 0.003 in/in                         | rho = 1.14%                  |
| Beta1 = 0.65                              | Xo = 0.00 in                 |
| Confinement: Tied                         | Yo = 0.00 in                 |
| phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65 | Min clear spacing = -1.50 in |
|   | Clear cover = 4.50 in        |



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:44:53



STRUCTUREPOINT - spColumn v5.10 (TM). Licensed to: Severud Associates Consulting Engineers P.C.. License ID: 65661-1053340-4-2C47C-231

File: S:\14442-01\SPCo\ShearWall\SW3\2nd Floor\14442-01\_aja\_20160926\_Wall Full 2nd Floor.col

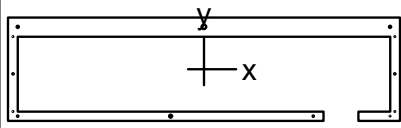
Project:

|                              |                                    |                              |                                   |
|------------------------------|------------------------------------|------------------------------|-----------------------------------|
| Column:                      | Engineer:                          |                              |                                   |
| f'c = 12 ksi                 | fy = 60 ksi                        | Ag = 19418.6 in <sup>2</sup> | 13 bars                           |
| Ec = 6244 ksi                | Es = 29000 ksi                     | As = 86.48 in <sup>2</sup>   | rho = 0.45%                       |
| fc = 10.2 ksi                | e <sub>yt</sub> = 0.00206897 in/in | Xo = -4.68 in                | lx = 5.00562e+007 in <sup>4</sup> |
| e <sub>u</sub> = 0.003 in/in |                                    | Yo = 15.24 in                | ly = 4.69348e+008 in <sup>4</sup> |
| Beta1 = 0.65                 |                                    | Min clear spacing = 6.91 in  | Clear cover = N/A                 |

Confinement: Tied

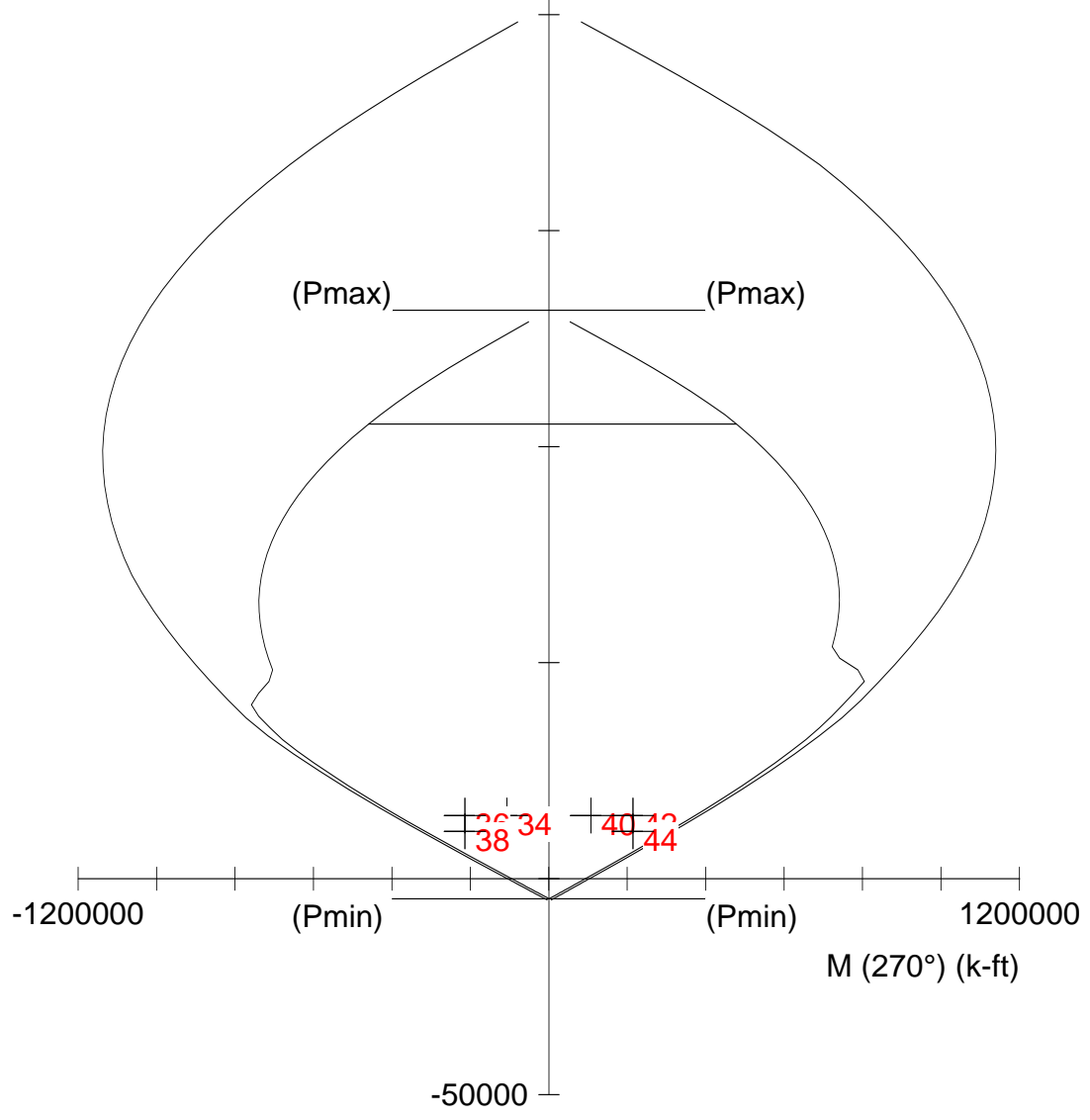
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65





491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:45:17



STRUCTUREPOINT - spColumn v5.10 (TM). Licensed to: Severud Associates Consulting Engineers P.C.. License ID: 65661-1053340-4-2C47C-231

File: S:\14442-01\SPCo\ShearWall\SW3\2nd Floor\14442-01\_aja\_20160926\_Wall Full 2nd Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_1 = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 19418.6$  in<sup>2</sup>  
 $A_s = 86.48$  in<sup>2</sup>  
 $X_o = -4.68$  in  
 $Y_o = 15.24$  in  
 Min clear spacing = 6.91 in  
 13 bars  
 $\rho = 0.45\%$   
 $I_x = 5.00562e+007$  in<sup>4</sup>  
 $I_y = 4.69348e+008$  in<sup>4</sup>  
 Clear cover = N/A



DEPT OF BLDGS121191236

Job Number



ES718032610

Scan Code

```

                oooooo          o
                oo   oo          oo
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    oooooo   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
o   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
    oooooo   oo          oooooo   oooooo   ooo   oooooo o   oo   oo   oo   oo (TM)

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=====
                        spColumn v5.10 (TM)
    Computer program for the Strength Design of Reinforced Concrete Sections
                        Copyright © 1988-2016, STRUCTUREPOINT, LLC.
                        All rights reserved
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License to: Severud

S:\14442-01\SPCol\Shear



DEPT OF BLDGS 121191236

Job Number



ES700668269

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\2nd Floor\14442-01\_aja\_20160926\_Wall Full 2nd Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: Biaxial Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:  
=====

Exterior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | 194.0  | -53.2  | 2   | 194.0  | -65.2  | 3   | 245.6  | -65.2  |
| 4   | 245.6  | 65.2   | 5   | -245.6 | 65.2   | 6   | -245.6 | -65.2  |
| 7   | 150.0  | -65.2  | 8   | 150.0  | -53.2  | 9   | -233.6 | -53.2  |
| 10  | -233.6 | 41.2   | 11  | 233.6  | 41.2   | 12  | 233.6  | -53.2  |

Gross section area, Ag = 19418.6 in^2  
Ix = 5.00562e+007 in^4 Iy = 4.69348e+008 in^4  
rx = 50.7714 in ry = 155.467 in  
Xo = -4.67589 in Yo = 15.2357 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 86.48 in^2 at rho = 0.45% (Note: rho < 0.50%)  
Minimum clear spacing = 6.91 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 35.20     | 0.0    | 53.2   | 12.80     | -41.8  | -59.2  | 4.00      | -239.6 | -6.0   |
| 4.00      | 239.6  | -6.0   | 8.80      | -233.6 | 53.2   | 1.00      | -239.6 | 41.2   |
| 8.80      | 233.6  | 53.2   | 1.00      | 239.6  | 41.2   | 3.20      | -233.6 | -59.2  |
| 1.00      | -239.6 | -53.2  | 2.48      | 233.6  | -59.2  | 1.00      | 239.6  | -53.2  |
| 3.20      | 137.4  | -59.2  |           |        |        |           |        |        |

Service Loads:  
=====

| No. | Load Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|-----------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead      | 12179.00       | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 13266.00      | -13266.00     | 0.00          | 0.00          |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
| 2   | Dead      | 12179.00       | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 0.00          | 0.00          | 133825.00     | -133825.00    |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |



DEPT OF BLDGS 121191236

Job Number



ES710207512

Scan Code

Sustained Load Factors:

```

=====
Load      Factor
Case      (%)
-----
Dead      100
Live      0
Wind      0
EQ        0
Snow      0

```

Load Combinations:

- ```

=====
U1 = 1.400*Dead + 0.000*Live + 0.000*Wind + 0.000*EarthQuake + 0.000*Snow
U2 = 1.200*Dead + 1.600*Live + 0.000*Wind + 0.000*EarthQuake + 0.500*Snow
U3 = 1.200*Dead + 1.000*Live + 0.000*Wind + 0.000*EarthQuake + 1.600*Snow
U4 = 1.200*Dead + 0.000*Live + 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U5 = 1.200*Dead + 1.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U6 = 0.900*Dead + 0.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U7 = 1.200*Dead + 0.000*Live - 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U8 = 1.200*Dead + 1.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U9 = 0.900*Dead + 0.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U10 = 1.200*Dead + 1.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.200*Snow
U11 = 0.900*Dead + 0.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.000*Snow
U12 = 1.200*Dead + 1.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.200*Snow
U13 = 0.900*Dead + 0.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.000*Snow

```

Factored Loads and Moments with Corresponding Capacities:

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load Combo | Pu kip   | Mux k-ft  | Muy k-ft   | PhiMnx k-ft | PhiMny k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|----------|-----------|------------|-------------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 17050.60 | 0.00      | 0.00       | 140439.31   | 0.00        | 999.999  | 11.63       | 124.49      | 0.04117 | 0.900 |
| 2   |            | 17050.60 | -0.00     | -0.00      | 140439.31   | 0.00        | 999.999  | 11.63       | 124.49      | 0.04117 | 0.900 |
| 3   | 1 U2       | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 4   |            | 14614.80 | -0.00     | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 5   | 1 U3       | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 6   |            | 14614.80 | -0.00     | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 7   | 1 U4       | 14614.80 | 10612.80  | 0.00       | 125214.59   | 0.00        | 11.798   | 10.31       | 124.20      | 0.04683 | 0.900 |
| 8   |            | 14614.80 | 10612.80  | -0.00      | 125214.59   | 0.00        | 11.798   | 10.31       | 124.20      | 0.04683 | 0.900 |
| 9   | 1 U5       | 14614.80 | 21225.60  | 0.00       | 125214.59   | 0.00        | 5.899    | 10.31       | 124.20      | 0.04683 | 0.900 |
| 10  |            | 14614.80 | 21225.60  | -0.00      | 125214.59   | 0.00        | 5.899    | 10.31       | 124.20      | 0.04683 | 0.900 |
| 11  | 1 U6       | 10961.10 | 21225.60  | 0.00       | 102167.91   | 0.00        | 4.813    | 8.45        | 123.82      | 0.05830 | 0.900 |
| 12  |            | 10961.10 | 21225.60  | -0.00      | 102167.91   | 0.00        | 4.813    | 8.45        | 123.82      | 0.05830 | 0.900 |
| 13  | 1 U7       | 14614.80 | -10612.80 | 0.00       | -76001.05   | -0.01       | 7.161    | 7.32        | 126.24      | 0.05279 | 0.900 |
| 14  |            | 14614.80 | -10612.80 | -0.00      | -76001.05   | -0.01       | 7.161    | 7.32        | 126.24      | 0.05279 | 0.900 |
| 15  | 1 U8       | 14614.80 | -21225.60 | 0.00       | -76001.05   | -0.01       | 3.581    | 7.32        | 126.24      | 0.05279 | 0.900 |
| 16  |            | 14614.80 | -21225.60 | -0.00      | -76001.05   | -0.01       | 3.581    | 7.32        | 126.24      | 0.05279 | 0.900 |
| 17  | 1 U9       | 10961.10 | -21225.60 | 0.00       | -62036.01   | -0.01       | 2.923    | 5.97        | 126.13      | 0.06586 | 0.900 |
| 18  |            | 10961.10 | -21225.60 | -0.00      | -62036.01   | -0.01       | 2.923    | 5.97        | 126.13      | 0.06586 | 0.900 |
| 19  | 1 U10      | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 20  |            | 14614.80 | -0.00     | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 21  | 1 U11      | 10961.10 | 0.00      | 0.00       | 102167.91   | 0.00        | 999.999  | 8.45        | 123.82      | 0.05830 | 0.900 |
| 22  |            | 10961.10 | -0.00     | -0.00      | 102167.91   | 0.00        | 999.999  | 8.45        | 123.82      | 0.05830 | 0.900 |
| 23  | 1 U12      | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 24  |            | 14614.80 | 0.00      | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 25  | 1 U13      | 10961.10 | 0.00      | 0.00       | 102167.91   | 0.00        | 999.999  | 8.45        | 123.82      | 0.05830 | 0.900 |
| 26  |            | 10961.10 | 0.00      | -0.00      | 102167.91   | 0.00        | 999.999  | 8.45        | 123.82      | 0.05830 | 0.900 |
| 27  | 2 U1       | 17050.60 | 0.00      | 0.00       | 140439.31   | 0.00        | 999.999  | 11.63       | 124.49      | 0.04117 | 0.900 |
| 28  |            | 17050.60 | -0.00     | -0.00      | 140439.31   | 0.00        | 999.999  | 11.63       | 124.49      | 0.04117 | 0.900 |
| 29  | 2 U2       | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 30  |            | 14614.80 | -0.00     | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 31  | 2 U3       | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 32  |            | 14614.80 | -0.00     | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 33  | 2 U4       | 14614.80 | 0.00      | 107060.00  | -0.02       | 386009.91   | 3.606    | 50.03       | 497.98      | 0.02728 | 0.900 |
| 34  |            | 14614.80 | -0.00     | 107060.00  | -0.02       | 386009.91   | 3.606    | 50.03       | 497.98      | 0.02728 | 0.900 |
| 35  | 2 U5       | 14614.80 | 0.00      | 214120.00  | -0.02       | 386009.91   | 1.803    | 50.03       | 497.98      | 0.02728 | 0.900 |
| 36  |            | 14614.80 | -0.00     | 214120.00  | -0.02       | 386009.91   | 1.803    | 50.03       | 497.98      | 0.02728 | 0.900 |
| 37  | 2 U6       | 10961.10 | 0.00      | 214120.00  | -0.01       | 315583.91   | 1.474    | 34.98       | 496.43      | 0.04238 | 0.900 |
| 38  |            | 10961.10 | -0.00     | 214120.00  | -0.01       | 315583.91   | 1.474    | 34.98       | 496.43      | 0.04238 | 0.900 |
| 39  | 2 U7       | 14614.80 | 0.00      | -107060.00 | 0.00        | -372211.69  | 3.477    | 50.07       | 497.95      | 0.02729 | 0.900 |
| 40  |            | 14614.80 | -0.00     | -107060.00 | 0.00        | -372211.69  | 3.477    | 50.07       | 497.95      | 0.02729 | 0.900 |
| 41  | 2 U8       | 14614.80 | 0.00      | -214120.00 | 0.00        | -372211.69  | 1.738    | 50.07       | 497.95      | 0.02729 | 0.900 |
| 42  |            | 14614.80 | -0.00     | -214120.00 | 0.00        | -372211.69  | 1.738    | 50.07       | 497.95      | 0.02729 | 0.900 |
| 43  | 2 U9       | 10961.10 | 0.00      | -214120.00 | 0.00        | -304654.44  | 1.423    | 35.07       | 496.55      | 0.04213 | 0.900 |
| 44  |            | 10961.10 | -0.00     | -214120.00 | 0.00        | -304654.44  | 1.423    | 35.07       | 496.55      | 0.04213 | 0.900 |



DEPT OF BLDGS121191236 Job Number



ES728265964 Scan Code

|    |   |     |          |       |       |           |      |         |       |        |         |       |
|----|---|-----|----------|-------|-------|-----------|------|---------|-------|--------|---------|-------|
| 45 | 2 | U10 | 14614.80 | 0.00  | 0.00  | 125214.59 | 0.00 | 999.999 | 10.31 | 124.20 | 0.04683 | 0.900 |
| 46 |   |     | 14614.80 | -0.00 | -0.00 | 125214.59 | 0.00 | 999.999 | 10.31 | 124.20 | 0.04683 | 0.900 |
| 47 | 2 | U11 | 10961.10 | 0.00  | 0.00  | 102167.91 | 0.00 | 999.999 | 8.45  | 123.82 | 0.05830 | 0.900 |
| 48 |   |     | 10961.10 | -0.00 | -0.00 | 102167.91 | 0.00 | 999.999 | 8.45  | 123.82 | 0.05830 | 0.900 |
| 49 | 2 | U12 | 14614.80 | 0.00  | 0.00  | 125214.59 | 0.00 | 999.999 | 10.31 | 124.20 | 0.04683 | 0.900 |
| 50 |   |     | 14614.80 | -0.00 | 0.00  | 125214.59 | 0.00 | 999.999 | 10.31 | 124.20 | 0.04683 | 0.900 |
| 51 | 2 | U13 | 10961.10 | 0.00  | 0.00  | 102167.91 | 0.00 | 999.999 | 8.45  | 123.82 | 0.05830 | 0.900 |
| 52 |   |     | 10961.10 | -0.00 | 0.00  | 102167.91 | 0.00 | 999.999 | 8.45  | 123.82 | 0.05830 | 0.900 |

\*\*\* End of output \*\*\*



DEPT OF BLDGS121191236 Job Number



ES065354387

Scan Code

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oo      oo oo oo  oo      oo oo  oo   oo oo  oo   oo oo  oo
oooooo  oo oo oo  oo      oo oo  oo   oo oo  oo   oo oo  oo
o   oo  oo oooooo  oo      oo oo  oo   oo oo  oo   oo oo  oo
o   oo  oo oo   oo  oo oo oo  oo   oo oo  oo   oo oo  oo   oo oo
oooooo  oo      oooooo  oooooo  ooo   oooooo o  oo   oo  oo   oo oo (TM)

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=====
                        spColumn v5.10 (TM)
Computer program for the Strength Design of Reinforced Concrete Sections
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S:\14442-01\SPCol\Sh



DEPT OF BLDGS121191236

Job Number



ES842587613

Scan Code

General Information:

File Name: S:\14442-01\SPCol\ShearWall\SW3\2nd Floor\14442-01\_aja\_20160926\_Wall 2.2 2nd Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:

Rectangular: Width = 12 in Depth = 51.6 in  
 Gross section area, Ag = 619.2 in^2  
 Ix = 137388 in^4 Iy = 7430.4 in^4  
 rx = 14.8956 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 7.04 in^2 at rho = 1.14%  
 Minimum clear spacing = -1.50 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 7.04      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 380.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 805.00        | -805.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES909101617

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

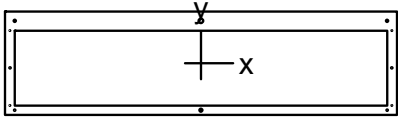
Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

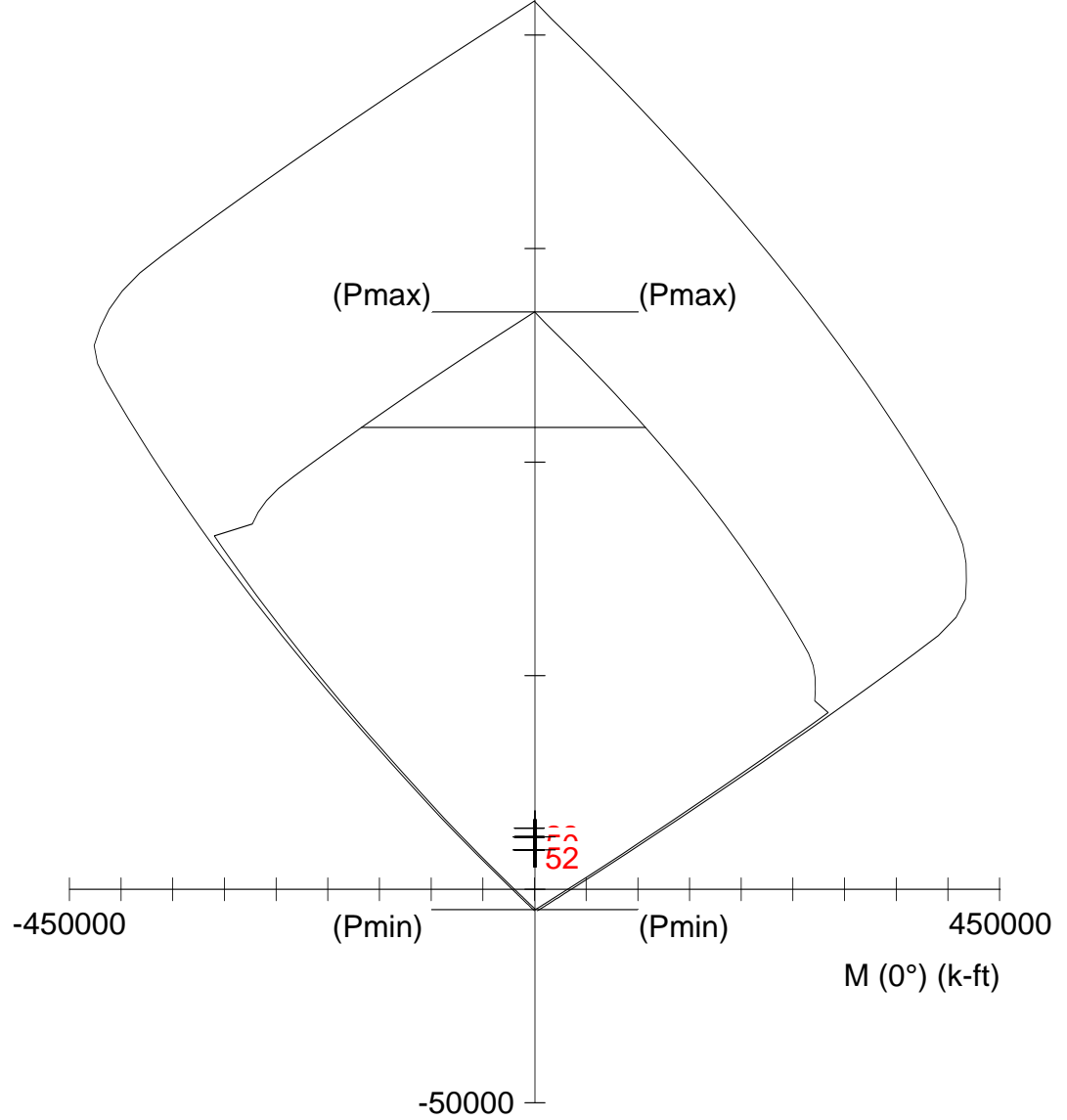
| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 532.00 | 0.00     | 1383.29     | 999.999  |    | 15.45    |    | 25.80    | 0.00201 | 0.650 |
| 2   |            | 532.00 | -0.00    | 1383.29     | 999.999  |    | 15.45    |    | 25.80    | 0.00201 | 0.650 |
| 3   | 1 U2       | 456.00 | 0.00     | 1352.92     | 999.999  |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 4   |            | 456.00 | -0.00    | 1352.92     | 999.999  |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 5   | 1 U3       | 456.00 | 0.00     | 1352.92     | 999.999  |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 6   |            | 456.00 | -0.00    | 1352.92     | 999.999  |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 7   | 1 U4       | 456.00 | 644.00   | 1352.92     | 2.101    |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 8   |            | 456.00 | 644.00   | 1352.92     | 2.101    |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 9   | 1 U5       | 456.00 | 1288.00  | 1352.92     | 1.050    |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 10  |            | 456.00 | 1288.00  | 1352.92     | 1.050    |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 11  | 1 U6       | 342.00 | 1288.00  | 1316.78     | 1.022    |    | 10.33    |    | 25.80    | 0.00450 | 0.857 |
| 12  |            | 342.00 | 1288.00  | 1316.78     | 1.022    |    | 10.33    |    | 25.80    | 0.00450 | 0.857 |
| 13  | 1 U7       | 456.00 | -644.00  | -1352.92    | 2.101    |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 14  |            | 456.00 | -644.00  | -1352.92    | 2.101    |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 15  | 1 U8       | 456.00 | -1288.00 | -1352.92    | 1.050    |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 16  |            | 456.00 | -1288.00 | -1352.92    | 1.050    |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 17  | 1 U9       | 342.00 | -1288.00 | -1316.78    | 1.022    |    | 10.33    |    | 25.80    | 0.00450 | 0.857 |
| 18  |            | 342.00 | -1288.00 | -1316.78    | 1.022    |    | 10.33    |    | 25.80    | 0.00450 | 0.857 |
| 19  | 1 U10      | 456.00 | 0.00     | 1352.92     | 999.999  |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 20  |            | 456.00 | -0.00    | 1352.92     | 999.999  |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 21  | 1 U11      | 342.00 | 0.00     | 1316.78     | 999.999  |    | 10.33    |    | 25.80    | 0.00450 | 0.857 |
| 22  |            | 342.00 | -0.00    | 1316.78     | 999.999  |    | 10.33    |    | 25.80    | 0.00450 | 0.857 |
| 23  | 1 U12      | 456.00 | 0.00     | 1352.92     | 999.999  |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 24  |            | 456.00 | 0.00     | 1352.92     | 999.999  |    | 13.36    |    | 25.80    | 0.00279 | 0.712 |
| 25  | 1 U13      | 342.00 | 0.00     | 1316.78     | 999.999  |    | 10.33    |    | 25.80    | 0.00450 | 0.857 |
| 26  |            | 342.00 | 0.00     | 1316.78     | 999.999  |    | 10.33    |    | 25.80    | 0.00450 | 0.857 |

\*\*\* End of output \*\*\*



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:52:49



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File: S:\14442-01\SPCo\ShearWall\SW3\8th Floor\14442-01\_aja\_20160926\_Wall Full 8th Floor.col

Project:

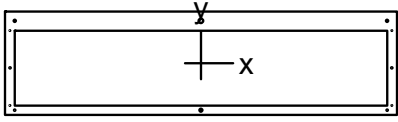
Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_1 = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

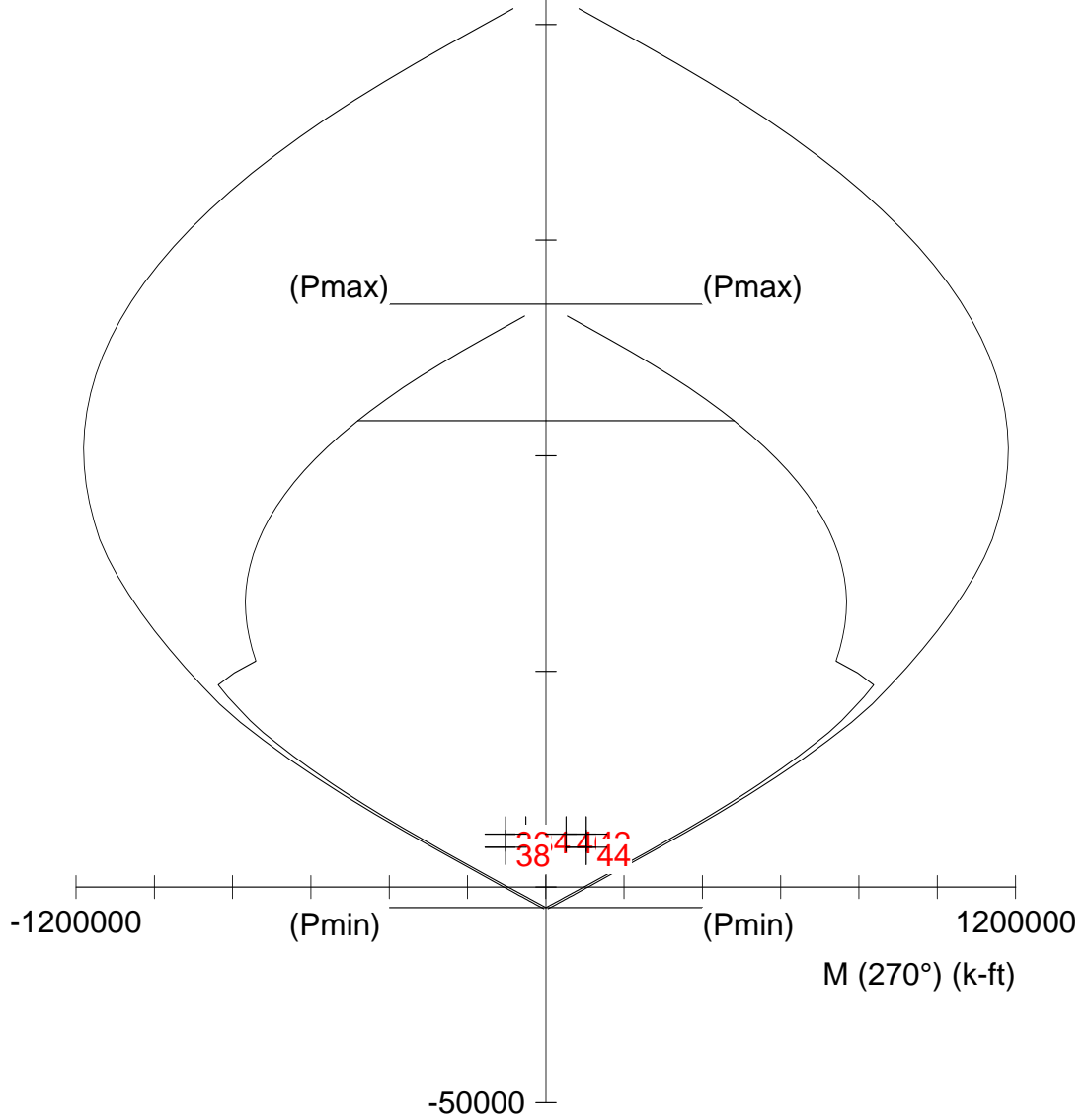
$A_g = 19946.6$  in<sup>2</sup>  
 $A_s = 88.80$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 13.27$  in  
 Min clear spacing = 6.79 in  
 Clear cover = N/A

12 bars  
 $\rho = 0.45\%$   
 $I_x = 5.29107e+007$  in<sup>4</sup>  
 $I_y = 4.85473e+008$  in<sup>4</sup>



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:53:51



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File: S:\14442-01\SPCo\ShearWall\SW3\8th Floor\14442-01\_aja\_20160926\_Wall Full 8th Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_1 = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 19946.6$  in<sup>2</sup>  
 $A_s = 88.80$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 13.27$  in  
 Min clear spacing = 6.79 in  
 12 bars  
 $\rho = 0.45\%$   
 $I_x = 5.29107e+007$  in<sup>4</sup>  
 $I_y = 4.85473e+008$  in<sup>4</sup>  
 Clear cover = N/A



DEPT OF BLDGS 121191236 Job Number



ES410046905 Scan Code

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spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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S:\14442-01\SPCol\Shear



DEPT OF BLDGS 121191236

Job Number



ES058736499

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\8th Floor\14442-01\_aja\_20160926\_Wall Full 8th Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: Biaxial Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Beta1 = 0.65

Section:  
=====

Exterior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | -245.6 | 65.2   | 2   | -245.6 | -65.2  | 3   | 245.6  | -65.2  |
| 4   | 245.6  | 65.2   |     |        |        |     |        |        |

Interior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | -233.6 | 41.2   | 2   | -233.6 | -53.2  | 3   | 233.6  | -53.2  |
| 4   | 233.6  | 41.2   |     |        |        |     |        |        |

Gross section area, Ag = 19946.6 in^2  
Ix = 5.29107e+007 in^4 Iy = 4.85473e+008 in^4  
rx = 51.5035 in ry = 156.008 in  
Xo = 0 in Yo = 13.2653 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 88.80 in^2 at rho = 0.45% (Note: rho < 0.50%)  
Minimum clear spacing = 6.79 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 35.20     | 0.0    | 53.2   | 16.00     | 0.0    | -59.2  | 4.00      | -239.6 | -6.0   |
| 4.00      | 239.6  | -6.0   | 8.80      | -233.6 | 53.2   | 1.00      | -239.6 | 41.2   |
| 8.80      | 233.6  | 53.2   | 1.00      | 239.6  | 41.2   | 4.00      | -233.6 | -59.2  |
| 1.00      | -239.6 | -53.2  | 4.00      | 233.6  | -59.2  | 1.00      | 239.6  | -53.2  |

Service Loads:  
=====

| No. | Load Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|-----------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead      | 10242.00       | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 935.00        | -935.00       | 0.00          | 0.00          |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
| 2   | Dead      | 10242.00       | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 0.00          | 0.00          | 64491.00      | -64491.00     |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |





DEPT OF BLDGS 121191236

Job Number



ES490371566

Scan Code

Sustained Load Factors:

```

=====
Load      Factor
Case      (%)
-----
Dead      100
Live      0
Wind      0
EQ        0
Snow      0

```

Load Combinations:

- ```

=====
U1 = 1.400*Dead + 0.000*Live + 0.000*Wind + 0.000*EarthQuake + 0.000*Snow
U2 = 1.200*Dead + 1.600*Live + 0.000*Wind + 0.000*EarthQuake + 0.500*Snow
U3 = 1.200*Dead + 1.000*Live + 0.000*Wind + 0.000*EarthQuake + 1.600*Snow
U4 = 1.200*Dead + 0.000*Live + 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U5 = 1.200*Dead + 1.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U6 = 0.900*Dead + 0.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U7 = 1.200*Dead + 0.000*Live - 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U8 = 1.200*Dead + 1.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U9 = 0.900*Dead + 0.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U10 = 1.200*Dead + 1.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.200*Snow
U11 = 0.900*Dead + 0.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.000*Snow
U12 = 1.200*Dead + 1.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.200*Snow
U13 = 0.900*Dead + 0.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.000*Snow

```

Factored Loads and Moments with Corresponding Capacities:

```

=====
NOTE: Each loading combination includes the following cases:
      First line - at column top
      Second line - at column bottom

```

| No. | Load Combo | Pu kip   | Mux k-ft | Muy k-ft   | PhiMnx k-ft | PhiMny k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|----------|----------|------------|-------------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 14338.80 | 0.00     | 0.00       | 122144.78   | 0.00        | 999.999  | 6.08        | 118.40      | 0.05544 | 0.900 |
| 2   |            | 14338.80 | -0.00    | -0.00      | 122144.78   | 0.00        | 999.999  | 6.08        | 118.40      | 0.05544 | 0.900 |
| 3   | 1 U2       | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 4   |            | 12290.40 | -0.00    | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 5   | 1 U3       | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 6   |            | 12290.40 | -0.00    | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 7   | 1 U4       | 12290.40 | 748.00   | 0.00       | 109430.86   | 0.00        | 146.298  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 8   |            | 12290.40 | 748.00   | -0.00      | 109430.86   | 0.00        | 146.298  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 9   | 1 U5       | 12290.40 | 1496.00  | 0.00       | 109430.86   | 0.00        | 73.149   | 5.45        | 118.40      | 0.06215 | 0.900 |
| 10  |            | 12290.40 | 1496.00  | -0.00      | 109430.86   | 0.00        | 73.149   | 5.45        | 118.40      | 0.06215 | 0.900 |
| 11  | 1 U6       | 9217.80  | 1496.00  | 0.00       | 90266.19    | 0.00        | 60.338   | 4.54        | 118.40      | 0.07516 | 0.900 |
| 12  |            | 9217.80  | 1496.00  | -0.00      | 90266.19    | 0.00        | 60.338   | 4.54        | 118.40      | 0.07516 | 0.900 |
| 13  | 1 U7       | 12290.40 | -748.00  | 0.00       | -70627.40   | -0.01       | 94.422   | 5.83        | 124.40      | 0.06101 | 0.900 |
| 14  |            | 12290.40 | -748.00  | -0.00      | -70627.40   | -0.01       | 94.422   | 5.83        | 124.40      | 0.06101 | 0.900 |
| 15  | 1 U8       | 12290.40 | -1496.00 | 0.00       | -70627.40   | -0.01       | 47.211   | 5.83        | 124.40      | 0.06101 | 0.900 |
| 16  |            | 12290.40 | -1496.00 | -0.00      | -70627.40   | -0.01       | 47.211   | 5.83        | 124.40      | 0.06101 | 0.900 |
| 17  | 1 U9       | 9217.80  | -1496.00 | 0.00       | -58212.13   | -0.01       | 38.912   | 4.78        | 124.40      | 0.07505 | 0.900 |
| 18  |            | 9217.80  | -1496.00 | -0.00      | -58212.13   | -0.01       | 38.912   | 4.78        | 124.40      | 0.07505 | 0.900 |
| 19  | 1 U10      | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 20  |            | 12290.40 | -0.00    | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 21  | 1 U11      | 9217.80  | 0.00     | 0.00       | 90266.19    | 0.00        | 999.999  | 4.54        | 118.40      | 0.07516 | 0.900 |
| 22  |            | 9217.80  | -0.00    | -0.00      | 90266.19    | 0.00        | 999.999  | 4.54        | 118.40      | 0.07516 | 0.900 |
| 23  | 1 U12      | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 24  |            | 12290.40 | 0.00     | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 25  | 1 U13      | 9217.80  | 0.00     | 0.00       | 90266.19    | 0.00        | 999.999  | 4.54        | 118.40      | 0.07516 | 0.900 |
| 26  |            | 9217.80  | 0.00     | -0.00      | 90266.19    | 0.00        | 999.999  | 4.54        | 118.40      | 0.07516 | 0.900 |
| 27  | 2 U1       | 14338.80 | 0.00     | 0.00       | 122144.78   | 0.00        | 999.999  | 6.08        | 118.40      | 0.05544 | 0.900 |
| 28  |            | 14338.80 | -0.00    | -0.00      | 122144.78   | 0.00        | 999.999  | 6.08        | 118.40      | 0.05544 | 0.900 |
| 29  | 2 U2       | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 30  |            | 12290.40 | -0.00    | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 31  | 2 U3       | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 32  |            | 12290.40 | -0.00    | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 33  | 2 U4       | 12290.40 | 0.00     | 51592.80   | -0.01       | 338342.84   | 6.558    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 34  |            | 12290.40 | -0.00    | 51592.80   | -0.01       | 338342.84   | 6.558    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 35  | 2 U5       | 12290.40 | 0.00     | 103185.60  | -0.01       | 338342.84   | 3.279    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 36  |            | 12290.40 | -0.00    | 103185.60  | -0.01       | 338342.84   | 3.279    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 37  | 2 U6       | 9217.80  | 0.00     | 103185.60  | -0.01       | 278866.19   | 2.703    | 28.00       | 493.60      | 0.05714 | 0.900 |
| 38  |            | 9217.80  | -0.00    | 103185.60  | -0.01       | 278866.19   | 2.703    | 28.00       | 493.60      | 0.05714 | 0.900 |
| 39  | 2 U7       | 12290.40 | 0.00     | -51592.80  | 0.00        | -338342.75  | 6.558    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 40  |            | 12290.40 | -0.00    | -51592.80  | 0.00        | -338342.75  | 6.558    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 41  | 2 U8       | 12290.40 | 0.00     | -103185.60 | 0.00        | -338342.75  | 3.279    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 42  |            | 12290.40 | -0.00    | -103185.60 | 0.00        | -338342.75  | 3.279    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 43  | 2 U9       | 9217.80  | 0.00     | -103185.60 | 0.00        | -278866.50  | 2.703    | 28.00       | 493.60      | 0.05714 | 0.900 |
| 44  |            | 9217.80  | -0.00    | -103185.60 | 0.00        | -278866.50  | 2.703    | 28.00       | 493.60      | 0.05714 | 0.900 |



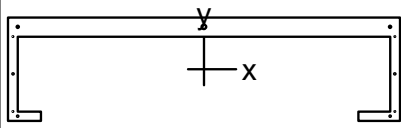
DEPT OF BLDGS121191236 Job Number



ES610632733 Scan Code

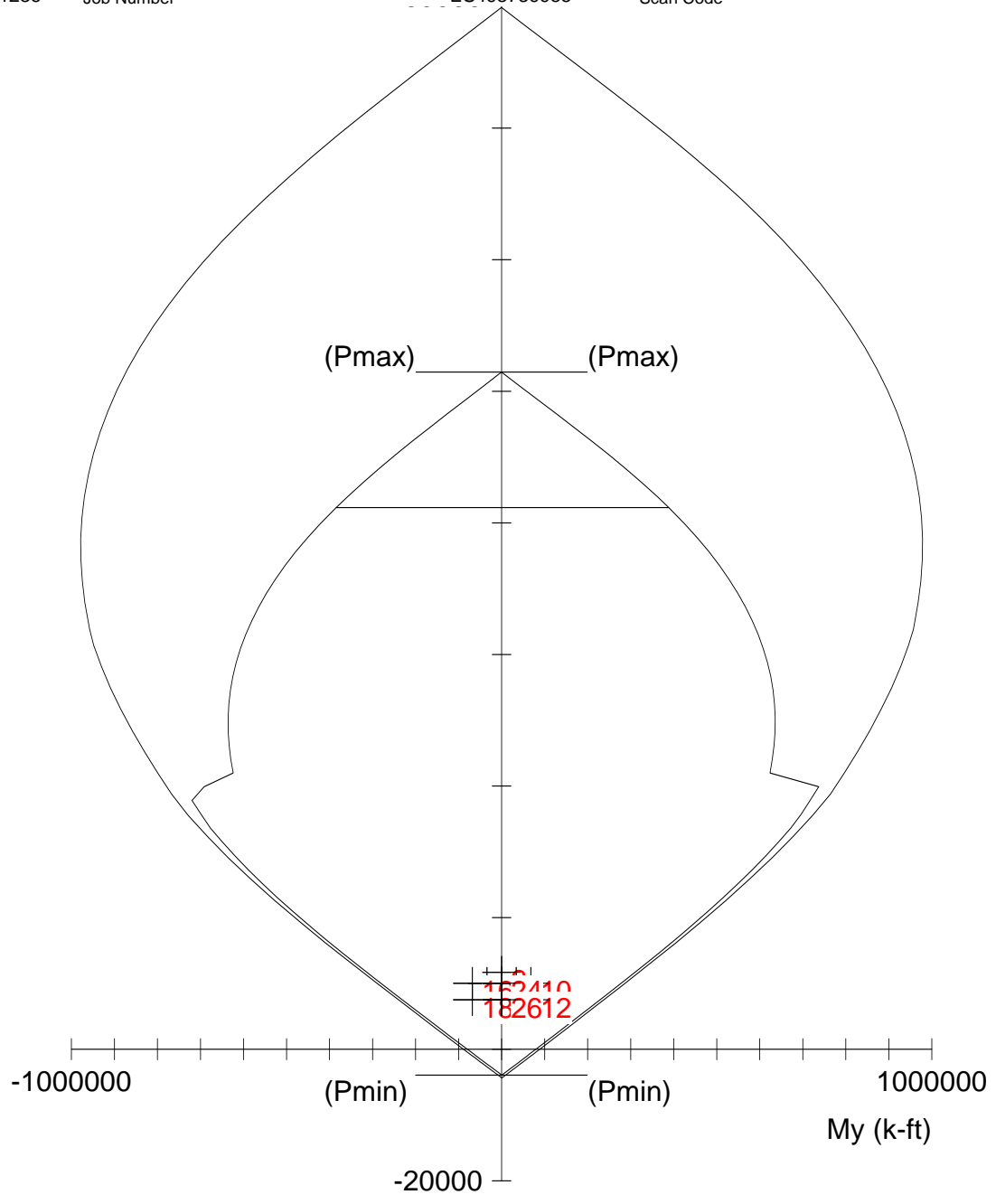
|    |   |     |          |       |       |           |      |         |      |        |         |       |
|----|---|-----|----------|-------|-------|-----------|------|---------|------|--------|---------|-------|
| 45 | 2 | U10 | 12290.40 | 0.00  | 0.00  | 109430.86 | 0.00 | 999.999 | 5.45 | 118.40 | 0.06215 | 0.900 |
| 46 |   |     | 12290.40 | -0.00 | -0.00 | 109430.86 | 0.00 | 999.999 | 5.45 | 118.40 | 0.06215 | 0.900 |
| 47 | 2 | U11 | 9217.80  | 0.00  | 0.00  | 90266.19  | 0.00 | 999.999 | 4.54 | 118.40 | 0.07516 | 0.900 |
| 48 |   |     | 9217.80  | -0.00 | -0.00 | 90266.19  | 0.00 | 999.999 | 4.54 | 118.40 | 0.07516 | 0.900 |
| 49 | 2 | U12 | 12290.40 | 0.00  | 0.00  | 109430.86 | 0.00 | 999.999 | 5.45 | 118.40 | 0.06215 | 0.900 |
| 50 |   |     | 12290.40 | -0.00 | 0.00  | 109430.86 | 0.00 | 999.999 | 5.45 | 118.40 | 0.06215 | 0.900 |
| 51 | 2 | U13 | 9217.80  | 0.00  | 0.00  | 90266.19  | 0.00 | 999.999 | 4.54 | 118.40 | 0.07516 | 0.900 |
| 52 |   |     | 9217.80  | -0.00 | 0.00  | 90266.19  | 0.00 | 999.999 | 4.54 | 118.40 | 0.07516 | 0.900 |

\*\*\* End of output \*\*\*



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: About Y-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:56:23



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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Full Wall C 10th Floor.col

Project:

Column:

f'c = 12 ksi  
 Ec = 6244 ksi  
 fc = 10.2 ksi  
 e\_u = 0.003 in/in  
 Beta1 = 0.65  
 Confinement: Tied  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Engineer:

Ag = 15166.1 in^2  
 As = 72.80 in^2  
 Xo = 1.65 in  
 Yo = 36.11 in  
 Min clear spacing = 6.79 in  
 Clear cover = N/A

11 bars  
 rho = 0.48%  
 lx = 1.9835e+007 in^4  
 ly = 4.22077e+008 in^4



DEPT OF BLDGS 121191236

Job Number



ES314741013

Scan Code

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                oo   oo          oo
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                        spColumn v5.10 (TM)
Computer program for the Strength Design of Reinforced Concrete Sections
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License to: Severud

S:\14442-01\SPCol\Shear



General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\10th ... \14442-01\_aja\_20160926\_Full Wall C 10th Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: Y-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:  
=====

Exterior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | 194.0  | -53.2  | 2   | 194.0  | -65.2  | 3   | 245.6  | -65.2  |
| 4   | 245.6  | 65.2   | 5   | -245.6 | 65.2   | 6   | -245.6 | -65.2  |
| 7   | -204.4 | -65.2  | 8   | -204.4 | -53.2  | 9   | -233.6 | -53.2  |
| 10  | -233.6 | 41.2   | 11  | 233.6  | 41.2   | 12  | 233.6  | -53.2  |

Gross section area, Ag = 15166.1 in^2  
Ix = 1.9835e+007 in^4 Iy = 4.22077e+008 in^4  
rx = 36.1642 in ry = 166.824 in  
Xo = 1.6454 in Yo = 36.1078 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 72.80 in^2 at rho = 0.48% (Note: rho < 0.50%)  
Minimum clear spacing = 6.79 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 35.20     | 0.0    | 53.2   | 4.00      | -239.6 | -6.0   | 4.00      | 239.6  | -6.0   |
| 8.80      | -233.6 | 53.2   | 1.00      | -239.6 | 41.2   | 8.80      | 233.6  | 53.2   |
| 1.00      | 239.6  | 41.2   | 4.00      | -233.6 | -59.2  | 1.00      | -239.6 | -53.2  |
| 4.00      | 233.6  | -59.2  | 1.00      | 239.6  | -53.2  |           |        |        |

Service Loads:  
=====

| No. | Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 8362.00        | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00           | 0.00          | 0.00          | 42397.00      | -42397.00     |
|     | EQ   | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |



DEPT OF BLDGS 121191236

Job Number



ES831735437

Scan Code

Load Combinations:

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow
- U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow
- U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow
- U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

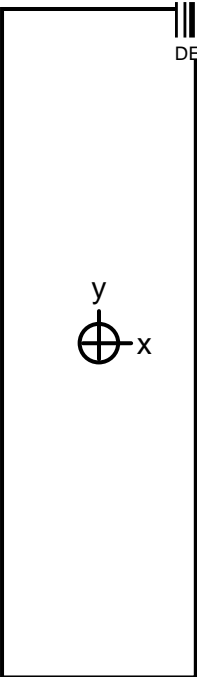
NOTE: Each loading combination includes the following cases:

First line - at column top  
Second line - at column bottom

| No. | Load Combo | Pu kip   | Muy k-ft  | PhiMny k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|----------|-----------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 11706.80 | 0.00      | 310244.38   | 999.999  | 18.03       | 485.14      | 0.07772 | 0.900 |
| 2   |            | 11706.80 | -0.00     | 310244.38   | 999.999  | 18.03       | 485.14      | 0.07772 | 0.900 |
| 3   | 1 U2       | 10034.40 | 0.00      | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 4   |            | 10034.40 | -0.00     | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 5   | 1 U3       | 10034.40 | 0.00      | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 6   |            | 10034.40 | -0.00     | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 7   | 1 U4       | 10034.40 | 33917.60  | 277788.69   | 8.190    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 8   |            | 10034.40 | 33917.60  | 277788.69   | 8.190    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 9   | 1 U5       | 10034.40 | 67835.20  | 277788.69   | 4.095    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 10  |            | 10034.40 | 67835.20  | 277788.69   | 4.095    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 11  | 1 U6       | 7525.80  | 67835.20  | 228797.00   | 3.373    | 13.06       | 485.14      | 0.10845 | 0.900 |
| 12  |            | 7525.80  | 67835.20  | 228797.00   | 3.373    | 13.06       | 485.14      | 0.10845 | 0.900 |
| 13  | 1 U7       | 10034.40 | -33917.60 | -280540.47  | 8.271    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 14  |            | 10034.40 | -33917.60 | -280540.47  | 8.271    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 15  | 1 U8       | 10034.40 | -67835.20 | -280540.47  | 4.136    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 16  |            | 10034.40 | -67835.20 | -280540.47  | 4.136    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 17  | 1 U9       | 7525.80  | -67835.20 | -230860.47  | 3.403    | 13.06       | 485.14      | 0.10845 | 0.900 |
| 18  |            | 7525.80  | -67835.20 | -230860.47  | 3.403    | 13.06       | 485.14      | 0.10845 | 0.900 |
| 19  | 1 U10      | 10034.40 | 0.00      | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 20  |            | 10034.40 | -0.00     | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 21  | 1 U11      | 7525.80  | 0.00      | 228797.00   | 999.999  | 13.06       | 485.14      | 0.10845 | 0.900 |
| 22  |            | 7525.80  | -0.00     | 228797.00   | 999.999  | 13.06       | 485.14      | 0.10845 | 0.900 |
| 23  | 1 U12      | 10034.40 | 0.00      | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 24  |            | 10034.40 | 0.00      | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 25  | 1 U13      | 7525.80  | 0.00      | 228797.00   | 999.999  | 13.06       | 485.14      | 0.10845 | 0.900 |
| 26  |            | 7525.80  | 0.00      | 228797.00   | 999.999  | 13.06       | 485.14      | 0.10845 | 0.900 |

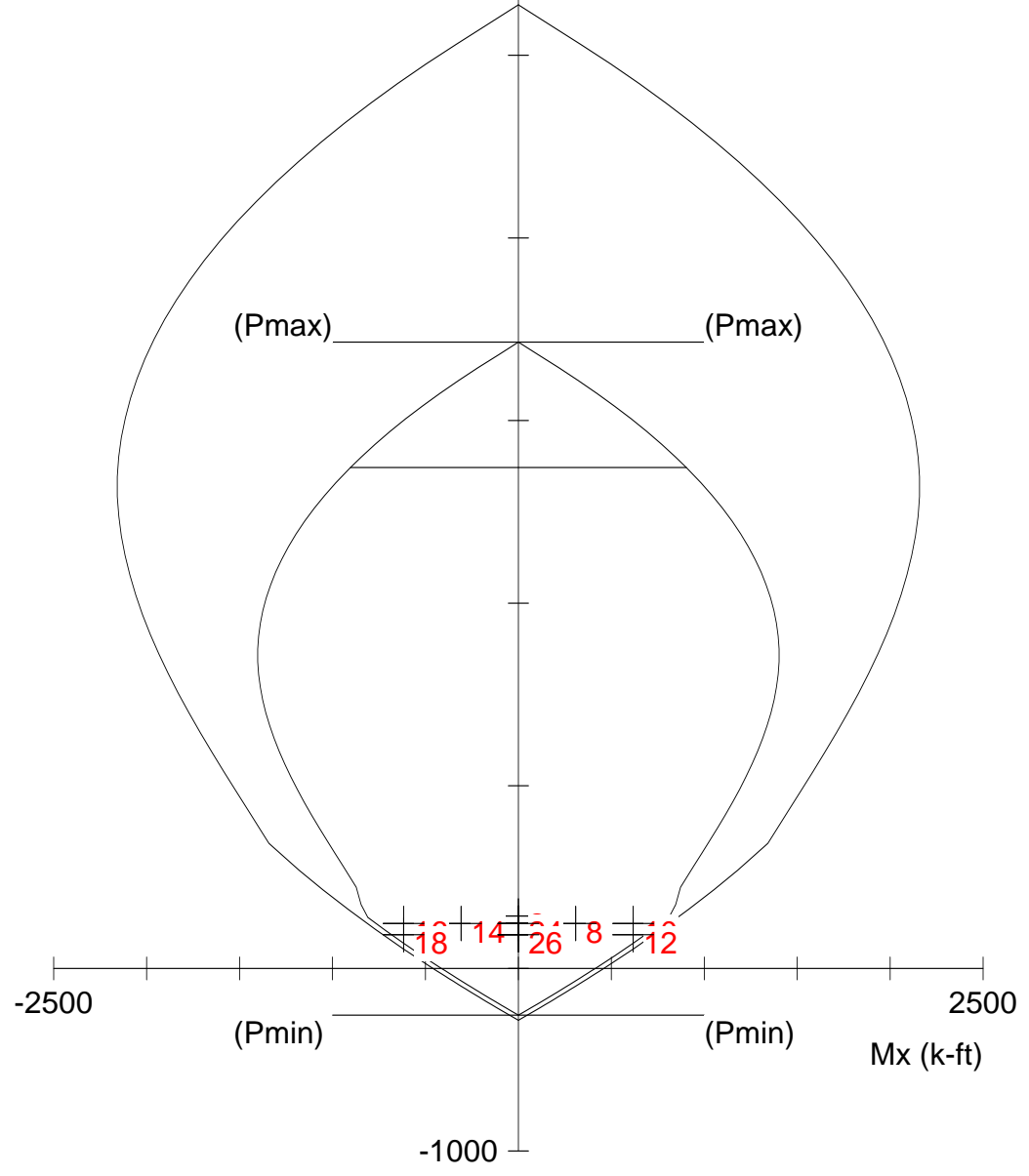
\*\*\* End of output \*\*\*





12 x 41.16 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 11:11:01



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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.1 10th Floor.col

Project:

|                   |                         |                              |                       |
|-------------------|-------------------------|------------------------------|-----------------------|
| Column:           | Engineer:               |                              |                       |
| f'c = 12 ksi      | fy = 60 ksi             | Ag = 493.92 in^2             | 1 bars                |
| Ec = 6244 ksi     | Es = 29000 ksi          | As = 4.74 in^2               | rho = 0.96%           |
| fc = 10.2 ksi     | e_yt = 0.00206897 in/in | Xo = 0.00 in                 | lx = 69731 in^4       |
| e_u = 0.003 in/in |                         | Yo = 0.00 in                 | ly = 5927.04 in^4     |
| Beta1 = 0.65      |                         | Min clear spacing = -1.23 in | Clear cover = 4.77 in |

Confinement: Tied

phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65



DEPT OF BLDGS 121191236

Job Number



ES557639921

Scan Code

```

                oooooo          o
                oo   oo          oo
    oooooo   oooooo   oo          oooooo   oo   oo   o oooooo          o oooooo
oo   o   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
oo          oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
    oooooo   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
o   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
    oooooo   oo          oooooo   oooooo   ooo   oooooo o   oo   oo   oo   oo (TM)

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=====
                        spColumn v5.10 (TM)
    Computer program for the Strength Design of Reinforced Concrete Sections
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=====

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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.3 10th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 75.72 in  
 Gross section area, Ag = 908.64 in^2  
 Ix = 434142 in^4 Iy = 10903.7 in^4  
 rx = 21.8585 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 2.40 in^2 at rho = 0.26% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.87 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 2.40      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load<br>Axial Load<br>kip | Mx @ Top<br>k-ft | Mx @ Bot<br>k-ft | My @ Top<br>k-ft | My @ Bot<br>k-ft |
|-----|------|---------------------------|------------------|------------------|------------------|------------------|
| 1   | Dead | 390.00                    | 0.00             | 0.00             | 0.00             | 0.00             |
|     | Live | 0.00                      | 0.00             | 0.00             | 0.00             | 0.00             |
|     | Wind | 0.00                      | 586.00           | -586.00          | 0.00             | 0.00             |
|     | EQ   | 0.00                      | 0.00             | 0.00             | 0.00             | 0.00             |
|     | Snow | 0.00                      | 0.00             | 0.00             | 0.00             | 0.00             |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES972328621

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

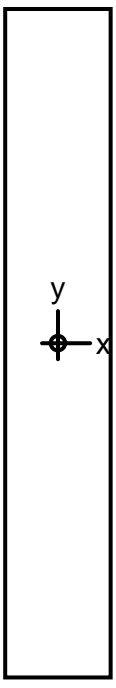
Factored Loads and Moments with Corresponding Capacities:

NOTE: Each loading combination includes the following cases:

First line - at column top  
Second line - at column bottom

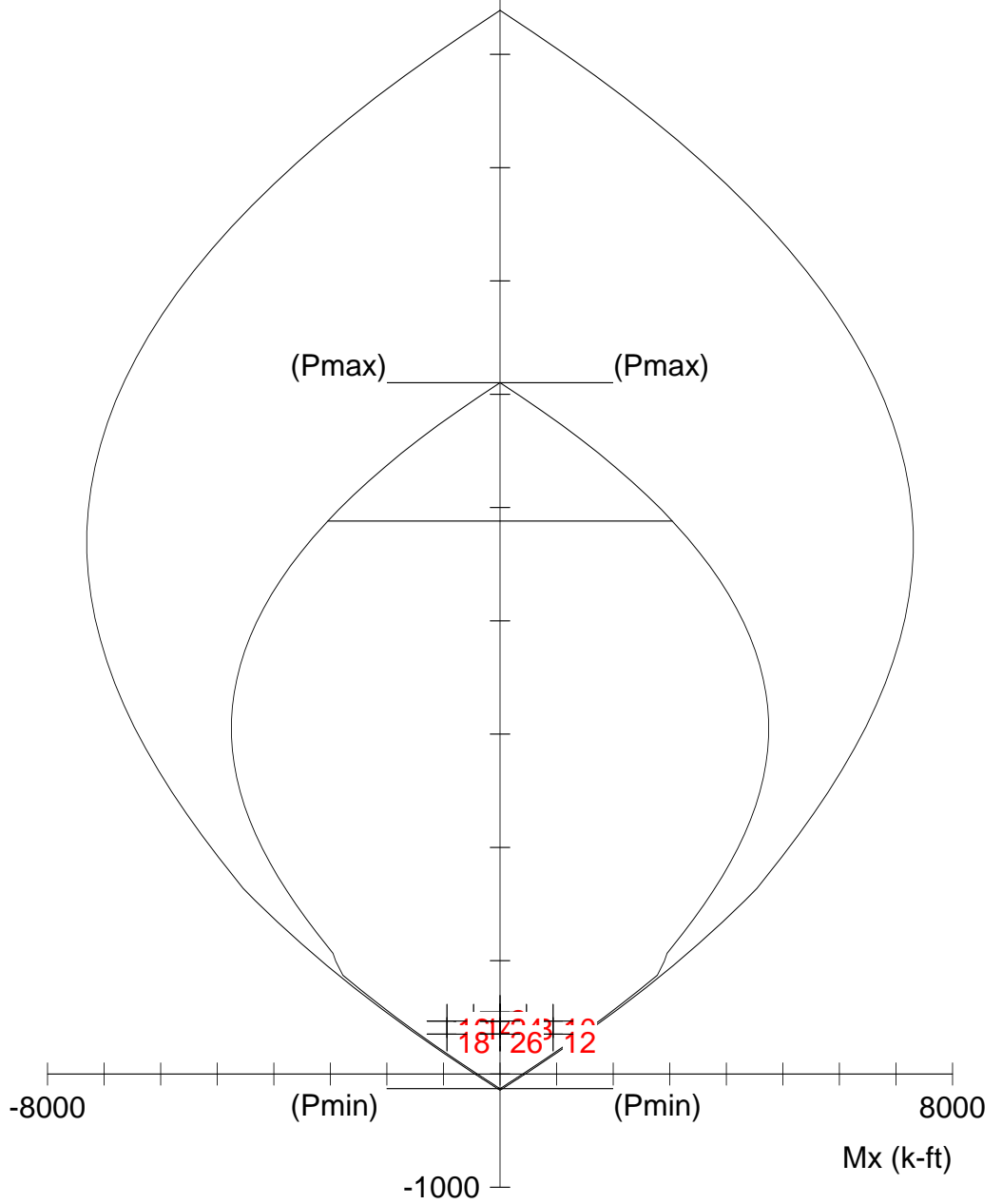
| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|-------------|---------|-------|
| 1   | 1 U1       | 546.00 | 0.00     | 1958.88     | 999.999  |    | 9.44     | 37.86       | 0.00904 | 0.900 |
| 2   |            | 546.00 | -0.00    | 1958.88     | 999.999  |    | 9.44     | 37.86       | 0.00904 | 0.900 |
| 3   | 1 U2       | 468.00 | 0.00     | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 4   |            | 468.00 | -0.00    | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 5   | 1 U3       | 468.00 | 0.00     | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 6   |            | 468.00 | -0.00    | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 7   | 1 U4       | 468.00 | 468.80   | 1750.35     | 3.734    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 8   |            | 468.00 | 468.80   | 1750.35     | 3.734    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 9   | 1 U5       | 468.00 | 937.60   | 1750.35     | 1.867    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 10  |            | 468.00 | 937.60   | 1750.35     | 1.867    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 11  | 1 U6       | 351.00 | 937.60   | 1428.93     | 1.524    |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 12  |            | 351.00 | 937.60   | 1428.93     | 1.524    |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 13  | 1 U7       | 468.00 | -468.80  | -1750.35    | 3.734    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 14  |            | 468.00 | -468.80  | -1750.35    | 3.734    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 15  | 1 U8       | 468.00 | -937.60  | -1750.35    | 1.867    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 16  |            | 468.00 | -937.60  | -1750.35    | 1.867    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 17  | 1 U9       | 351.00 | -937.60  | -1428.93    | 1.524    |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 18  |            | 351.00 | -937.60  | -1428.93    | 1.524    |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 19  | 1 U10      | 468.00 | 0.00     | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 20  |            | 468.00 | -0.00    | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 21  | 1 U11      | 351.00 | 0.00     | 1428.93     | 999.999  |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 22  |            | 351.00 | -0.00    | 1428.93     | 999.999  |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 23  | 1 U12      | 468.00 | 0.00     | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 24  |            | 468.00 | 0.00     | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 25  | 1 U13      | 351.00 | 0.00     | 1428.93     | 999.999  |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 26  |            | 351.00 | 0.00     | 1428.93     | 999.999  |    | 6.71     | 37.86       | 0.01392 | 0.900 |

\*\*\* End of output \*\*\*



12 x 75.72 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 14:07:23



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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.3 10th Floor.col

Project:

Column:

$f'_c = 12$  ksi

$E_c = 6244$  ksi

$f_c = 10.2$  ksi

$e_u = 0.003$  in/in

Beta1 = 0.65

Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 908.64$  in<sup>2</sup>

$A_s = 2.40$  in<sup>2</sup>

$X_o = 0.00$  in

$Y_o = 0.00$  in

Min clear spacing = -0.87 in

1 bars

$\rho = 0.26\%$

$I_x = 434142$  in<sup>4</sup>

$I_y = 10903.7$  in<sup>4</sup>

Clear cover = 5.13 in

```

          oooooo          o
         oo   oo          oo
ooooo  oooooo  oo   oooooo  oo   oo   o oooooo  oo   oooooo
oo   o  oo   oo  oo          oo   oo  oo   oo   oo  oo   oo   oo
oo          oo   oo  oo          oo   oo  oo   oo   oo  oo   oo   oo
ooooo  oo   oo  oo          oo   oo  oo   oo   oo   oo  oo   oo
o   oo  oo   oooooo  oo          oo   oo  oo   oo   oo   oo  oo   oo
ooooo  oo          oo   oo  oo   oo  oo   oo   oo   oo   oo   oo   oo (TM)

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=====
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Computer program for the Strength Design of Reinforced Concrete Sections
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License to: Severud

S:\14442-01\SPCol\Sh



DEPT OF BLDGS 121191236

Job Number



ES393266632

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.1 10th Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Beta1 = 0.65

Section:  
=====

Rectangular: Width = 12 in Depth = 41.16 in  
Gross section area, Ag = 493.92 in^2  
Ix = 69731 in^4 Iy = 5927.04 in^4  
rx = 11.8819 in ry = 3.4641 in  
Xo = 0 in Yo = 0 in

Reinforcement:  
=====

Bar Set: ASTM A615  
Size Diam (in) Area (in^2) Size Diam (in) Area (in^2) Size Diam (in) Area (in^2)  
# 3 0.38 0.11 # 4 0.50 0.20 # 5 0.63 0.31  
# 6 0.75 0.44 # 7 0.88 0.60 # 8 1.00 0.79  
# 9 1.13 1.00 # 10 1.27 1.27 # 11 1.41 1.56  
# 14 1.69 2.25 # 18 2.26 4.00

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 4.74 in^2 at rho = 0.96% (Note: rho < 1.0%)  
Minimum clear spacing = -1.23 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 4.74      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
=====

| No. | Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 205.00         | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00           | 386.00        | -386.00       | 0.00          | 0.00          |
|     | EQ   | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
=====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES725894738

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

=====

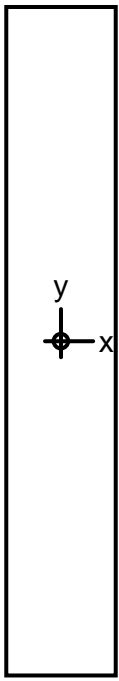
NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

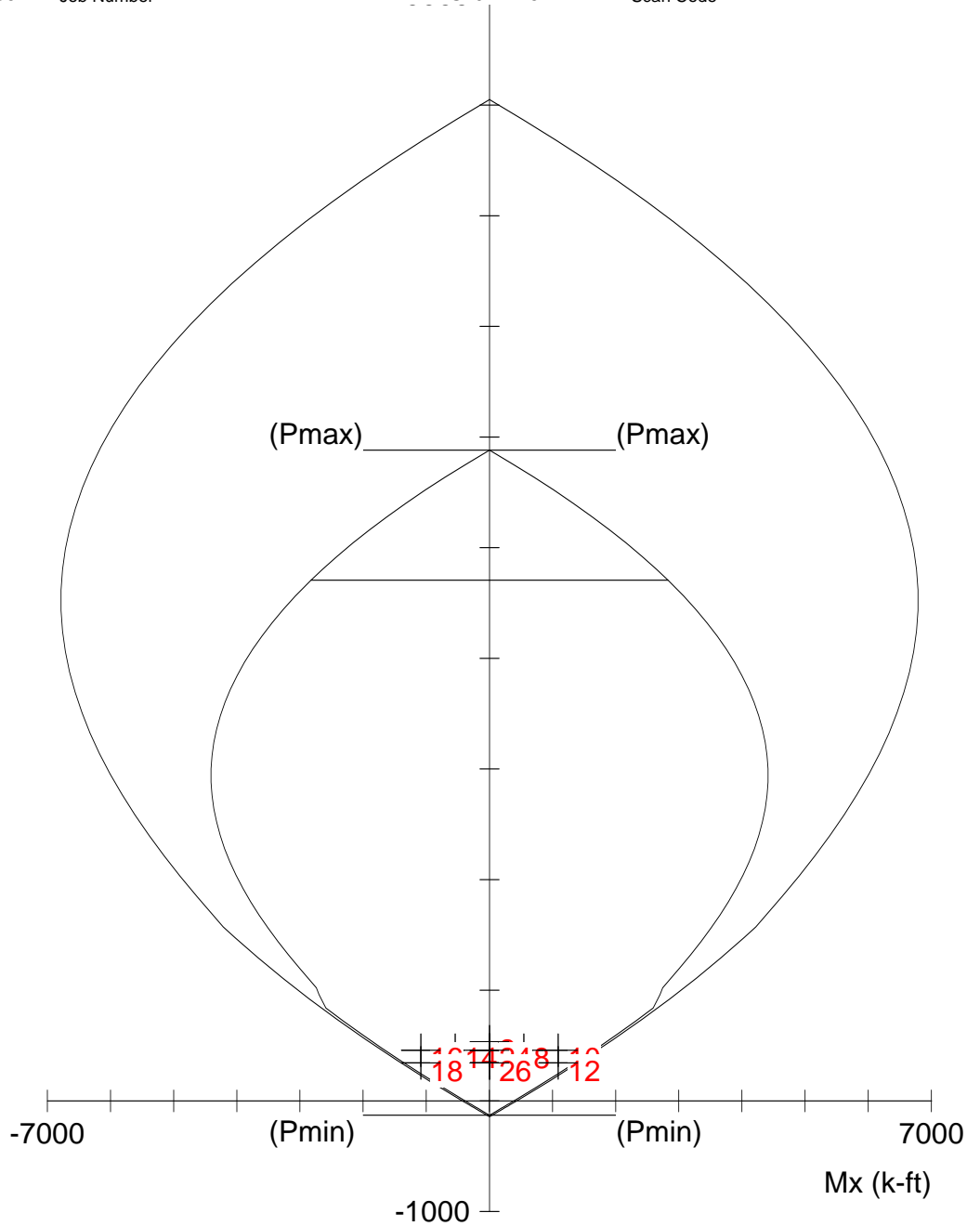
| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 287.00 | 0.00     | 819.67      | 999.999  |    | 7.58     |    | 20.58    | 0.00514 | 0.900 |
| 2   |            | 287.00 | -0.00    | 819.67      | 999.999  |    | 7.58     |    | 20.58    | 0.00514 | 0.900 |
| 3   | 1 U2       | 246.00 | 0.00     | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 4   |            | 246.00 | -0.00    | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 5   | 1 U3       | 246.00 | 0.00     | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 6   |            | 246.00 | -0.00    | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 7   | 1 U4       | 246.00 | 308.80   | 765.56      | 2.479    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 8   |            | 246.00 | 308.80   | 765.56      | 2.479    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 9   | 1 U5       | 246.00 | 617.60   | 765.56      | 1.240    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 10  |            | 246.00 | 617.60   | 765.56      | 1.240    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 11  | 1 U6       | 184.50 | 617.60   | 682.01      | 1.104    |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 12  |            | 184.50 | 617.60   | 682.01      | 1.104    |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 13  | 1 U7       | 246.00 | -308.80  | -765.56     | 2.479    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 14  |            | 246.00 | -308.80  | -765.56     | 2.479    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 15  | 1 U8       | 246.00 | -617.60  | -765.56     | 1.240    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 16  |            | 246.00 | -617.60  | -765.56     | 1.240    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 17  | 1 U9       | 184.50 | -617.60  | -682.01     | 1.104    |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 18  |            | 184.50 | -617.60  | -682.01     | 1.104    |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 19  | 1 U10      | 246.00 | 0.00     | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 20  |            | 246.00 | -0.00    | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 21  | 1 U11      | 184.50 | 0.00     | 682.01      | 999.999  |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 22  |            | 184.50 | -0.00    | 682.01      | 999.999  |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 23  | 1 U12      | 246.00 | 0.00     | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 24  |            | 246.00 | 0.00     | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 25  | 1 U13      | 184.50 | 0.00     | 682.01      | 999.999  |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 26  |            | 184.50 | 0.00     | 682.01      | 999.999  |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |

\*\*\* End of output \*\*\*



12 x 72.96 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 13:55:54



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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.2 10th Floor.col

Project:

Column:

$f'_c = 12$  ksi

$E_c = 6244$  ksi

$f_c = 10.2$  ksi

$e_u = 0.003$  in/in

Beta1 = 0.65

Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 875.52$  in<sup>2</sup>

$A_s = 2.40$  in<sup>2</sup>

$X_o = 0.00$  in

$Y_o = 0.00$  in

Min clear spacing = -0.87 in

1 bars

$\rho = 0.27\%$

$I_x = 388378$  in<sup>4</sup>

$I_y = 10506.2$  in<sup>4</sup>

Clear cover = 5.13 in



DEPT OF BLDGS 121191236 Job Number



ES284187860 Scan Code

```

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    oooooo   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
o   oo   oo   oo          oo   oo   oo          oo   oo   oo   oo   oo   oo
    oooooo   oo          oooooo   oooooo   ooo   oooooo o   oo   oo   oo   oo (TM)

```

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spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.2 10th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 72.96 in  
 Gross section area, Ag = 875.52 in^2  
 Ix = 388378 in^4 Iy = 10506.2 in^4  
 rx = 21.0617 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 2.40 in^2 at rho = 0.27% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.87 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 2.40      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 382.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 680.00        | -680.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow

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DEPT OF BLDGS121191236

Job Number



ES595615896

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load<br>Combo | Pu<br>kip | Mux<br>k-ft | PhiMnx<br>k-ft | PhiMn/Mu | NA | depth<br>in | Dt<br>in | eps_t   | Phi   |
|-----|---------------|-----------|-------------|----------------|----------|----|-------------|----------|---------|-------|
| 1   | 1 U1          | 534.80    | 0.00        | 1852.81        | 999.999  |    | 9.28        | 36.48    | 0.00879 | 0.900 |
| 2   |               | 534.80    | -0.00       | 1852.81        | 999.999  |    | 9.28        | 36.48    | 0.00879 | 0.900 |
| 3   | 1 U2          | 458.40    | 0.00        | 1656.75        | 999.999  |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 4   |               | 458.40    | -0.00       | 1656.75        | 999.999  |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 5   | 1 U3          | 458.40    | 0.00        | 1656.75        | 999.999  |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 6   |               | 458.40    | -0.00       | 1656.75        | 999.999  |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 7   | 1 U4          | 458.40    | 544.00      | 1656.75        | 3.045    |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 8   |               | 458.40    | 544.00      | 1656.75        | 3.045    |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 9   | 1 U5          | 458.40    | 1088.00     | 1656.75        | 1.523    |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 10  |               | 458.40    | 1088.00     | 1656.75        | 1.523    |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 11  | 1 U6          | 343.80    | 1088.00     | 1354.37        | 1.245    |    | 6.61        | 36.48    | 0.01355 | 0.900 |
| 12  |               | 343.80    | 1088.00     | 1354.37        | 1.245    |    | 6.61        | 36.48    | 0.01355 | 0.900 |
| 13  | 1 U7          | 458.40    | -544.00     | -1656.75       | 3.045    |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 14  |               | 458.40    | -544.00     | -1656.75       | 3.045    |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 15  | 1 U8          | 458.40    | -1088.00    | -1656.75       | 1.523    |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 16  |               | 458.40    | -1088.00    | -1656.75       | 1.523    |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 17  | 1 U9          | 343.80    | -1088.00    | -1354.37       | 1.245    |    | 6.61        | 36.48    | 0.01355 | 0.900 |
| 18  |               | 343.80    | -1088.00    | -1354.37       | 1.245    |    | 6.61        | 36.48    | 0.01355 | 0.900 |
| 19  | 1 U10         | 458.40    | 0.00        | 1656.75        | 999.999  |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 20  |               | 458.40    | -0.00       | 1656.75        | 999.999  |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 21  | 1 U11         | 343.80    | 0.00        | 1354.37        | 999.999  |    | 6.61        | 36.48    | 0.01355 | 0.900 |
| 22  |               | 343.80    | -0.00       | 1354.37        | 999.999  |    | 6.61        | 36.48    | 0.01355 | 0.900 |
| 23  | 1 U12         | 458.40    | 0.00        | 1656.75        | 999.999  |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 24  |               | 458.40    | 0.00        | 1656.75        | 999.999  |    | 8.21        | 36.48    | 0.01033 | 0.900 |
| 25  | 1 U13         | 343.80    | 0.00        | 1354.37        | 999.999  |    | 6.61        | 36.48    | 0.01355 | 0.900 |
| 26  |               | 343.80    | 0.00        | 1354.37        | 999.999  |    | 6.61        | 36.48    | 0.01355 | 0.900 |

\*\*\* End of output \*\*\*



DEPT OF BLDGS 121191236 Job Number



ES969274651 Scan Code

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o   oo  oo  oooooo  oo          oo  oo  oo          oo  oo  oo  oo  oo
oooooo  oo          oooooo  oooooo  ooo  oooooo  o  oo  oo  oo  oo  oo (TM)

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spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.4 10th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 73.32 in  
 Gross section area, Ag = 879.84 in^2  
 Ix = 394155 in^4 Iy = 10558.1 in^4  
 rx = 21.1657 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 2.40 in^2 at rho = 0.27% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.87 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 2.40      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 382.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 631.00        | -631.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES157483238

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

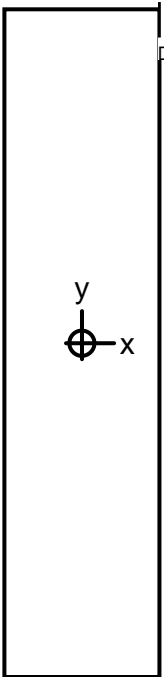
Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

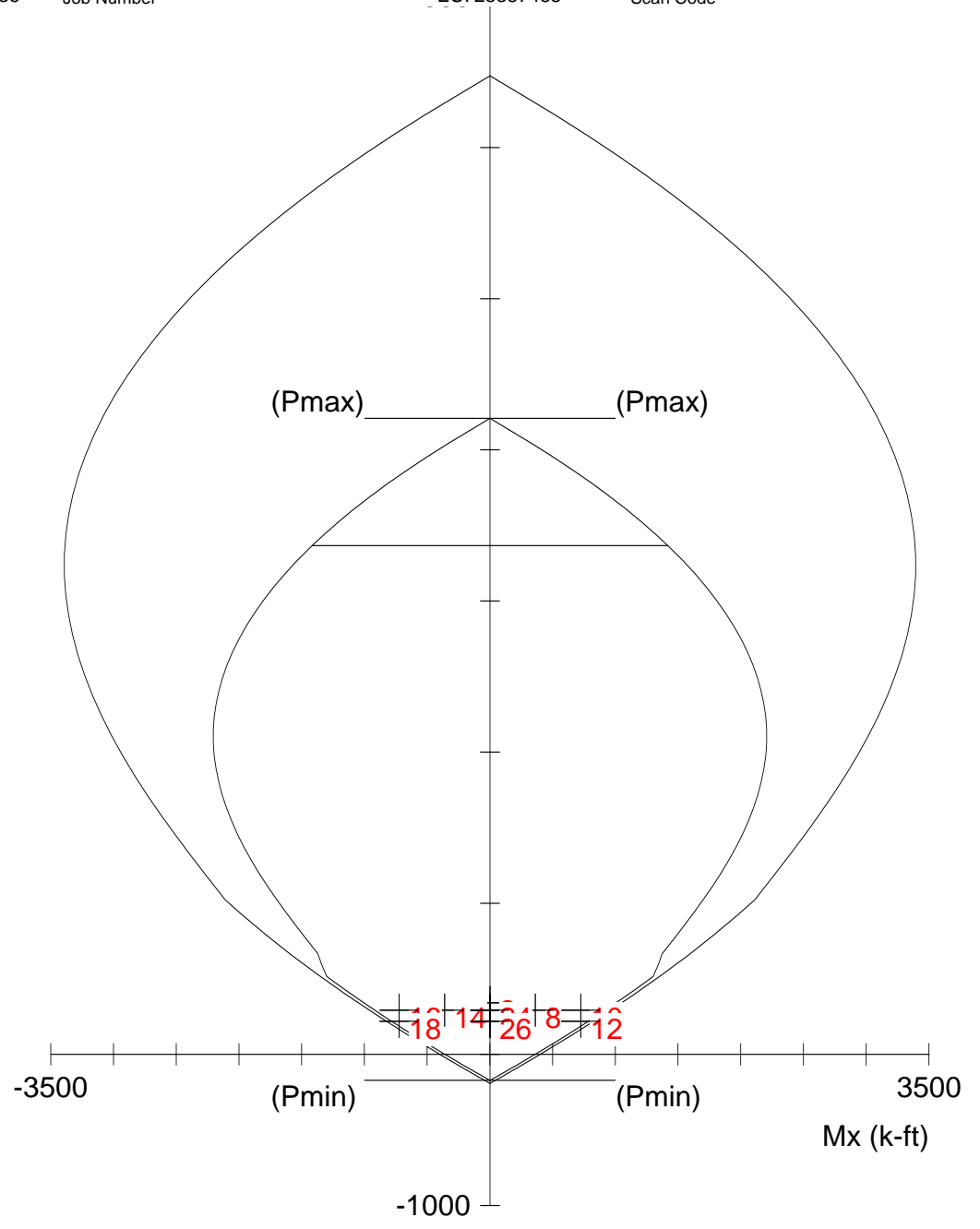
| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|-------------|---------|-------|
| 1   | 1 U1       | 534.80 | 0.00     | 1862.78     | 999.999  |    | 9.28     | 36.66       | 0.00885 | 0.900 |
| 2   |            | 534.80 | -0.00    | 1862.78     | 999.999  |    | 9.28     | 36.66       | 0.00885 | 0.900 |
| 3   | 1 U2       | 458.40 | 0.00     | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 4   |            | 458.40 | -0.00    | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 5   | 1 U3       | 458.40 | 0.00     | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 6   |            | 458.40 | -0.00    | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 7   | 1 U4       | 458.40 | 504.80   | 1665.57     | 3.299    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 8   |            | 458.40 | 504.80   | 1665.57     | 3.299    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 9   | 1 U5       | 458.40 | 1009.60  | 1665.57     | 1.650    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 10  |            | 458.40 | 1009.60  | 1665.57     | 1.650    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 11  | 1 U6       | 343.80 | 1009.60  | 1361.47     | 1.349    |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 12  |            | 343.80 | 1009.60  | 1361.47     | 1.349    |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 13  | 1 U7       | 458.40 | -504.80  | -1665.57    | 3.299    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 14  |            | 458.40 | -504.80  | -1665.57    | 3.299    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 15  | 1 U8       | 458.40 | -1009.60 | -1665.57    | 1.650    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 16  |            | 458.40 | -1009.60 | -1665.57    | 1.650    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 17  | 1 U9       | 343.80 | -1009.60 | -1361.47    | 1.349    |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 18  |            | 343.80 | -1009.60 | -1361.47    | 1.349    |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 19  | 1 U10      | 458.40 | 0.00     | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 20  |            | 458.40 | -0.00    | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 21  | 1 U11      | 343.80 | 0.00     | 1361.47     | 999.999  |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 22  |            | 343.80 | -0.00    | 1361.47     | 999.999  |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 23  | 1 U12      | 458.40 | 0.00     | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 24  |            | 458.40 | 0.00     | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 25  | 1 U13      | 343.80 | 0.00     | 1361.47     | 999.999  |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 26  |            | 343.80 | 0.00     | 1361.47     | 999.999  |    | 6.61     | 36.66       | 0.01363 | 0.900 |

\*\*\* End of output \*\*\*



12 x 51.6 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 14:26:45

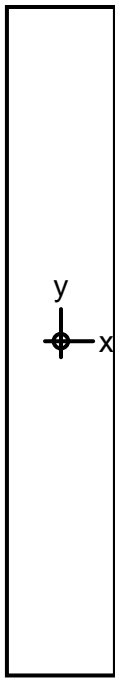


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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.5 10th Floor.col

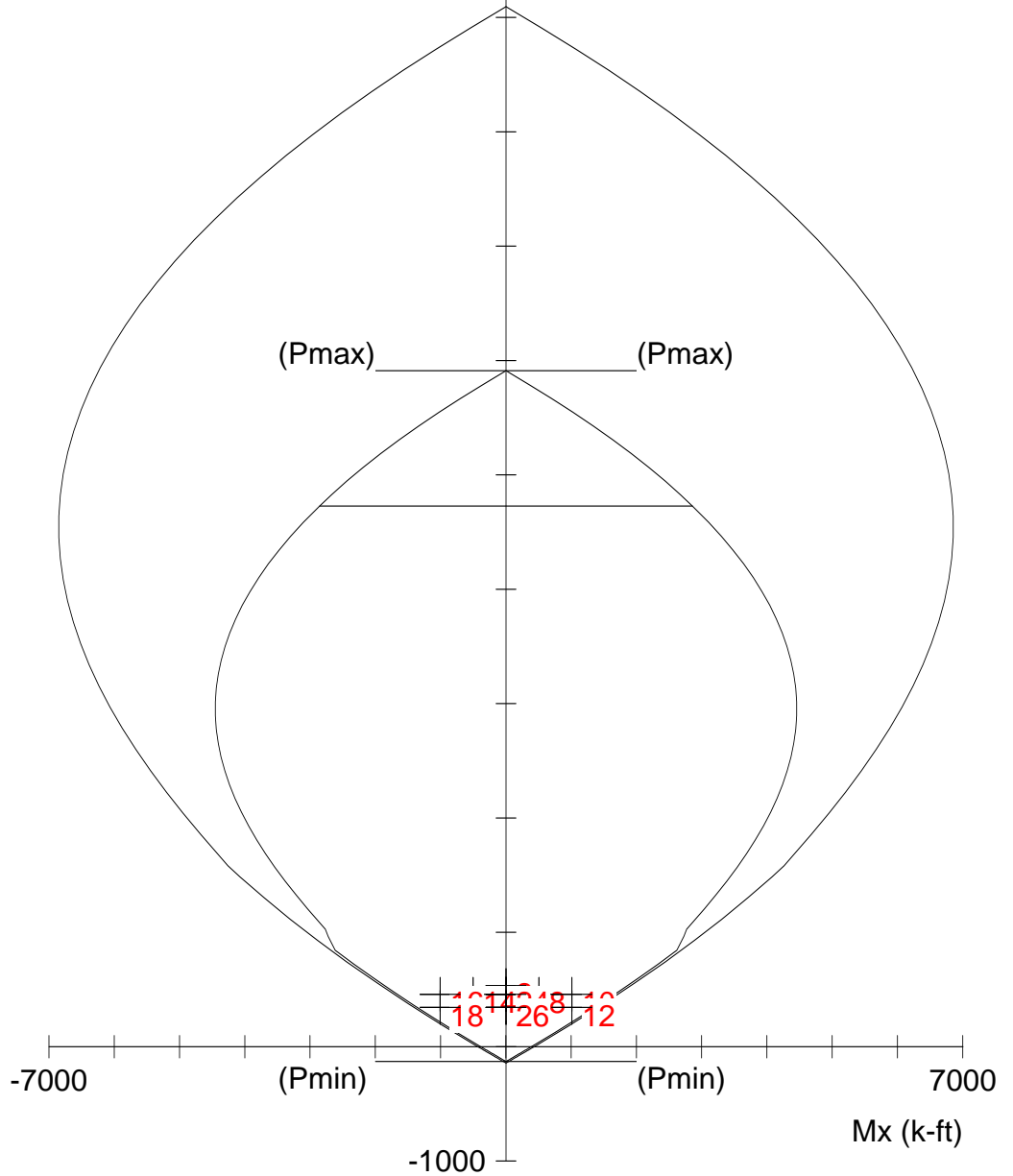
Project:

|   |                              |
|---|------------------------------|
| Column:                                   | Engineer:                    |
| f'c = 12 ksi                              | fy = 60 ksi                  |
| Ec = 6244 ksi                             | Ag = 619.2 in <sup>2</sup>   |
| fc = 10.2 ksi                             | As = 3.20 in <sup>2</sup>    |
| e_u = 0.003 in/in                         | Xo = 0.00 in                 |
| Beta1 = 0.65                              | Yo = 0.00 in                 |
| Confinement: Tied                         | Min clear spacing = -1.01 in |
| phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65 | Clear cover = 4.99 in        |



12 x 73.32 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 14:13:48



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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.4 10th Floor.col

Project:  
 Column: Engineer:  
 f'c = 12 ksi fy = 60 ksi Ag = 879.84 in^2 1 bars  
 Ec = 6244 ksi Es = 29000 ksi As = 2.40 in^2 rho = 0.27%  
 fc = 10.2 ksi e\_yt = 0.00206897 in/in Xo = 0.00 in lx = 394155 in^4  
 e\_u = 0.003 in/in Yo = 0.00 in ly = 10558.1 in^4  
 Beta1 = 0.65 Min clear spacing = -0.87 in Clear cover = 5.13 in  
 Confinement: Tied  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65



DEPT OF BLDGS 121191236 Job Number



ES997171548 Scan Code

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spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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DEPT OF BLDGS121191236

Job Number



ES543030593

Scan Code

General Information:  
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File Name: S:\14442-01\SPCol\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.5 10th Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:  
=====

Rectangular: Width = 12 in Depth = 51.6 in  
Gross section area, Ag = 619.2 in^2  
Ix = 137388 in^4 Iy = 7430.4 in^4  
rx = 14.8956 in ry = 3.4641 in  
Xo = 0 in Yo = 0 in

Reinforcement:  
=====

Bar Set: ASTM A615  
Size Diam (in) Area (in^2) Size Diam (in) Area (in^2) Size Diam (in) Area (in^2)  
# 3 0.38 0.11 # 4 0.50 0.20 # 5 0.63 0.31  
# 6 0.75 0.44 # 7 0.88 0.60 # 8 1.00 0.79  
# 9 1.13 1.00 # 10 1.27 1.27 # 11 1.41 1.56  
# 14 1.69 2.25 # 18 2.26 4.00

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 3.20 in^2 at rho = 0.52% (Note: rho < 1.0%)  
Minimum clear spacing = -1.01 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 3.20      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
=====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 244.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 452.00        | -452.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
=====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



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Job Number



ES040985937

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

=====

NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|-------------|---------|-------|
| 1   | 1 U1       | 341.60 | 0.00     | 1005.88     | 999.999  |    | 7.18     | 25.80       | 0.00777 | 0.900 |
| 2   |            | 341.60 | -0.00    | 1005.88     | 999.999  |    | 7.18     | 25.80       | 0.00777 | 0.900 |
| 3   | 1 U2       | 292.80 | 0.00     | 919.04      | 999.999  |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 4   |            | 292.80 | -0.00    | 919.04      | 999.999  |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 5   | 1 U3       | 292.80 | 0.00     | 919.04      | 999.999  |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 6   |            | 292.80 | -0.00    | 919.04      | 999.999  |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 7   | 1 U4       | 292.80 | 361.60   | 919.04      | 2.542    |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 8   |            | 292.80 | 361.60   | 919.04      | 2.542    |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 9   | 1 U5       | 292.80 | 723.20   | 919.04      | 1.271    |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 10  |            | 292.80 | 723.20   | 919.04      | 1.271    |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 11  | 1 U6       | 219.60 | 723.20   | 785.42      | 1.086    |    | 5.48     | 25.80       | 0.01112 | 0.900 |
| 12  |            | 219.60 | 723.20   | 785.42      | 1.086    |    | 5.48     | 25.80       | 0.01112 | 0.900 |
| 13  | 1 U7       | 292.80 | -361.60  | -919.04     | 2.542    |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 14  |            | 292.80 | -361.60  | -919.04     | 2.542    |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 15  | 1 U8       | 292.80 | -723.20  | -919.04     | 1.271    |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 16  |            | 292.80 | -723.20  | -919.04     | 1.271    |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 17  | 1 U9       | 219.60 | -723.20  | -785.42     | 1.086    |    | 5.48     | 25.80       | 0.01112 | 0.900 |
| 18  |            | 219.60 | -723.20  | -785.42     | 1.086    |    | 5.48     | 25.80       | 0.01112 | 0.900 |
| 19  | 1 U10      | 292.80 | 0.00     | 919.04      | 999.999  |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 20  |            | 292.80 | -0.00    | 919.04      | 999.999  |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 21  | 1 U11      | 219.60 | 0.00     | 785.42      | 999.999  |    | 5.48     | 25.80       | 0.01112 | 0.900 |
| 22  |            | 219.60 | -0.00    | 785.42      | 999.999  |    | 5.48     | 25.80       | 0.01112 | 0.900 |
| 23  | 1 U12      | 292.80 | 0.00     | 919.04      | 999.999  |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 24  |            | 292.80 | 0.00     | 919.04      | 999.999  |    | 6.50     | 25.80       | 0.00890 | 0.900 |
| 25  | 1 U13      | 219.60 | 0.00     | 785.42      | 999.999  |    | 5.48     | 25.80       | 0.01112 | 0.900 |
| 26  |            | 219.60 | 0.00     | 785.42      | 999.999  |    | 5.48     | 25.80       | 0.01112 | 0.900 |

\*\*\* End of output \*\*\*





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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.1 13th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 40.92 in  
 Gross section area, Ag = 491.04 in^2  
 Ix = 68518.3 in^4 Iy = 5892.48 in^4  
 rx = 11.8126 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 1.20 in^2 at rho = 0.24% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.62 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 1.20      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 210.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 195.00        | -195.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES204881319

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 294.00 | 0.00     | 563.06      | 999.999  |    | 5.01     |    | 20.46    | 0.00925 | 0.900 |
| 2   |            | 294.00 | -0.00    | 563.06      | 999.999  |    | 5.01     |    | 20.46    | 0.00925 | 0.900 |
| 3   | 1 U2       | 252.00 | 0.00     | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 4   |            | 252.00 | -0.00    | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 5   | 1 U3       | 252.00 | 0.00     | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 6   |            | 252.00 | -0.00    | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 7   | 1 U4       | 252.00 | 156.00   | 502.18      | 3.219    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 8   |            | 252.00 | 156.00   | 502.18      | 3.219    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 9   | 1 U5       | 252.00 | 312.00   | 502.18      | 1.610    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 10  |            | 252.00 | 312.00   | 502.18      | 1.610    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 11  | 1 U6       | 189.00 | 312.00   | 408.36      | 1.309    |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 12  |            | 189.00 | 312.00   | 408.36      | 1.309    |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 13  | 1 U7       | 252.00 | -156.00  | -502.18     | 3.219    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 14  |            | 252.00 | -156.00  | -502.18     | 3.219    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 15  | 1 U8       | 252.00 | -312.00  | -502.18     | 1.610    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 16  |            | 252.00 | -312.00  | -502.18     | 1.610    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 17  | 1 U9       | 189.00 | -312.00  | -408.36     | 1.309    |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 18  |            | 189.00 | -312.00  | -408.36     | 1.309    |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 19  | 1 U10      | 252.00 | 0.00     | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 20  |            | 252.00 | -0.00    | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 21  | 1 U11      | 189.00 | 0.00     | 408.36      | 999.999  |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 22  |            | 189.00 | -0.00    | 408.36      | 999.999  |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 23  | 1 U12      | 252.00 | 0.00     | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 24  |            | 252.00 | 0.00     | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 25  | 1 U13      | 189.00 | 0.00     | 408.36      | 999.999  |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 26  |            | 189.00 | 0.00     | 408.36      | 999.999  |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |

\*\*\* End of output \*\*\*



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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.3 13th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 56.15 in  
 Gross section area, Ag = 673.8 in^2  
 Ix = 177031 in^4 Iy = 8085.6 in^4  
 rx = 16.2091 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 1.60 in^2 at rho = 0.24% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.71 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 1.60      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 564.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 392.00        | -392.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*Earthquake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*Earthquake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*Earthquake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*Earthquake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*Earthquake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*Earthquake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*Earthquake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*Earthquake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES652460243

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 789.60 | 0.00     | 1620.15     | 999.999  |    | 16.25    |    | 28.08    | 0.00218 | 0.660 |
| 2   |            | 789.60 | -0.00    | 1620.15     | 999.999  |    | 16.25    |    | 28.08    | 0.00218 | 0.660 |
| 3   | 1 U2       | 676.80 | 0.00     | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 4   |            | 676.80 | -0.00    | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 5   | 1 U3       | 676.80 | 0.00     | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 6   |            | 676.80 | -0.00    | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 7   | 1 U4       | 676.80 | 313.60   | 1554.79     | 4.958    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 8   |            | 676.80 | 313.60   | 1554.79     | 4.958    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 9   | 1 U5       | 676.80 | 627.20   | 1554.79     | 2.479    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 10  |            | 676.80 | 627.20   | 1554.79     | 2.479    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 11  | 1 U6       | 507.60 | 627.20   | 1256.26     | 2.003    |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 12  |            | 507.60 | 627.20   | 1256.26     | 2.003    |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 13  | 1 U7       | 676.80 | -313.60  | -1554.79    | 4.958    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 14  |            | 676.80 | -313.60  | -1554.79    | 4.958    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 15  | 1 U8       | 676.80 | -627.20  | -1554.79    | 2.479    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 16  |            | 676.80 | -627.20  | -1554.79    | 2.479    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 17  | 1 U9       | 507.60 | -627.20  | -1256.26    | 2.003    |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 18  |            | 507.60 | -627.20  | -1256.26    | 2.003    |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 19  | 1 U10      | 676.80 | 0.00     | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 20  |            | 676.80 | -0.00    | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 21  | 1 U11      | 507.60 | 0.00     | 1256.26     | 999.999  |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 22  |            | 507.60 | -0.00    | 1256.26     | 999.999  |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 23  | 1 U12      | 676.80 | 0.00     | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 24  |            | 676.80 | 0.00     | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 25  | 1 U13      | 507.60 | 0.00     | 1256.26     | 999.999  |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 26  |            | 507.60 | 0.00     | 1256.26     | 999.999  |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |

\*\*\* End of output \*\*\*



```

          oooooo          o
         oo   oo
ooooo  oooooo  oo          ooooo  oo   oo   o oooooooo  o ooooo
oo   o  oo oo  oo          oo oo  oo   oo oo  oo   oo oo  oo
oo          oo oo  oo          oo oo  oo   oo oo  oo   oo oo
ooooo  oo oo  oo          oo oo  oo   oo oo  oo   oo oo
o   oo  oo oooooo  oo          oo oo  oo   oo oo  oo   oo oo
o   oo  oo oo   oo  oo oo oo  oo   oo oo  oo   oo oo  oo
ooooo  oo          oooooo  ooooo  ooo  oooooo o  oo oo  oo   oo oo (TM)

```

```

=====
                        spColumn v5.10 (TM)
Computer program for the Strength Design of Reinforced Concrete Sections
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=====

```

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License to: Severud

S:\14442-01\SPCol\Sh



DEPT OF BLDGS121191236

Job Number



ES614609008

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.2 13th Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Beta1 = 0.65

Section:  
=====

Rectangular: Width = 12 in Depth = 72 in  
Gross section area, Ag = 864 in^2  
Ix = 373248 in^4 Iy = 10368 in^4  
rx = 20.7846 in ry = 3.4641 in  
Xo = 0 in Yo = 0 in

Reinforcement:  
=====

Bar Set: ASTM A615  
Size Diam (in) Area (in^2) Size Diam (in) Area (in^2) Size Diam (in) Area (in^2)  
# 3 0.38 0.11 # 4 0.50 0.20 # 5 0.63 0.31  
# 6 0.75 0.44 # 7 0.88 0.60 # 8 1.00 0.79  
# 9 1.13 1.00 # 10 1.27 1.27 # 11 1.41 1.56  
# 14 1.69 2.25 # 18 2.26 4.00

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 2.40 in^2 at rho = 0.28% (Note: rho < 0.50%)  
Minimum clear spacing = -0.87 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 2.40      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
=====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 618.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 486.00        | -486.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
=====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES023442456

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

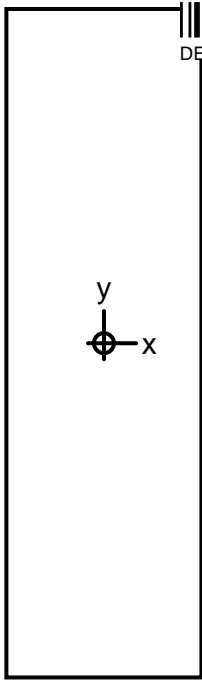
Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

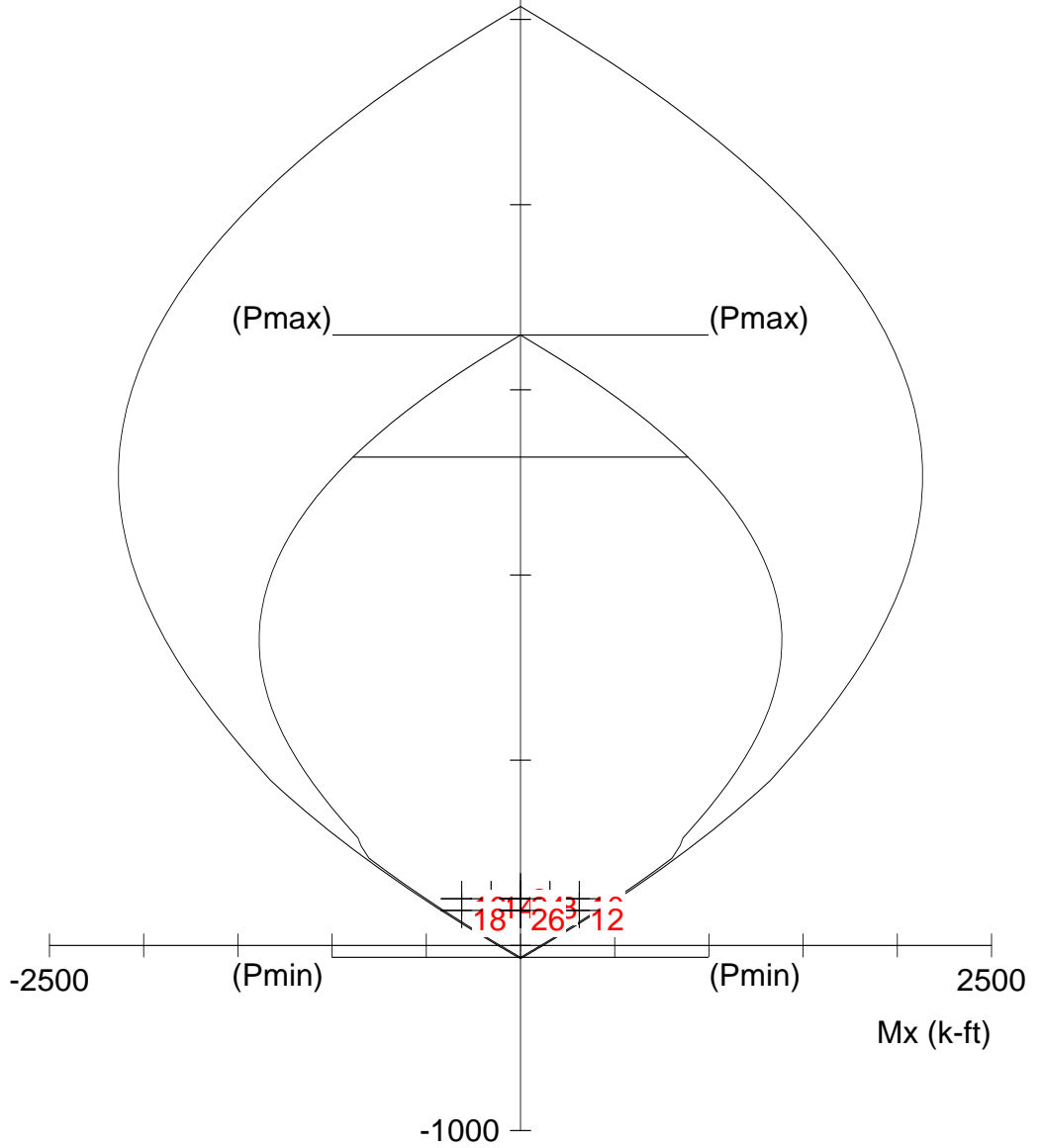
| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 865.20 | 0.00     | 2568.69     | 999.999  |    | 14.67    |    | 36.00    | 0.00436 | 0.845 |
| 2   |            | 865.20 | -0.00    | 2568.69     | 999.999  |    | 14.67    |    | 36.00    | 0.00436 | 0.845 |
| 3   | 1 U2       | 741.60 | 0.00     | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 4   |            | 741.60 | -0.00    | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 5   | 1 U3       | 741.60 | 0.00     | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 6   |            | 741.60 | -0.00    | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 7   | 1 U4       | 741.60 | 388.80   | 2326.52     | 5.984    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 8   |            | 741.60 | 388.80   | 2326.52     | 5.984    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 9   | 1 U5       | 741.60 | 777.60   | 2326.52     | 2.992    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 10  |            | 741.60 | 777.60   | 2326.52     | 2.992    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 11  | 1 U6       | 556.20 | 777.60   | 1879.51     | 2.417    |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 12  |            | 556.20 | 777.60   | 1879.51     | 2.417    |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 13  | 1 U7       | 741.60 | -388.80  | -2326.52    | 5.984    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 14  |            | 741.60 | -388.80  | -2326.52    | 5.984    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 15  | 1 U8       | 741.60 | -777.60  | -2326.52    | 2.992    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 16  |            | 741.60 | -777.60  | -2326.52    | 2.992    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 17  | 1 U9       | 556.20 | -777.60  | -1879.51    | 2.417    |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 18  |            | 556.20 | -777.60  | -1879.51    | 2.417    |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 19  | 1 U10      | 741.60 | 0.00     | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 20  |            | 741.60 | -0.00    | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 21  | 1 U11      | 556.20 | 0.00     | 1879.51     | 999.999  |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 22  |            | 556.20 | -0.00    | 1879.51     | 999.999  |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 23  | 1 U12      | 741.60 | 0.00     | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 24  |            | 741.60 | 0.00     | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 25  | 1 U13      | 556.20 | 0.00     | 1879.51     | 999.999  |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 26  |            | 556.20 | 0.00     | 1879.51     | 999.999  |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |

\*\*\* End of output \*\*\*



12 x 40.92 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 14:51:02



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File: S:\14442-01\SPCo\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.1 13th Floor.col

Project:

Column:

$f'_c = 12$  ksi

$E_c = 6244$  ksi

$f_c = 10.2$  ksi

$e_u = 0.003$  in/in

Beta1 = 0.65

Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 491.04$  in<sup>2</sup>

$A_s = 1.20$  in<sup>2</sup>

$X_o = 0.00$  in

$Y_o = 0.00$  in

Min clear spacing = -0.62 in

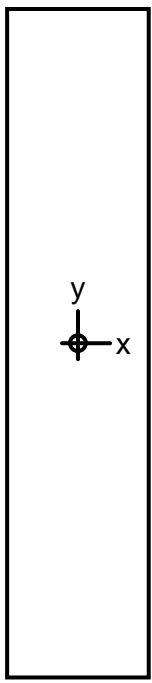
1 bars

$\rho = 0.24\%$

$I_x = 68518.3$  in<sup>4</sup>

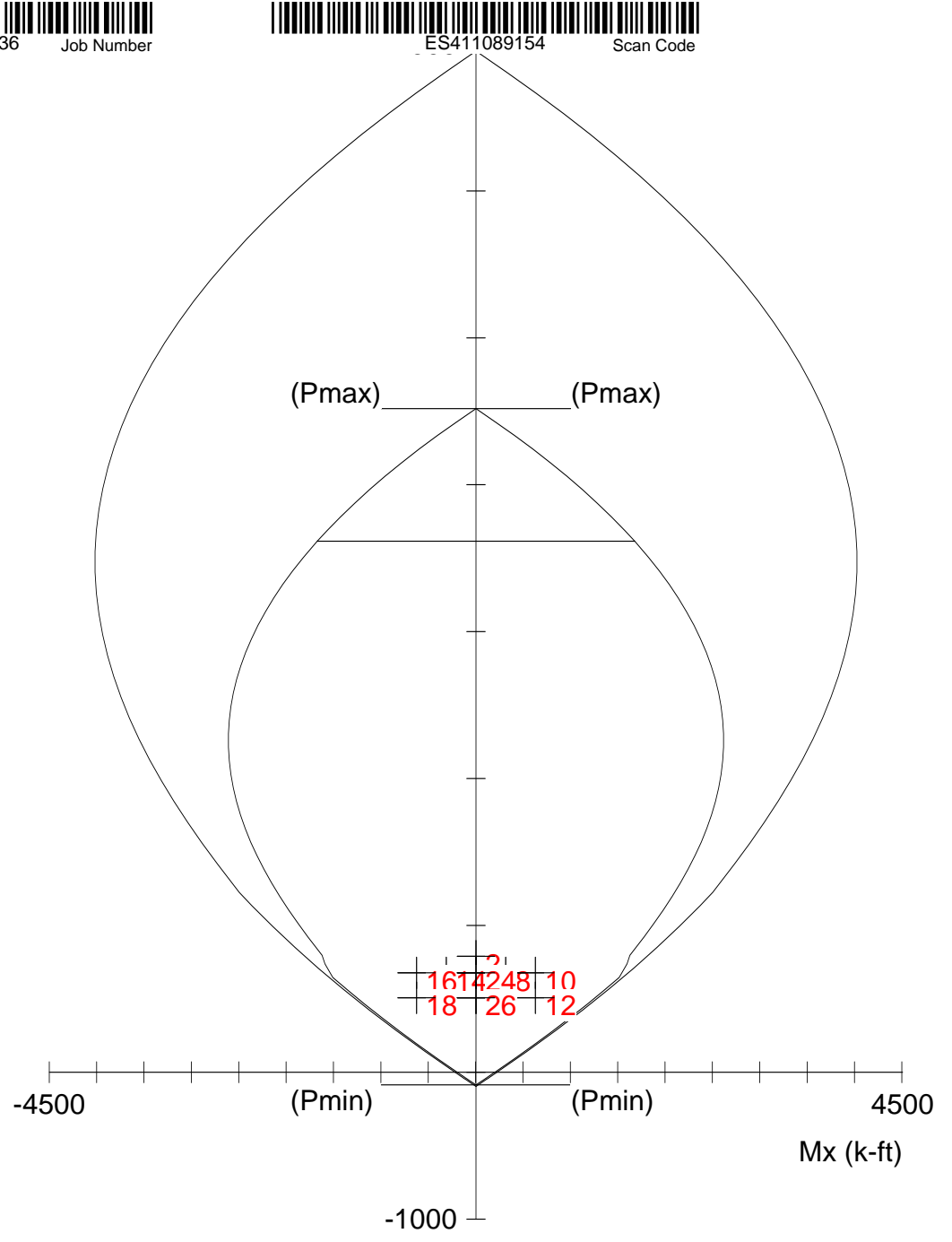
$I_y = 5892.48$  in<sup>4</sup>

Clear cover = 5.38 in



12 x 56.15 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 16:06:18

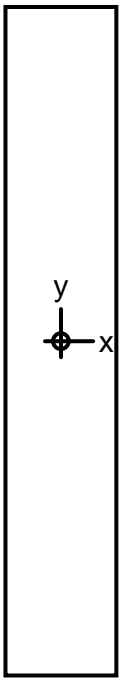


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File: S:\14442-01\SPCo\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.3 13th Floor.col

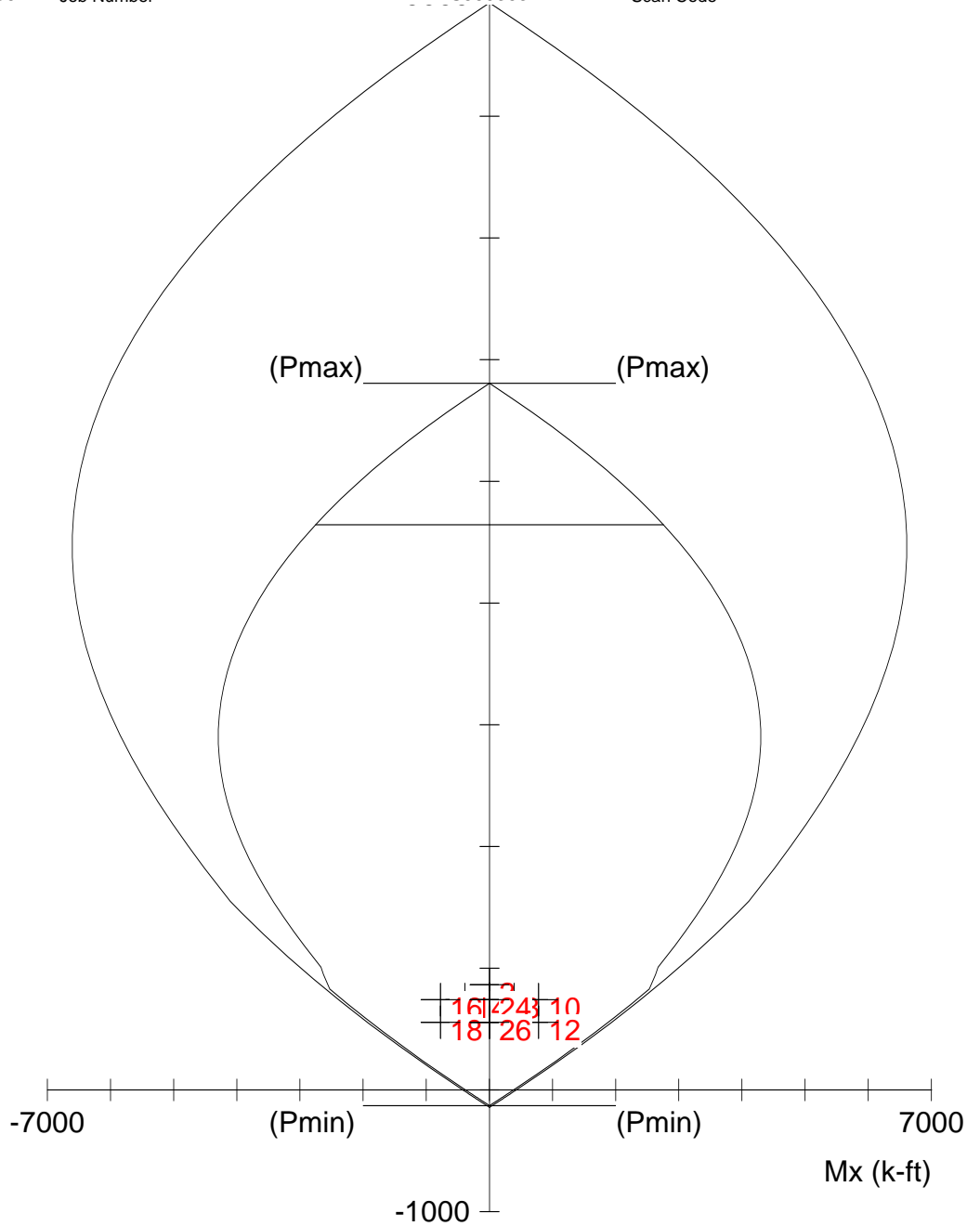
Project:

|   |                              |
|---|------------------------------|
| Column:                                   | Engineer:                    |
| f'c = 12 ksi                              | fy = 60 ksi                  |
| Ec = 6244 ksi                             | Ag = 673.8 in <sup>2</sup>   |
| fc = 10.2 ksi                             | As = 1.60 in <sup>2</sup>    |
| e_u = 0.003 in/in                         | Yo = 0.00 in                 |
| Beta1 = 0.65                              | Min clear spacing = -0.71 in |
| Confinement: Tied                         | Clear cover = 5.29 in        |
| phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65 |                              |



12 x 72 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 16:03:00



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File: S:\14442-01\SPCo\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.2 13th Floor.col

Project:

Column:

$f'_c = 12$  ksi

$E_c = 6244$  ksi

$f_c = 10.2$  ksi

$e_u = 0.003$  in/in

Beta1 = 0.65

Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 864$  in<sup>2</sup>

$A_s = 2.40$  in<sup>2</sup>

$X_o = 0.00$  in

$Y_o = 0.00$  in

Min clear spacing = -0.87 in

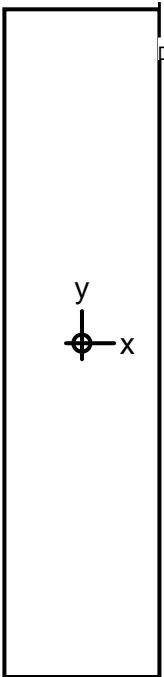
1 bars

$\rho = 0.28\%$

$I_x = 373248$  in<sup>4</sup>

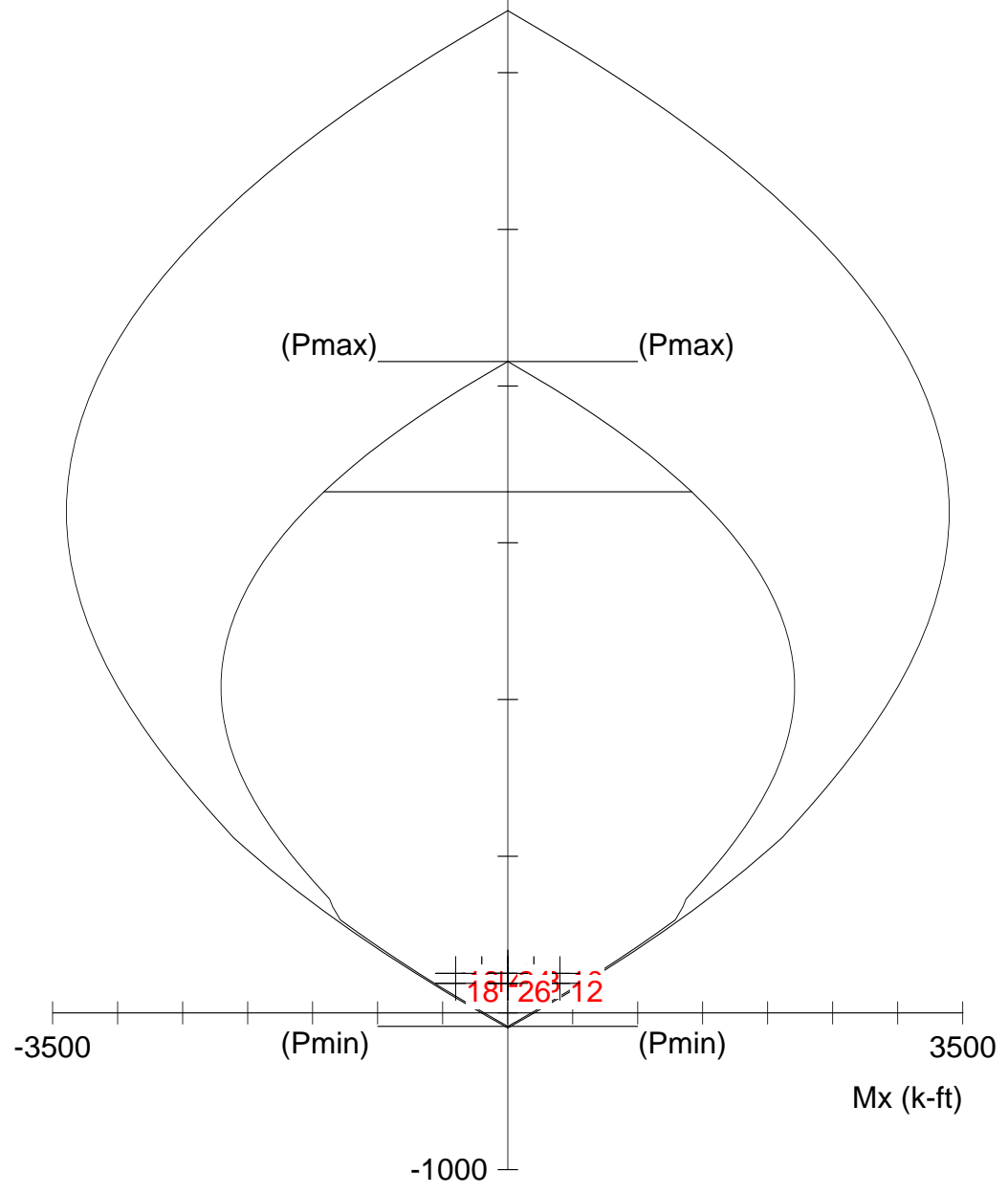
$I_y = 10368$  in<sup>4</sup>

Clear cover = 5.13 in



12 x 51.6 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 16:08:38



STRUCTUREPOINT - spColumn v5.10 (TM). Licensed to: Severud Associates Consulting Engineers P.C.. License ID: 65661-1053340-4-2C47C-231

File: S:\14442-01\SPCo\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.4 13th Floor.col

Project:

|   |                              |
|---|------------------------------|
| Column:                                   | Engineer:                    |
| f'c = 12 ksi                              | fy = 60 ksi                  |
| Ec = 6244 ksi                             | Ag = 619.2 in <sup>2</sup>   |
| fc = 10.2 ksi                             | As = 1.60 in <sup>2</sup>    |
| e_u = 0.003 in/in                         | rho = 0.26%                  |
| Beta1 = 0.65                              | Xo = 0.00 in                 |
| Confinement: Tied                         | Yo = 0.00 in                 |
| phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65 | Min clear spacing = -0.71 in |
|   | Clear cover = 5.29 in        |



DEPT OF BLDGS 121191236 Job Number



ES867989055 Scan Code

```

                oooooo          o
                oo   oo          oo
oooooo  oooooo  oo          oooooo  oo  oo  o oooooooo  o ooooo
oo   o  oo  oo  oo          oo  oo  oo          oo  oo  oo  oo  oo  oo
oo          oo  oo  oo          oo  oo  oo          oo  oo  oo  oo  oo
oooooo  oo  oo  oo          oo  oo  oo          oo  oo  oo  oo  oo
o   oo  oo  oooooo  oo          oo  oo  oo          oo  oo  oo  oo  oo
o   oo  oo          oo   oo  oo  oo  oo  oo  oo  oo  oo  oo  oo
oooooo  oo          oooooo  oooooo  ooo  oooooo  o  oo  oo  oo  oo  oo (TM)

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=====  
spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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=====

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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.4 13th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 51.6 in  
 Gross section area, Ag = 619.2 in^2  
 Ix = 137388 in^4 Iy = 7430.4 in^4  
 rx = 14.8956 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 1.60 in^2 at rho = 0.26% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.71 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 1.60      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 210.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 251.00        | -251.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



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ES077031334

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U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 294.00 | 0.00     | 763.13      | 999.999  |    | 5.31     |    | 25.80    | 0.01157 | 0.900 |
| 2   |            | 294.00 | -0.00    | 763.13      | 999.999  |    | 5.31     |    | 25.80    | 0.01157 | 0.900 |
| 3   | 1 U2       | 252.00 | 0.00     | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 4   |            | 252.00 | -0.00    | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 5   | 1 U3       | 252.00 | 0.00     | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 6   |            | 252.00 | -0.00    | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 7   | 1 U4       | 252.00 | 200.80   | 684.25      | 3.408    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 8   |            | 252.00 | 200.80   | 684.25      | 3.408    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 9   | 1 U5       | 252.00 | 401.60   | 684.25      | 1.704    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 10  |            | 252.00 | 401.60   | 684.25      | 1.704    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 11  | 1 U6       | 189.00 | 401.60   | 563.42      | 1.403    |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 12  |            | 189.00 | 401.60   | 563.42      | 1.403    |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 13  | 1 U7       | 252.00 | -200.80  | -684.25     | 3.408    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 14  |            | 252.00 | -200.80  | -684.25     | 3.408    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 15  | 1 U8       | 252.00 | -401.60  | -684.25     | 1.704    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 16  |            | 252.00 | -401.60  | -684.25     | 1.704    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 17  | 1 U9       | 189.00 | -401.60  | -563.42     | 1.403    |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 18  |            | 189.00 | -401.60  | -563.42     | 1.403    |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 19  | 1 U10      | 252.00 | 0.00     | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 20  |            | 252.00 | -0.00    | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 21  | 1 U11      | 189.00 | 0.00     | 563.42      | 999.999  |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 22  |            | 189.00 | -0.00    | 563.42      | 999.999  |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 23  | 1 U12      | 252.00 | 0.00     | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 24  |            | 252.00 | 0.00     | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 25  | 1 U13      | 189.00 | 0.00     | 563.42      | 999.999  |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 26  |            | 189.00 | 0.00     | 563.42      | 999.999  |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |

\*\*\* End of output \*\*\*

STRUCTURAL CALCULATIONS

**1568 BROADWAY**  
**TA Submission - Wind & Seismic Calculations**  
New York, NY

**MAEFIELD DEVELOPMENT**  
STRUCTURAL CALCULATIONS

November 9, 2016

**Severud Associates**  
CONSULTING ENGINEERS P. C.  
469 Seventh Avenue  
New York, NY 10018

**Severud Associates**

1568 Broadway

Structural Calculations

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DEPT OF BLDGS121191236 Job Number



ES795892507 Scan Code

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1568 Broadway

Structural Calculations

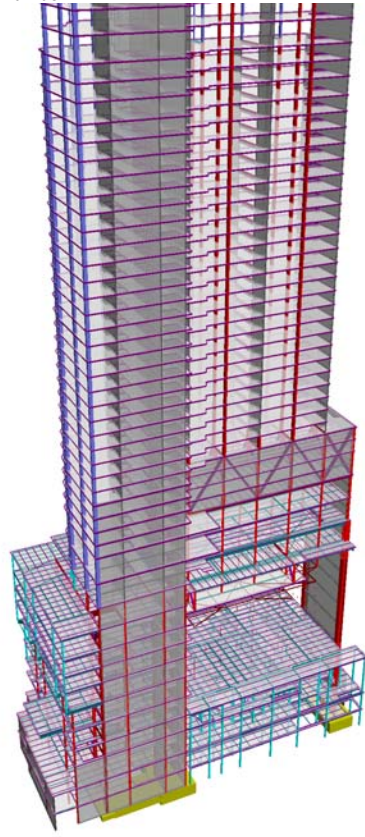
# **CHAPTER 1**

## **3D View**

DEPT OF BLDGS121191236 Job Number

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Scan Code



**Severud Associates**

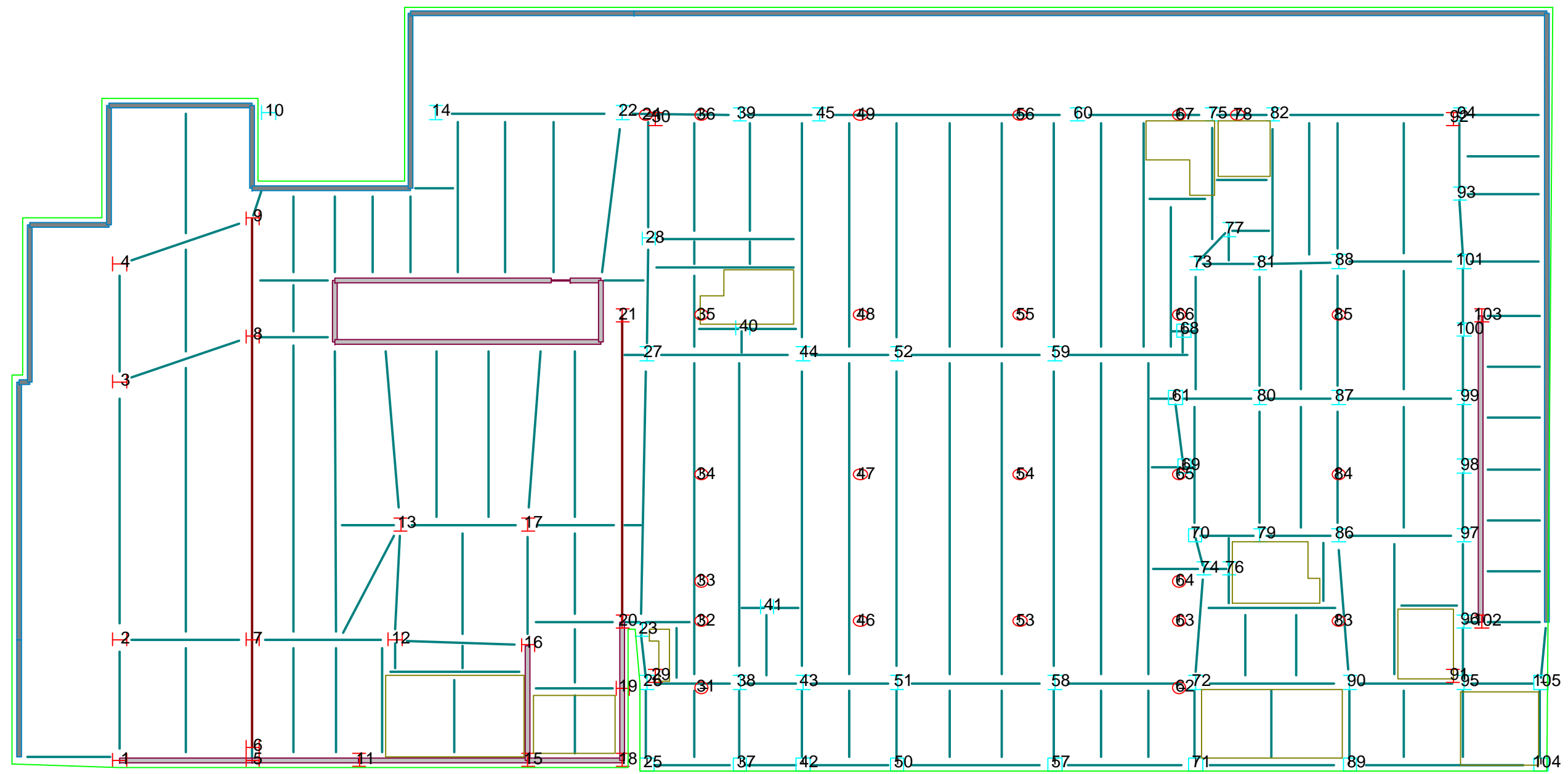
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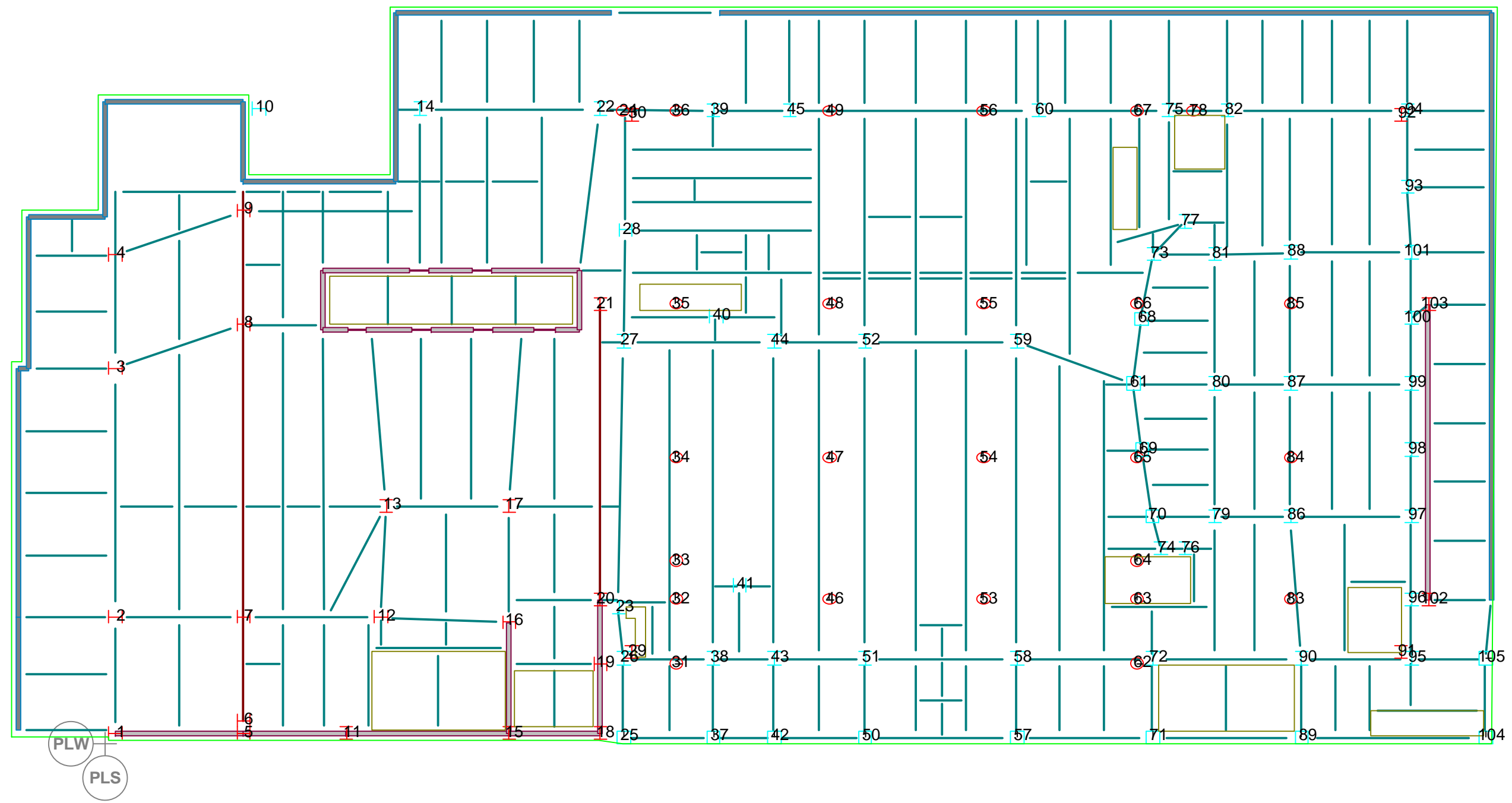
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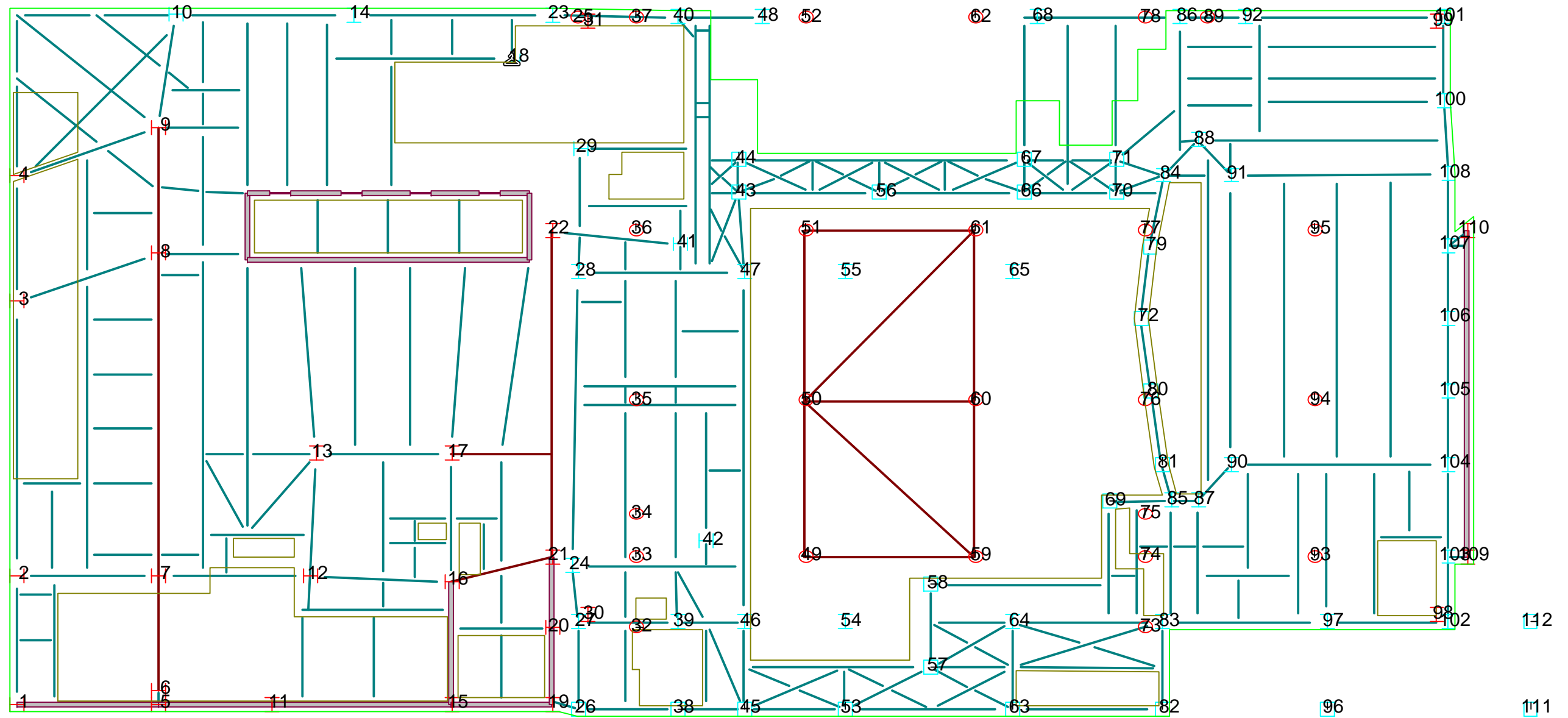
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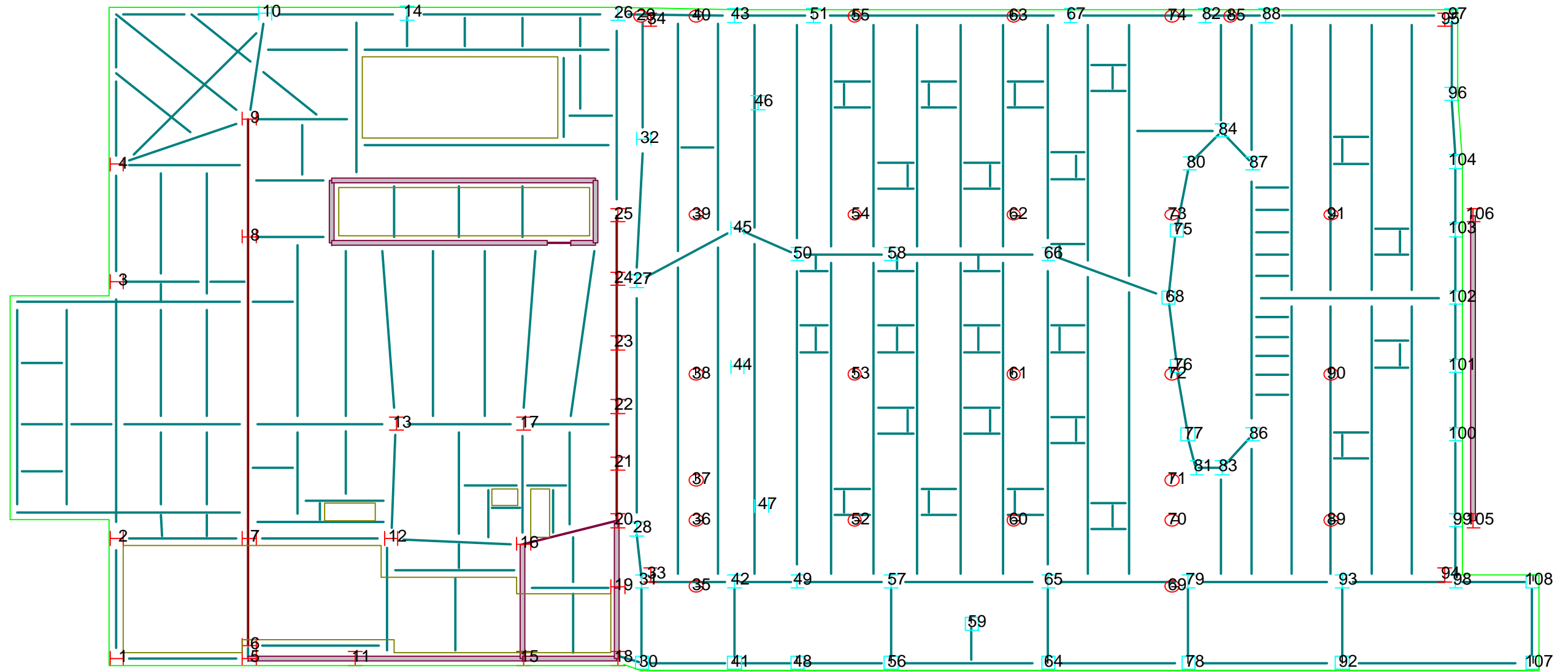
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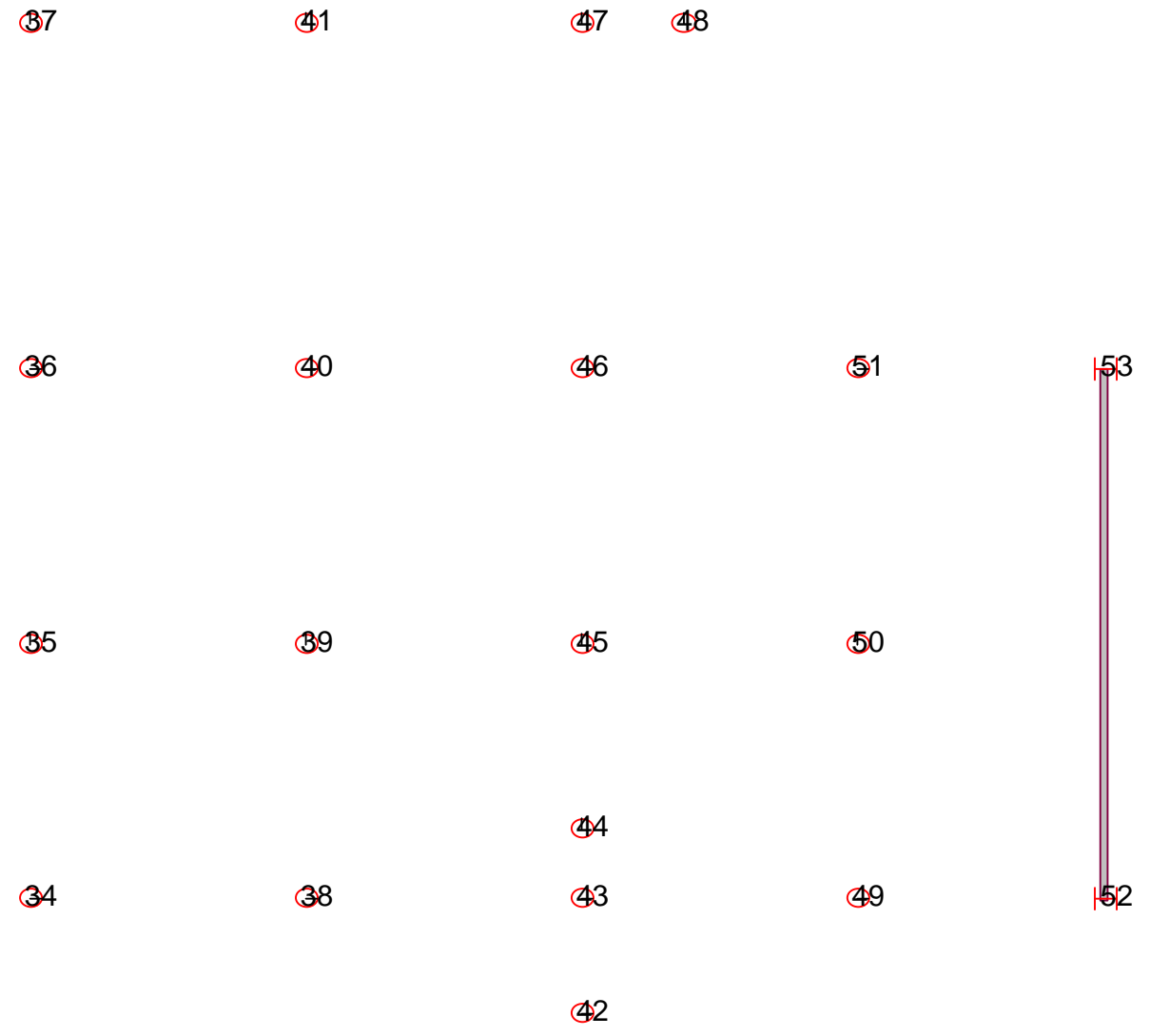
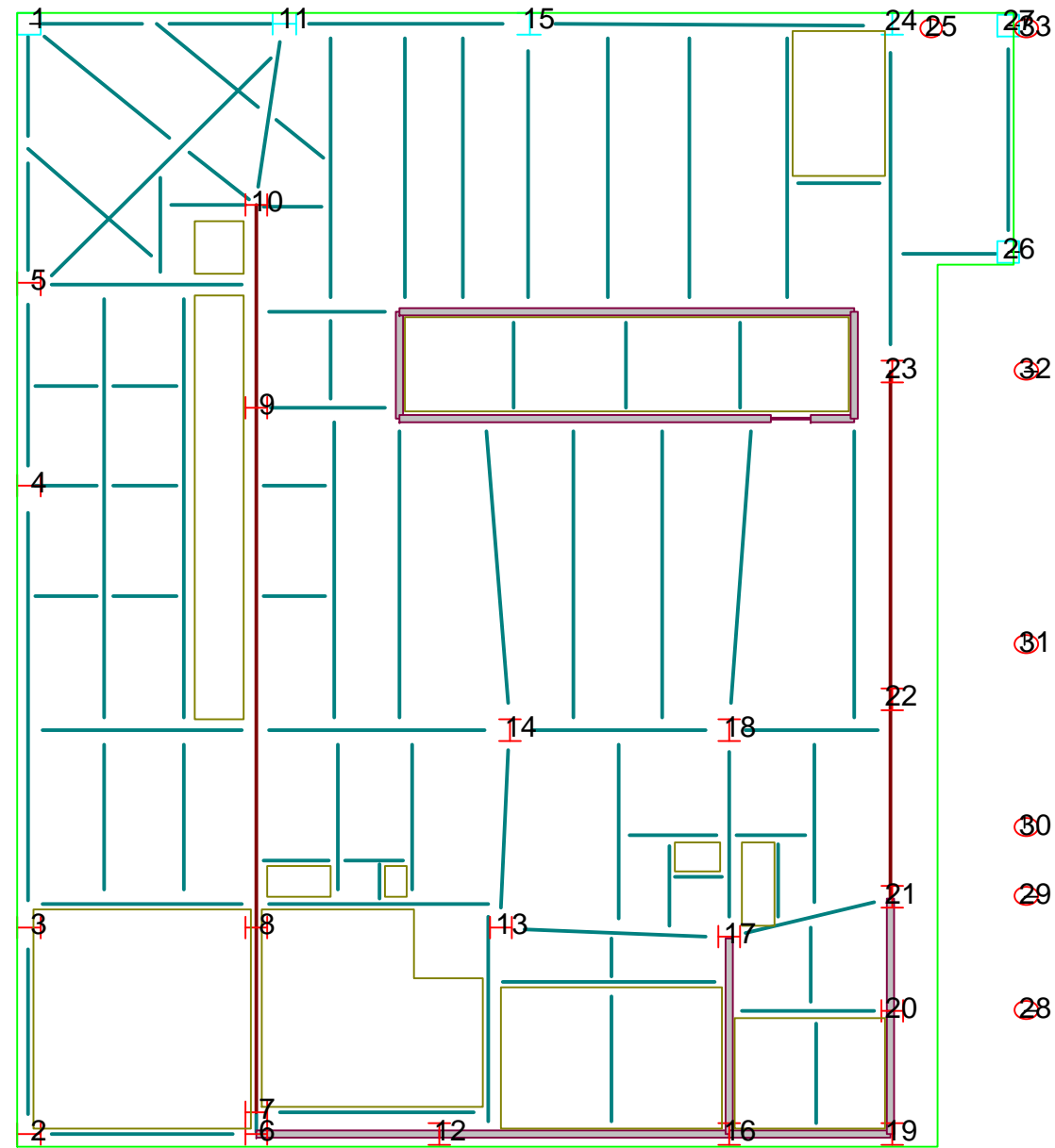


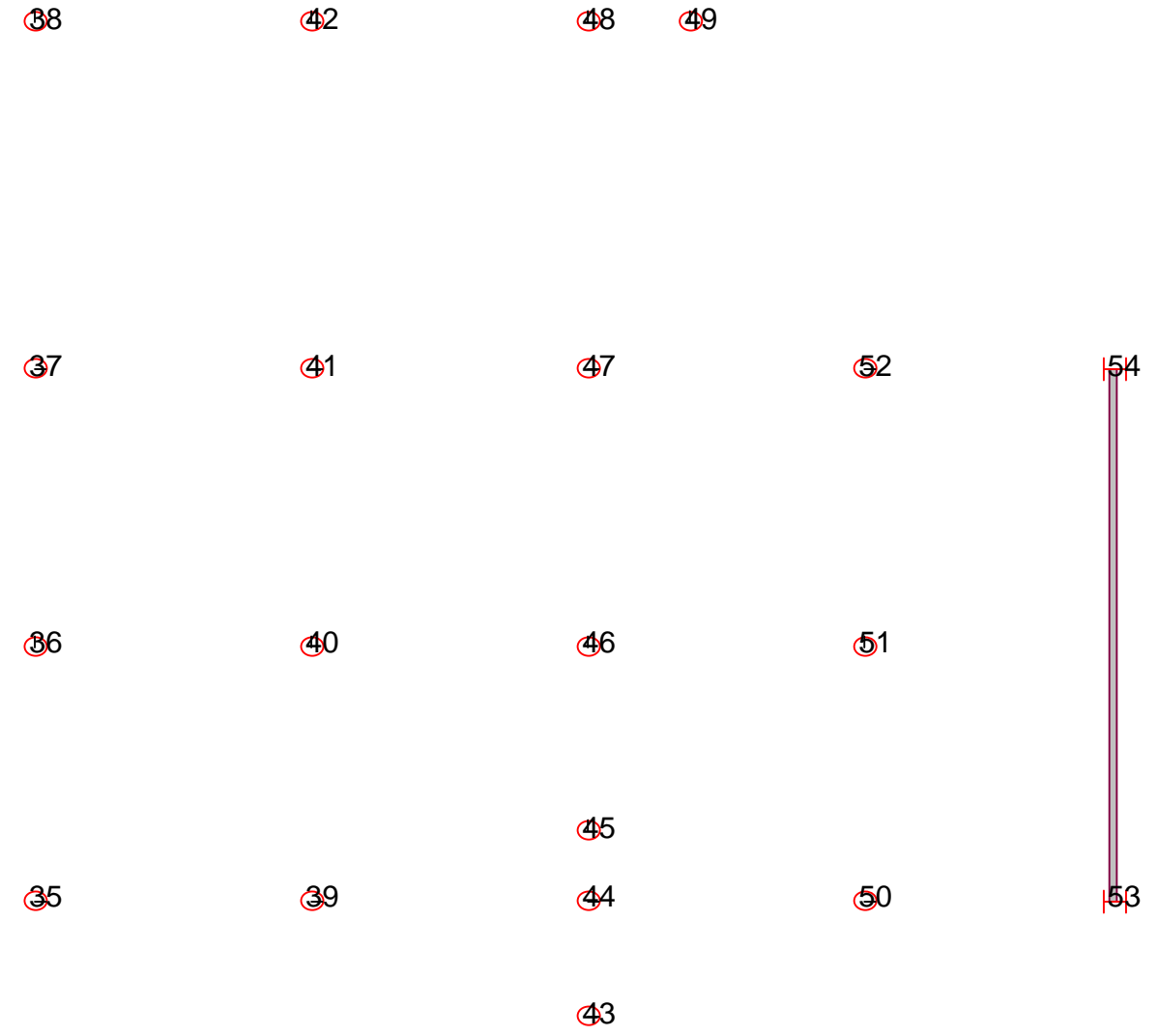
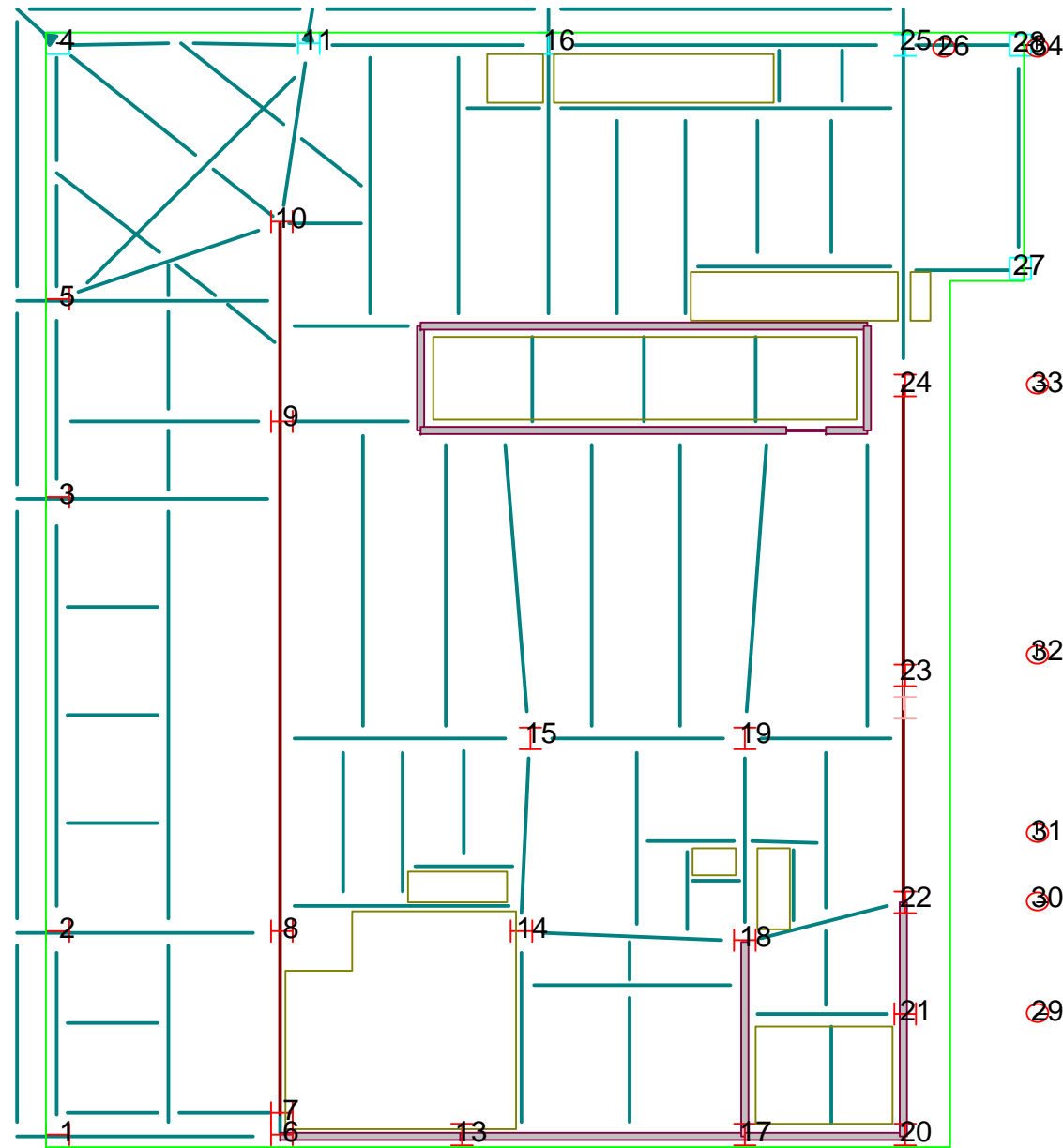


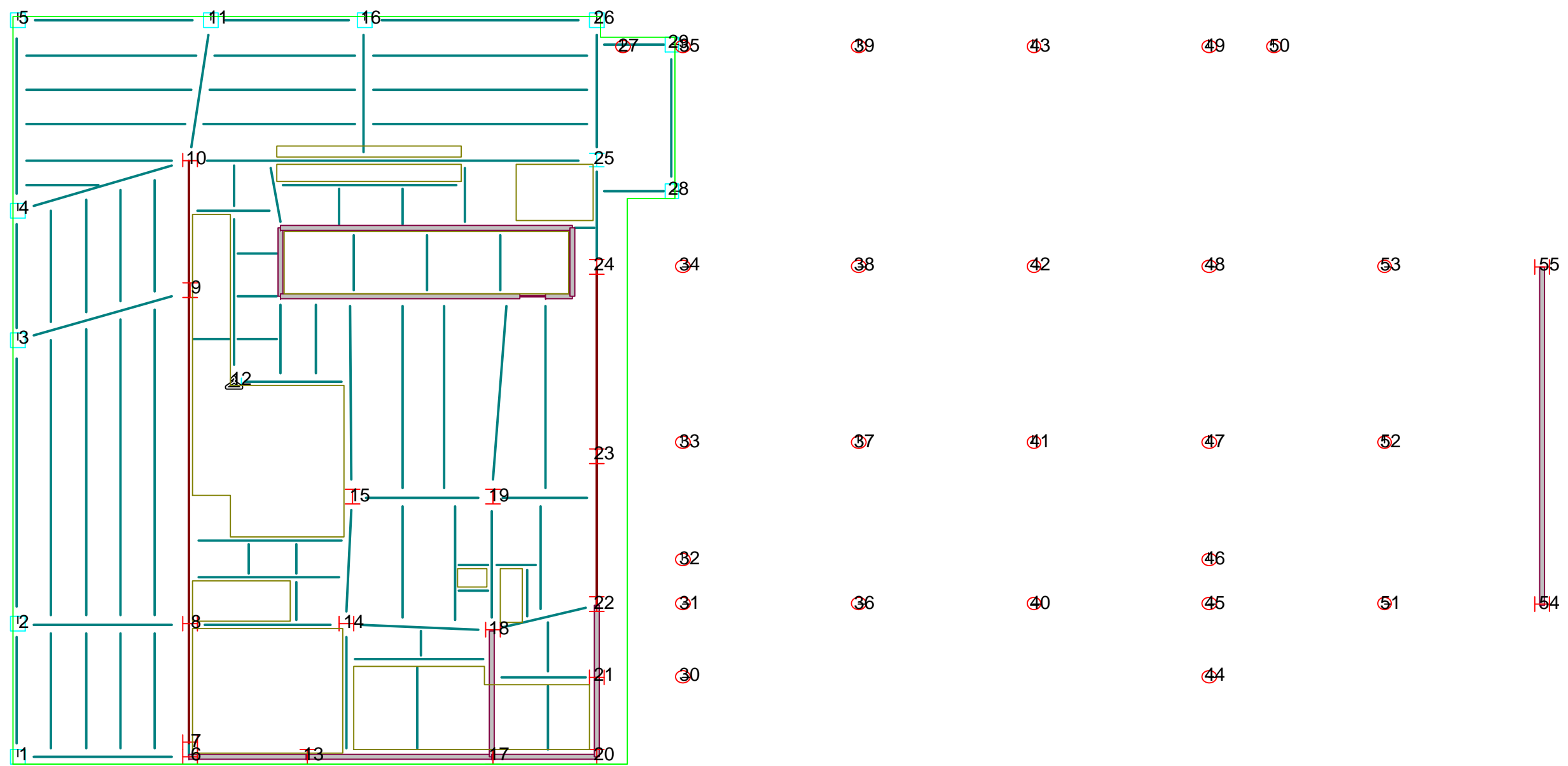




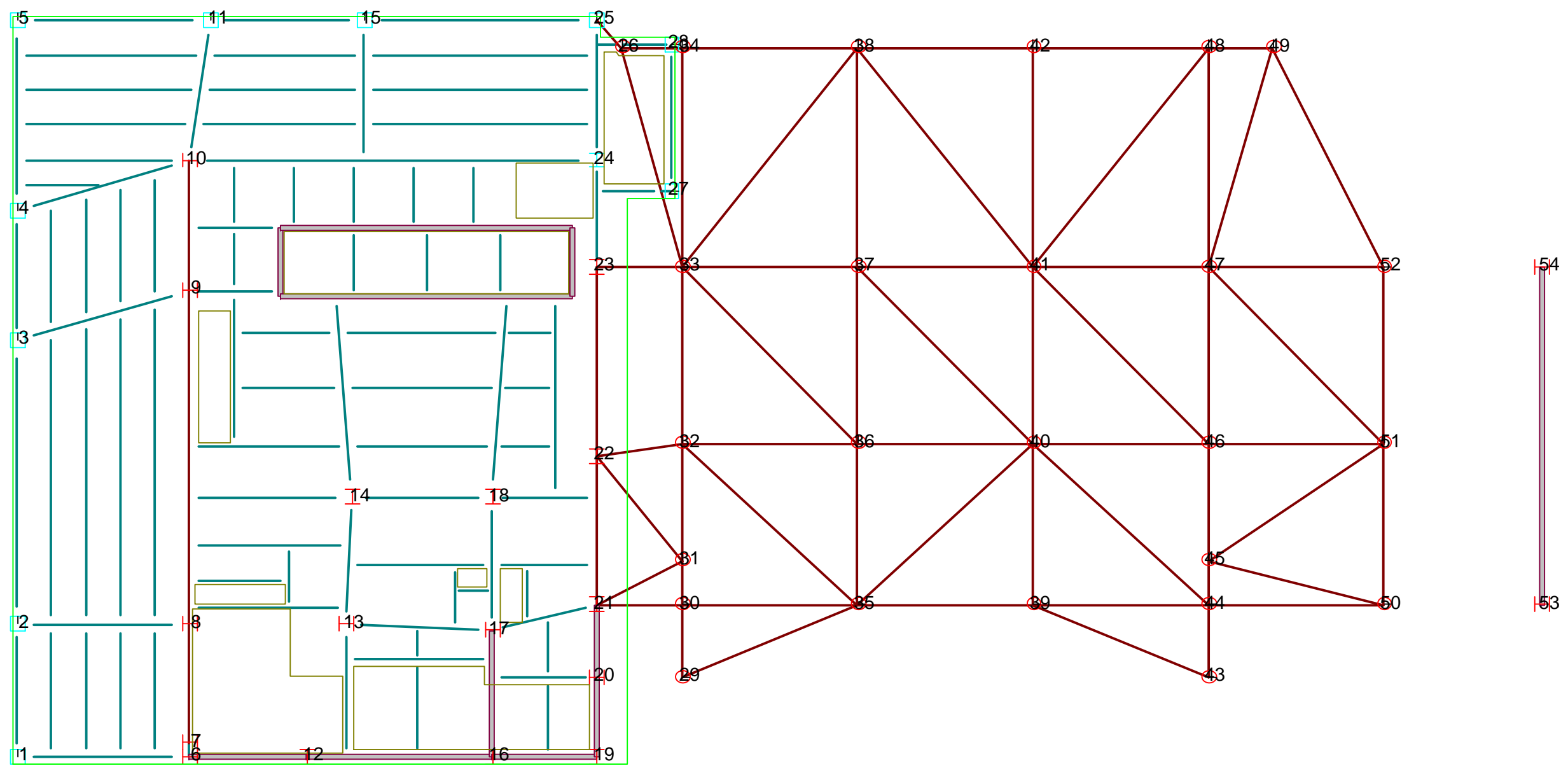


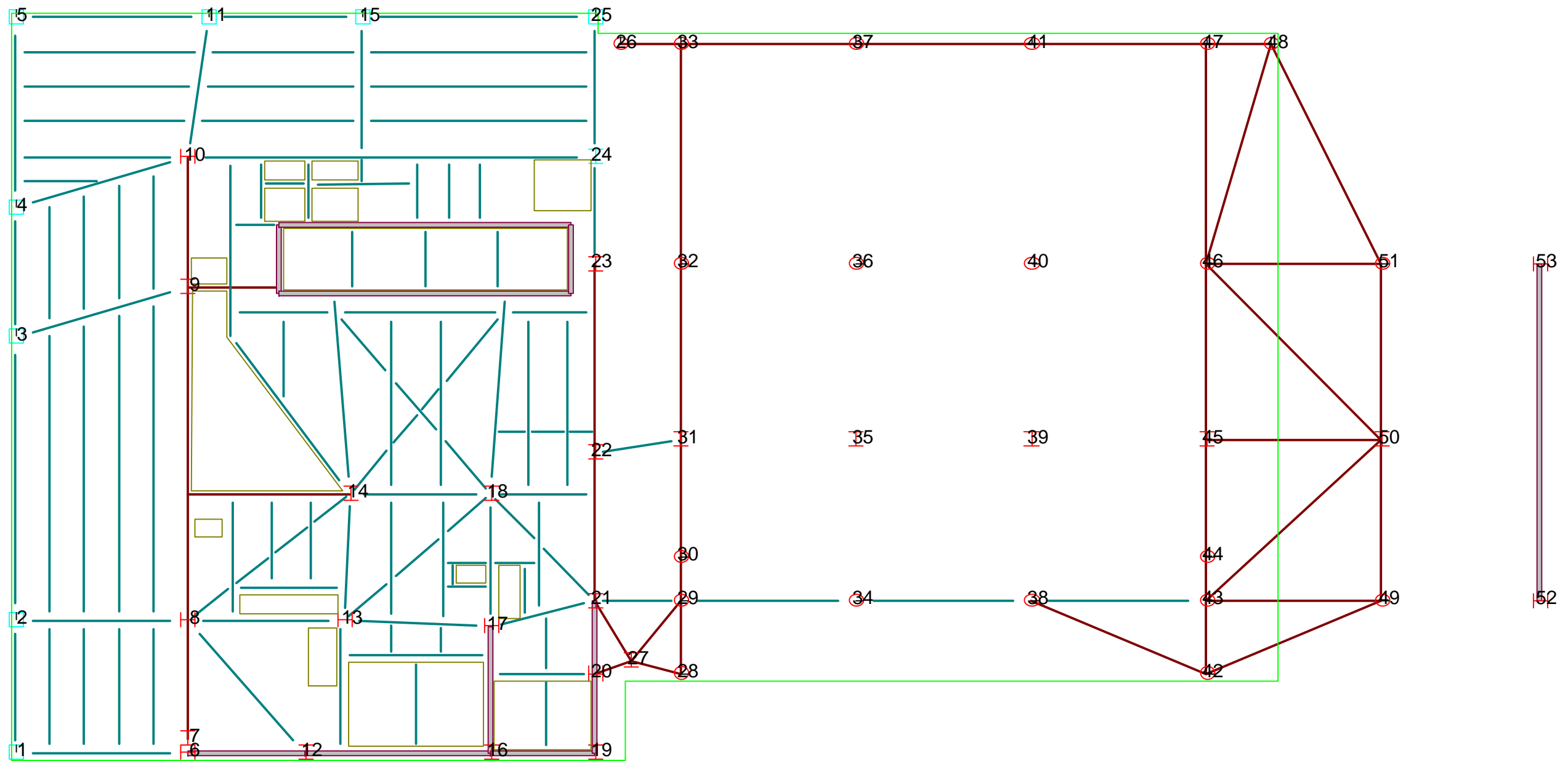


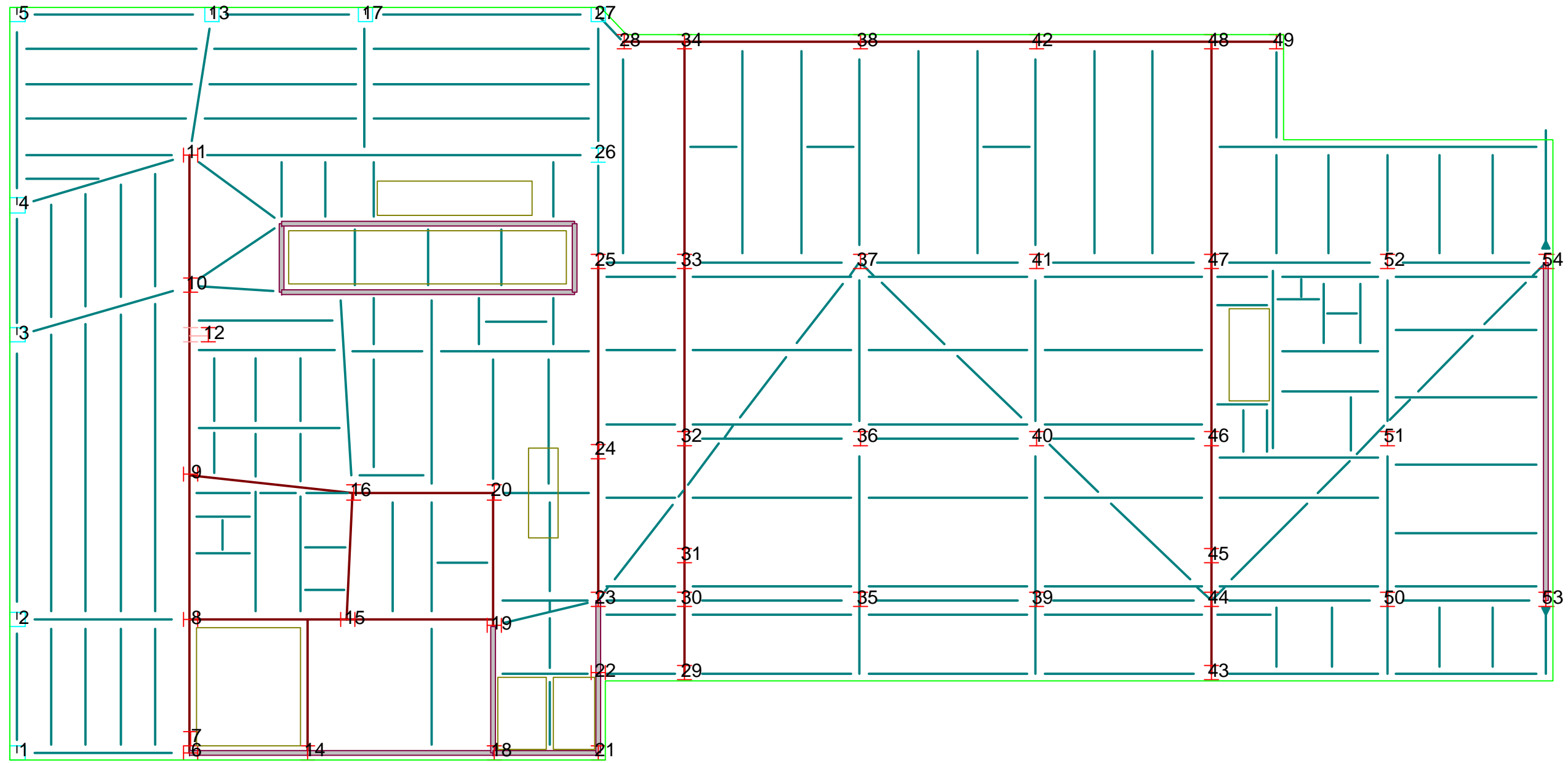


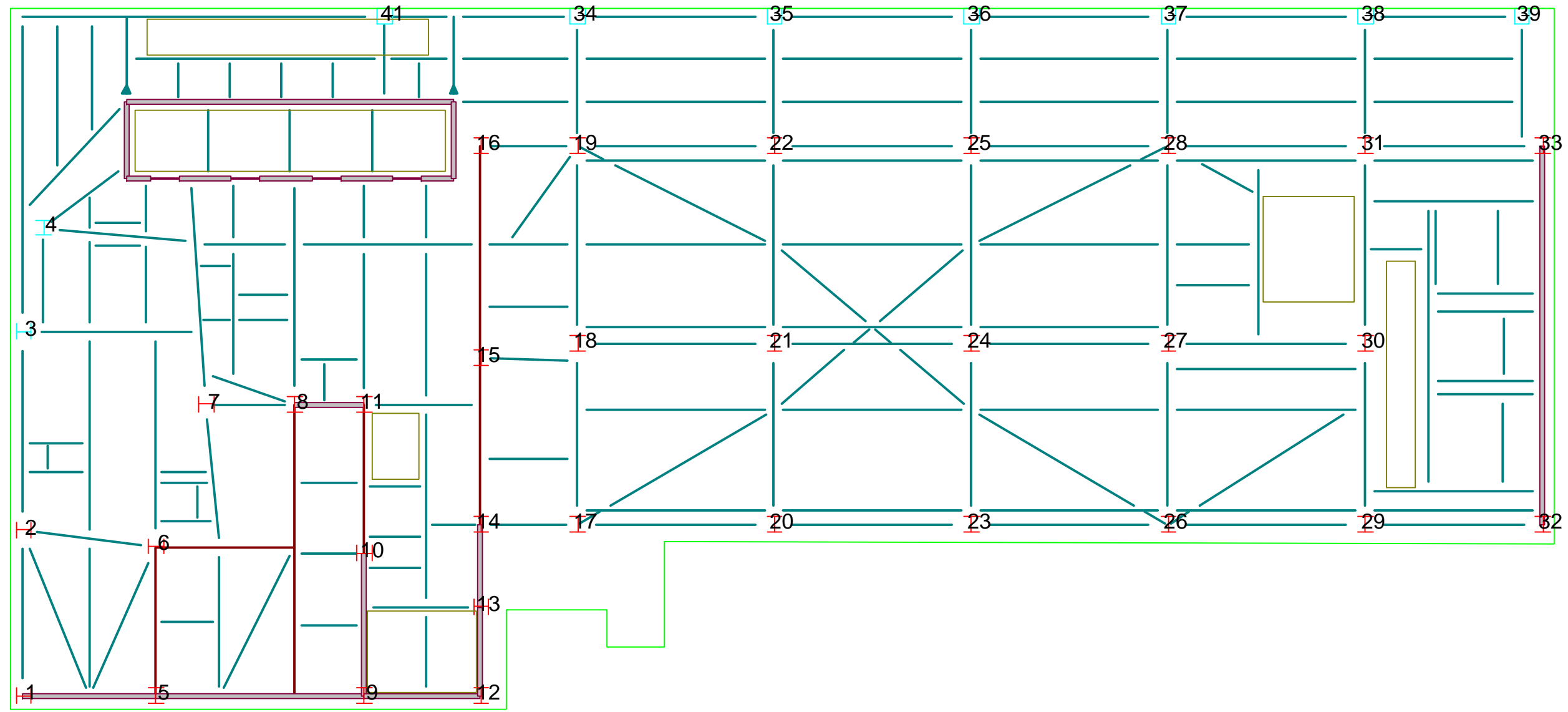




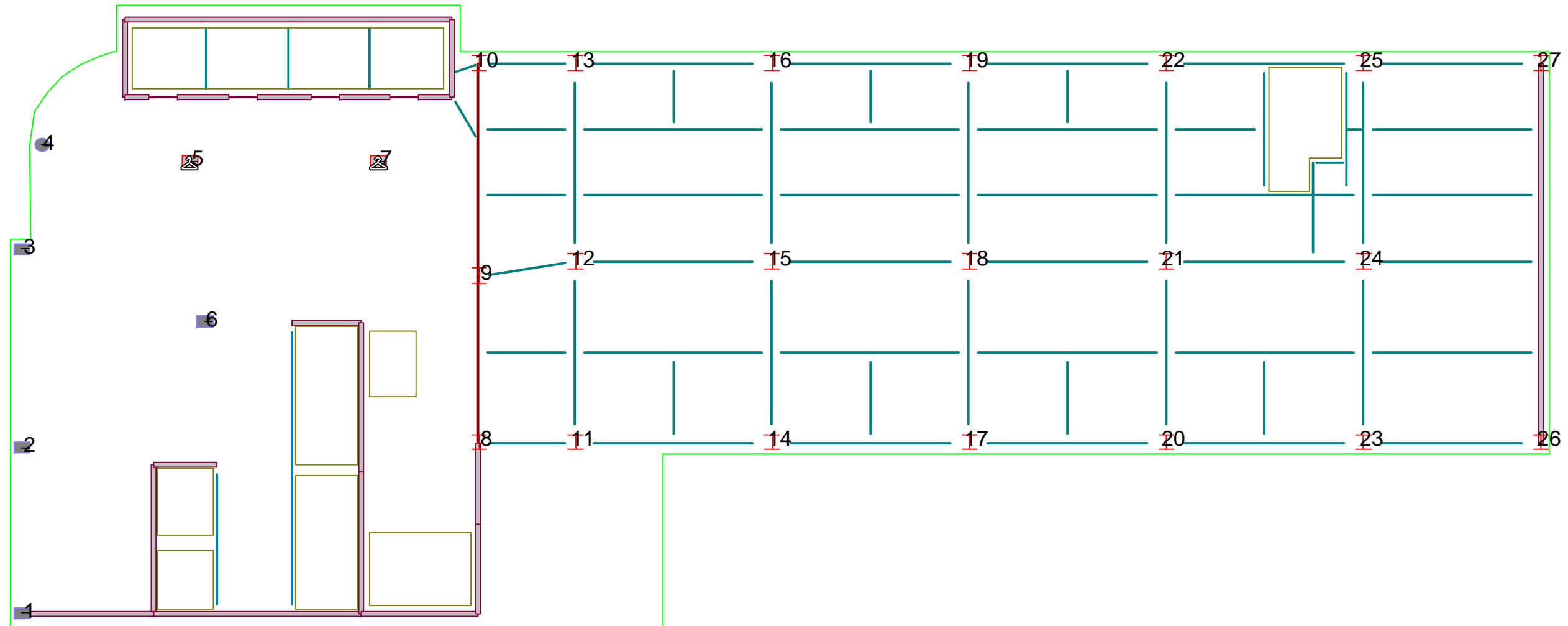






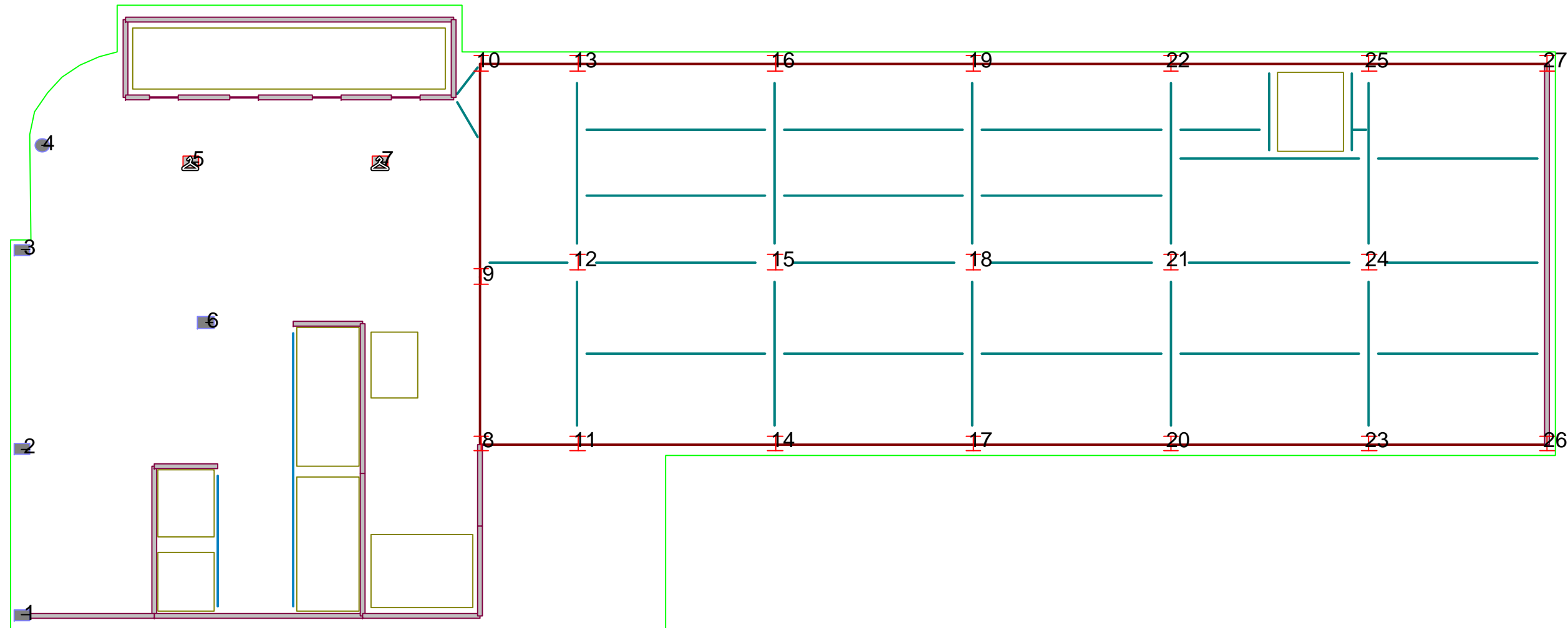


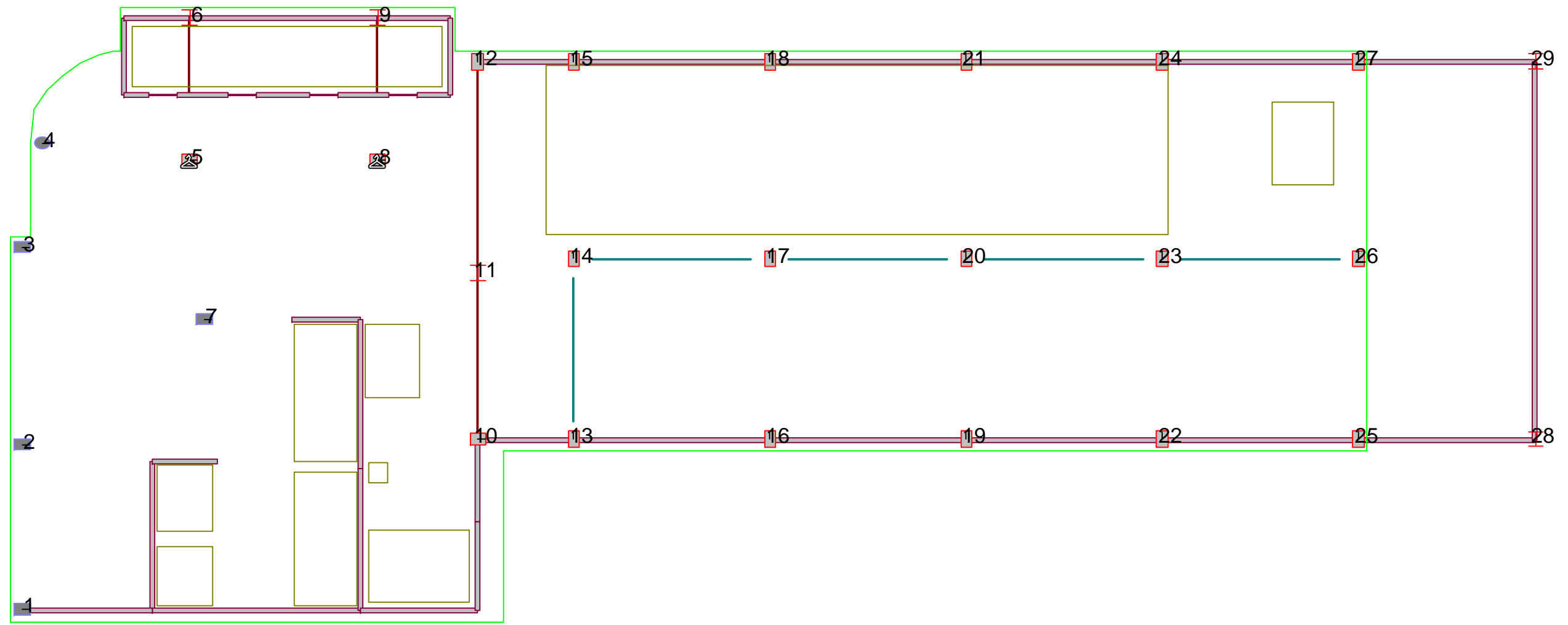


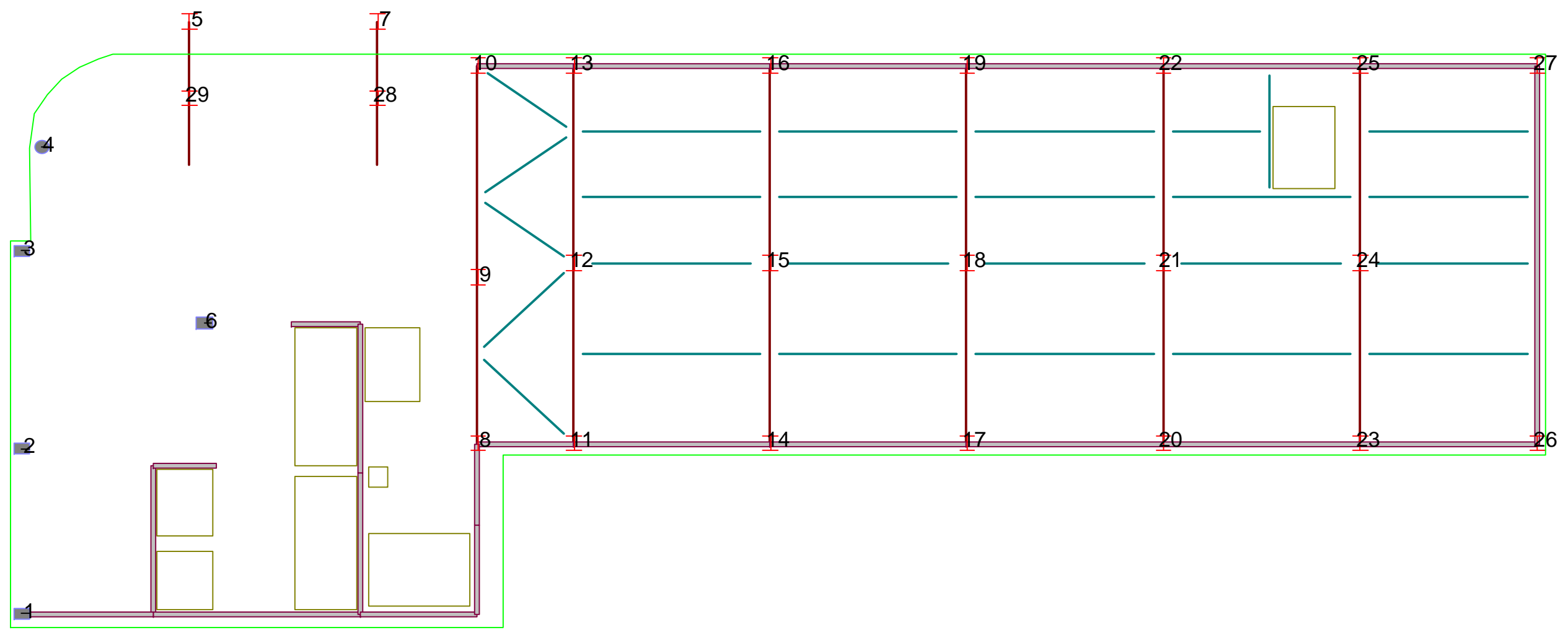


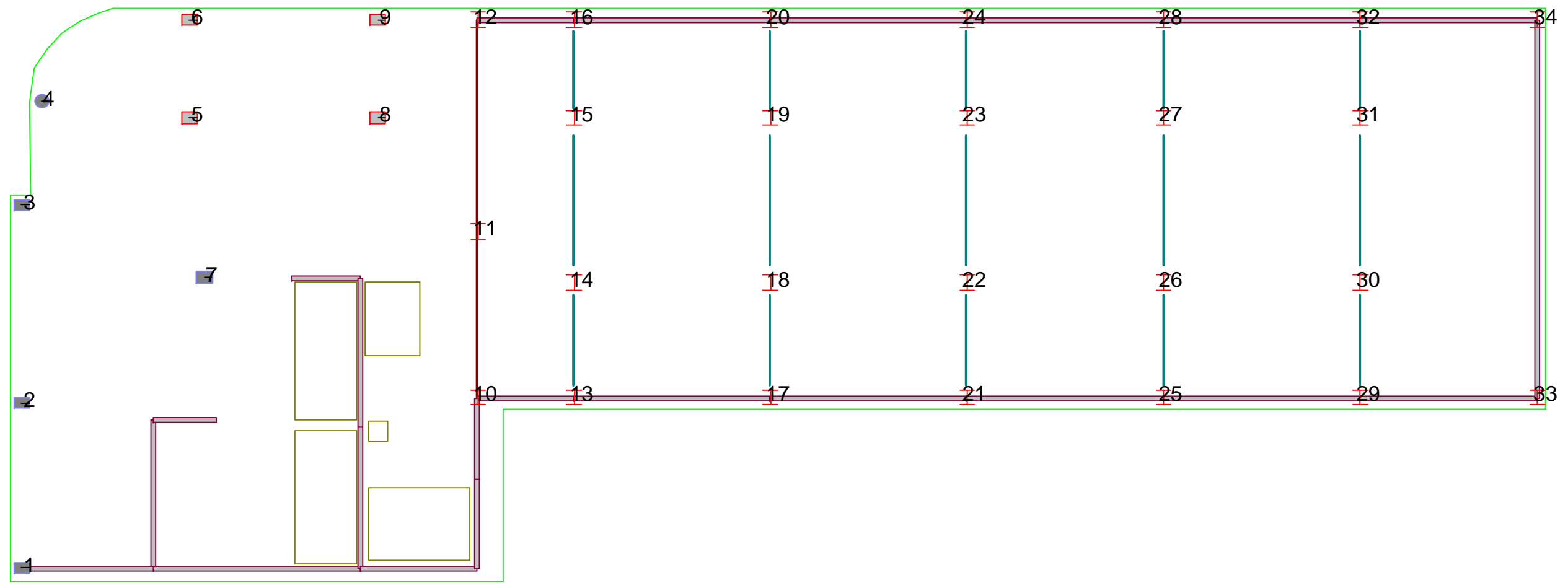




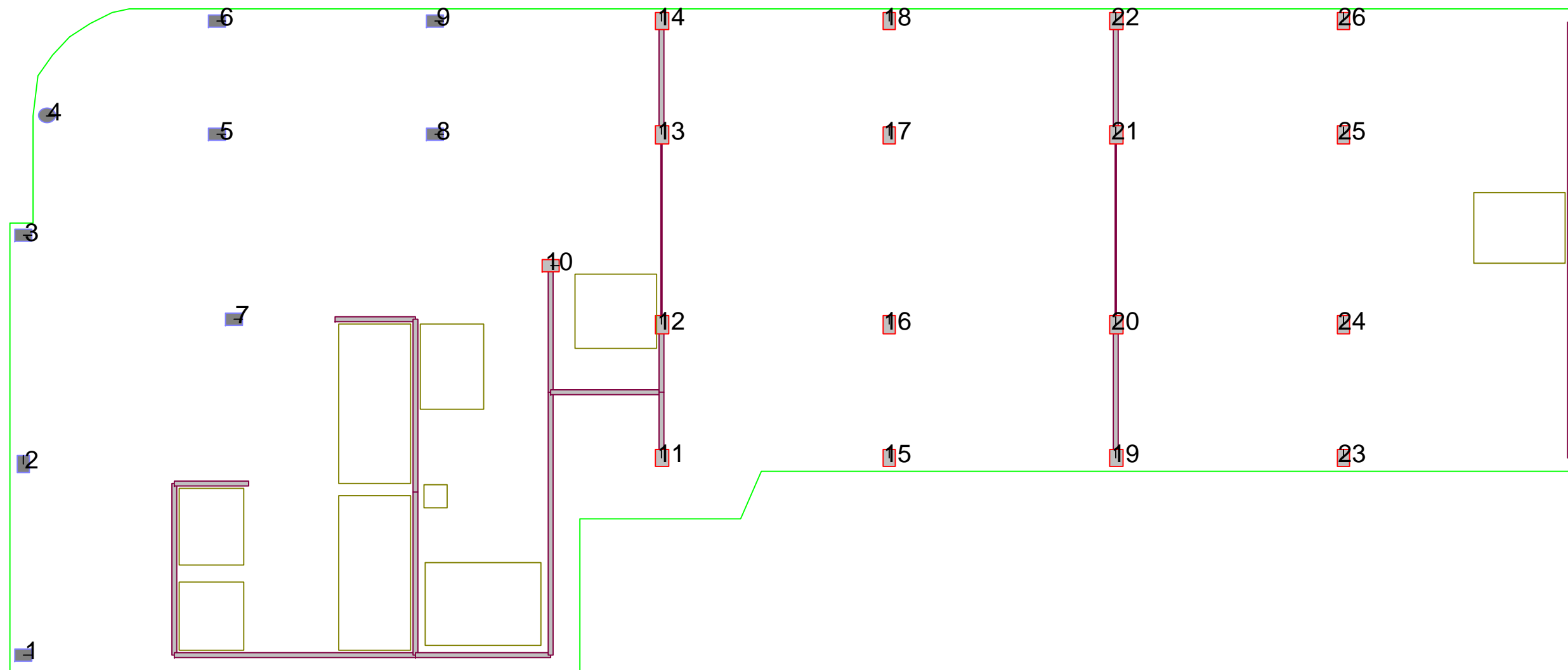


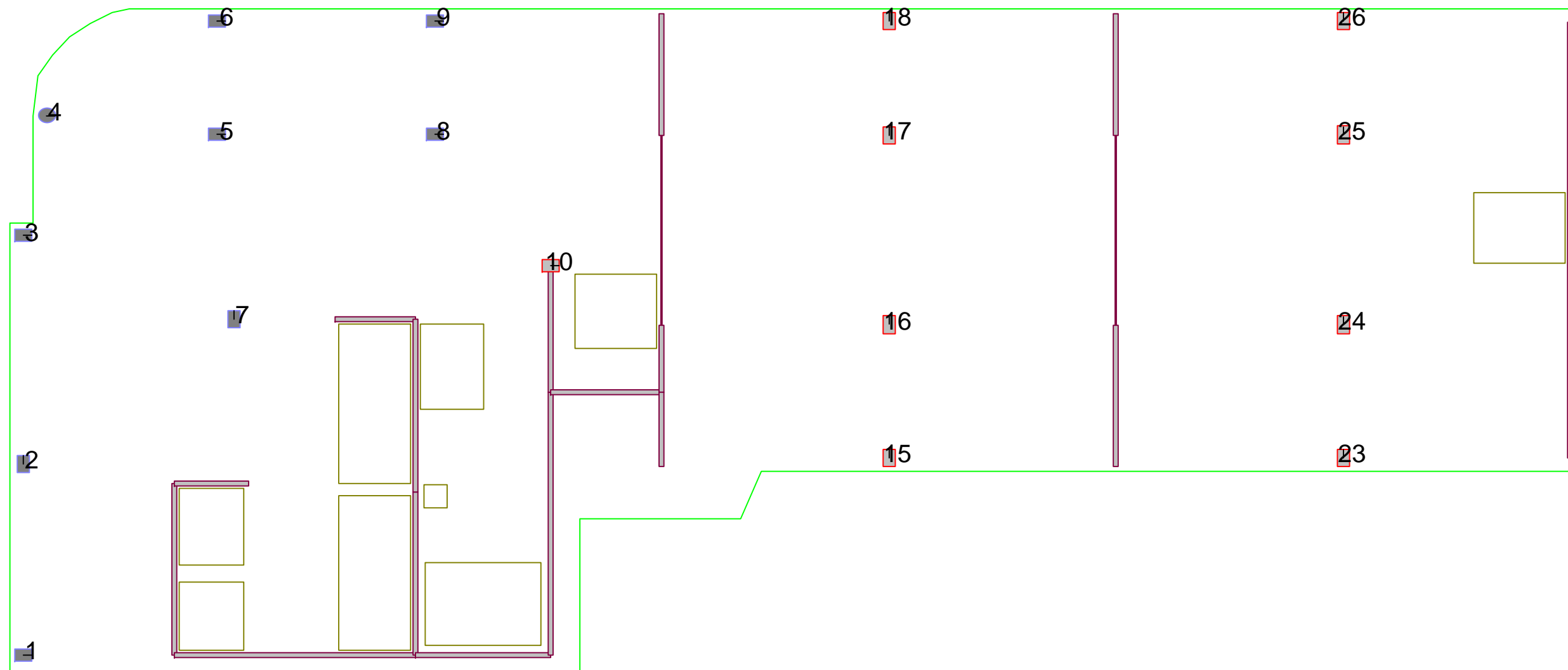




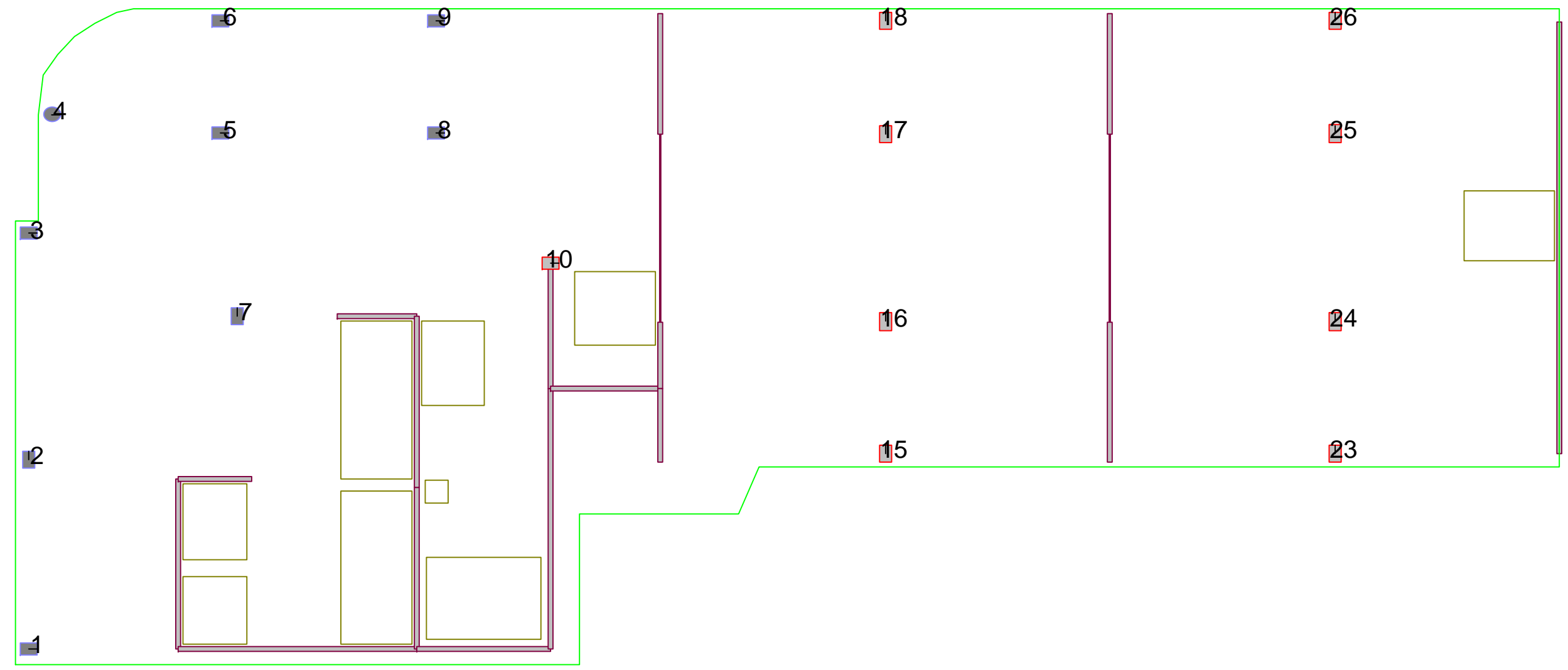


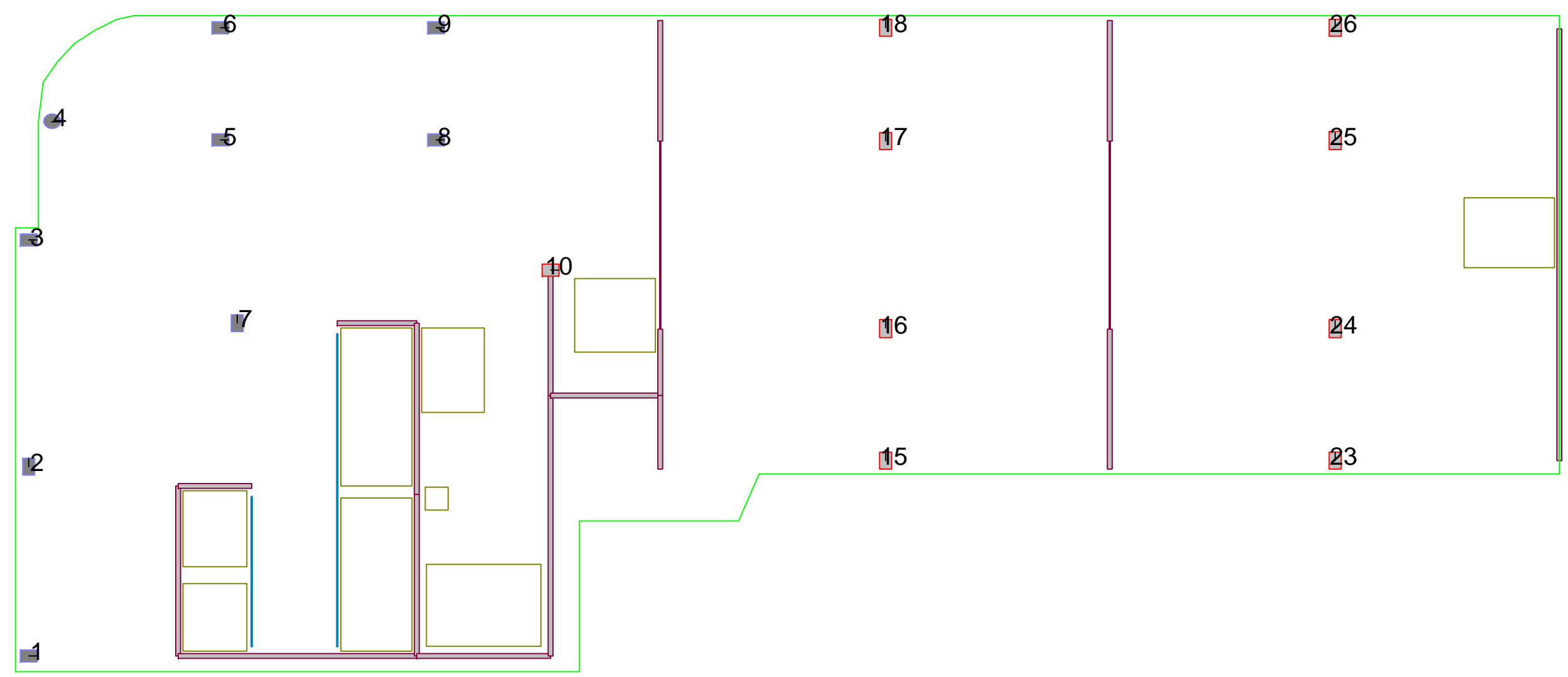


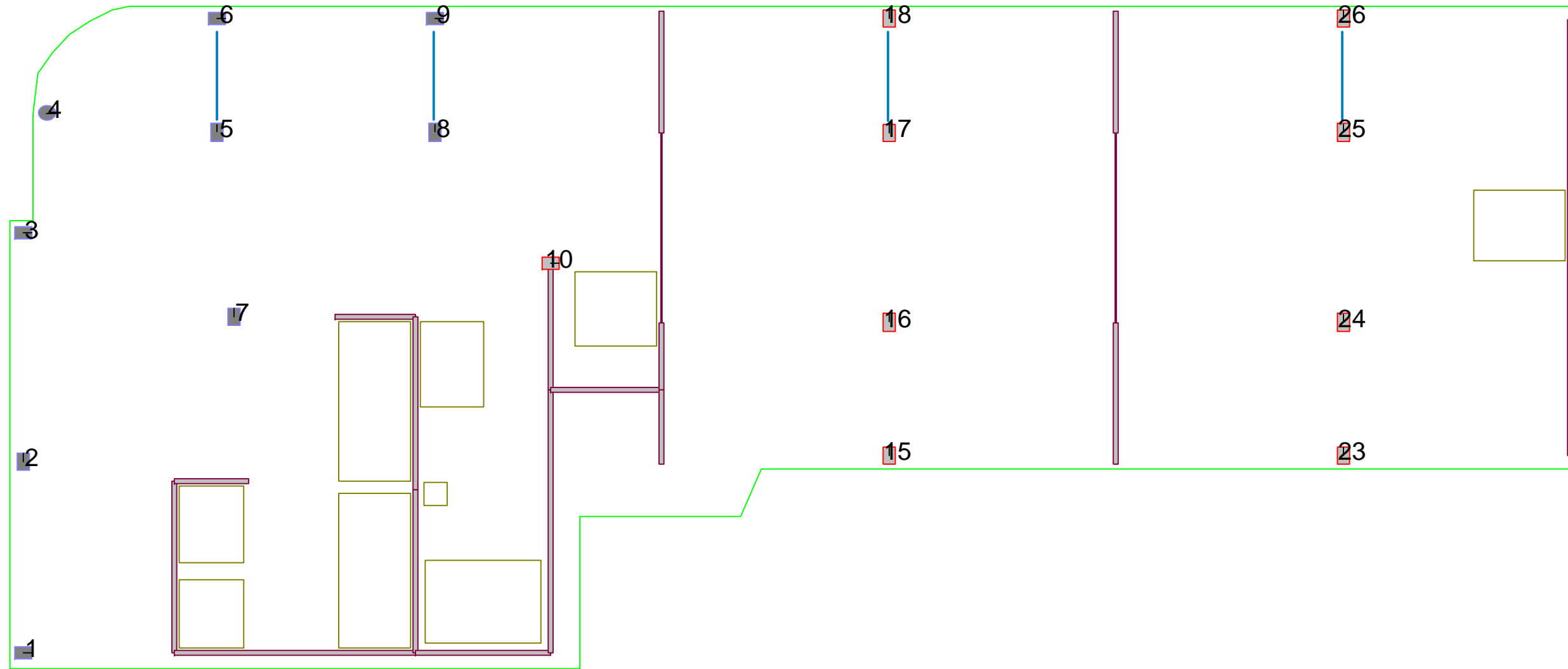


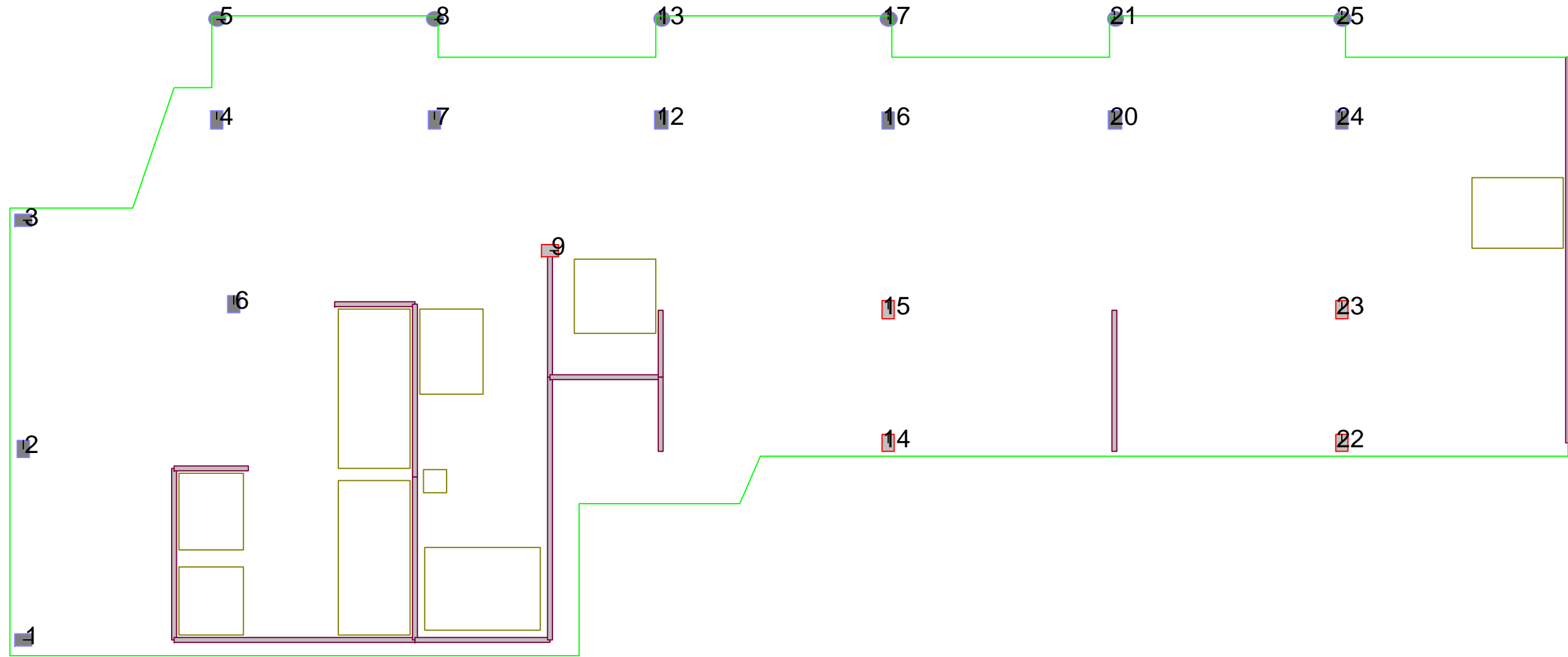


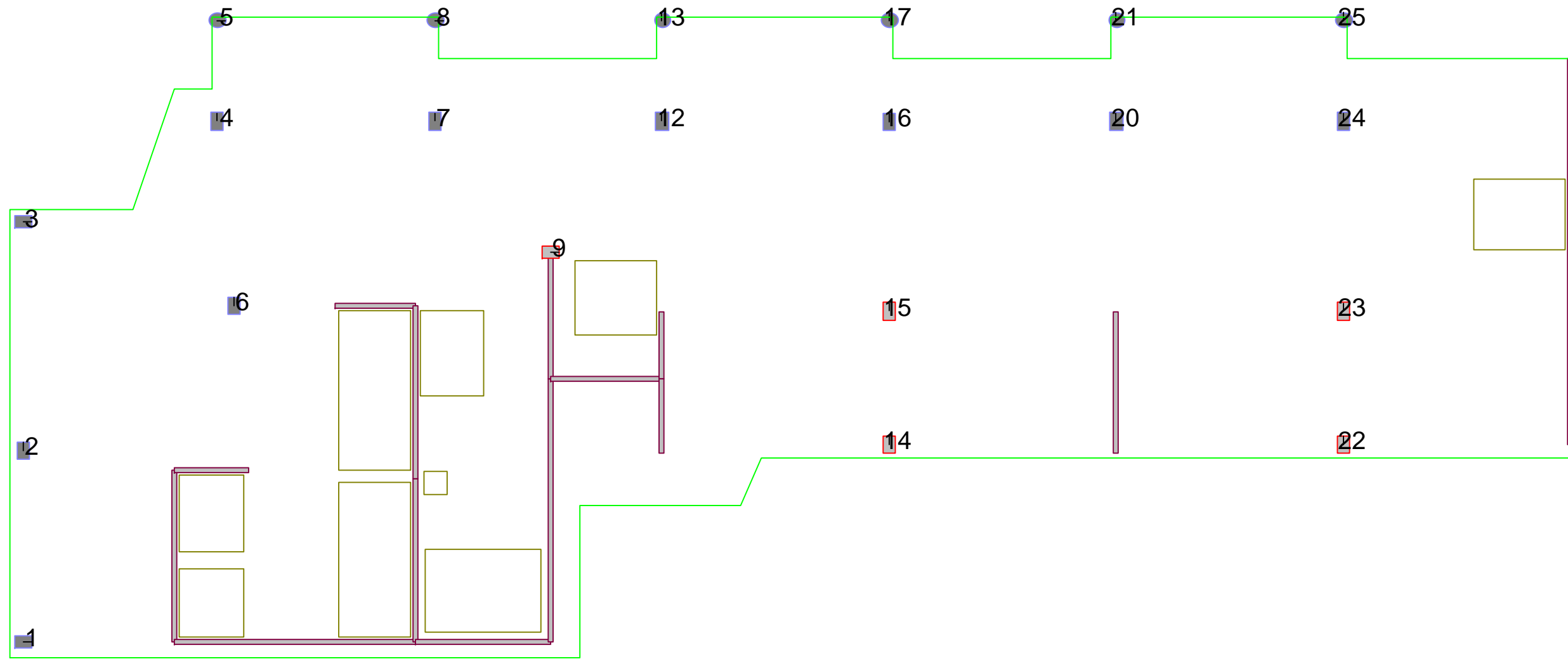


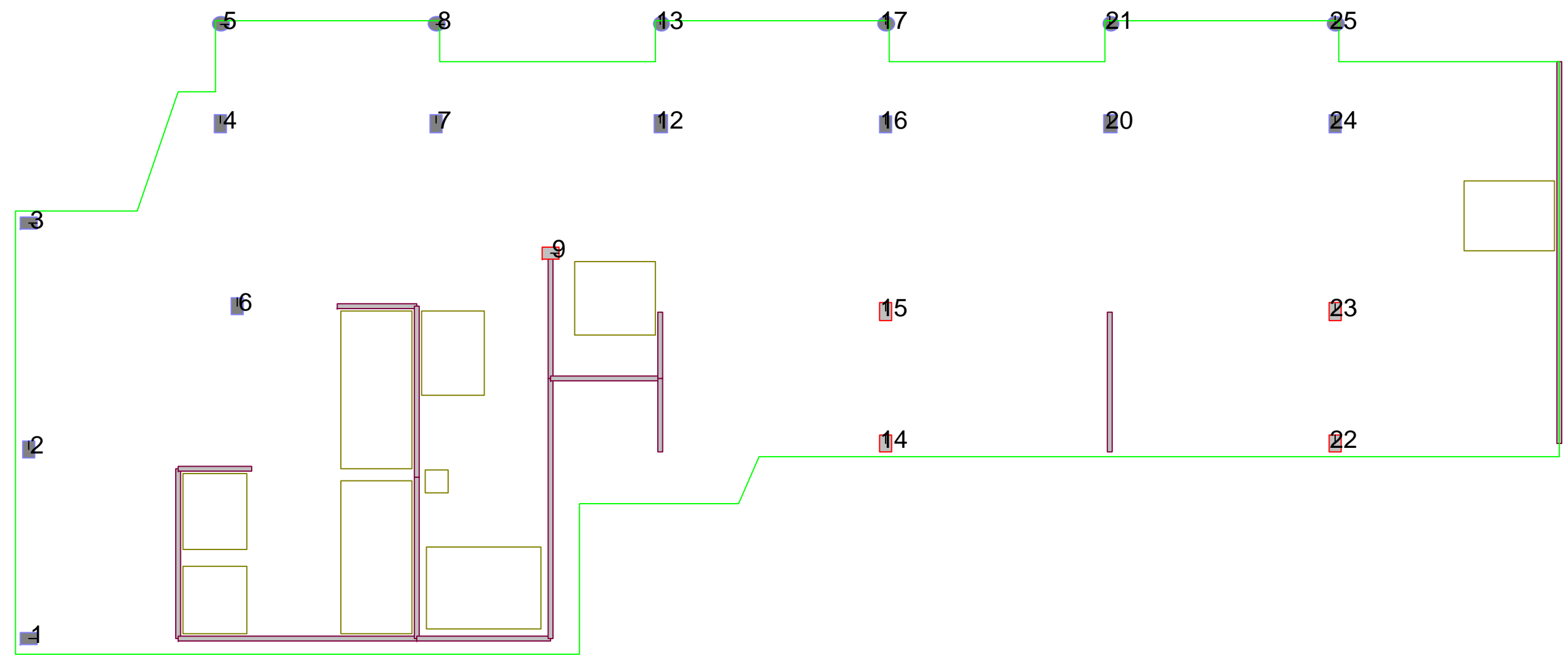


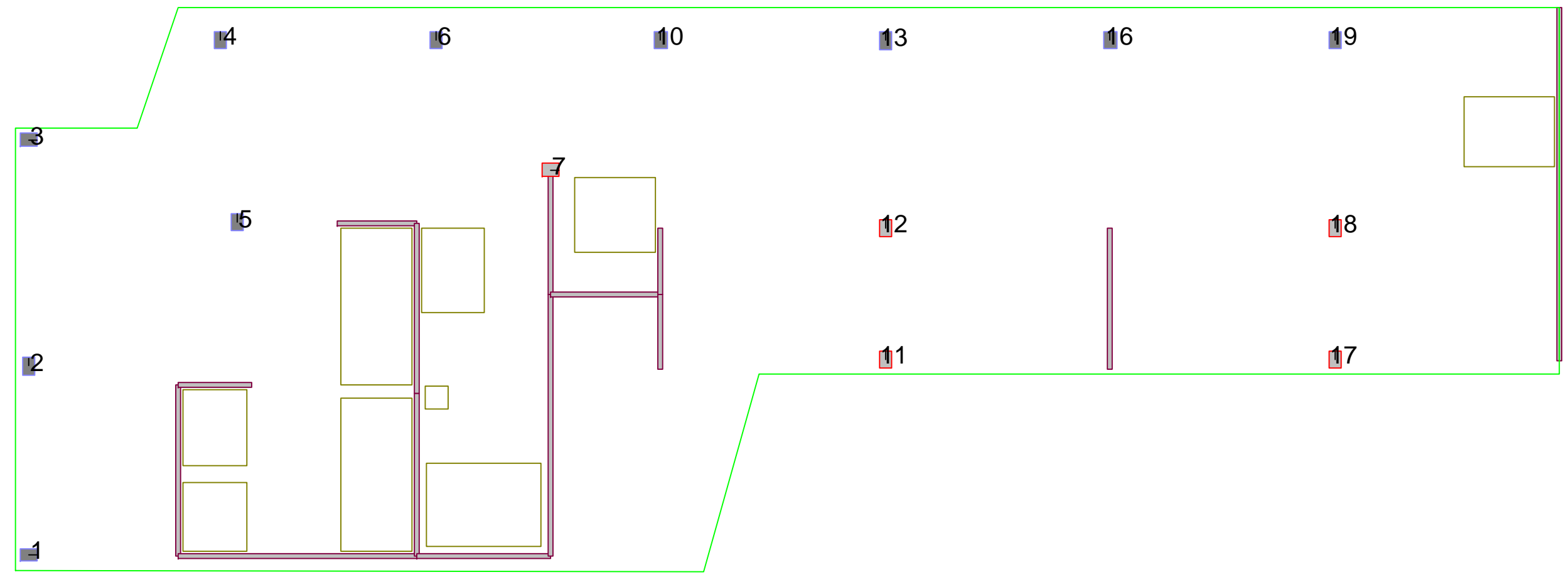














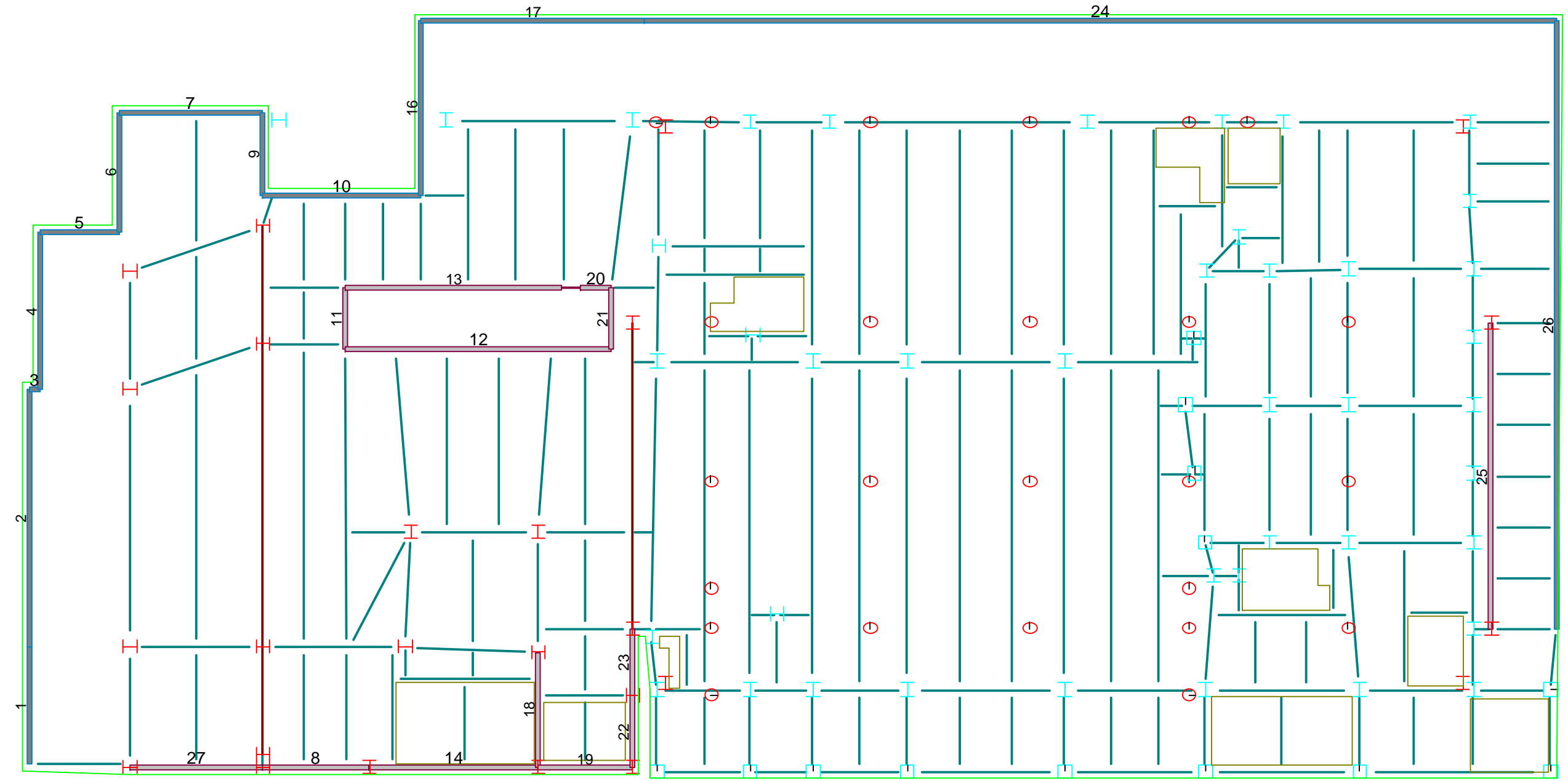
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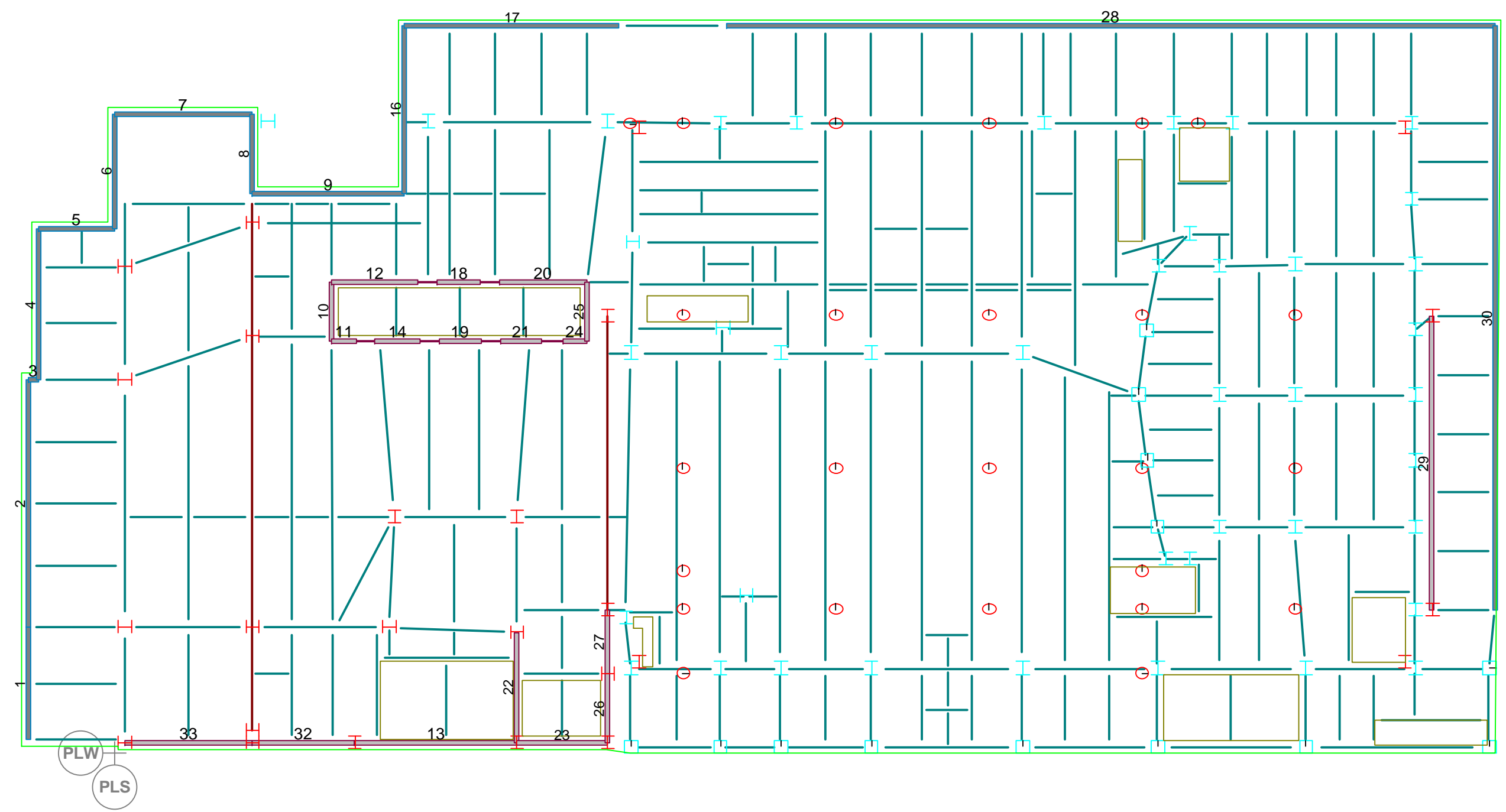
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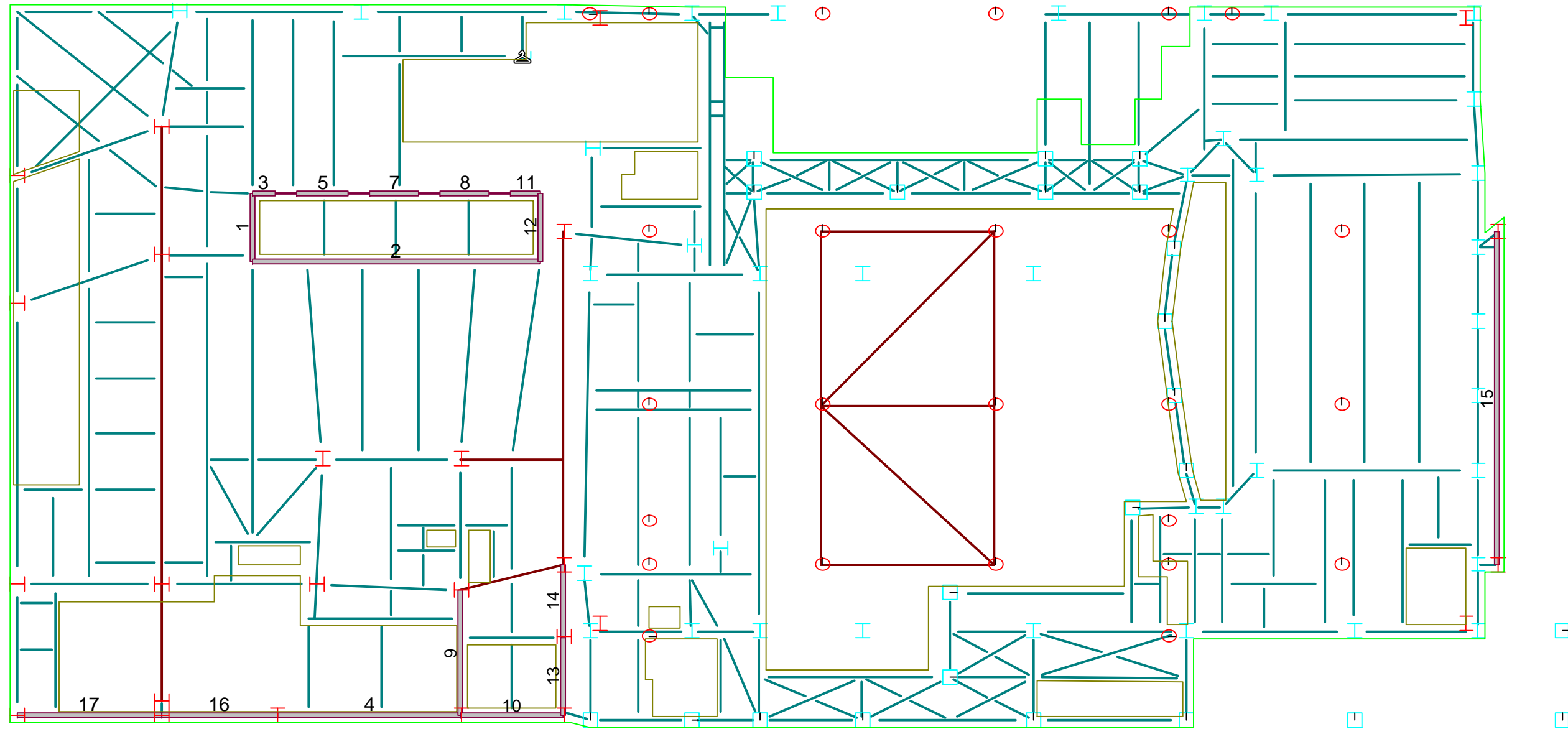
Structural Calculations

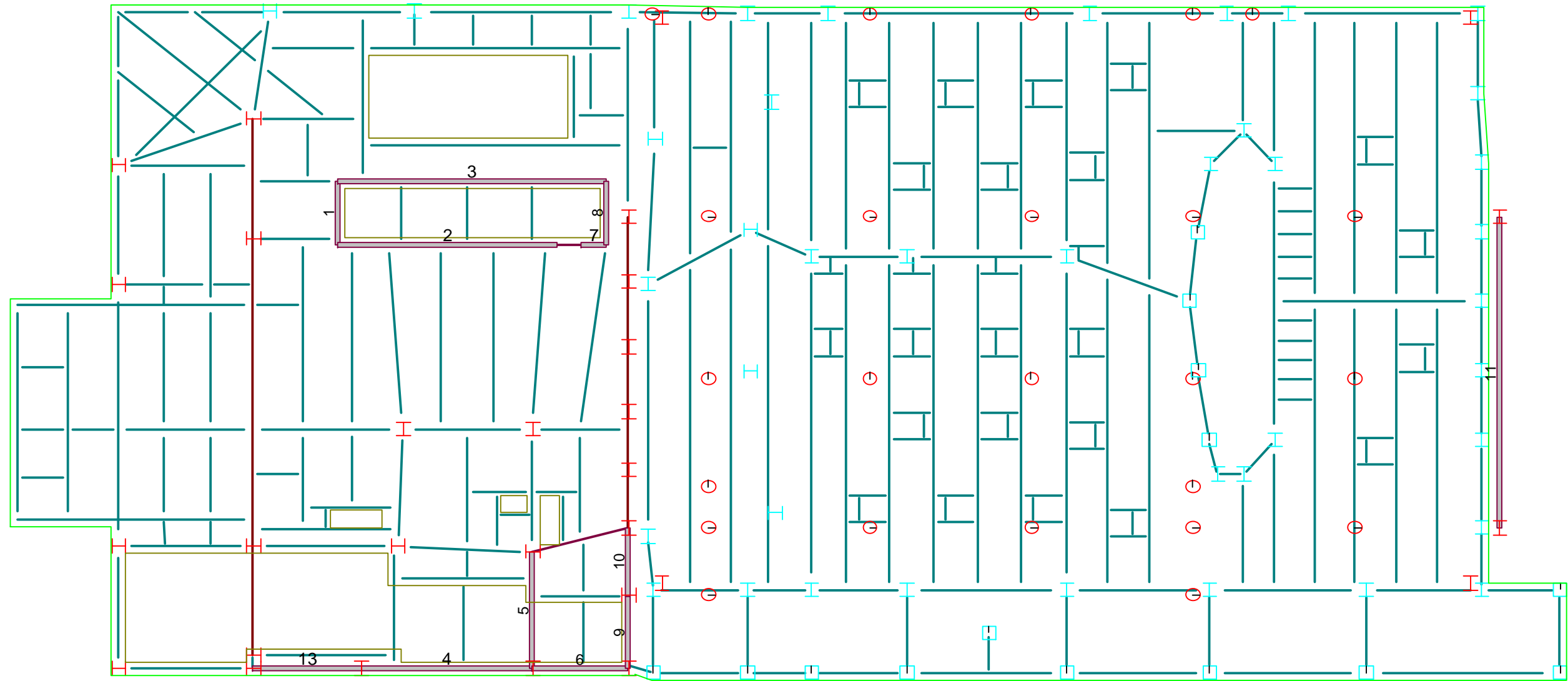
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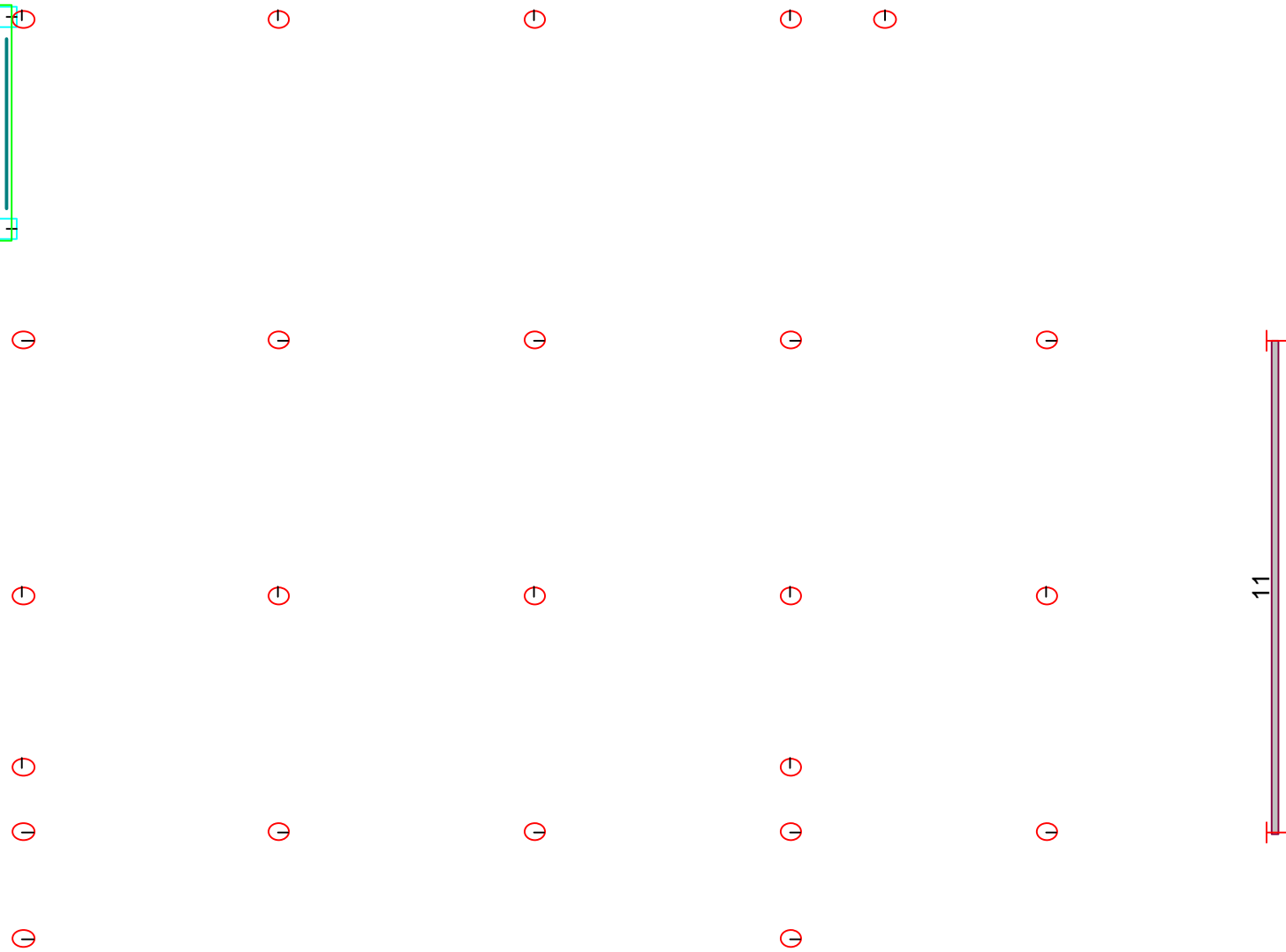
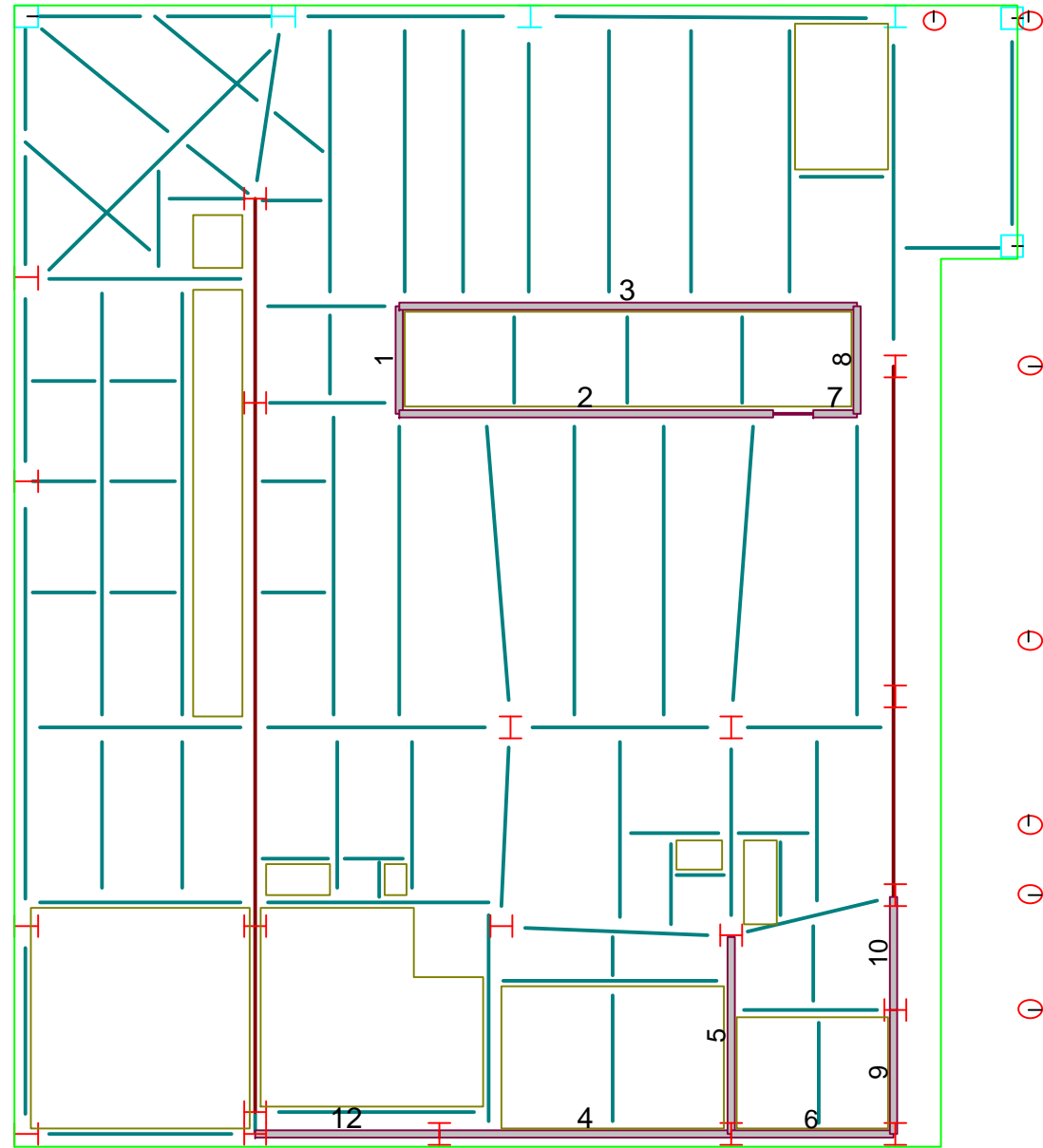
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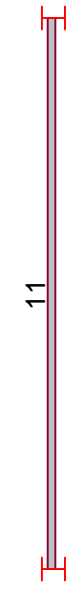
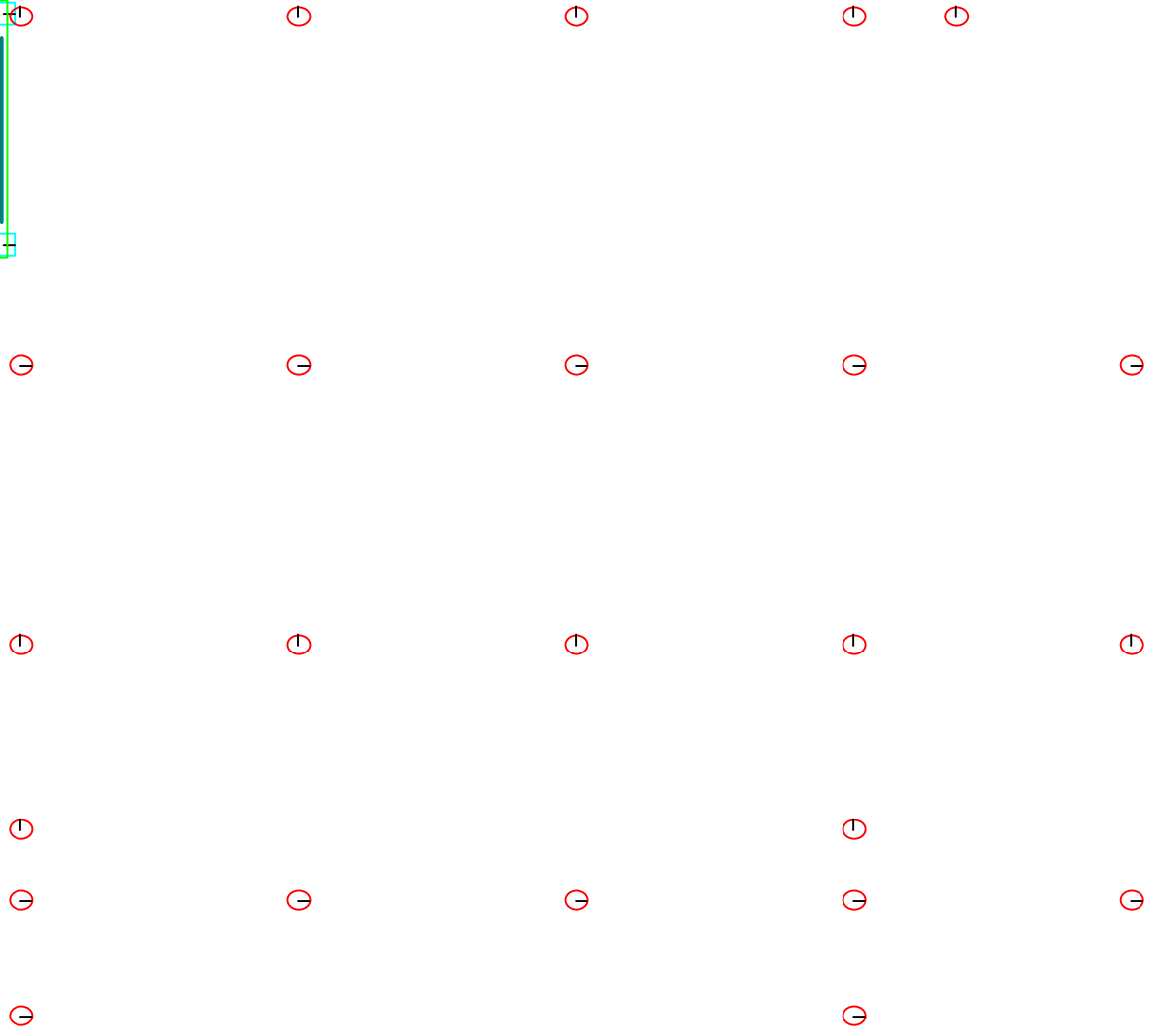
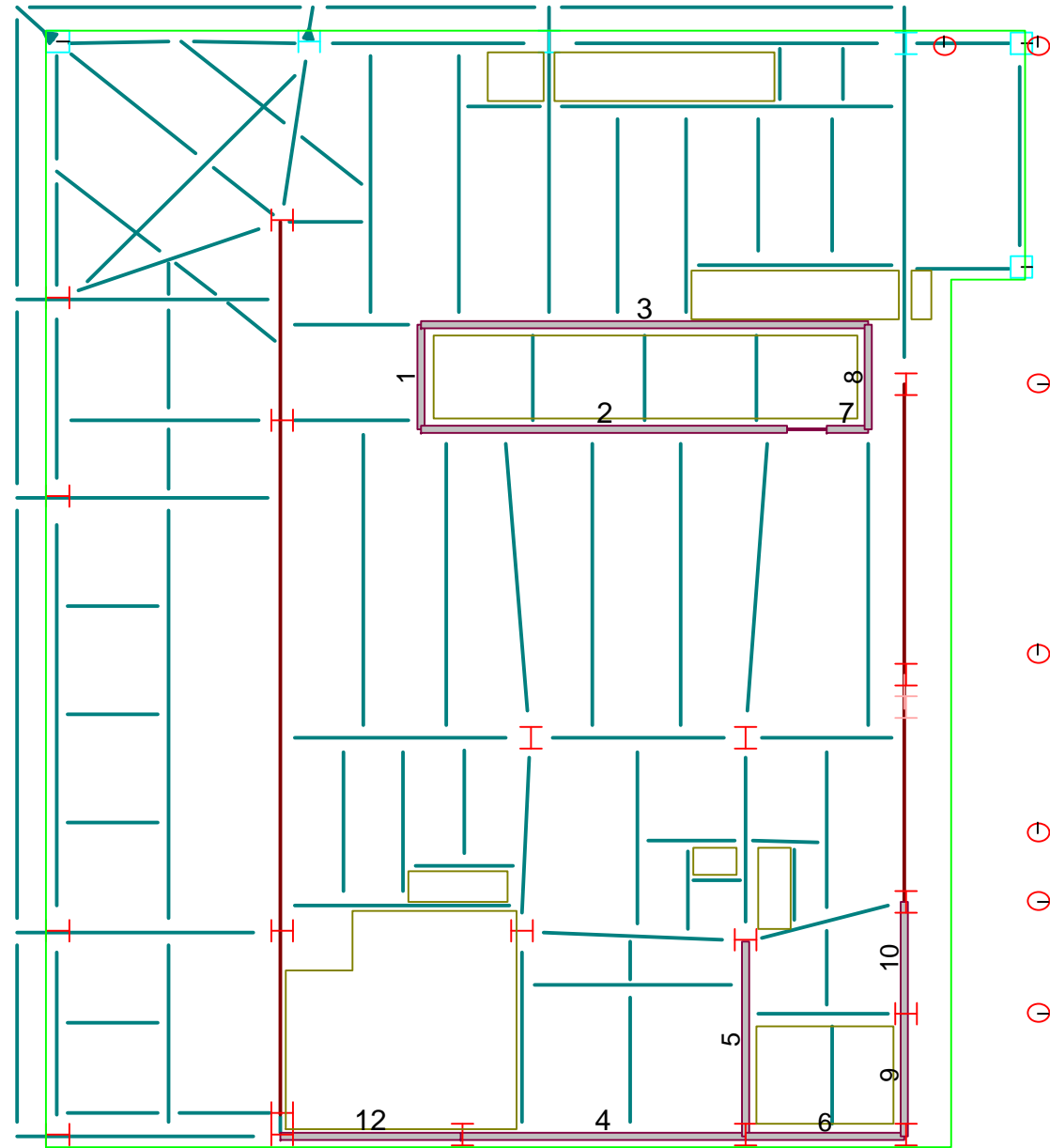


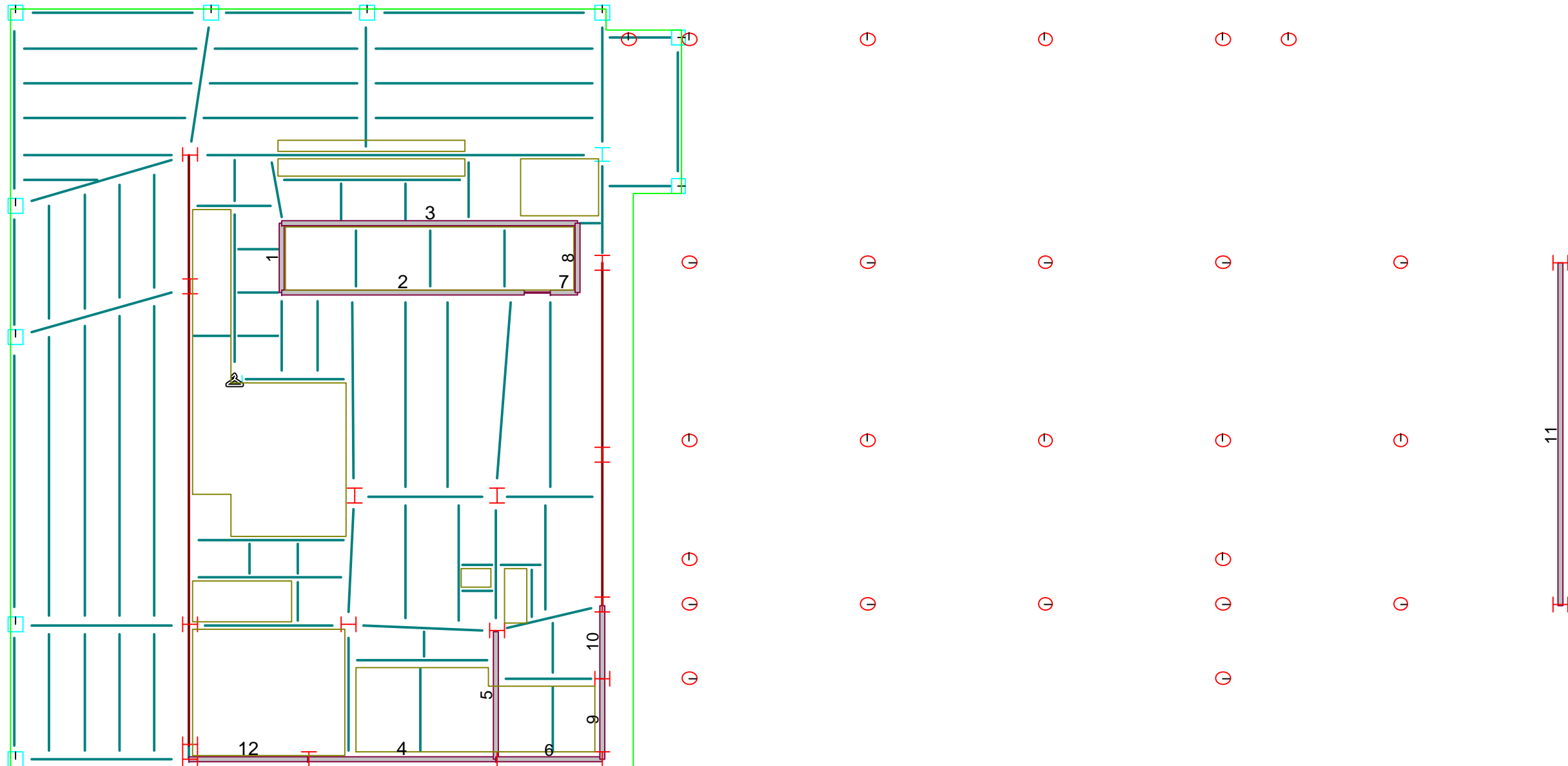




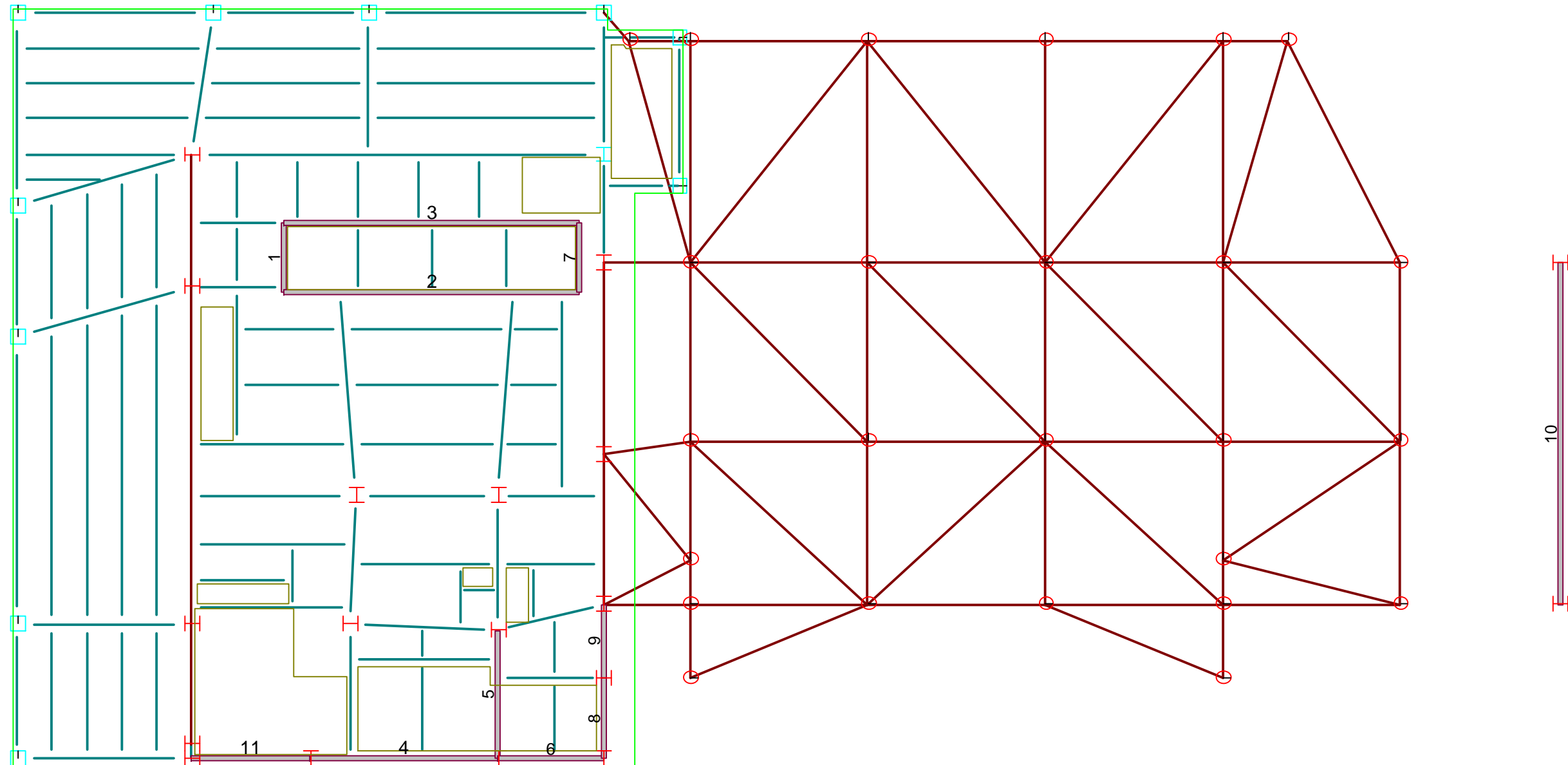


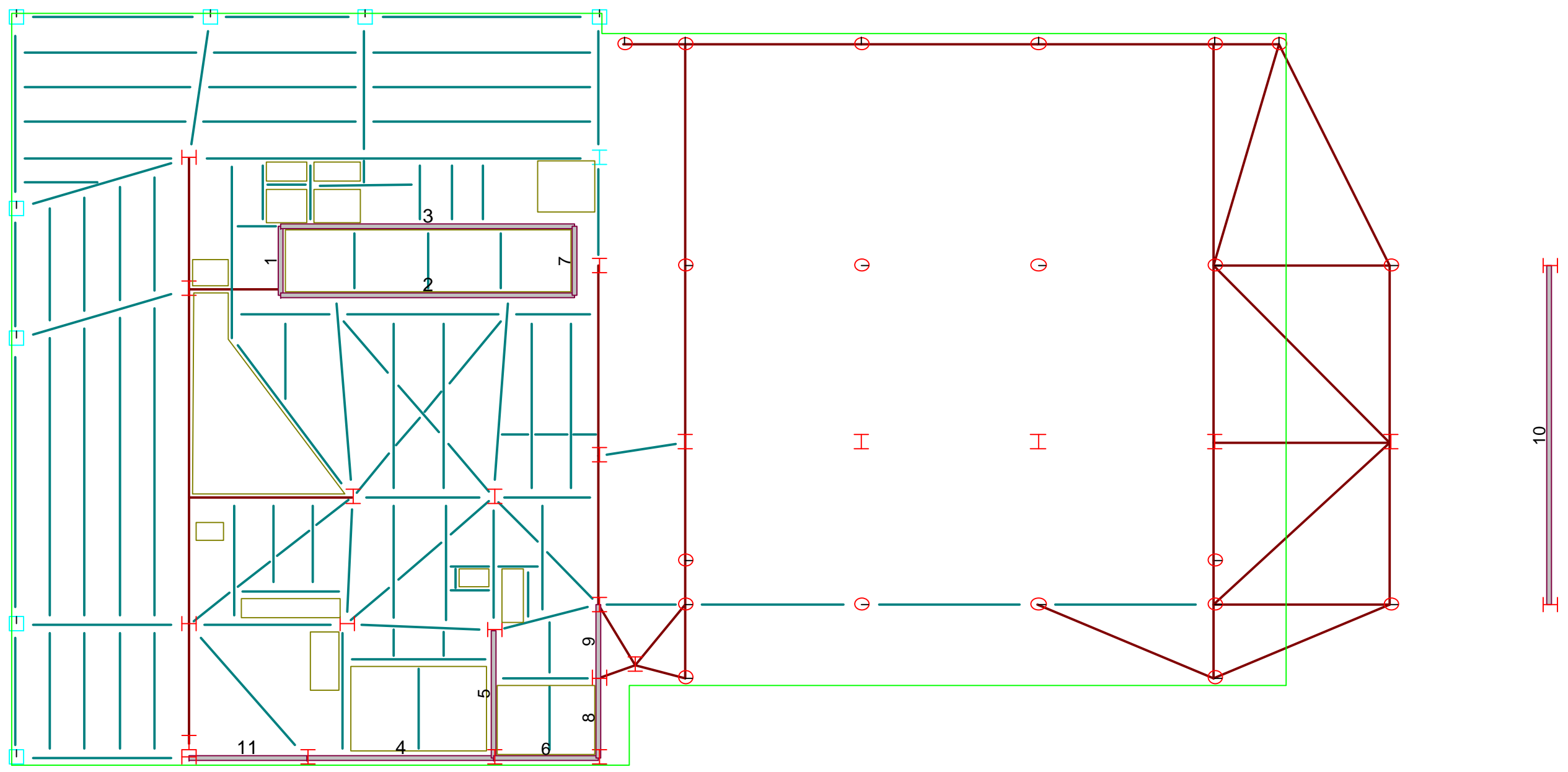


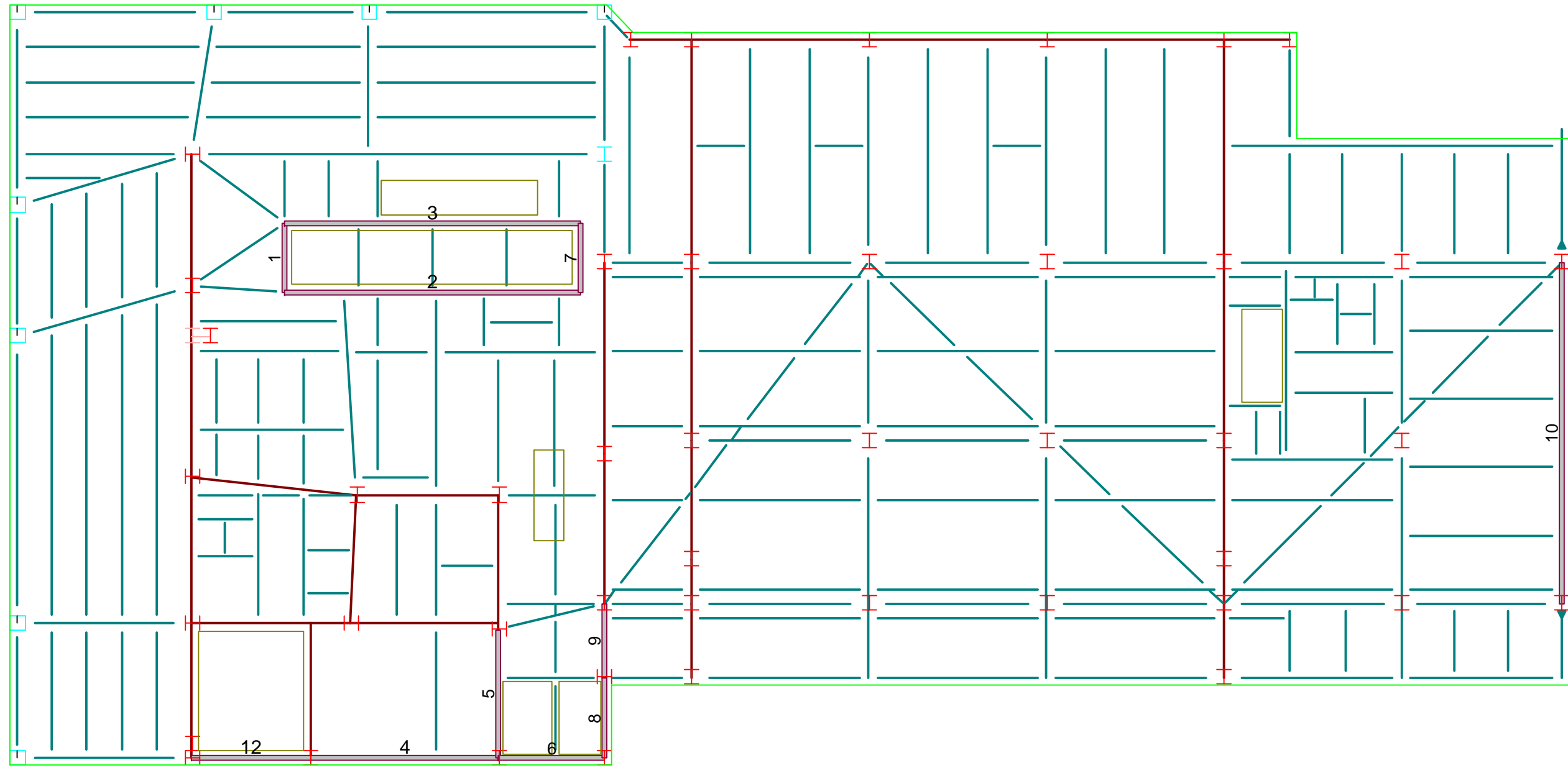


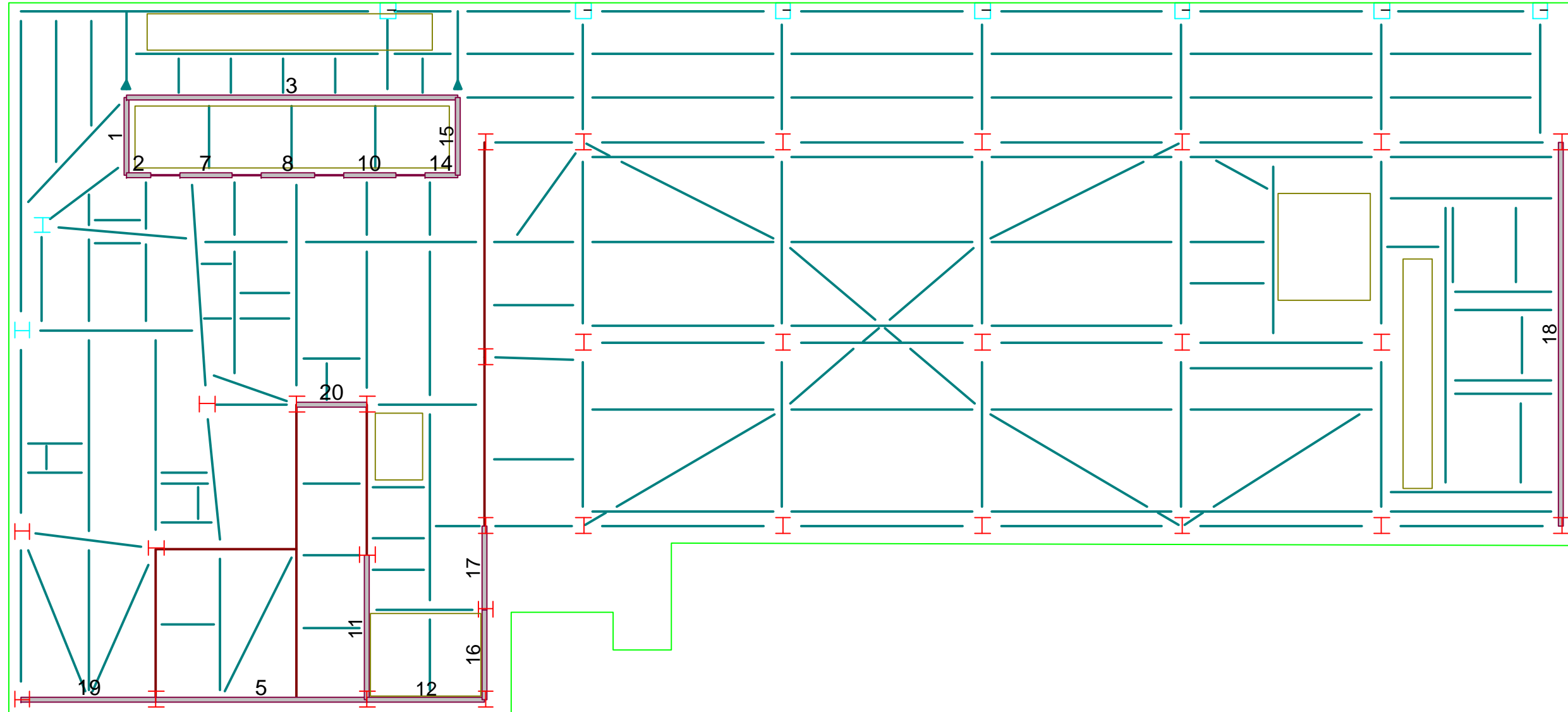


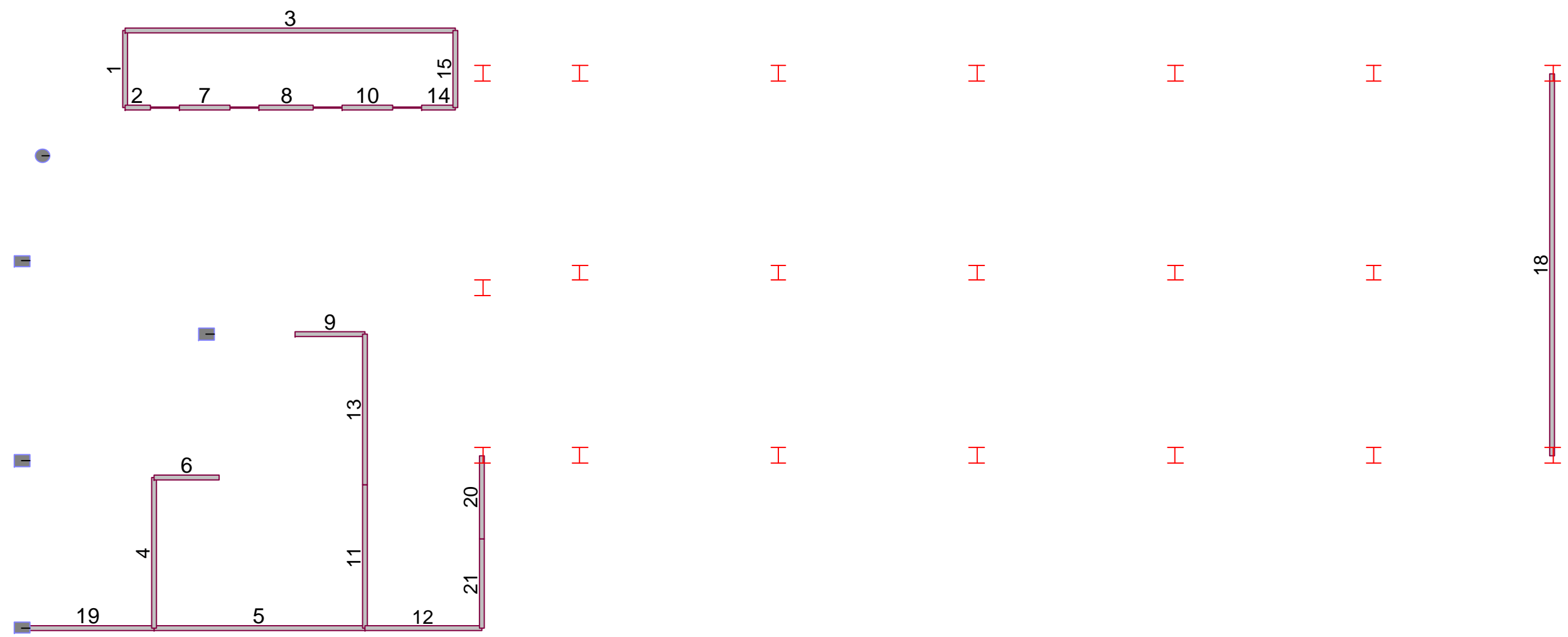


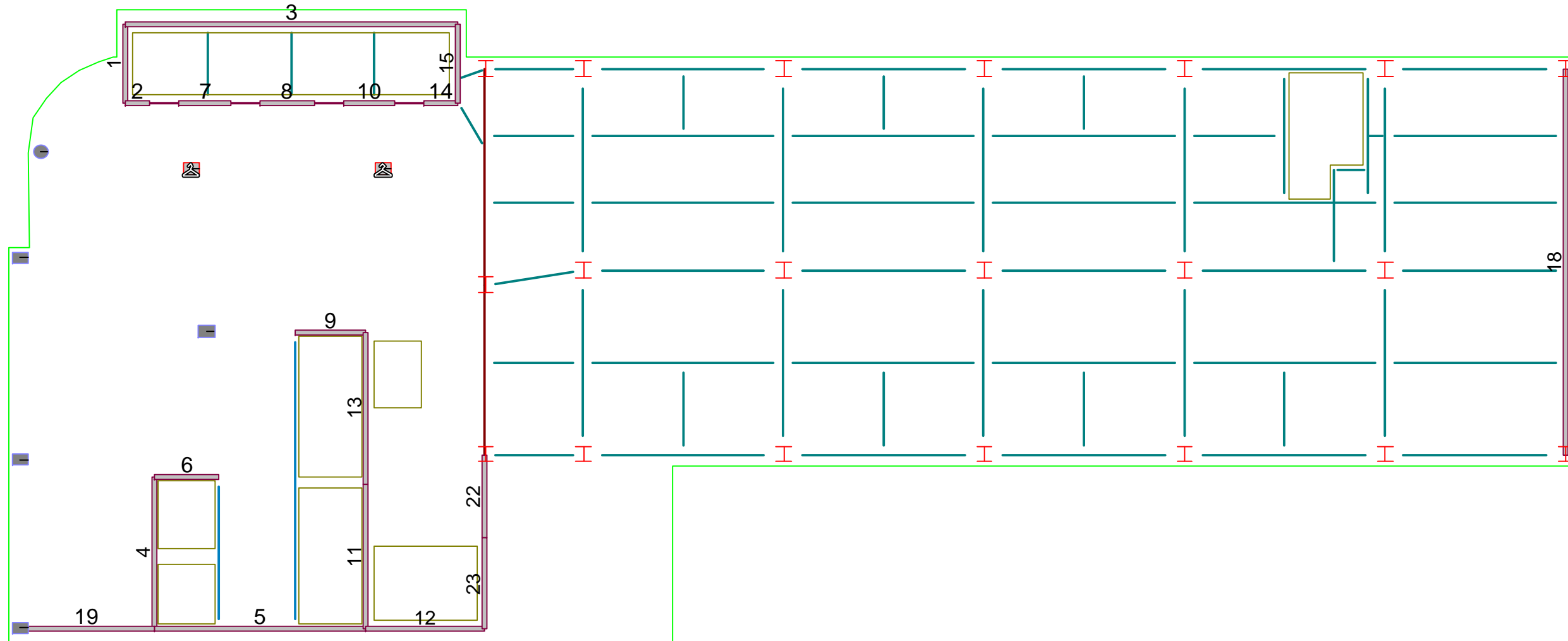




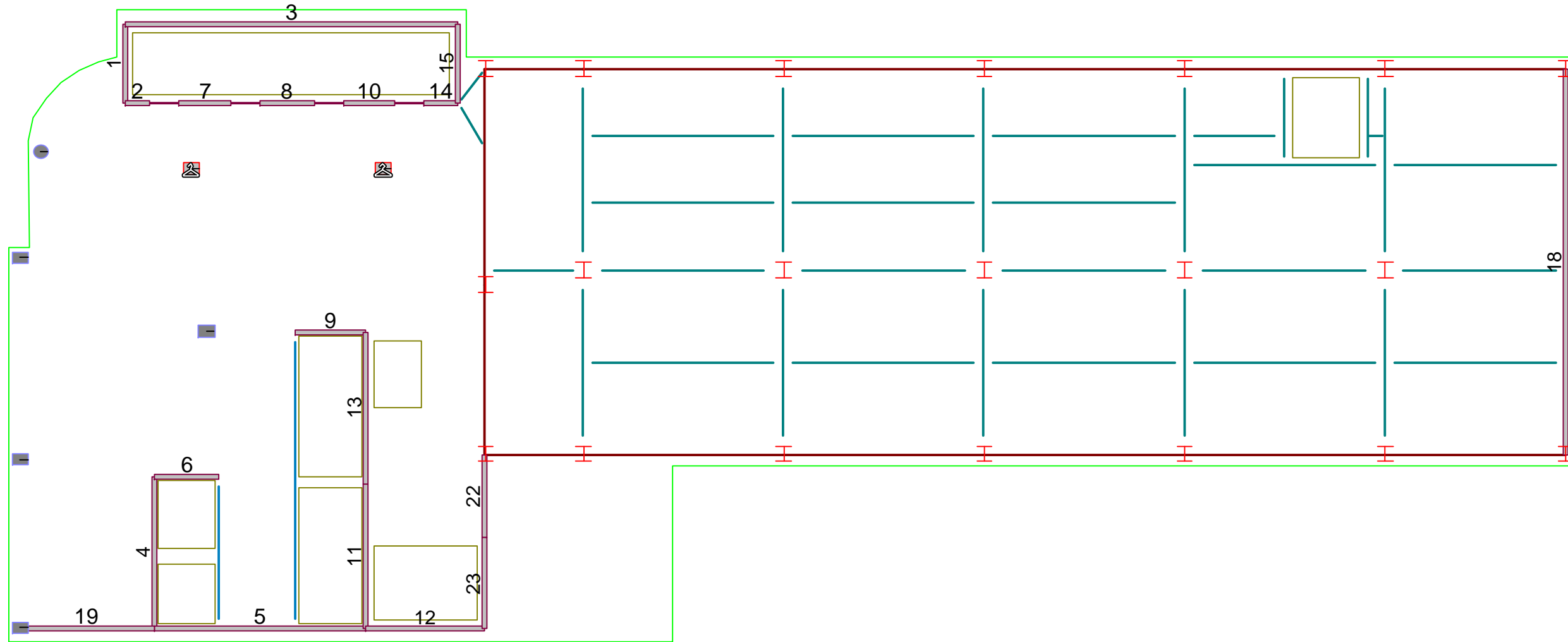




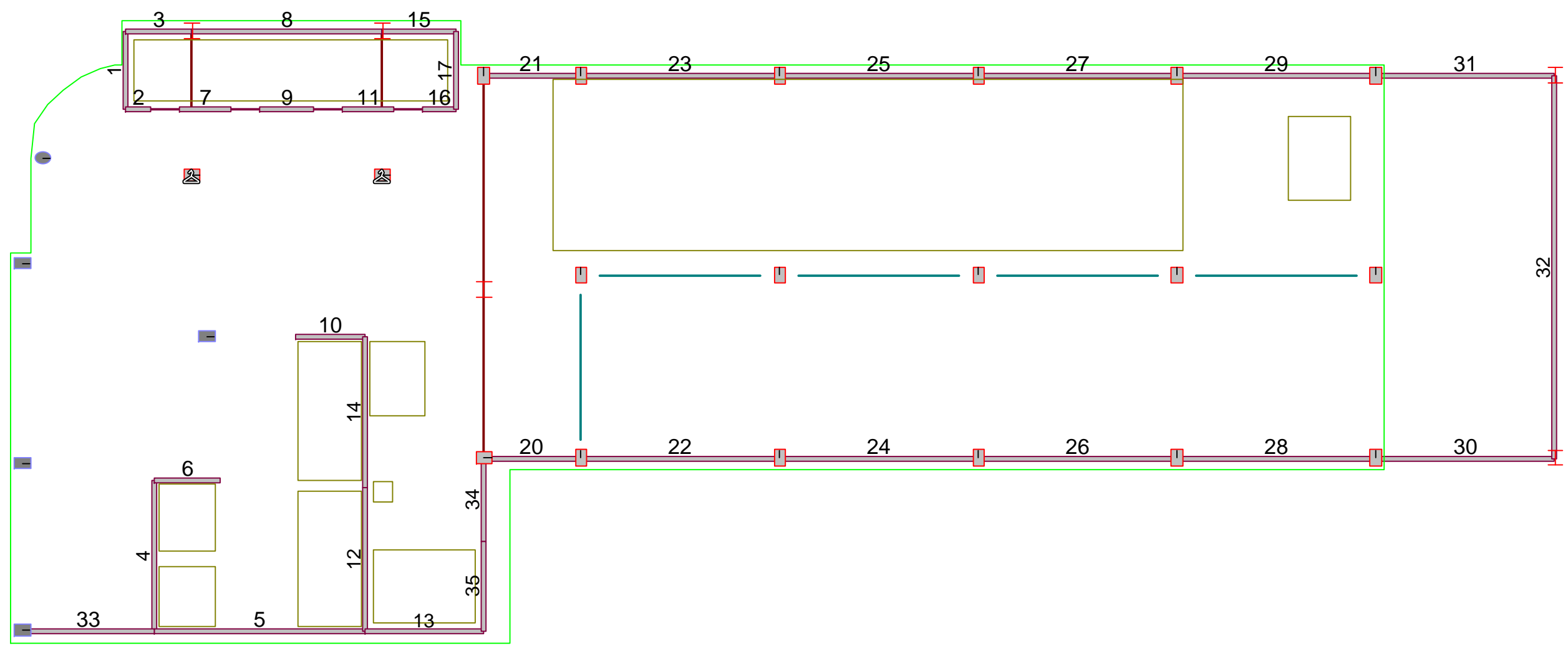


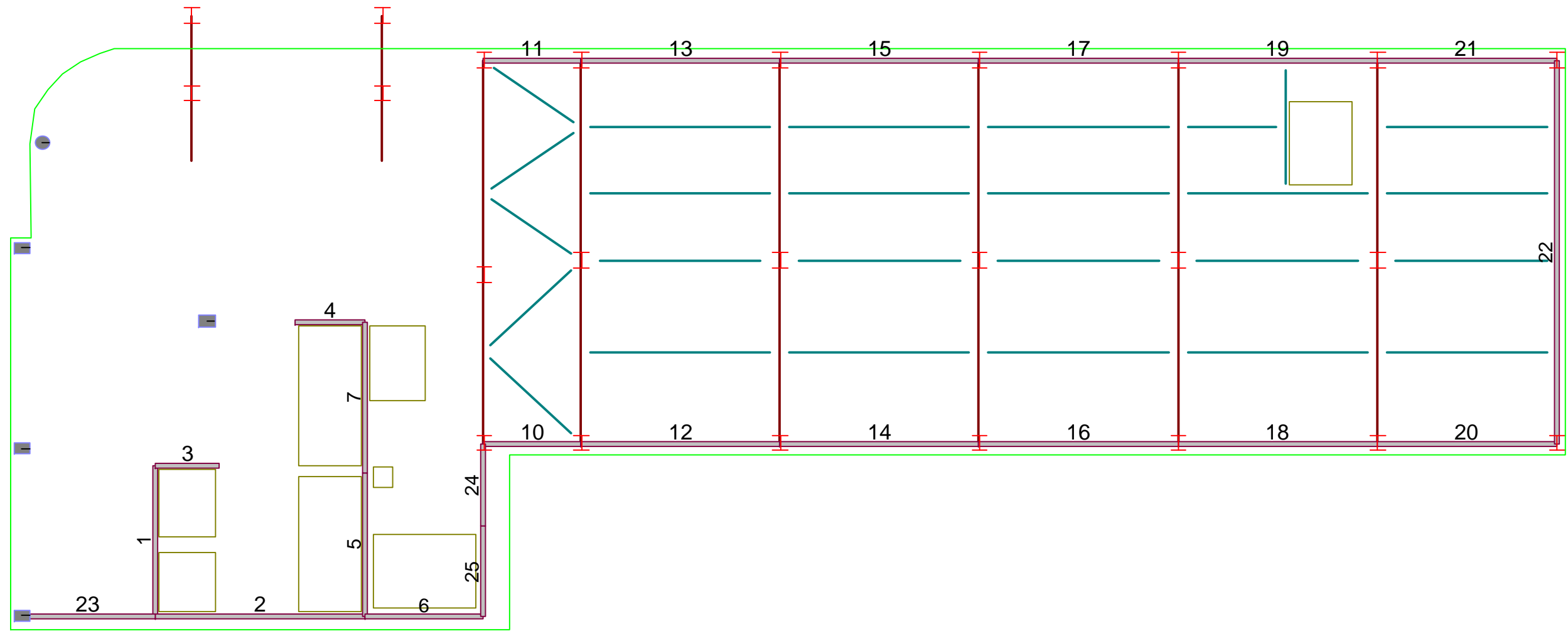


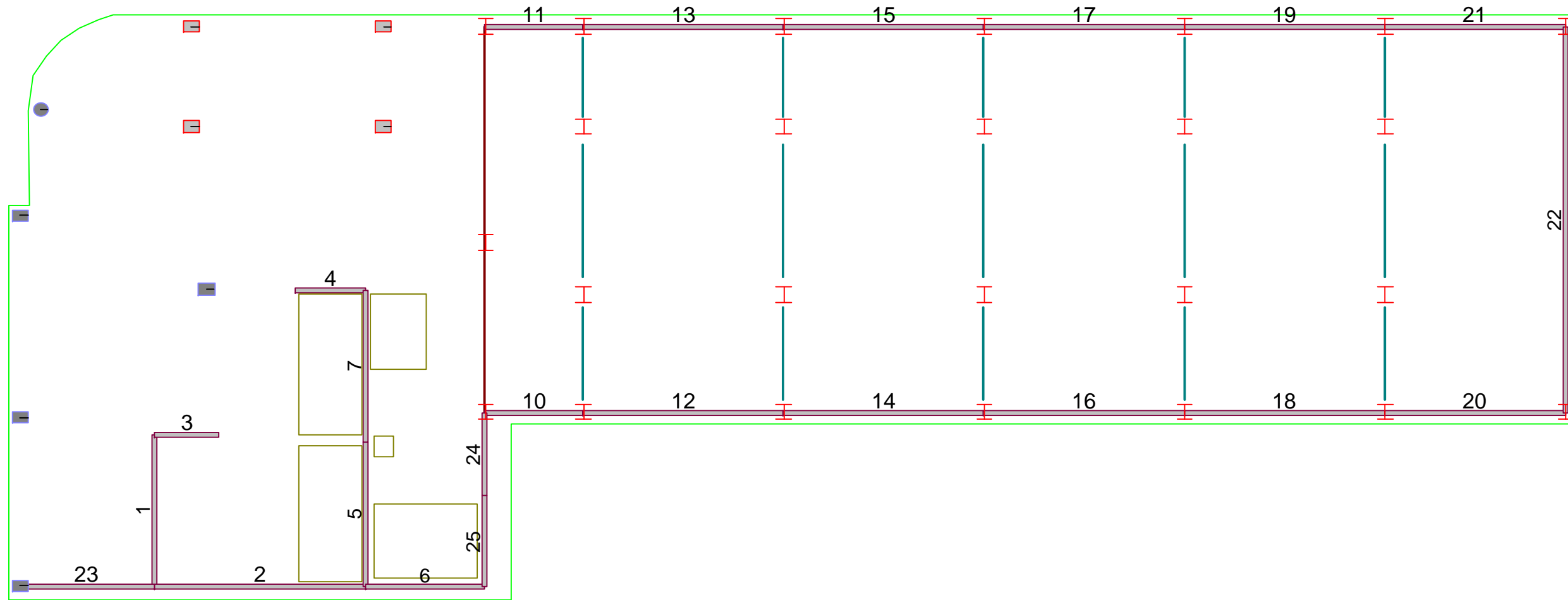


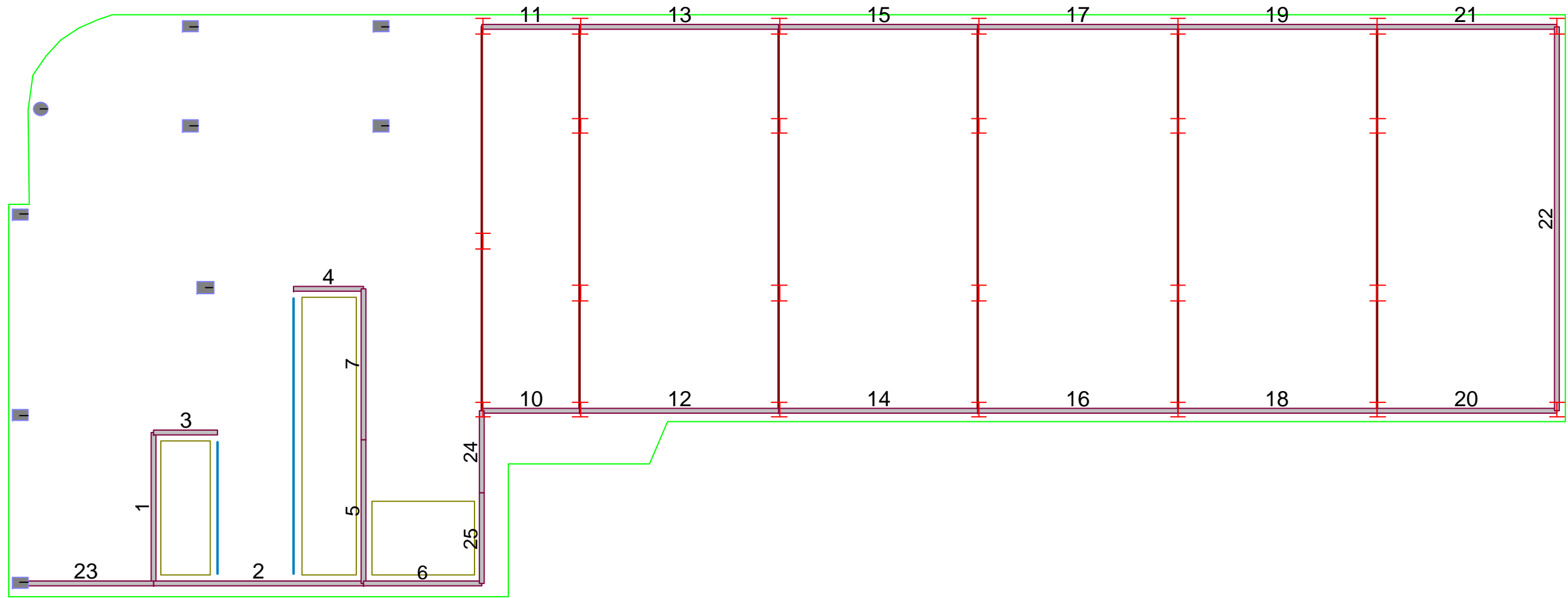


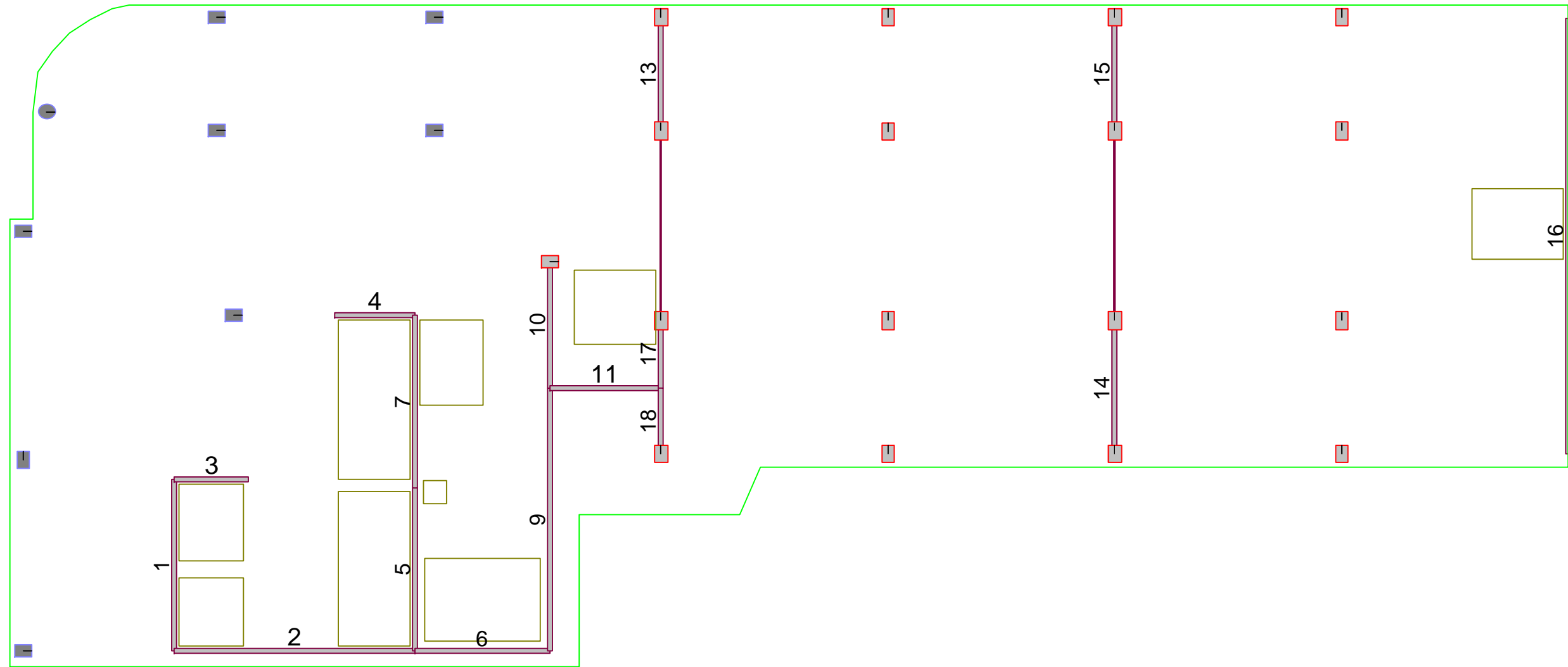


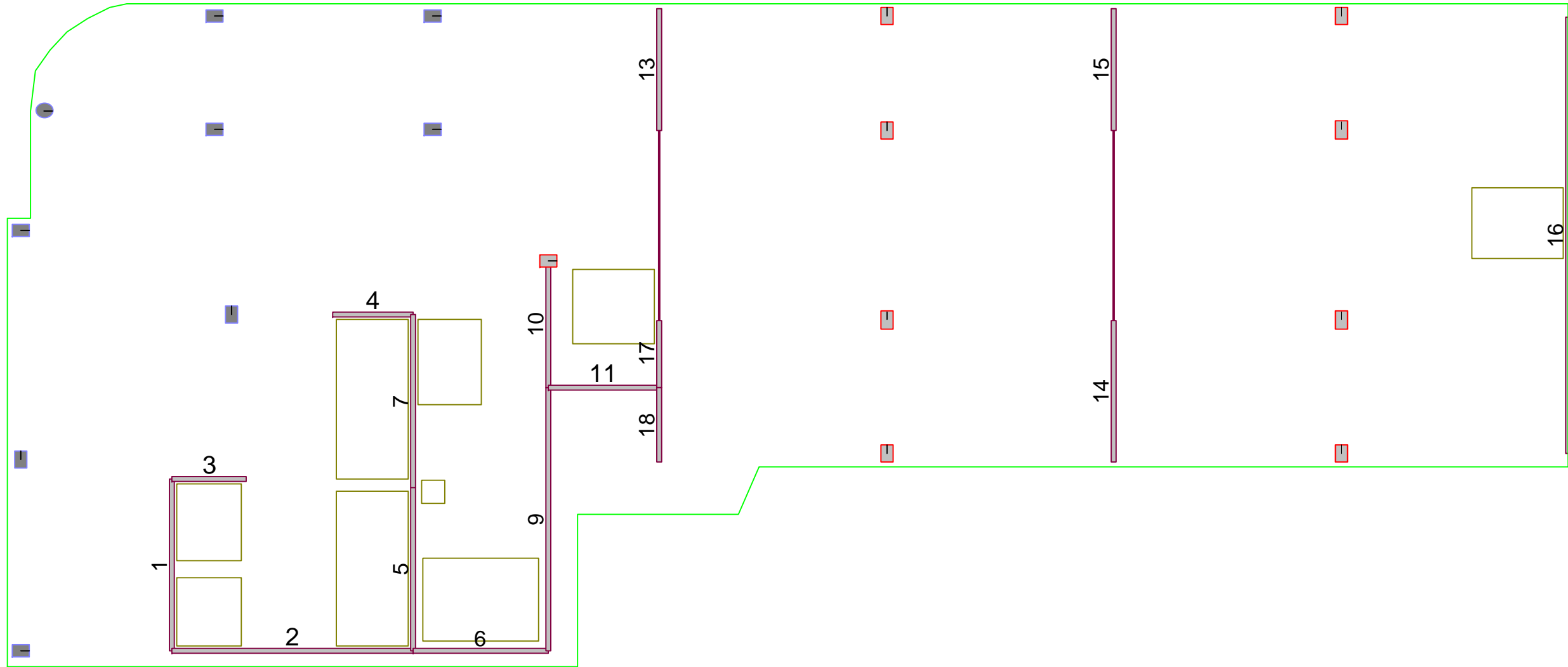


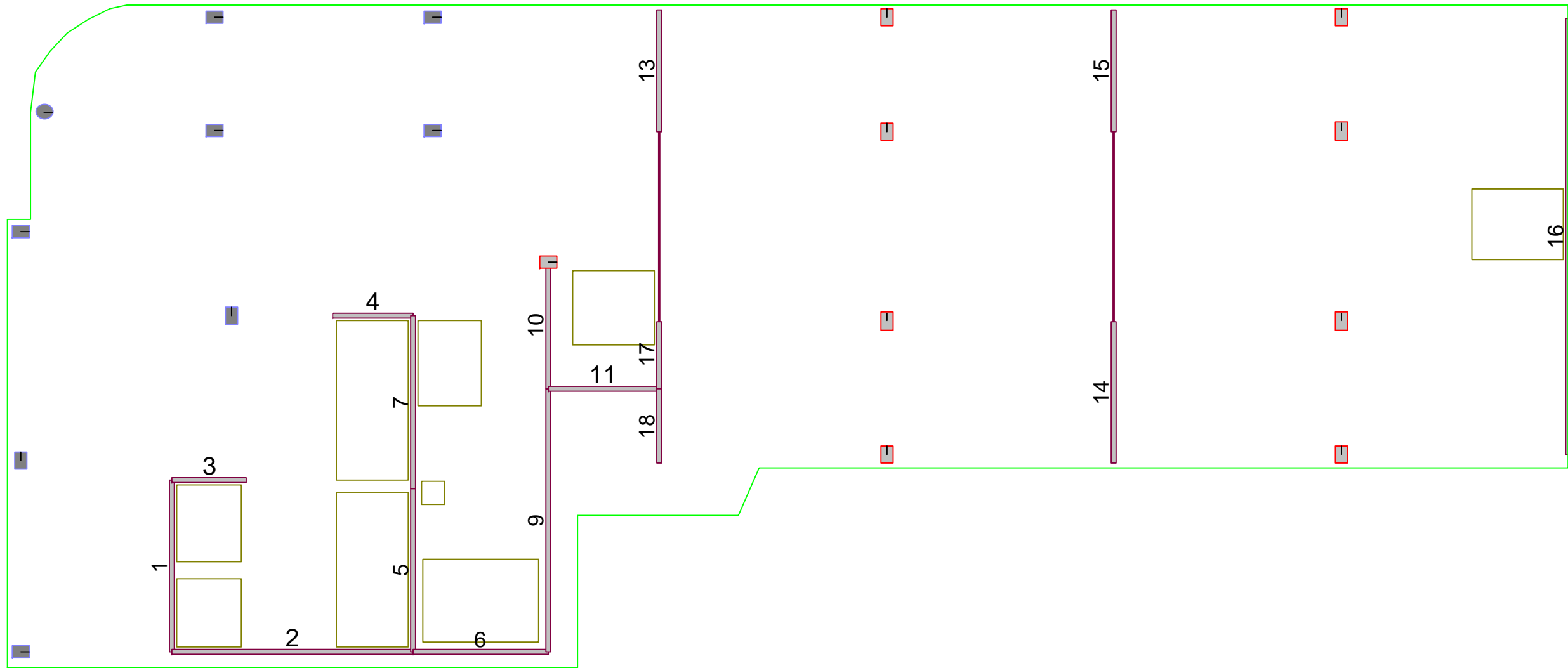


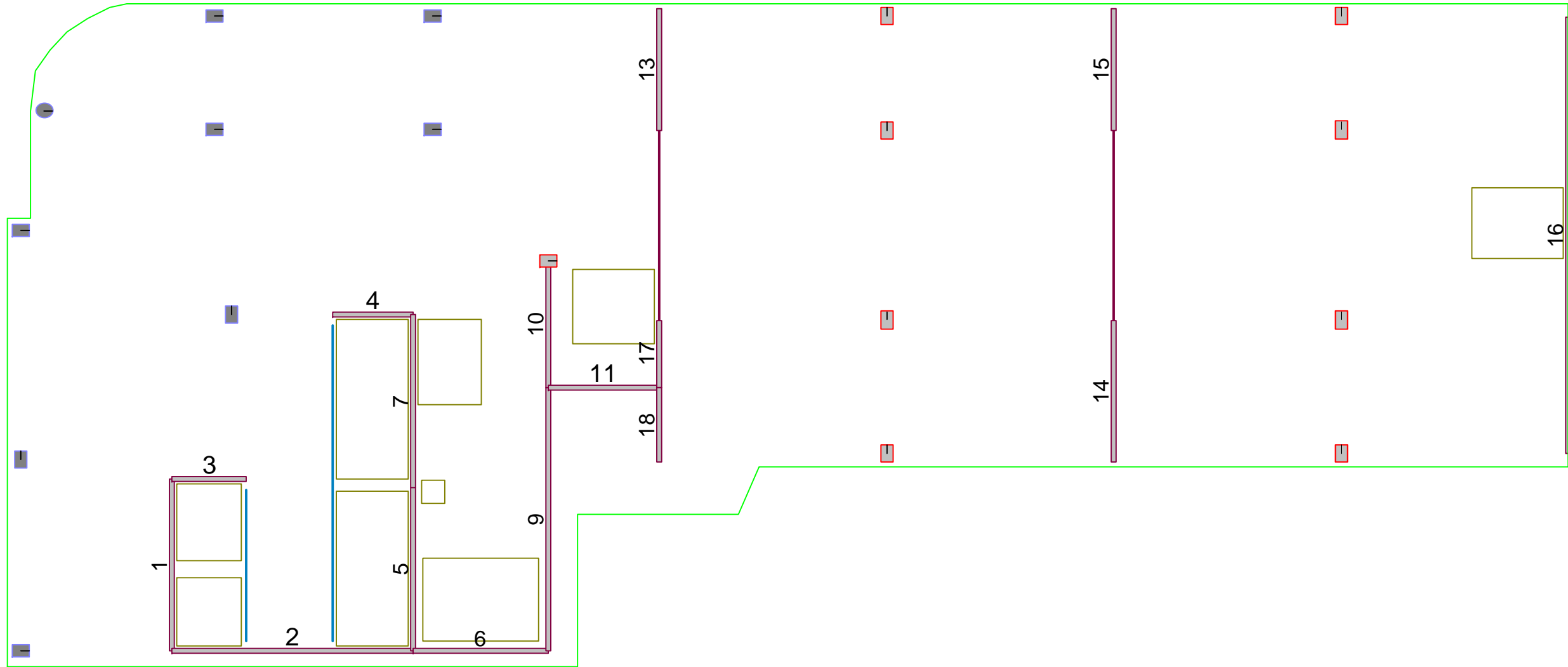




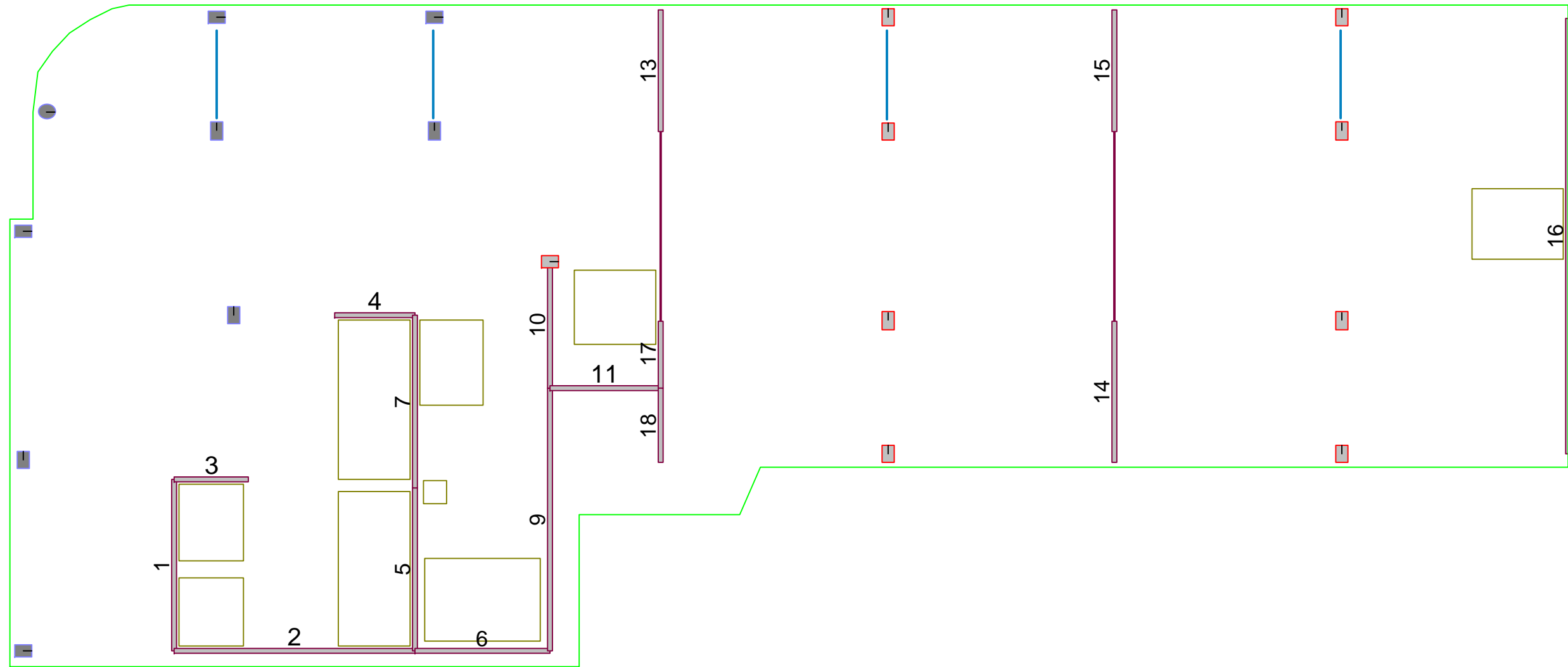


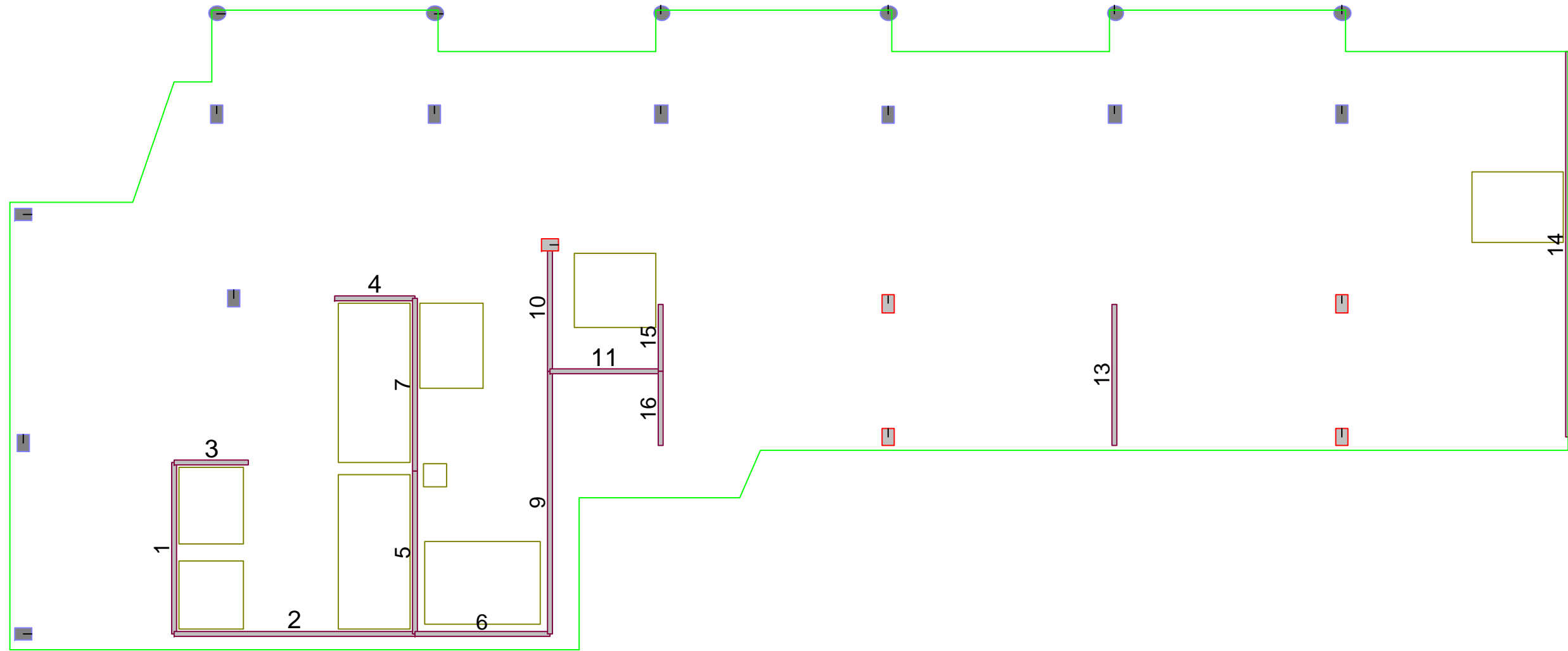


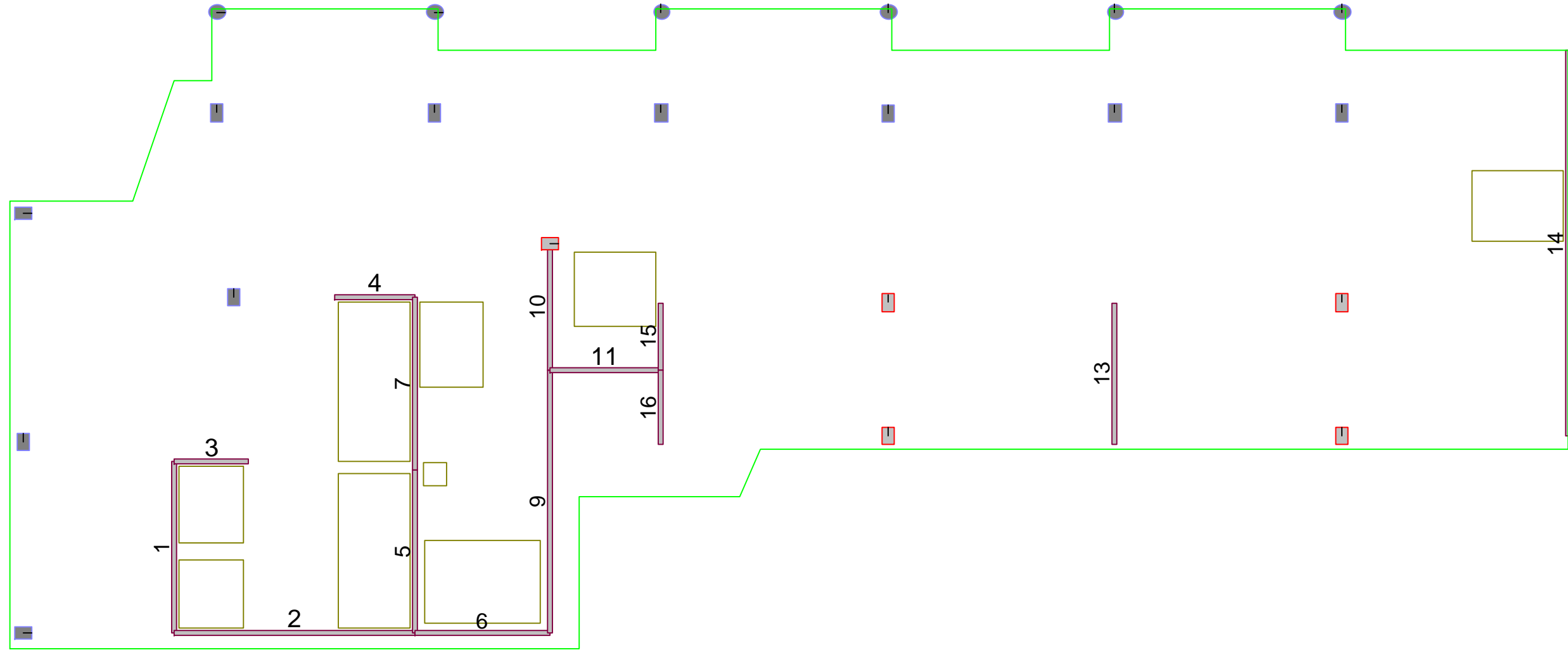


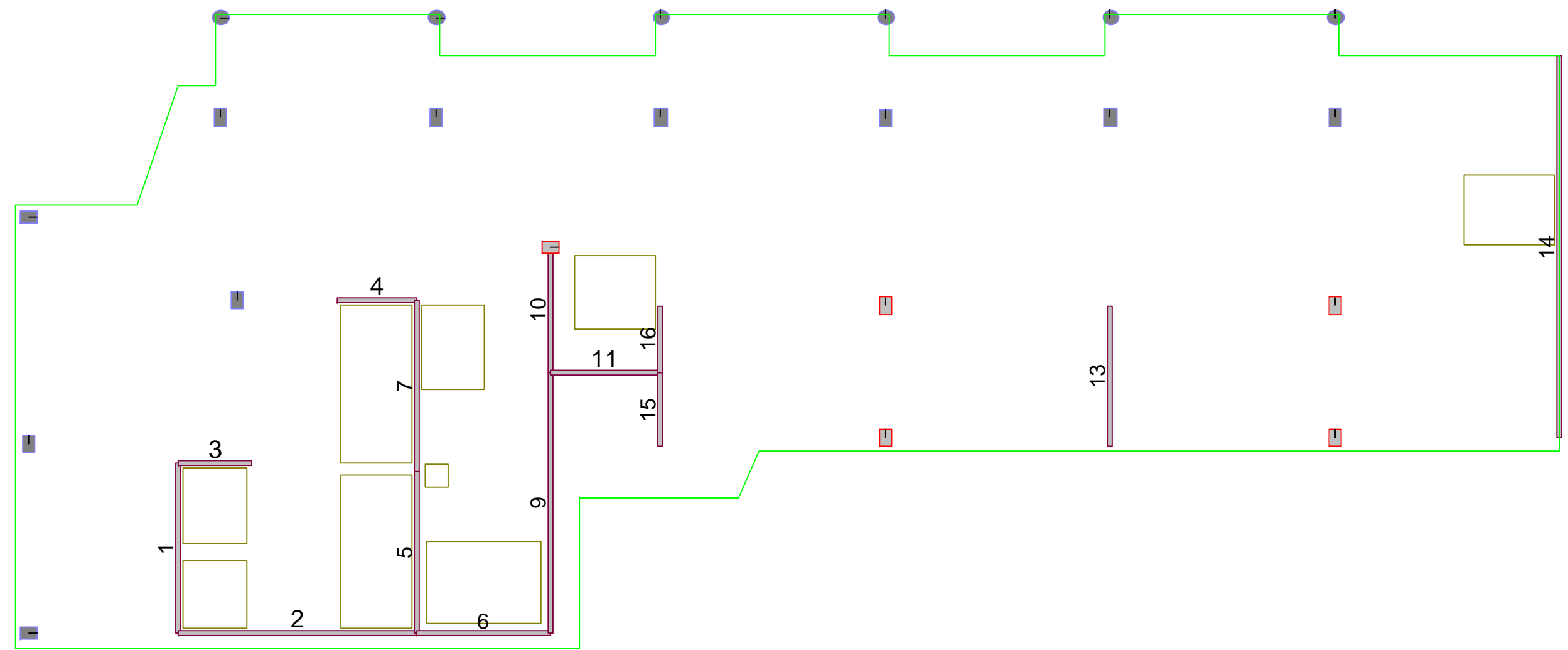


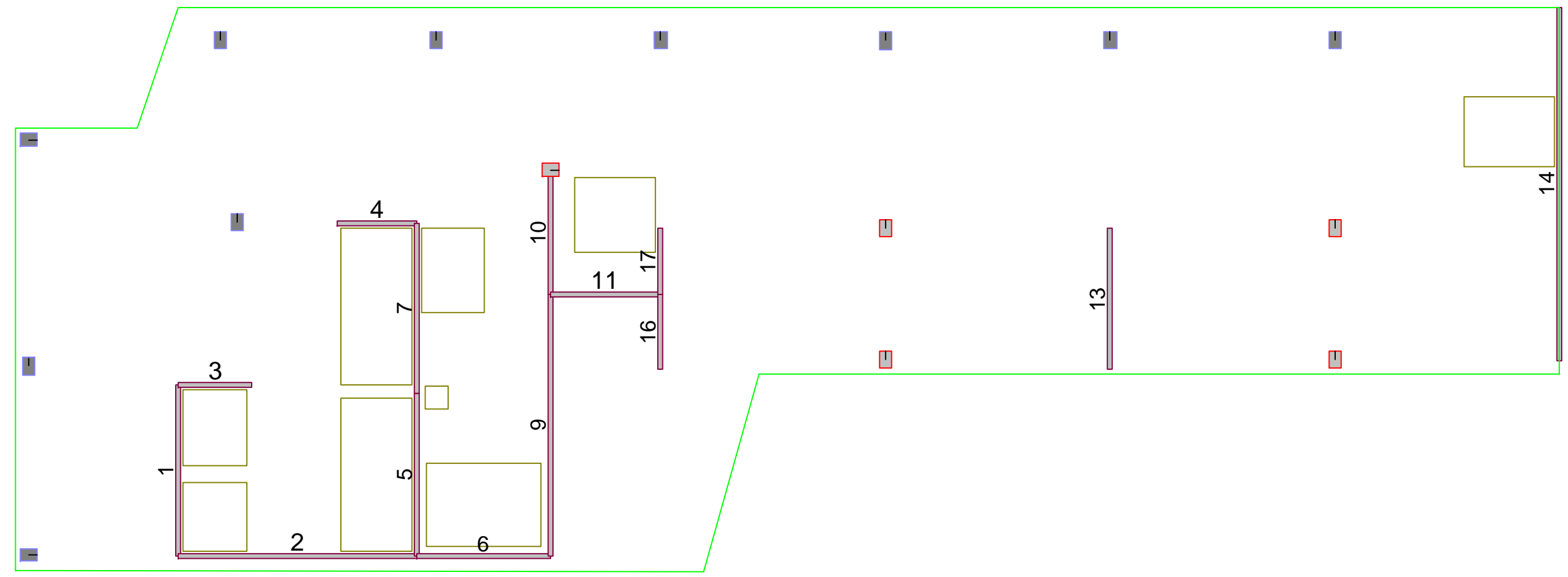












**Severud Associates**

1568 Broadway

Structural Calculations

# **CHAPTER 4**

## RAM Load Maps



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

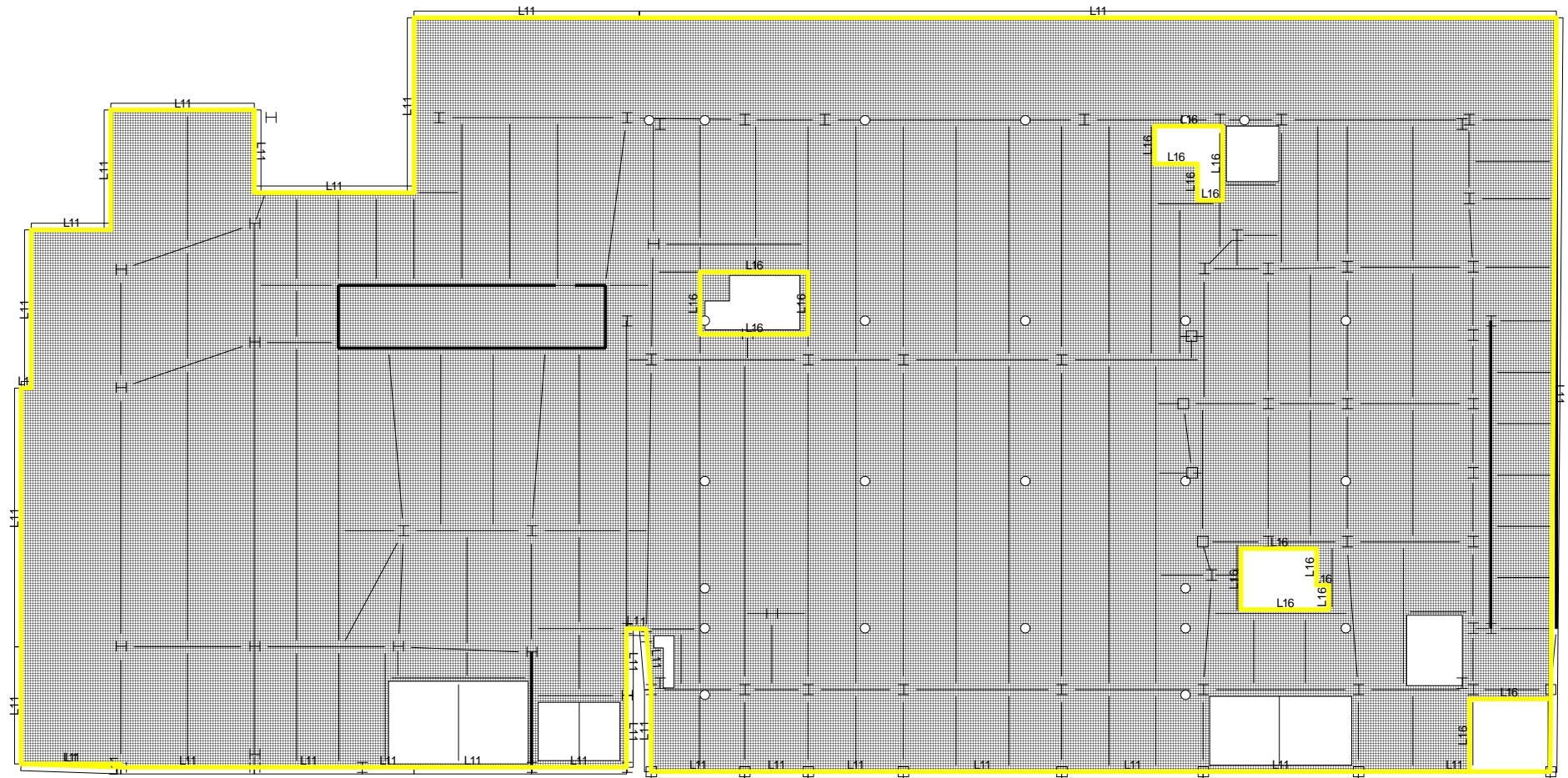


ES393041576 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: Cellar





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC

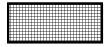


DEPT OF BLDGS121191236 Job Number



ES783057233 Scan Code

**Surface Loads**



| Label        | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|--------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:40 LL:100 | 40.0      | 0.0        | 100.0 Unreducible        | 0.0        | 0.0        | 40.0           |

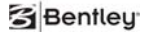
**Line Loads**

|     | Label      | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-----|------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L1  | Facade 0.5 | 0.500      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.500           |
| L11 | Facade 0.3 | 0.300      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.000           |
| L16 | Stair 1.0  | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES541457934 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: Ground Floor





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC

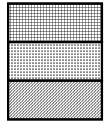


DEPT OF BLDGS121191236 Job Number



ES830711242 Scan Code

**Surface Loads**



| Label           | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|-----------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:40 LL:100    | 40.0      | 0.0        | 100.0 Unreducible        | 0.0        | 0.0        | 40.0           |
| DL:175 LL:600   | 175.0     | 0.0        | 600.0 Unreducible        | 0.0        | 0.0        | 100.0          |
| DL: 150 LL: 250 | 150.0     | 0.0        | 250.0 Unreducible        | 0.0        | 0.0        | 250.0          |

**Line Loads**

L11  
L16

| Label      | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| Facade 0.3 | 0.300      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.000           |
| Stair 1.0  | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

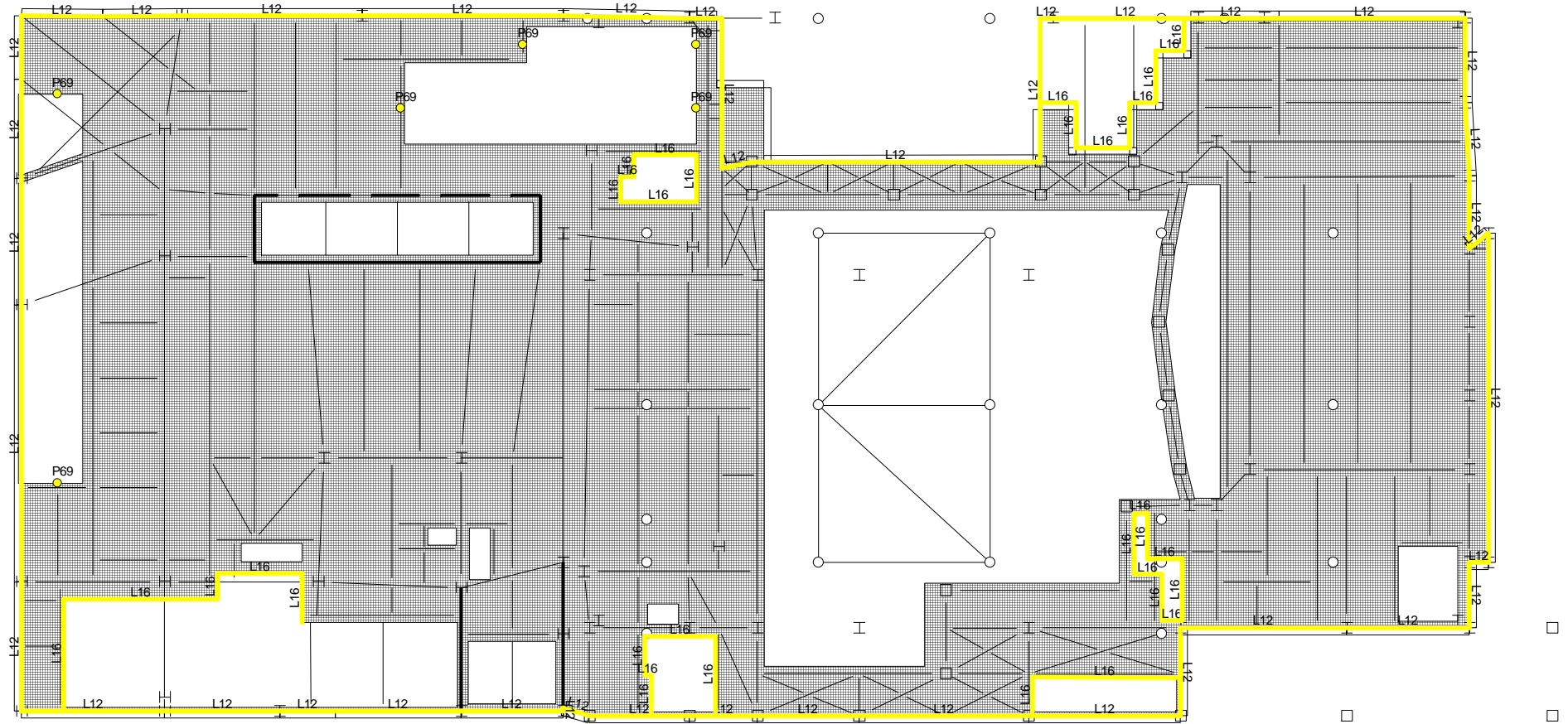


ES674230226 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 2nd FL





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC




DEPT OF BLDGS121191236 Job Number



ES380751398 Scan Code

**Surface Loads**

|   | <b>Label</b> | <b>DL<br/>psf</b> | <b>CDL<br/>psf</b> | <b>LL Reduction<br/>psf Type</b> | <b>PLL<br/>psf</b> | <b>CLL<br/>psf</b> | <b>Mass DL<br/>psf</b> |
|---|--------------|-------------------|--------------------|----------------------------------|--------------------|--------------------|------------------------|
|  | DL:40 LL:100 | 40.0              | 0.0                | 100.0 Unreducible                | 0.0                | 0.0                | 40.0                   |

**Line Loads**

|     | <b>Label</b> | <b>DL<br/>k/ft</b> | <b>CDL<br/>k/ft</b> | <b>LL Reduction<br/>k/ft Type</b> | <b>PLL<br/>k/ft</b> | <b>CLL<br/>k/ft</b> | <b>Mass DL<br/>k/ft</b> |
|-----|--------------|--------------------|---------------------|-----------------------------------|---------------------|---------------------|-------------------------|
| L12 | Facade 0.4   | 0.400              | 0.000               | 0.000 Unreducible                 | 0.000               | 0.000               | 0.000                   |
| L16 | Stair 1.0    | 1.000              | 0.000               | 1.000 Unreducible                 | 0.000               | 0.000               | 0.000                   |

**Point Loads**

|     | <b>Label</b> | <b>DL<br/>kips</b> | <b>CDL<br/>kips</b> | <b>LL Reduction<br/>kips Type</b> | <b>PLL<br/>kips</b> | <b>CLL<br/>kips</b> | <b>Mass DL<br/>kips</b> |
|-----|--------------|--------------------|---------------------|-----------------------------------|---------------------|---------------------|-------------------------|
| P69 | Escalator    | 10.000             | 0.000               | 0.000 Unreducible                 | 0.000               | 0.000               | 0.000                   |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

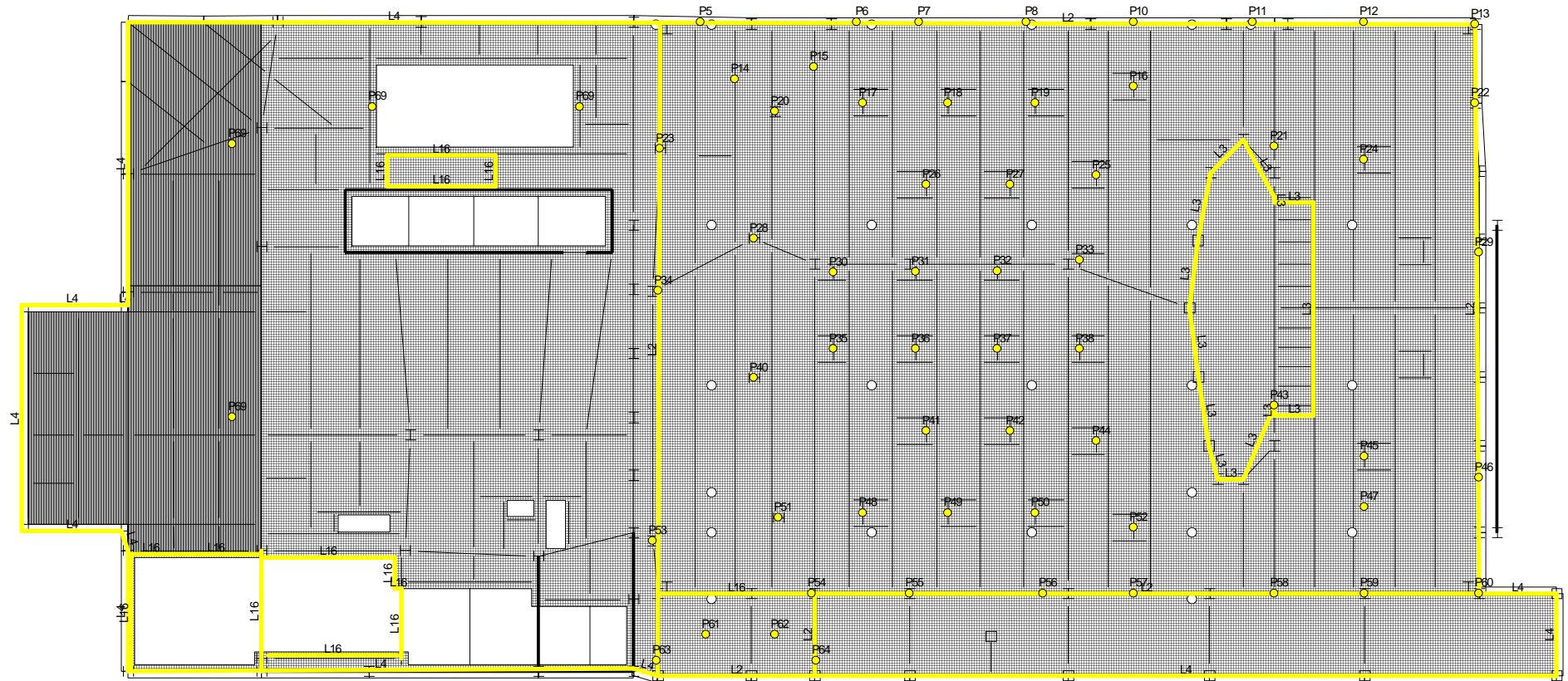


ES566335093 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

**Floor Type: 3rd FL new**





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC

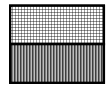


DEPT OF BLDGS121191236 Job Number



ES428288063 Scan Code

### Surface Loads



| Label         | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|---------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:40 LL:100  | 40.0      | 0.0        | 100.0 Unreducible        | 0.0        | 0.0        | 40.0           |
| DL: 40 LL:250 | 40.0      | 0.0        | 250.0 Unreducible        | 0.0        | 0.0        | 0.0            |

### Line Loads

| Label                | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|----------------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L2 Theatre Wall Ext. | 15.600     | 0.000       | 0.000 Reducible           | 0.000       | 0.000       | 15.600          |
| L3 Theatre Wall Int. | 1.500      | 0.000       | 1.500 Unreducible         | 0.000       | 0.000       | 15.600          |
| L4 Facade 0.25       | 0.250      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.250           |
| L16 Stair 1.0        | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |

### Point Loads

| Label  | DL<br>kips | CDL<br>kips | LL Reduction<br>kips Type | PLL<br>kips | CLL<br>kips | Mass DL<br>kips |
|--------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| P5 1   | 18.000     | 0.000       | 14.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P6 2   | 83.000     | 0.000       | 50.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P7 3   | 192.000    | 0.000       | 160.000 Unreducible       | 0.000       | 0.000       | 0.000           |
| P8 4   | 46.000     | 0.000       | 44.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P10 5  | 14.000     | 0.000       | 11.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P11 6  | 46.000     | 0.000       | 31.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P12 7  | 104.000    | 0.000       | 76.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P13 8  | 24.000     | 0.000       | 15.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P14 9  | -4.000     | 0.000       | -7.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P15 10 | 14.000     | 0.000       | 17.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P16 11 | 105.000    | 0.000       | 130.000 Unreducible       | 0.000       | 0.000       | 0.000           |
| P17 12 | 20.000     | 0.000       | 23.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P18 13 | 13.000     | 0.000       | 16.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P19 14 | 14.000     | 0.000       | 17.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P20 15 | 107.000    | 0.000       | 135.000 Unreducible       | 0.000       | 0.000       | 0.000           |
| P21 16 | 100.000    | 0.000       | 74.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P22 17 | 25.000     | 0.000       | 23.000 Unreducible        | 0.000       | 0.000       | 0.000           |
| P23 18 | 15.000     | 0.000       | 13.000 Unreducible        | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES023715748 Scan Code

|     | <b>Label</b> | <b>DL</b> | <b>CDL</b> | <b>LL</b> | <b>Reduction</b> | <b>PLL</b> | <b>CLL</b> | <b>Mass DL</b> |
|-----|--------------|-----------|------------|-----------|------------------|------------|------------|----------------|
| P24 | 19           | 22.000    | 0.000      | 30.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P25 | 20           | 15.000    | 0.000      | 18.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P26 | 21           | 13.000    | 0.000      | 16.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P27 | 22           | 13.000    | 0.000      | 16.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P28 | 23           | 140.000   | 0.000      | 176.000   | Unreducible      | 0.000      | 0.000      | 0.000          |
| P29 | 24           | 22.000    | 0.000      | 20.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P30 | 25           | 18.000    | 0.000      | 23.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P31 | 26           | 13.000    | 0.000      | 16.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P32 | 27           | 13.000    | 0.000      | 16.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P33 | 28           | 13.000    | 0.000      | 17.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P34 | 29           | 85.000    | 0.000      | 65.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P35 | 30           | 18.000    | 0.000      | 23.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P36 | 31           | 13.000    | 0.000      | 16.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P37 | 32           | 13.000    | 0.000      | 16.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P38 | 33           | 13.000    | 0.000      | 17.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P40 | 35           | 148.000   | 0.000      | 188.000   | Unreducible      | 0.000      | 0.000      | 0.000          |
| P41 | 36           | 13.000    | 0.000      | 16.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P42 | 37           | 13.000    | 0.000      | 16.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P43 | 38           | 3.000     | 0.000      | 2.000     | Unreducible      | 0.000      | 0.000      | 0.000          |
| P44 | 39           | 14.000    | 0.000      | 18.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P45 | 40           | 15.000    | 0.000      | 18.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P46 | 41           | 25.000    | 0.000      | 24.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P47 | 42           | 70.000    | 0.000      | 90.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P48 | 43           | 18.000    | 0.000      | 23.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P49 | 44           | 13.000    | 0.000      | 16.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P50 | 45           | 14.000    | 0.000      | 17.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P51 | 46           | 121.000   | 0.000      | 155.000   | Unreducible      | 0.000      | 0.000      | 0.000          |
| P52 | 47           | 105.000   | 0.000      | 130.000   | Unreducible      | 0.000      | 0.000      | 0.000          |
| P53 | 48           | 96.000    | 0.000      | 76.000    | Unreducible      | 0.000      | 0.000      | 0.000          |
| P54 | 49           | 178.000   | 0.000      | 150.000   | Unreducible      | 0.000      | 0.000      | 0.000          |
| P55 | 50           | 410.000   | 0.000      | 345.000   | Unreducible      | 0.000      | 0.000      | 0.000          |
| P56 | 51           | 137.000   | 0.000      | 152.000   | Unreducible      | 0.000      | 0.000      | 0.000          |
| P57 | 52           | 50.000    | 0.000      | 61.000    | Unreducible      | 0.000      | 0.000      | 0.000          |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES802452889 Scan Code

|     | <b>Label</b> | <b>DL</b> | <b>CDL</b> | <b>LL Reduction</b> | <b>PLL</b> | <b>CLL</b> | <b>Mass DL</b> |
|-----|--------------|-----------|------------|---------------------|------------|------------|----------------|
| P58 | 53           | 115.000   | 0.000      | 117.000 Unreducible | 0.000      | 0.000      | 0.000          |
| P59 | 54           | 88.000    | 0.000      | 113.000 Unreducible | 0.000      | 0.000      | 0.000          |
| P60 | 55           | 17.000    | 0.000      | 15.000 Unreducible  | 0.000      | 0.000      | 0.000          |
| P61 | 56           | 15.000    | 0.000      | 17.000 Unreducible  | 0.000      | 0.000      | 0.000          |
| P62 | 57           | 15.000    | 0.000      | 18.000 Unreducible  | 0.000      | 0.000      | 0.000          |
| P63 | 58           | 15.000    | 0.000      | 12.000 Unreducible  | 0.000      | 0.000      | 0.000          |
| P64 | 59           | 12.000    | 0.000      | 9.000 Unreducible   | 0.000      | 0.000      | 0.000          |
| P69 | Escalator    | 10.000    | 0.000      | 0.000 Unreducible   | 0.000      | 0.000      | 0.000          |





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

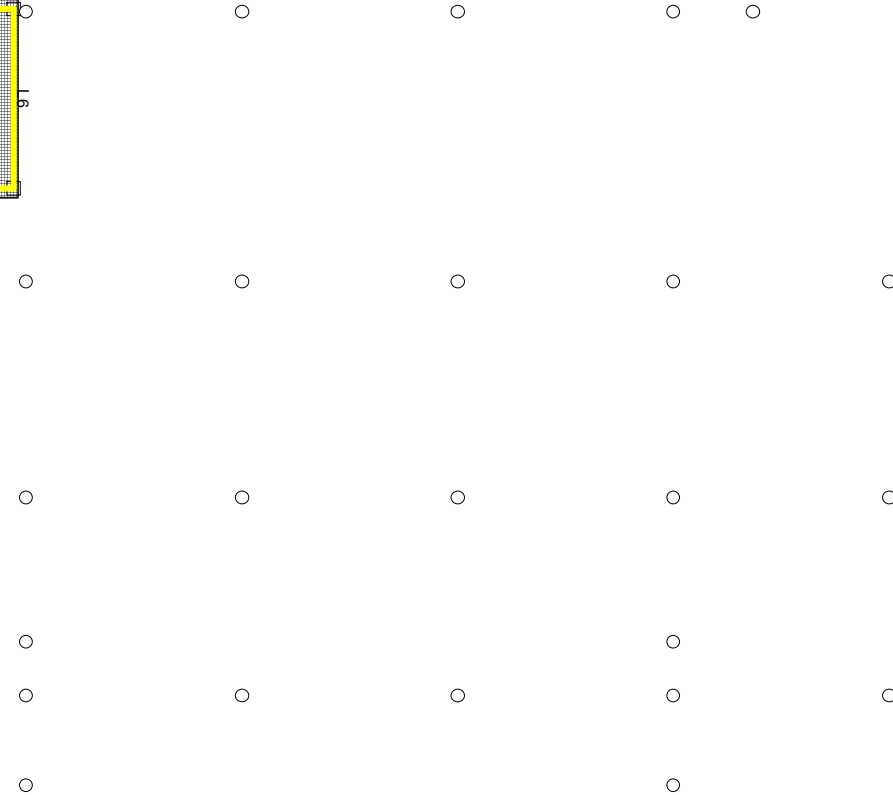


ES786683575 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 4th FL





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC

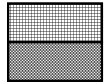


DEPT OF BLDGS121191236 Job Number



ES972751836 Scan Code

**Surface Loads**



| Label         | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|---------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:40 LL:100  | 40.0      | 0.0        | 100.0 Unreducible        | 0.0        | 0.0        | 40.0           |
| DL: 40 LL:150 | 40.0      | 0.0        | 150.0 Unreducible        | 0.0        | 0.0        | 0.0            |

**Line Loads**

L6  
L16

| Label       | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| Facade 0.32 | 0.320      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.320           |
| Stair 1.0   | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |

**Point Loads**

P69

| Label     | DL<br>kips | CDL<br>kips | LL Reduction<br>kips Type | PLL<br>kips | CLL<br>kips | Mass DL<br>kips |
|-----------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| Escalator | 10.000     | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

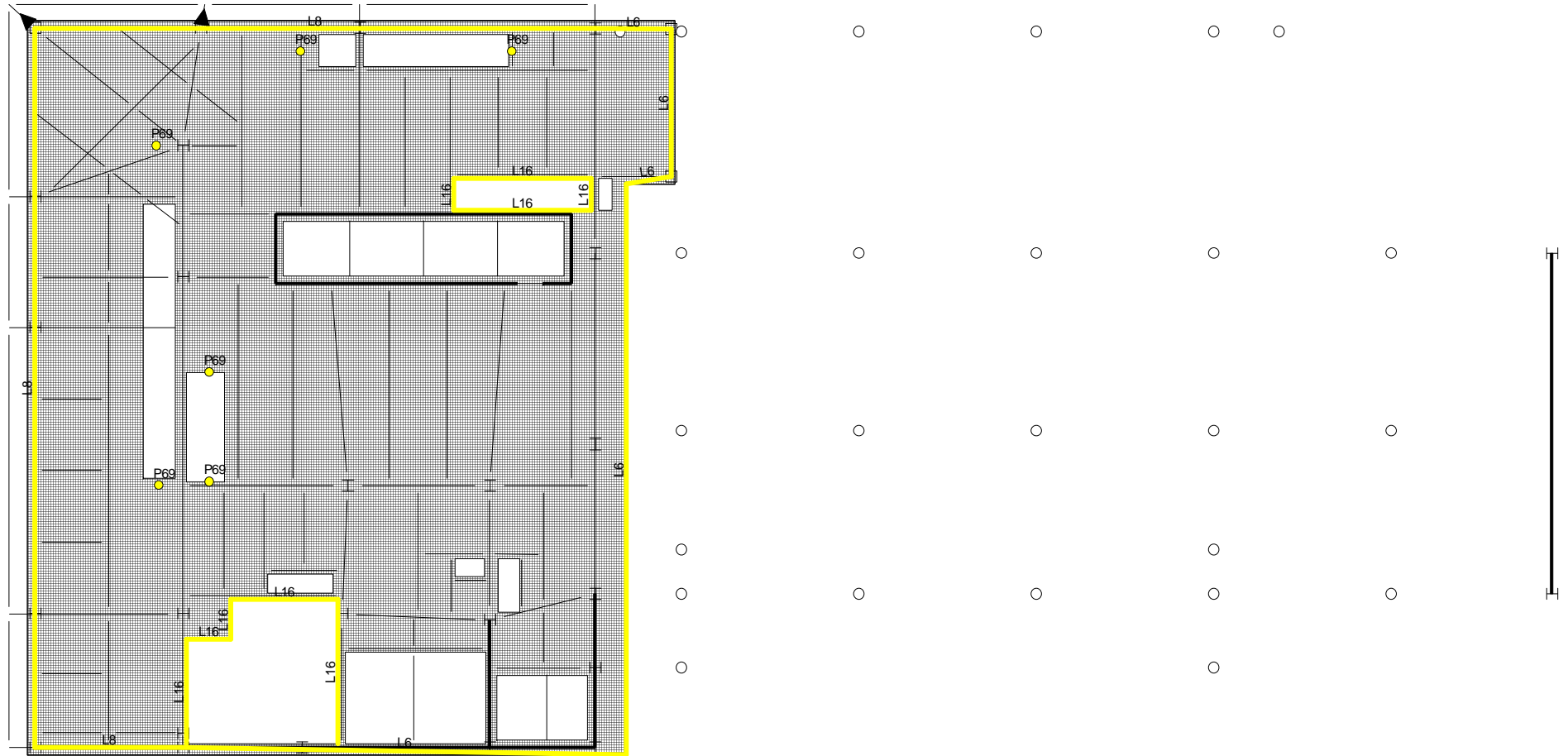


ES142382983 Scan Code

11/07/16 17:22:51

Steel Code: AISC360-05 LRFD

### Floor Type: 5th FL





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC




DEPT OF BLDGS121191236 Job Number



ES935690148 Scan Code

**Surface Loads**

|   | <b>Label</b> | <b>DL<br/>psf</b> | <b>CDL<br/>psf</b> | <b>LL Reduction<br/>psf Type</b> | <b>PLL<br/>psf</b> | <b>CLL<br/>psf</b> | <b>Mass DL<br/>psf</b> |
|---|--------------|-------------------|--------------------|----------------------------------|--------------------|--------------------|------------------------|
|  | DL:40 LL:100 | 40.0              | 0.0                | 100.0 Unreducible                | 0.0                | 0.0                | 40.0                   |

**Line Loads**

|     | <b>Label</b>   | <b>DL<br/>k/ft</b> | <b>CDL<br/>k/ft</b> | <b>LL Reduction<br/>k/ft Type</b> | <b>PLL<br/>k/ft</b> | <b>CLL<br/>k/ft</b> | <b>Mass DL<br/>k/ft</b> |
|-----|----------------|--------------------|---------------------|-----------------------------------|---------------------|---------------------|-------------------------|
| L6  | Facade 0.32    | 0.320              | 0.000               | 0.000 Unreducible                 | 0.000               | 0.000               | 0.320                   |
| L8  | Sign Facade .6 | 0.600              | 0.000               | 0.000 Unreducible                 | 0.000               | 0.000               | 0.600                   |
| L16 | Stair 1.0      | 1.000              | 0.000               | 1.000 Unreducible                 | 0.000               | 0.000               | 0.000                   |

**Point Loads**

|     | <b>Label</b> | <b>DL<br/>kips</b> | <b>CDL<br/>kips</b> | <b>LL Reduction<br/>kips Type</b> | <b>PLL<br/>kips</b> | <b>CLL<br/>kips</b> | <b>Mass DL<br/>kips</b> |
|-----|--------------|--------------------|---------------------|-----------------------------------|---------------------|---------------------|-------------------------|
| P69 | Escalator    | 10.000             | 0.000               | 0.000 Unreducible                 | 0.000               | 0.000               | 0.000                   |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

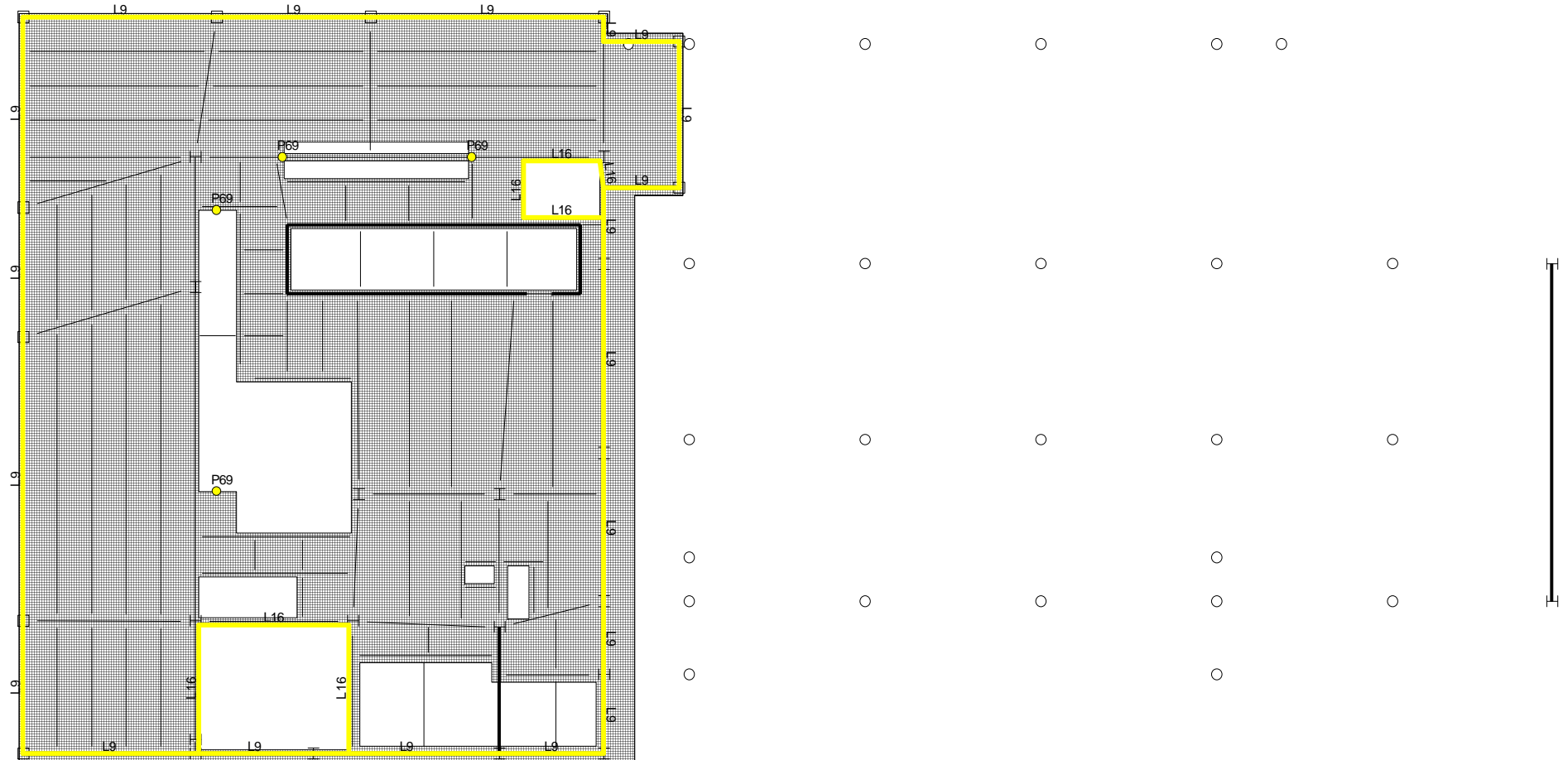


ES903908615 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 6th FL





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC




DEPT OF BLDGS121191236 Job Number



ES587676984 Scan Code

**Surface Loads**

|   | <b>Label</b> | <b>DL<br/>psf</b> | <b>CDL<br/>psf</b> | <b>LL Reduction<br/>psf Type</b> | <b>PLL<br/>psf</b> | <b>CLL<br/>psf</b> | <b>Mass DL<br/>psf</b> |
|---|--------------|-------------------|--------------------|----------------------------------|--------------------|--------------------|------------------------|
|  | DL:40 LL:100 | 40.0              | 0.0                | 100.0 Unreducible                | 0.0                | 0.0                | 40.0                   |

**Line Loads**

|     | <b>Label</b>    | <b>DL<br/>k/ft</b> | <b>CDL<br/>k/ft</b> | <b>LL Reduction<br/>k/ft Type</b> | <b>PLL<br/>k/ft</b> | <b>CLL<br/>k/ft</b> | <b>Mass DL<br/>k/ft</b> |
|-----|-----------------|--------------------|---------------------|-----------------------------------|---------------------|---------------------|-------------------------|
| L9  | Sign Facade .37 | 0.370              | 0.000               | 0.000 Unreducible                 | 0.000               | 0.000               | 0.370                   |
| L16 | Stair 1.0       | 1.000              | 0.000               | 1.000 Unreducible                 | 0.000               | 0.000               | 0.000                   |

**Point Loads**

|     | <b>Label</b> | <b>DL<br/>kips</b> | <b>CDL<br/>kips</b> | <b>LL Reduction<br/>kips Type</b> | <b>PLL<br/>kips</b> | <b>CLL<br/>kips</b> | <b>Mass DL<br/>kips</b> |
|-----|--------------|--------------------|---------------------|-----------------------------------|---------------------|---------------------|-------------------------|
| P69 | Escalator    | 10.000             | 0.000               | 0.000 Unreducible                 | 0.000               | 0.000               | 0.000                   |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

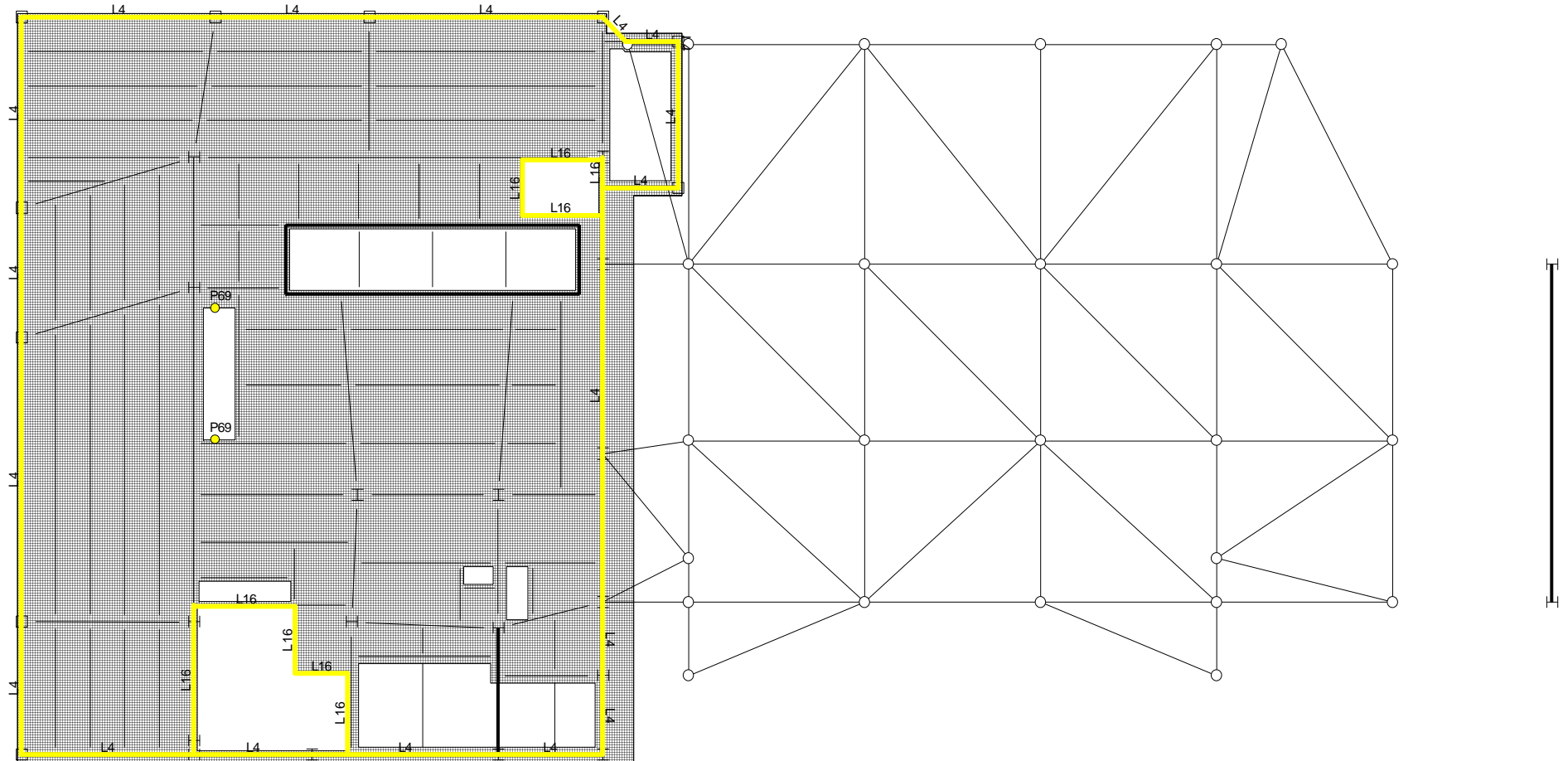


ES621903433 Scan Code

11/07/16 16:48:08


Steel Code: AISC360-05 LRFD

### Floor Type: 7th FL





**Surface Loads**

|   | <b>Label</b> | <b>DL<br/>psf</b> | <b>CDL<br/>psf</b> | <b>LL Reduction<br/>psf Type</b> | <b>PLL<br/>psf</b> | <b>CLL<br/>psf</b> | <b>Mass DL<br/>psf</b> |
|---|--------------|-------------------|--------------------|----------------------------------|--------------------|--------------------|------------------------|
|  | DL:40 LL:100 | 40.0              | 0.0                | 100.0 Unreducible                | 0.0                | 0.0                | 40.0                   |

**Line Loads**

|     | <b>Label</b> | <b>DL<br/>k/ft</b> | <b>CDL<br/>k/ft</b> | <b>LL Reduction<br/>k/ft Type</b> | <b>PLL<br/>k/ft</b> | <b>CLL<br/>k/ft</b> | <b>Mass DL<br/>k/ft</b> |
|-----|--------------|--------------------|---------------------|-----------------------------------|---------------------|---------------------|-------------------------|
| L4  | Facade 0.25  | 0.250              | 0.000               | 0.000 Unreducible                 | 0.000               | 0.000               | 0.250                   |
| L16 | Stair 1.0    | 1.000              | 0.000               | 1.000 Unreducible                 | 0.000               | 0.000               | 0.000                   |

**Point Loads**

|     | <b>Label</b> | <b>DL<br/>kips</b> | <b>CDL<br/>kips</b> | <b>LL Reduction<br/>kips Type</b> | <b>PLL<br/>kips</b> | <b>CLL<br/>kips</b> | <b>Mass DL<br/>kips</b> |
|-----|--------------|--------------------|---------------------|-----------------------------------|---------------------|---------------------|-------------------------|
| P69 | Escalator    | 10.000             | 0.000               | 0.000 Unreducible                 | 0.000               | 0.000               | 0.000                   |





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

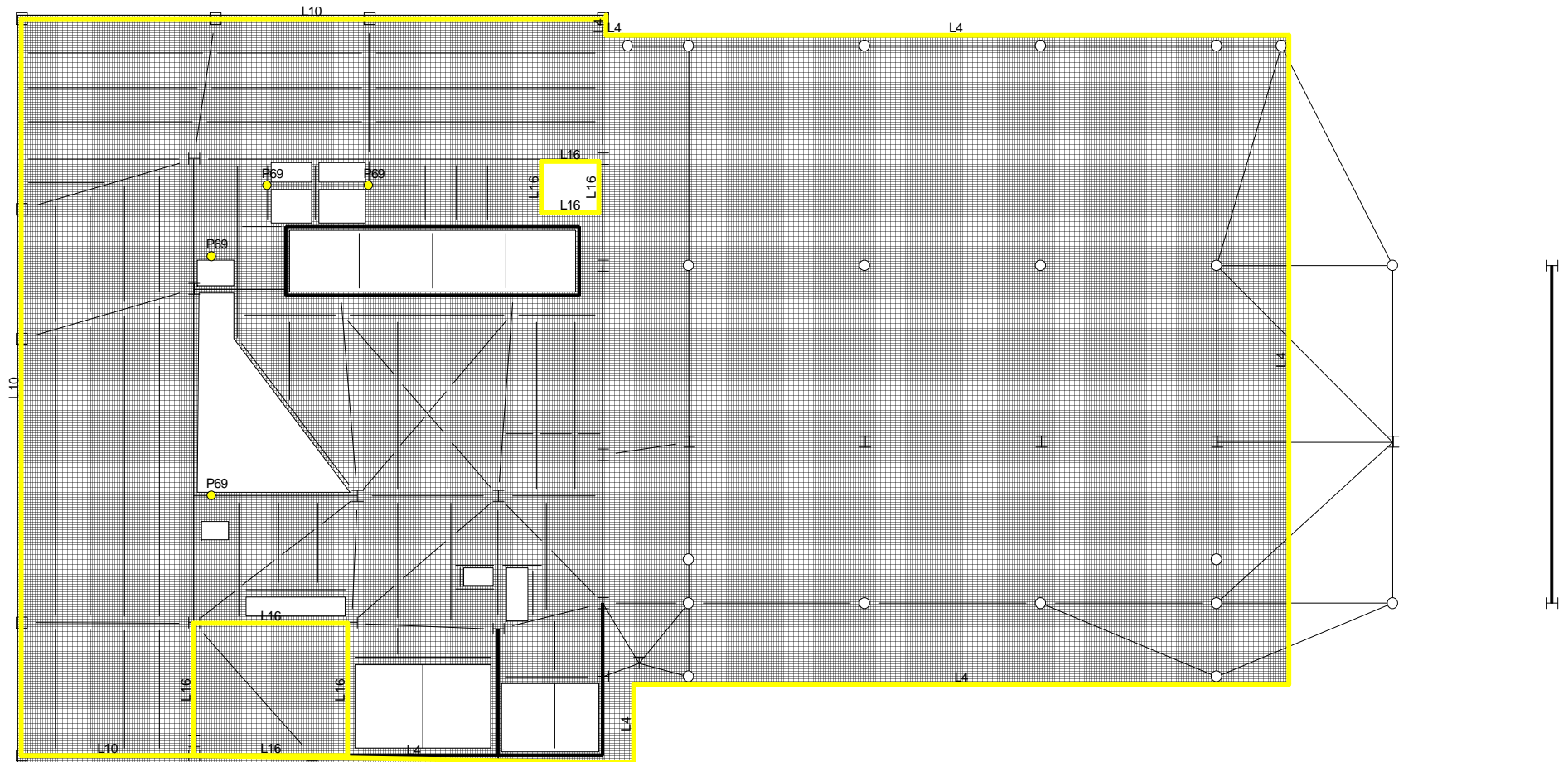


ES493599663 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 8th FL model1





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC

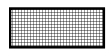


DEPT OF BLDGS121191236 Job Number



ES887955533 Scan Code

**Surface Loads**



| Label        | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|--------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:40 LL:100 | 40.0      | 0.0        | 100.0 Unreducible        | 0.0        | 0.0        | 40.0           |

**Line Loads**

| Label               | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|---------------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L4 Facade 0.25      | 0.250      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.250           |
| L10 Sign Facade .45 | 0.450      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.450           |
| L16 Stair 1.0       | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |

**Point Loads**

| Label         | DL<br>kips | CDL<br>kips | LL Reduction<br>kips Type | PLL<br>kips | CLL<br>kips | Mass DL<br>kips |
|---------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| P69 Escalator | 10.000     | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

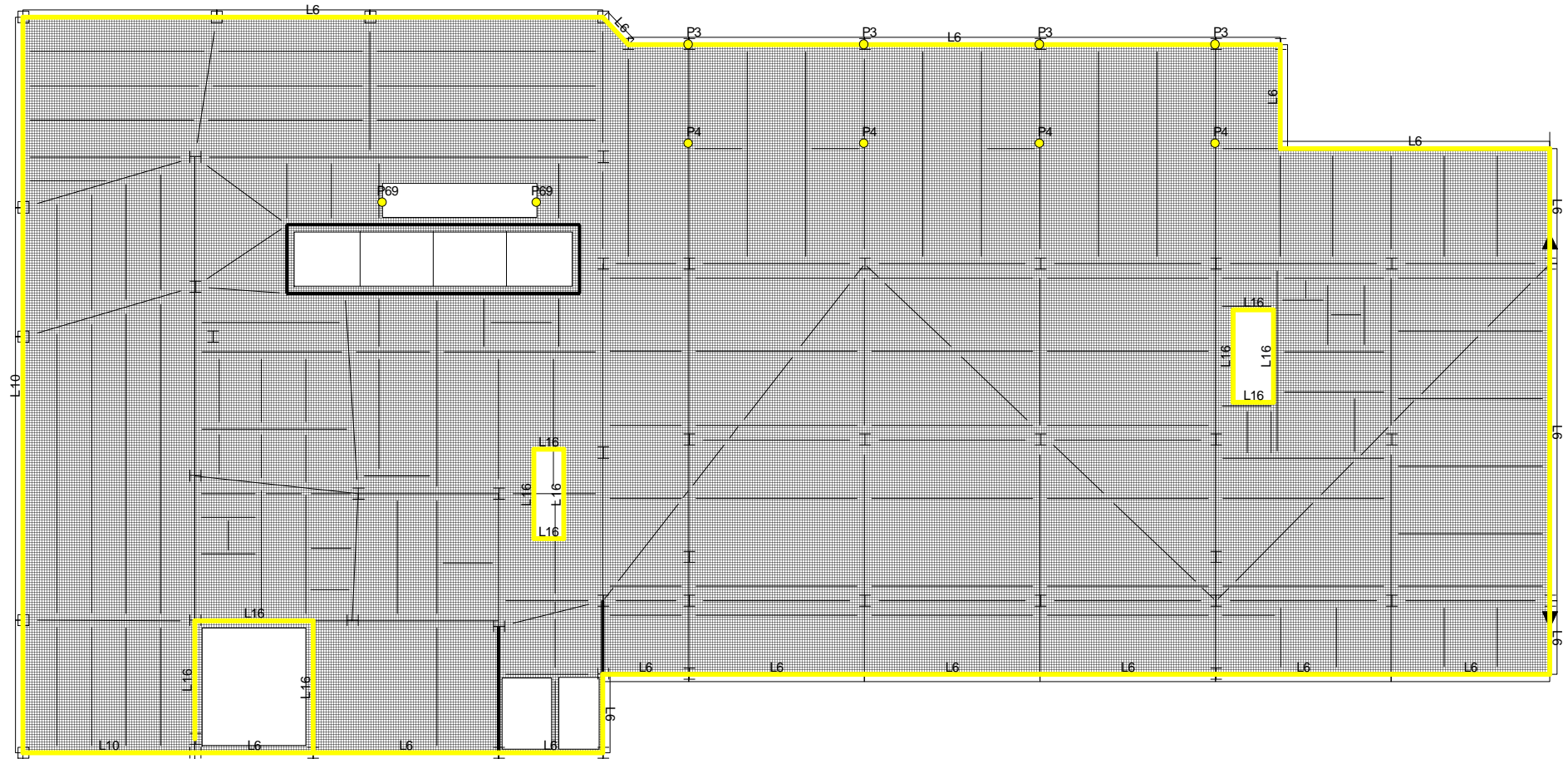


ES615661699 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 9th FL





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC

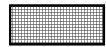


DEPT OF BLDGS121191236 Job Number



ES406088059 Scan Code

**Surface Loads**



| Label        | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|--------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:40 LL:100 | 40.0      | 0.0        | 100.0 Unreducible        | 0.0        | 0.0        | 40.0           |

**Line Loads**

|     | Label           | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-----|-----------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L6  | Facade 0.32     | 0.320      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.320           |
| L10 | Sign Facade .45 | 0.450      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.450           |
| L16 | Stair 1.0       | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |

**Point Loads**

|     | Label              | DL<br>kips | CDL<br>kips | LL Reduction<br>kips Type | PLL<br>kips | CLL<br>kips | Mass DL<br>kips |
|-----|--------------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| P3  | 8th Hanging Edge   | 28.000     | 0.000       | 19.000 Unreducible        | 0.000       | 0.000       | 28.000          |
| P4  | 8th Hanging Middle | 51.000     | 0.000       | 36.000 Unreducible        | 0.000       | 0.000       | 51.000          |
| P69 | Escalator          | 10.000     | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

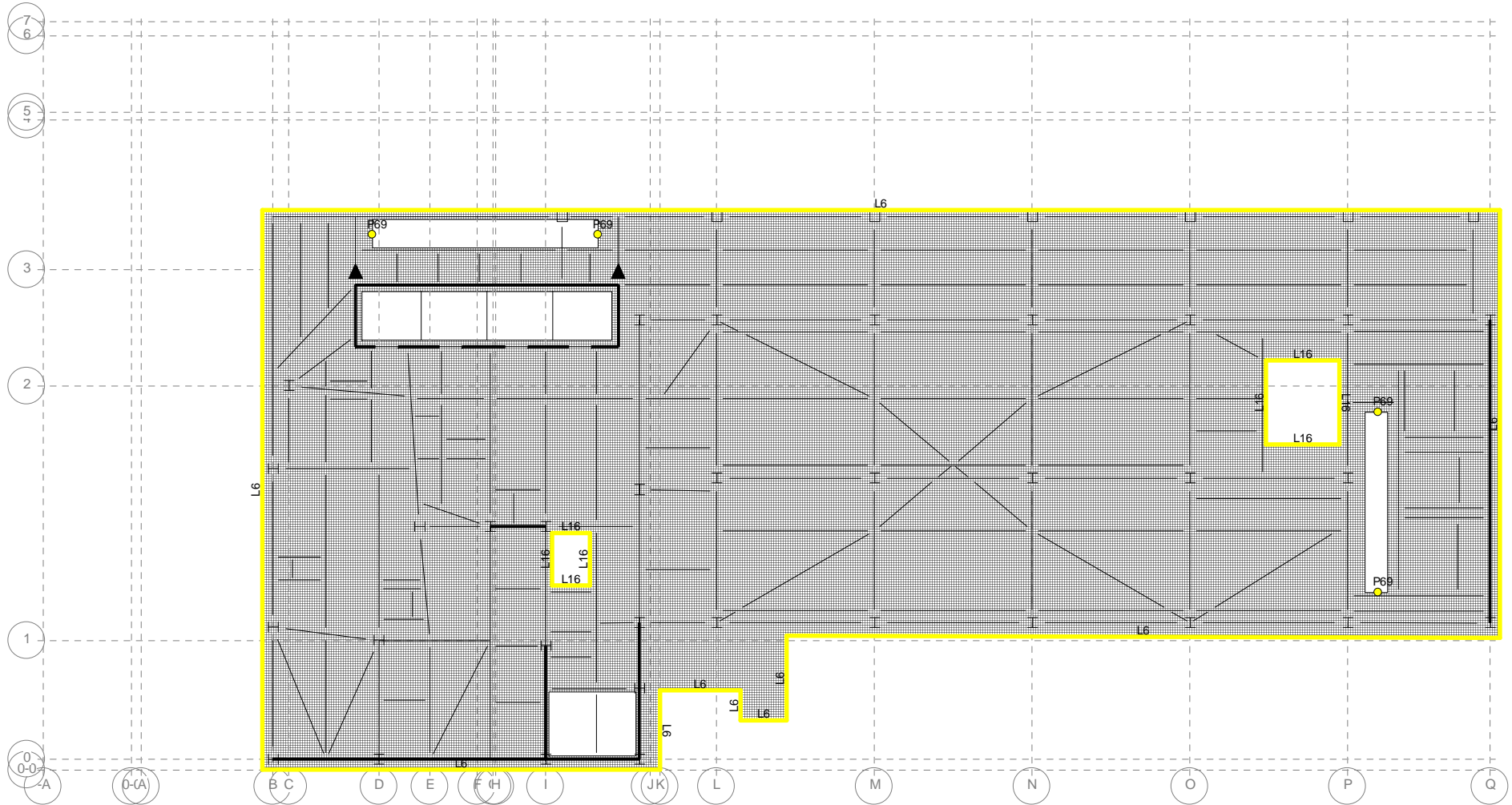


ES244862233 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 10th FL





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC

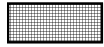


DEPT OF BLDGS121191236 Job Number



ES532625363 Scan Code

**Surface Loads**



| Label        | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|--------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:40 LL:100 | 40.0      | 0.0        | 100.0 Unreducible        | 0.0        | 0.0        | 40.0           |

**Line Loads**

L6

| Label       | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| Facade 0.32 | 0.320      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.320           |
| L16         | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |

**Point Loads**

P69

| Label     | DL<br>kips | CDL<br>kips | LL Reduction<br>kips Type | PLL<br>kips | CLL<br>kips | Mass DL<br>kips |
|-----------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| Escalator | 10.000     | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

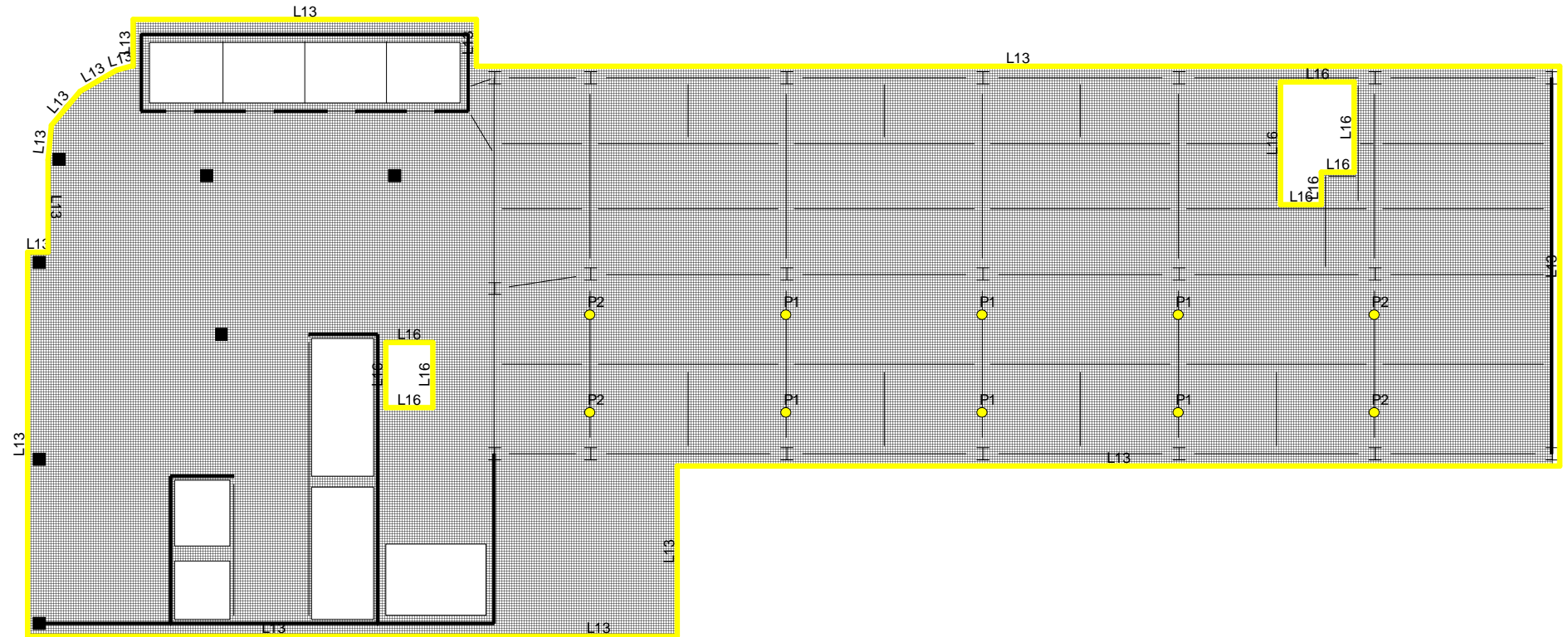


ES900661021 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 11th FL





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC




DEPT OF BLDGS121191236 Job Number



ES283332856 Scan Code

**Surface Loads**

|   | <b>Label</b> | <b>DL<br/>psf</b> | <b>CDL<br/>psf</b> | <b>LL Reduction<br/>psf Type</b> | <b>PLL<br/>psf</b> | <b>CLL<br/>psf</b> | <b>Mass DL<br/>psf</b> |
|---|--------------|-------------------|--------------------|----------------------------------|--------------------|--------------------|------------------------|
|  | DL:40 LL:100 | 40.0              | 0.0                | 100.0 Unreducible                | 0.0                | 0.0                | 40.0                   |

**Line Loads**

|     | <b>Label</b> | <b>DL<br/>k/ft</b> | <b>CDL<br/>k/ft</b> | <b>LL Reduction<br/>k/ft Type</b> | <b>PLL<br/>k/ft</b> | <b>CLL<br/>k/ft</b> | <b>Mass DL<br/>k/ft</b> |
|-----|--------------|--------------------|---------------------|-----------------------------------|---------------------|---------------------|-------------------------|
| L13 | Facade 0.35  | 0.350              | 0.000               | 0.000 Unreducible                 | 0.000               | 0.000               | 0.000                   |
| L16 | Stair 1.0    | 1.000              | 0.000               | 1.000 Unreducible                 | 0.000               | 0.000               | 0.000                   |

**Point Loads**

|    | <b>Label</b>        | <b>DL<br/>kips</b> | <b>CDL<br/>kips</b> | <b>LL Reduction<br/>kips Type</b> | <b>PLL<br/>kips</b> | <b>CLL<br/>kips</b> | <b>Mass DL<br/>kips</b> |
|----|---------------------|--------------------|---------------------|-----------------------------------|---------------------|---------------------|-------------------------|
| P1 | Hanging Slab Edge   | 20.000             | 0.000               | 0.000 Reducible                   | 0.000               | 0.000               | 20.000                  |
| P2 | Hanging Slab Corner | 10.000             | 0.000               | 0.000 Reducible                   | 0.000               | 0.000               | 10.000                  |





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

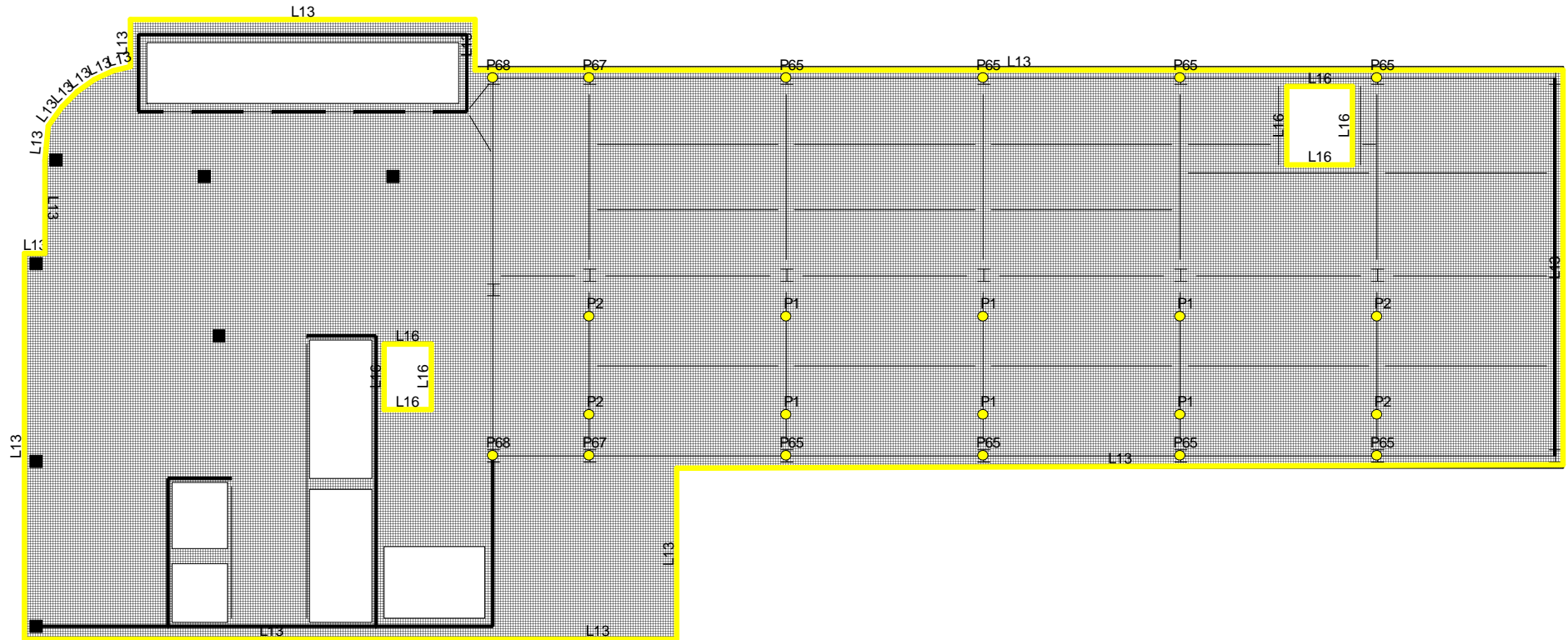


ES845590554 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 12th FL





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC

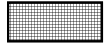


DEPT OF BLDGS121191236 Job Number



ES204812964 Scan Code

**Surface Loads**

|   | <b>Label</b> | <b>DL</b><br><b>psf</b> | <b>CDL</b><br><b>psf</b> | <b>LL Reduction</b><br><b>psf Type</b> | <b>PLL</b><br><b>psf</b> | <b>CLL</b><br><b>psf</b> | <b>Mass DL</b><br><b>psf</b> |
|---|--------------|-------------------------|--------------------------|--|--------------------------|--------------------------|------------------------------|
|  | DL:40 LL:100 | 40.0                    | 0.0                      | 100.0 Unreducible                      | 0.0                      | 0.0                      | 40.0                         |

**Line Loads**

|     | <b>Label</b> | <b>DL</b><br><b>k/ft</b> | <b>CDL</b><br><b>k/ft</b> | <b>LL Reduction</b><br><b>k/ft Type</b> | <b>PLL</b><br><b>k/ft</b> | <b>CLL</b><br><b>k/ft</b> | <b>Mass DL</b><br><b>k/ft</b> |
|-----|--------------|--------------------------|---------------------------|---|---------------------------|---------------------------|-------------------------------|
| L13 | Facade 0.35  | 0.350                    | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |
| L16 | Stair 1.0    | 1.000                    | 0.000                     | 1.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |

**Point Loads**

|     | <b>Label</b>        | <b>DL</b><br><b>kips</b> | <b>CDL</b><br><b>kips</b> | <b>LL Reduction</b><br><b>kips Type</b> | <b>PLL</b><br><b>kips</b> | <b>CLL</b><br><b>kips</b> | <b>Mass DL</b><br><b>kips</b> |
|-----|---------------------|--------------------------|---------------------------|---|---------------------------|---------------------------|-------------------------------|
| P1  | Hanging Slab Edge   | 20.000                   | 0.000                     | 0.000 Reducible                         | 0.000                     | 0.000                     | 20.000                        |
| P2  | Hanging Slab Corner | 10.000                   | 0.000                     | 0.000 Reducible                         | 0.000                     | 0.000                     | 10.000                        |
| P65 | 237k                | 237.000                  | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |
| P67 | 94k                 | 94.000                   | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |
| P68 | 31k                 | 31.000                   | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

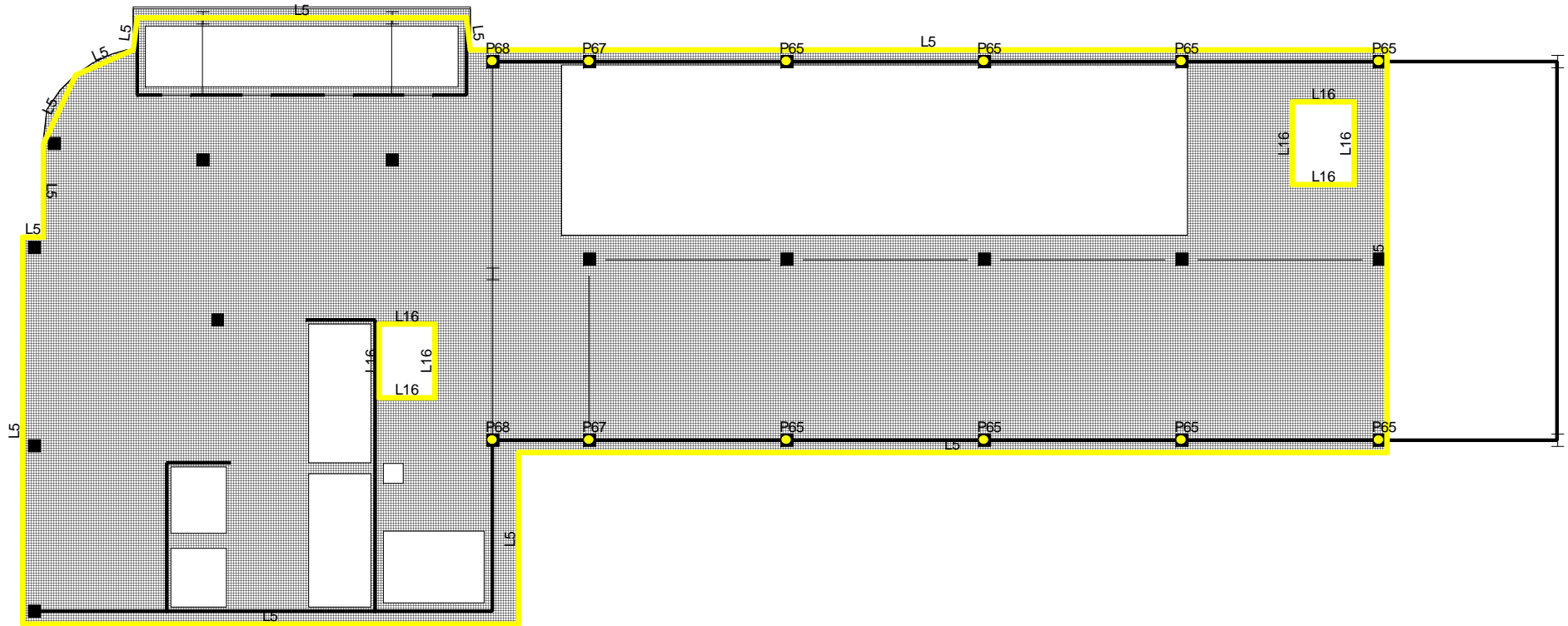


ES153799458 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 13th FL





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC

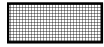


DEPT OF BLDGS121191236 Job Number



ES719308941 Scan Code

**Surface Loads**



| Label        | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|--------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:40 LL:100 | 40.0      | 0.0        | 100.0 Unreducible        | 0.0        | 0.0        | 40.0           |

**Line Loads**

L5

| Label      | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| Facade 0.2 | 0.200      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.200           |
| L16        | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |

**Point Loads**

P65

P67

P68

| Label | DL<br>kips | CDL<br>kips | LL Reduction<br>kips Type | PLL<br>kips | CLL<br>kips | Mass DL<br>kips |
|-------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| 237k  | 237.000    | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.000           |
| 94k   | 94.000     | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.000           |
| 31k   | 31.000     | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

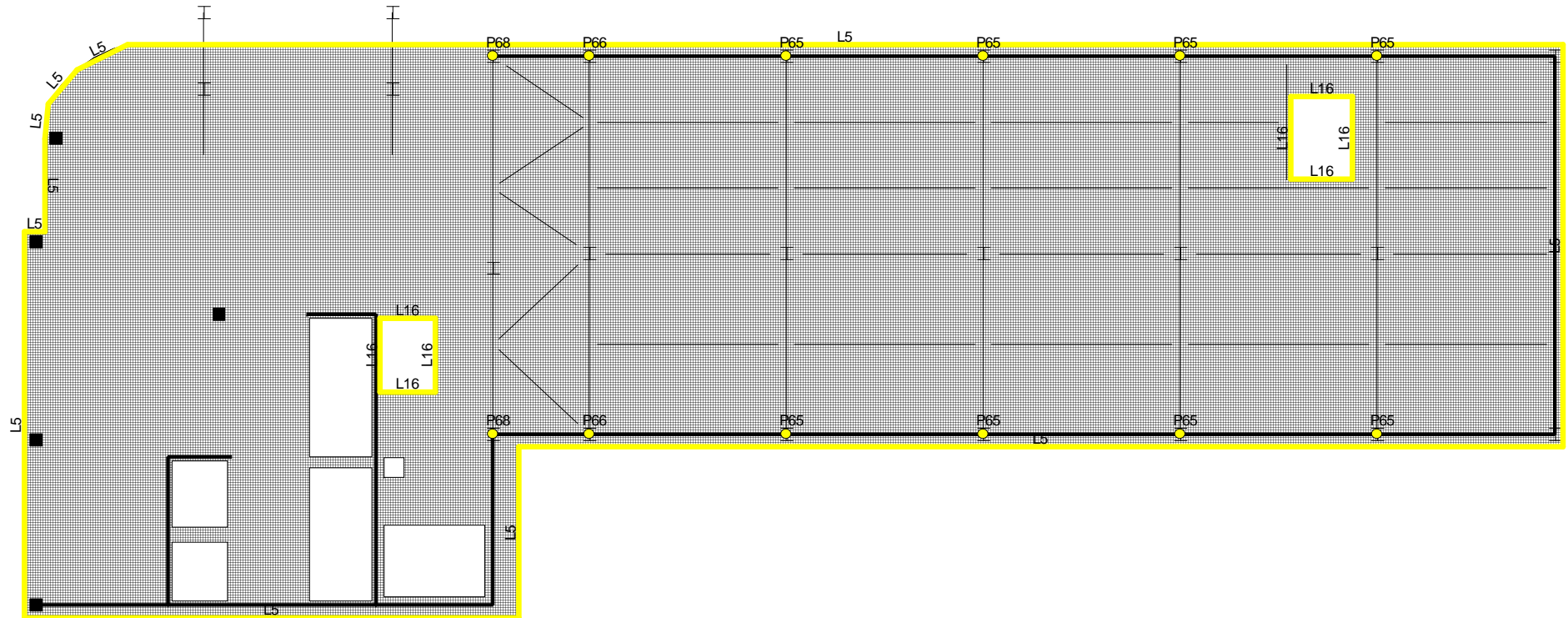


ES729594206 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 14th FL





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC




DEPT OF BLDGS121191236 Job Number



ES505217054 Scan Code

**Surface Loads**

|   | <b>Label</b> | <b>DL</b><br><b>psf</b> | <b>CDL</b><br><b>psf</b> | <b>LL Reduction</b><br><b>psf Type</b> | <b>PLL</b><br><b>psf</b> | <b>CLL</b><br><b>psf</b> | <b>Mass DL</b><br><b>psf</b> |
|---|--------------|-------------------------|--------------------------|--|--------------------------|--------------------------|------------------------------|
|  | DL:40 LL:100 | 40.0                    | 0.0                      | 100.0 Unreducible                      | 0.0                      | 0.0                      | 40.0                         |

**Line Loads**

|     | <b>Label</b> | <b>DL</b><br><b>k/ft</b> | <b>CDL</b><br><b>k/ft</b> | <b>LL Reduction</b><br><b>k/ft Type</b> | <b>PLL</b><br><b>k/ft</b> | <b>CLL</b><br><b>k/ft</b> | <b>Mass DL</b><br><b>k/ft</b> |
|-----|--------------|--------------------------|---------------------------|---|---------------------------|---------------------------|-------------------------------|
| L5  | Facade 0.2   | 0.200                    | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.200                         |
| L16 | Stair 1.0    | 1.000                    | 0.000                     | 1.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |

**Point Loads**

|     | <b>Label</b> | <b>DL</b><br><b>kips</b> | <b>CDL</b><br><b>kips</b> | <b>LL Reduction</b><br><b>kips Type</b> | <b>PLL</b><br><b>kips</b> | <b>CLL</b><br><b>kips</b> | <b>Mass DL</b><br><b>kips</b> |
|-----|--------------|--------------------------|---------------------------|---|---------------------------|---------------------------|-------------------------------|
| P65 | 237k         | 237.000                  | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |
| P66 | 205k         | 205.000                  | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |
| P68 | 31k          | 31.000                   | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

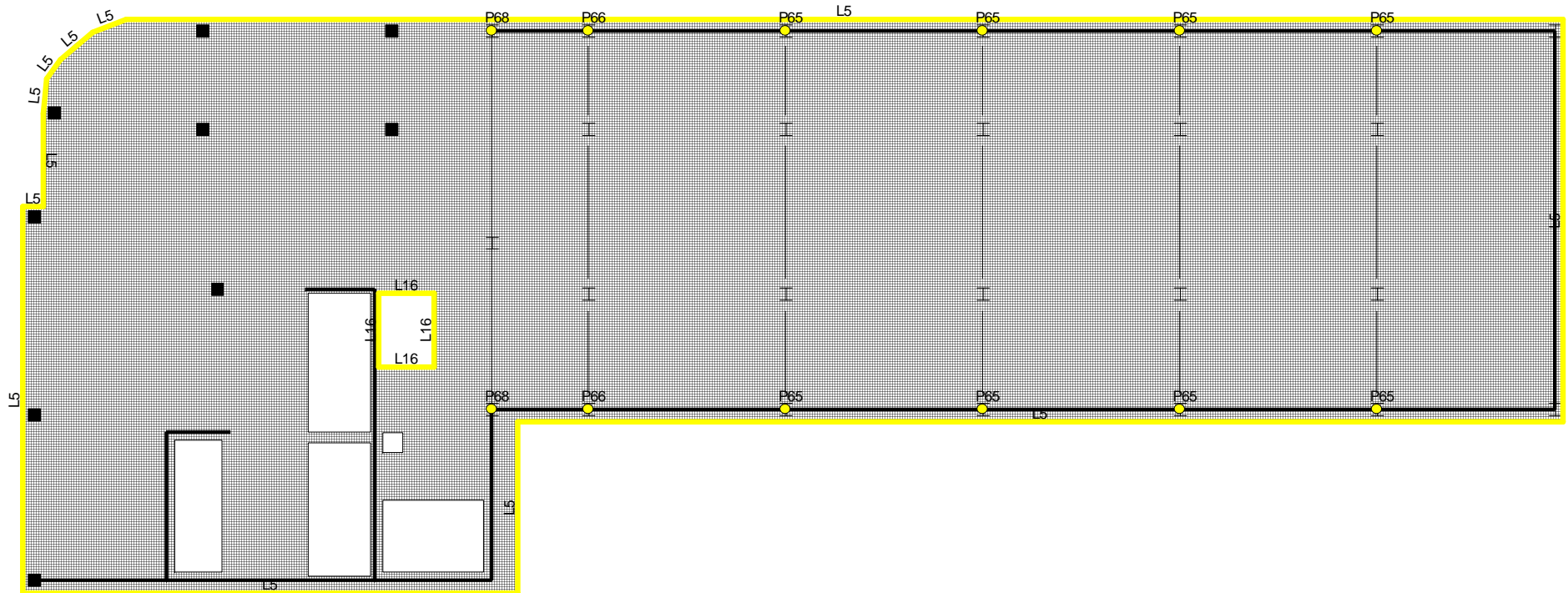


ES832277698 Scan Code

11/07/16 18:49:21

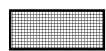
Steel Code: AISC360-05 LRFD

### Floor Type: 15th FL





**Surface Loads**

|   | <b>Label</b> | <b>DL</b><br><b>psf</b> | <b>CDL</b><br><b>psf</b> | <b>LL Reduction</b><br><b>psf Type</b> | <b>PLL</b><br><b>psf</b> | <b>CLL</b><br><b>psf</b> | <b>Mass DL</b><br><b>psf</b> |
|---|--------------|-------------------------|--------------------------|--|--------------------------|--------------------------|------------------------------|
|  | DL:40 LL:100 | 40.0                    | 0.0                      | 100.0 Unreducible                      | 0.0                      | 0.0                      | 40.0                         |

**Line Loads**

|     | <b>Label</b> | <b>DL</b><br><b>k/ft</b> | <b>CDL</b><br><b>k/ft</b> | <b>LL Reduction</b><br><b>k/ft Type</b> | <b>PLL</b><br><b>k/ft</b> | <b>CLL</b><br><b>k/ft</b> | <b>Mass DL</b><br><b>k/ft</b> |
|-----|--------------|--------------------------|---------------------------|---|---------------------------|---------------------------|-------------------------------|
| L5  | Facade 0.2   | 0.200                    | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.200                         |
| L16 | Stair 1.0    | 1.000                    | 0.000                     | 1.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |

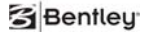
**Point Loads**

|     | <b>Label</b> | <b>DL</b><br><b>kips</b> | <b>CDL</b><br><b>kips</b> | <b>LL Reduction</b><br><b>kips Type</b> | <b>PLL</b><br><b>kips</b> | <b>CLL</b><br><b>kips</b> | <b>Mass DL</b><br><b>kips</b> |
|-----|--------------|--------------------------|---------------------------|---|---------------------------|---------------------------|-------------------------------|
| P65 | 237k         | 237.000                  | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |
| P66 | 205k         | 205.000                  | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |
| P68 | 31k          | 31.000                   | 0.000                     | 0.000 Unreducible                       | 0.000                     | 0.000                     | 0.000                         |





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

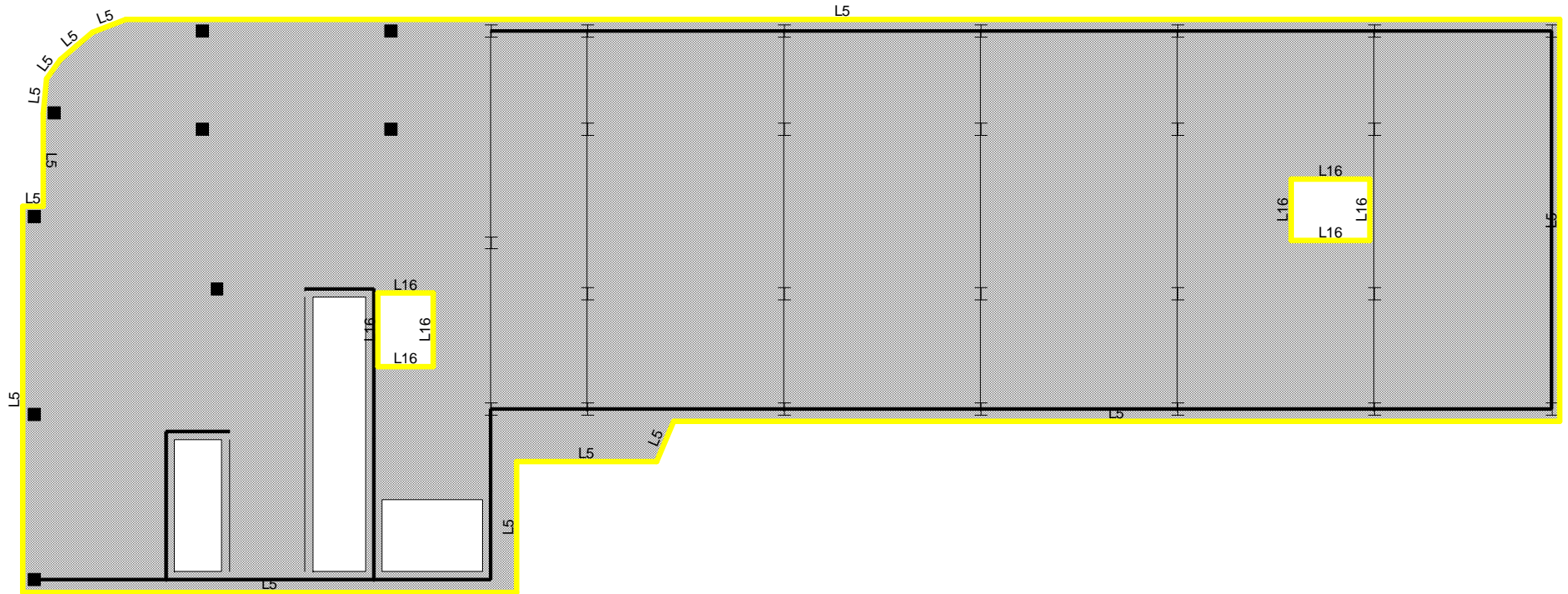


ES530493738 Scan Code

11/07/16 18:49:21

Steel Code: AISC360-05 LRFD

**Floor Type: 16th FL**





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES280730232 Scan Code

**Surface Loads**



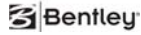
| Label       | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|-------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:20 LL:40 | 20.0      | 0.0        | 40.0 Reducible           | 0.0        | 0.0        | 20.0           |

**Line Loads**

|     | Label      | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-----|------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L5  | Facade 0.2 | 0.200      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.200           |
| L16 | Stair 1.0  | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

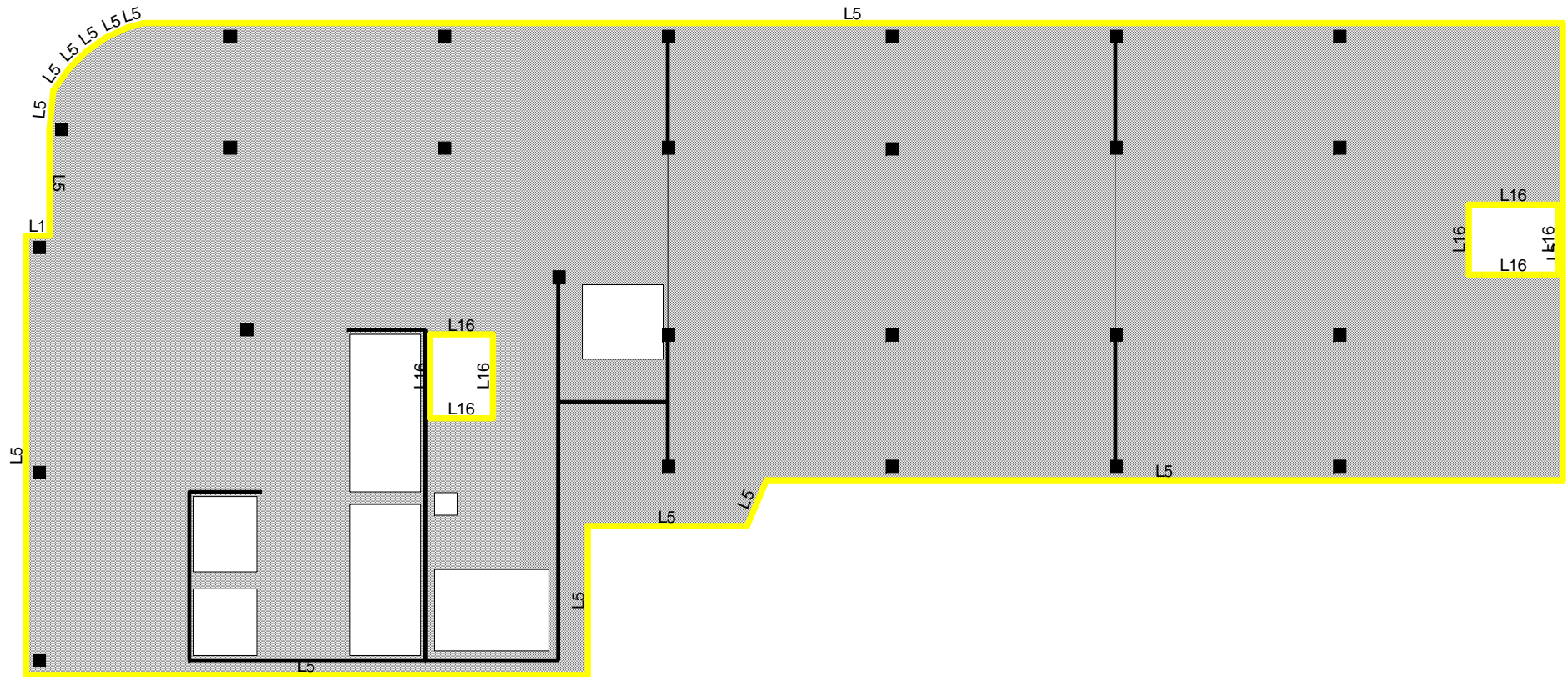


ES739300094 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 17th





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES356168955 Scan Code

**Surface Loads**



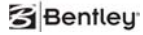
| Label       | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|-------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:20 LL:40 | 20.0      | 0.0        | 40.0 Reducible           | 0.0        | 0.0        | 20.0           |

**Line Loads**

|     | Label      | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-----|------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L1  | Facade 0.5 | 0.500      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.500           |
| L5  | Facade 0.2 | 0.200      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.200           |
| L16 | Stair 1.0  | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

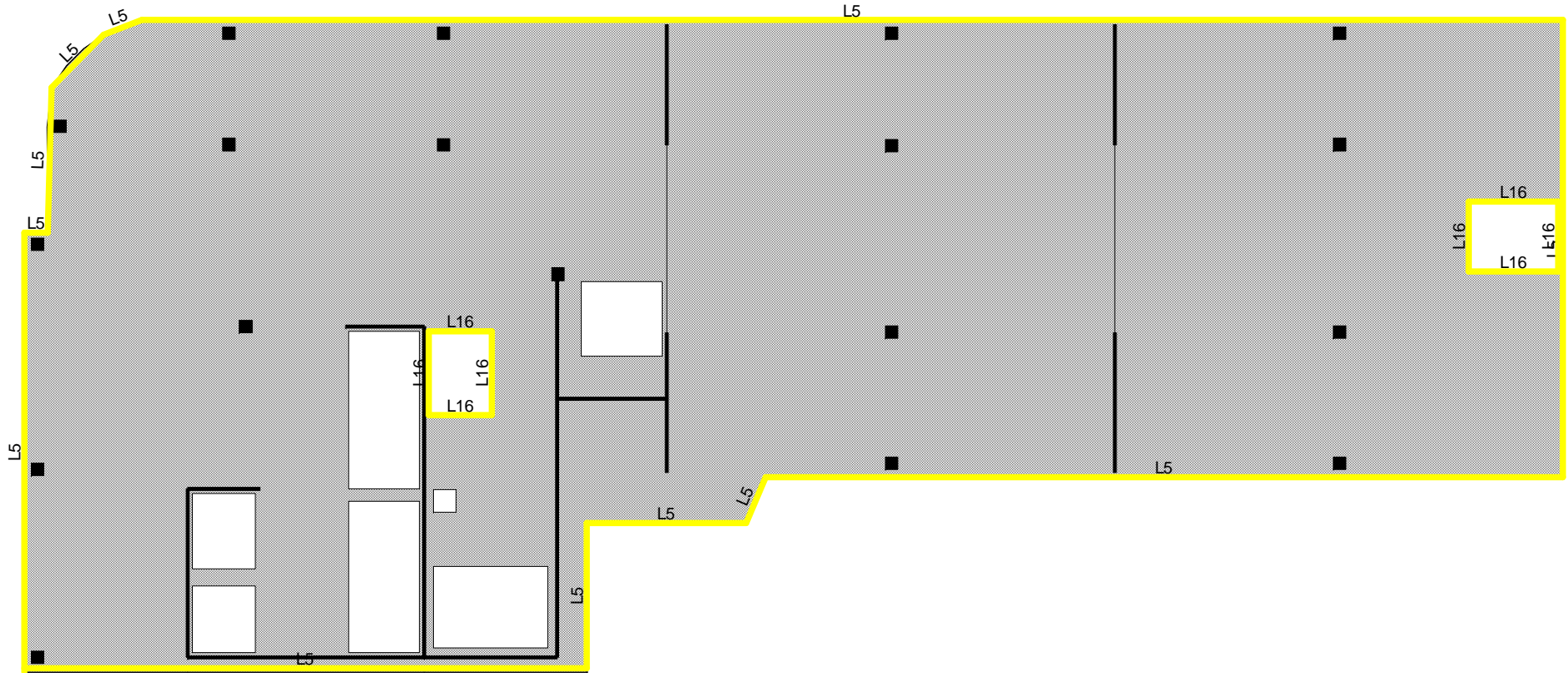


ES841068798 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

**Floor Type: 18th-27th**





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES070015323 Scan Code

**Surface Loads**



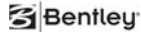
| Label       | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|-------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:20 LL:40 | 20.0      | 0.0        | 40.0 Reducible           | 0.0        | 0.0        | 20.0           |

**Line Loads**

|     | Label      | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-----|------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L5  | Facade 0.2 | 0.200      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.200           |
| L16 | Stair 1.0  | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

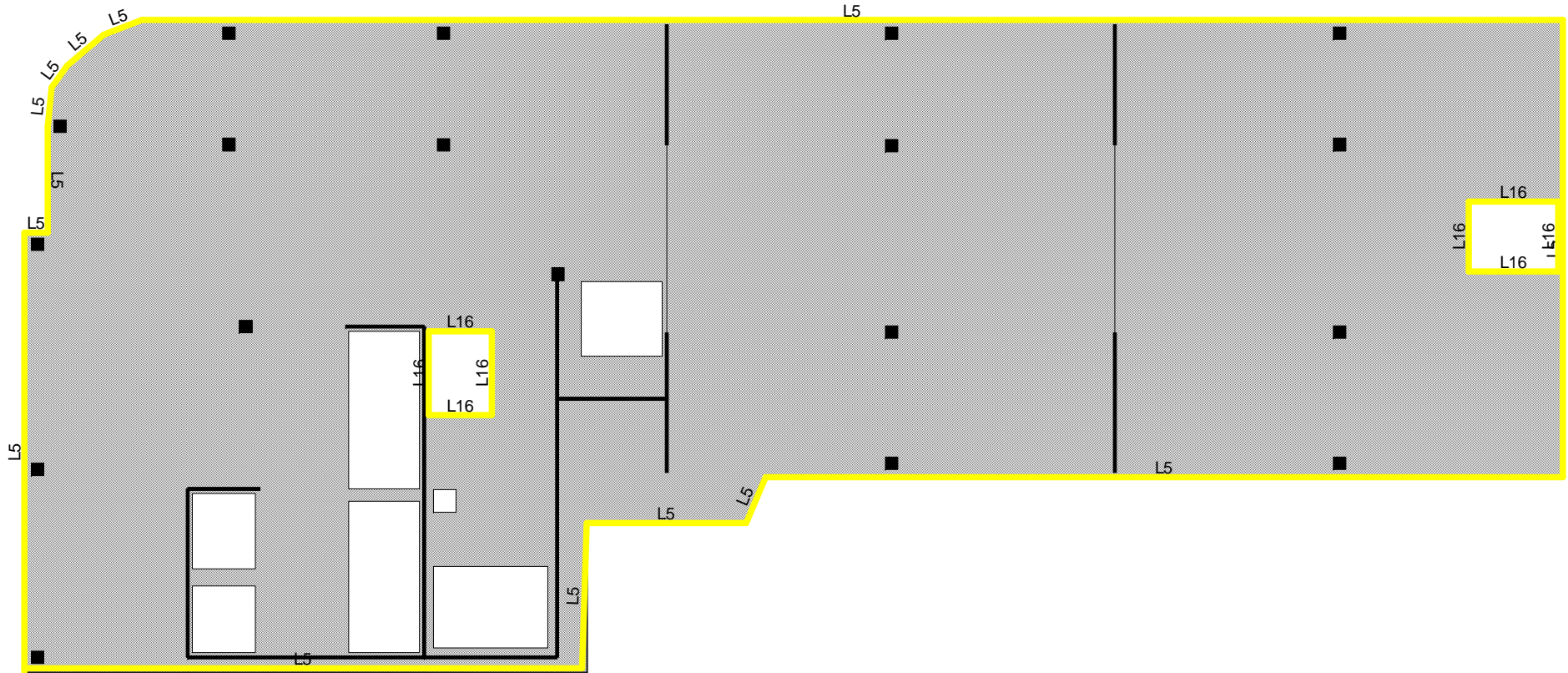


ES172674251 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

**Floor Type: 28th-37th**





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES011065826 Scan Code

**Surface Loads**



| Label       | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|-------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:20 LL:40 | 20.0      | 0.0        | 40.0 Reducible           | 0.0        | 0.0        | 20.0           |

**Line Loads**

|     | Label      | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-----|------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L5  | Facade 0.2 | 0.200      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.200           |
| L16 | Stair 1.0  | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

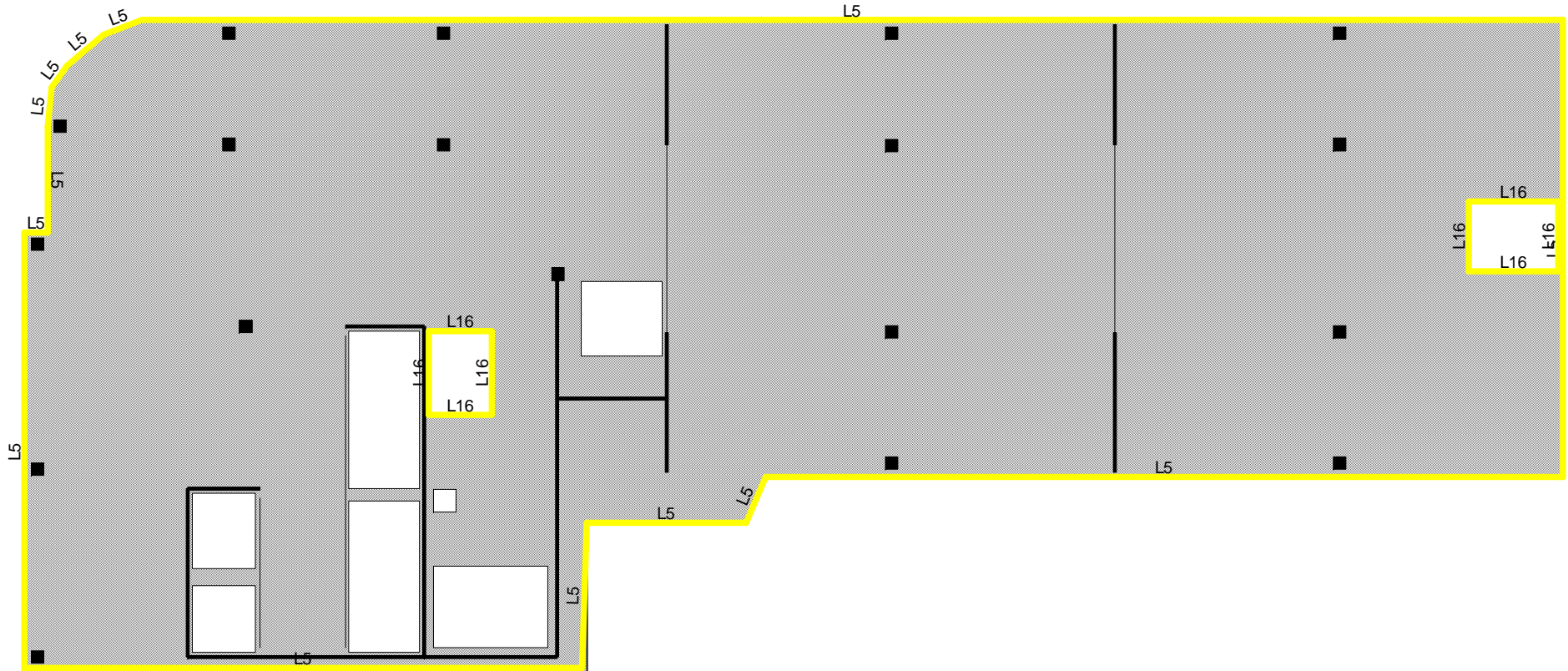


ES755767655 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

**Floor Type: 38th-42th**





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES632869402 Scan Code

**Surface Loads**



| Label       | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|-------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:20 LL:40 | 20.0      | 0.0        | 40.0 Reducible           | 0.0        | 0.0        | 20.0           |

**Line Loads**

|     | Label      | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-----|------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L5  | Facade 0.2 | 0.200      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.200           |
| L16 | Stair 1.0  | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

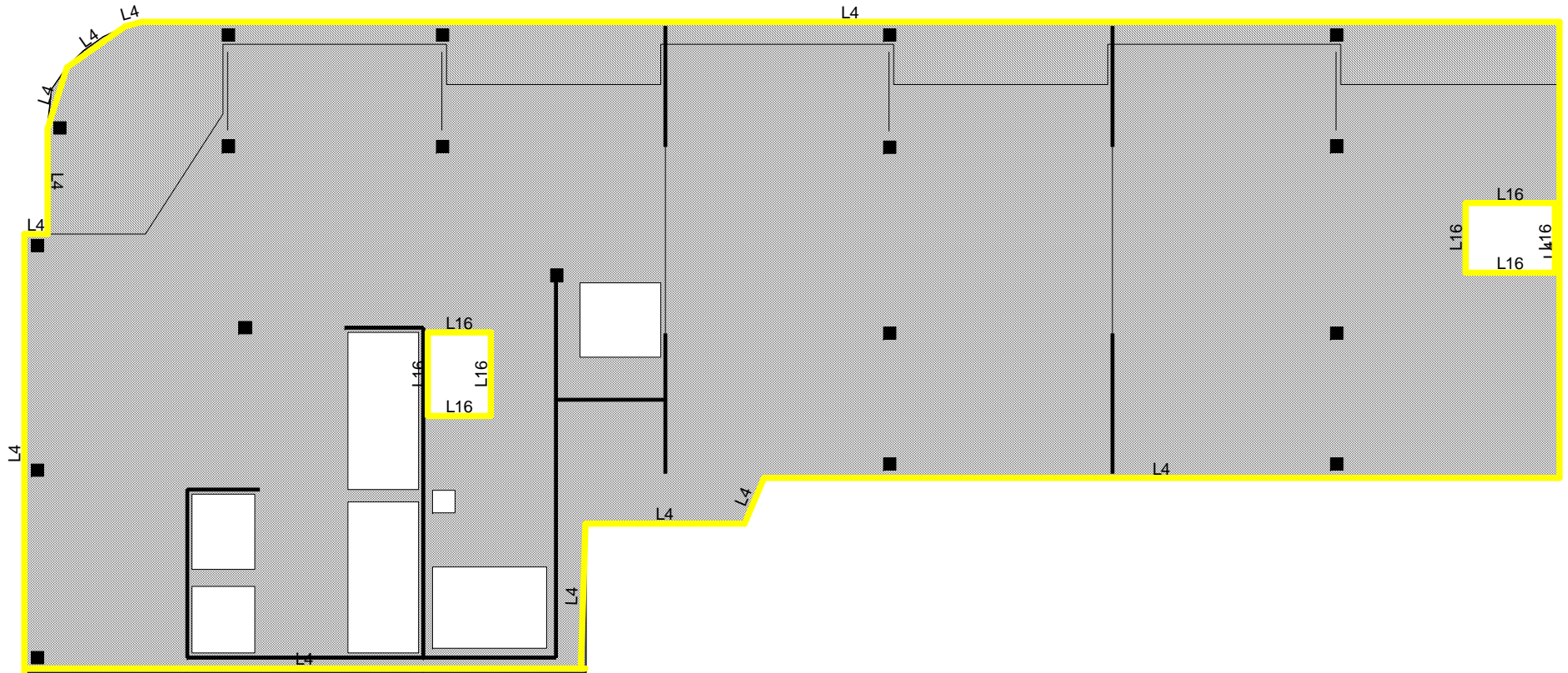


ES495296923 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

**Floor Type: 43rd FL**





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES971312107 Scan Code

**Surface Loads**



| Label        | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|--------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:20 LL:40  | 20.0      | 0.0        | 40.0 Reducible           | 0.0        | 0.0        | 20.0           |
| DL:20 LL:100 | 20.0      | 0.0        | 100.0 Unreducible        | 0.0        | 0.0        | 0.0            |

**Line Loads**

L4  
L16

| Label       | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| Facade 0.25 | 0.250      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.250           |
| Stair 1.0   | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

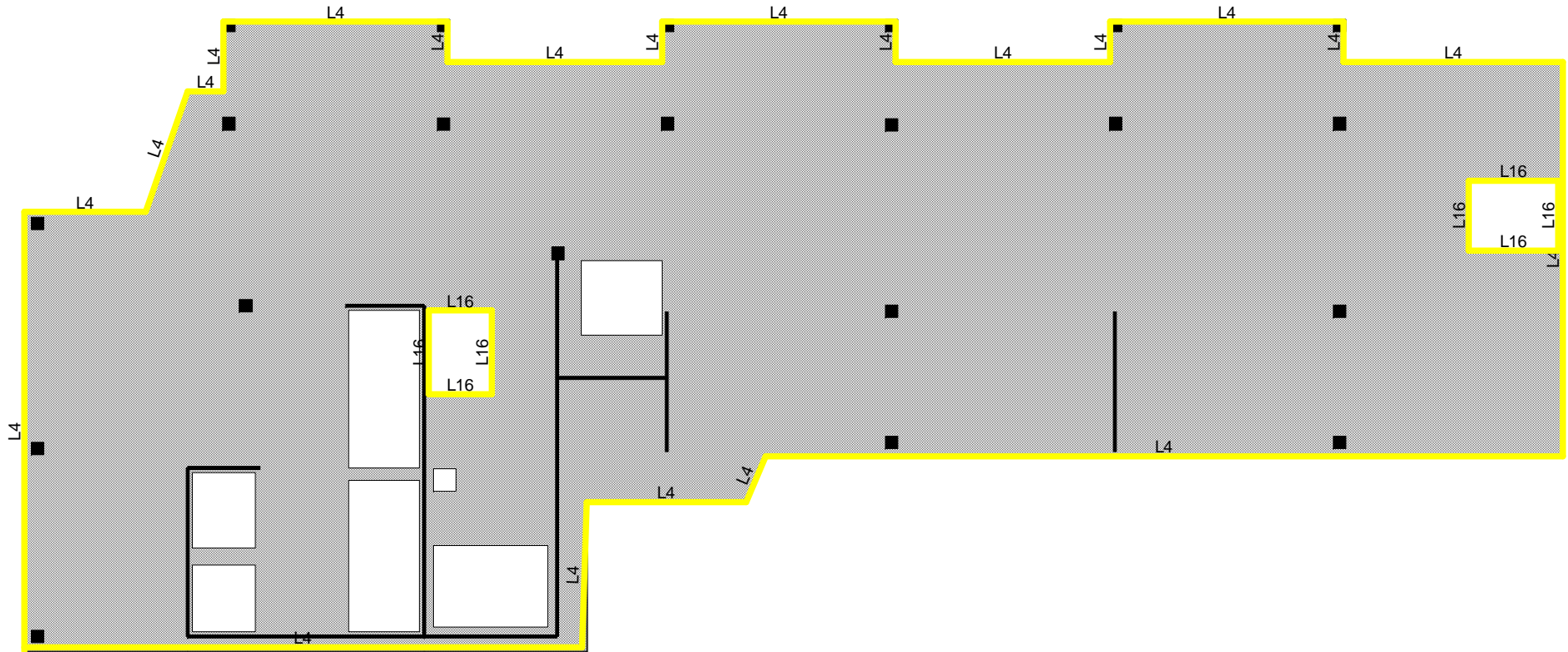


ES677928261 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

**Floor Type: 44th FL**





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES940543138 Scan Code

**Surface Loads**



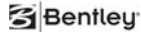
| Label       | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|-------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:20 LL:40 | 20.0      | 0.0        | 40.0 Reducible           | 0.0        | 0.0        | 20.0           |

**Line Loads**

|     | Label       | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-----|-------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L4  | Facade 0.25 | 0.250      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.250           |
| L16 | Stair 1.0   | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

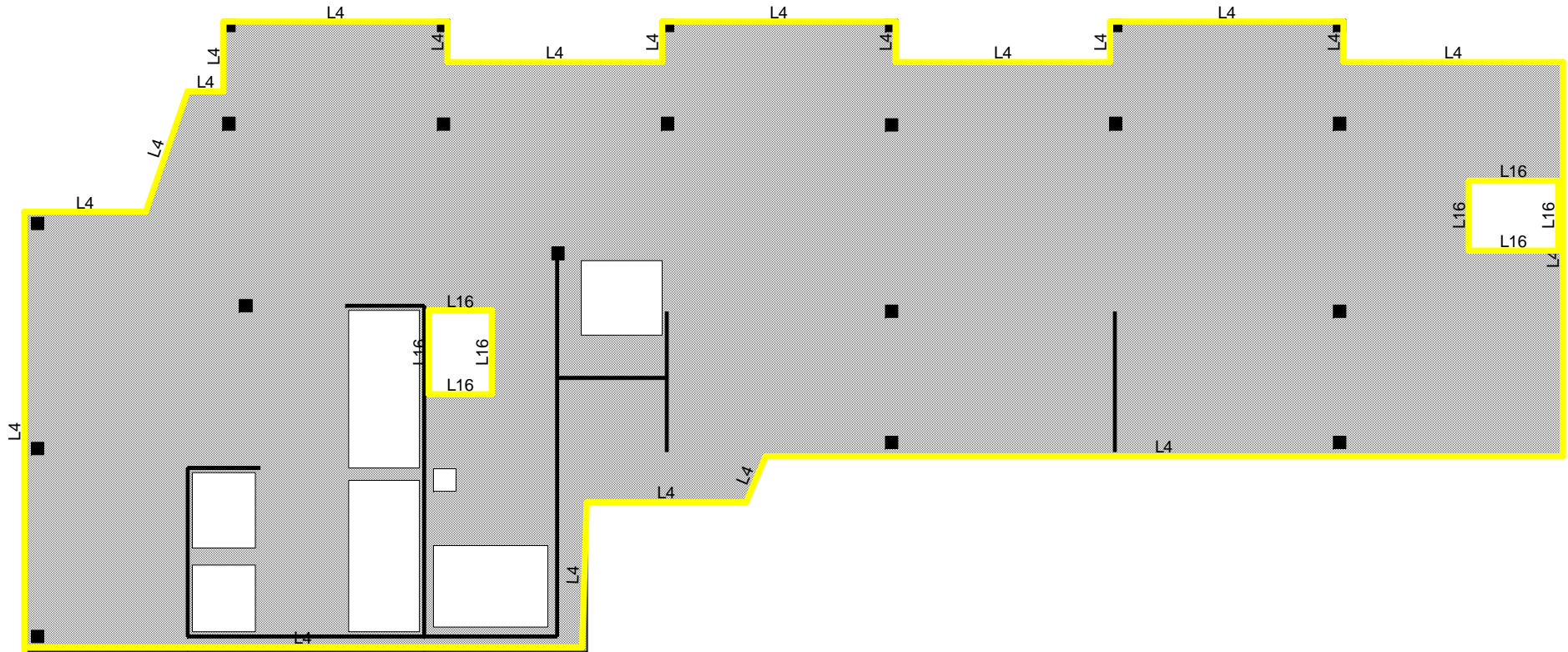


ES032897803 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

**Floor Type: 45th FL**





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES926749453 Scan Code

**Surface Loads**



| Label       | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|-------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL:20 LL:40 | 20.0      | 0.0        | 40.0 Reducible           | 0.0        | 0.0        | 20.0           |

**Line Loads**

|     | Label       | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-----|-------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L4  | Facade 0.25 | 0.250      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.250           |
| L16 | Stair 1.0   | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

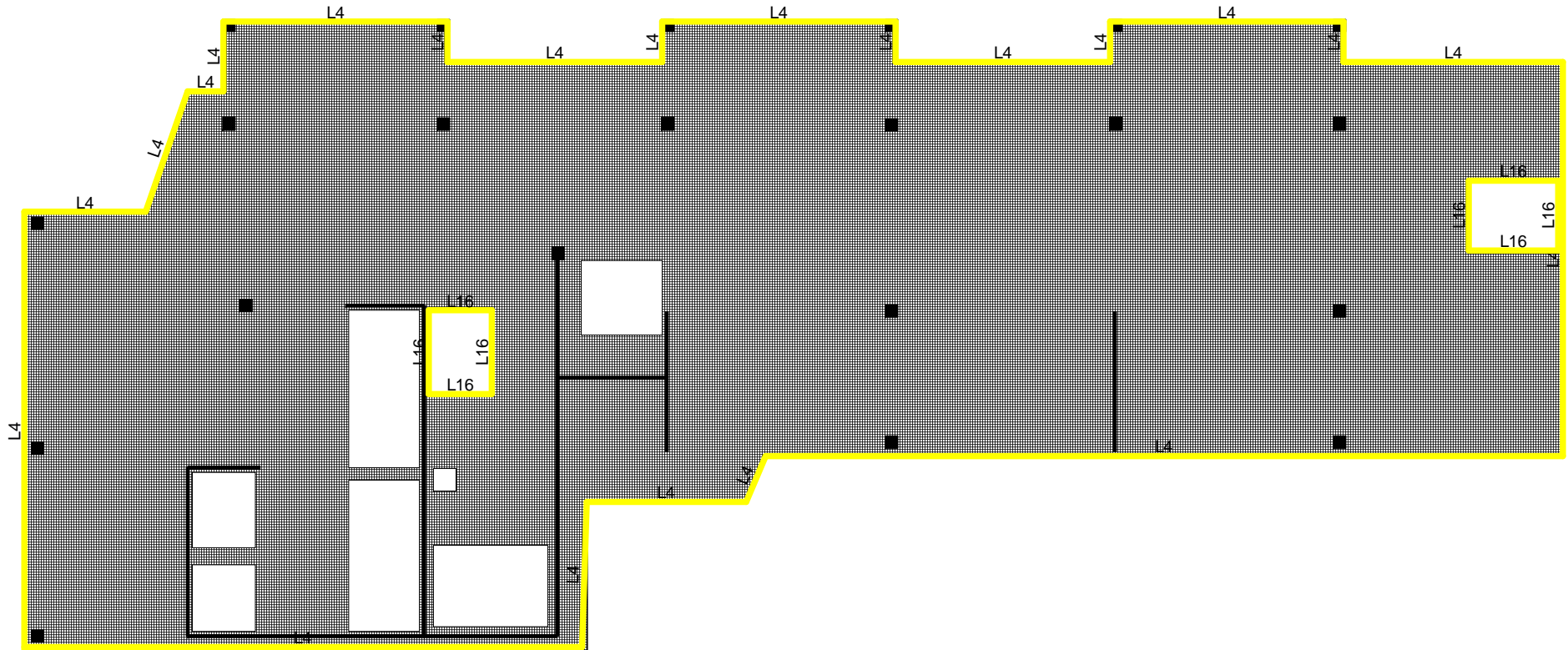


ES002183264 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

**Floor Type: 46th FL MEP**





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC

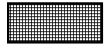


DEPT OF BLDGS121191236 Job Number



ES539171612 Scan Code

**Surface Loads**



| Label         | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|---------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL: 20 LL:200 | 20.0      | 0.0        | 200.0 Unreducible        | 0.0        | 0.0        | 0.0            |

**Line Loads**

|     | Label       | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-----|-------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L4  | Facade 0.25 | 0.250      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.250           |
| L16 | Stair 1.0   | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |



RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number

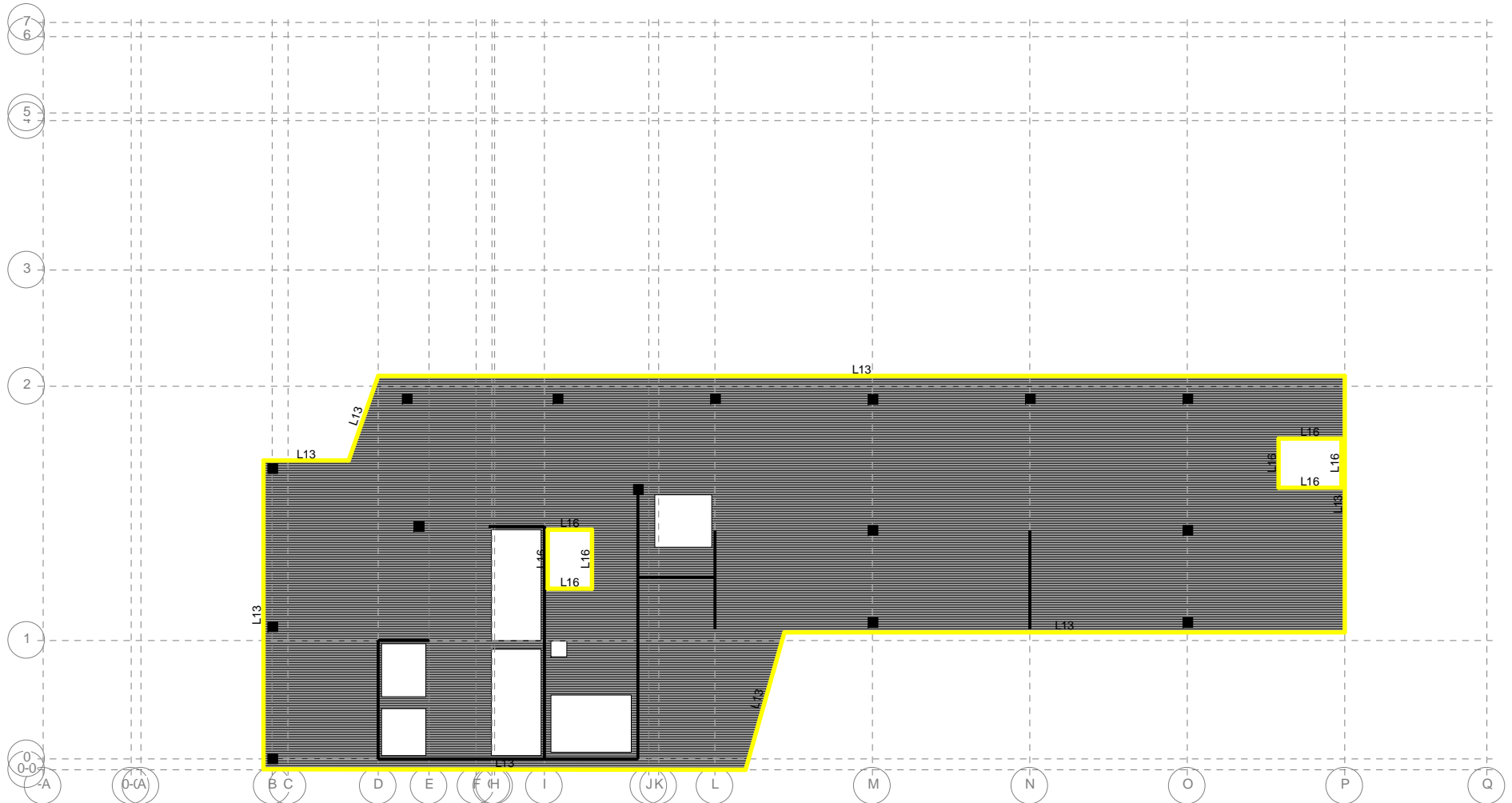


ES395870977 Scan Code

11/07/16 16:48:08

Steel Code: AISC360-05 LRFD

### Floor Type: 47th FL Main Roof





RAM Structural System



RAM Steel 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Building Code: IBC



DEPT OF BLDGS121191236 Job Number



ES343894351 Scan Code

**Surface Loads**



| Label         | DL<br>psf | CDL<br>psf | LL Reduction<br>psf Type | PLL<br>psf | CLL<br>psf | Mass DL<br>psf |
|---------------|-----------|------------|--------------------------|------------|------------|----------------|
| DL: 20 LL:100 | 20.0      | 0.0        | 100.0 Unreducible        | 0.0        | 0.0        | 0.0            |

**Line Loads**

|     | Label       | DL<br>k/ft | CDL<br>k/ft | LL Reduction<br>k/ft Type | PLL<br>k/ft | CLL<br>k/ft | Mass DL<br>k/ft |
|-----|-------------|------------|-------------|---------------------------|-------------|-------------|-----------------|
| L13 | Facade 0.35 | 0.350      | 0.000       | 0.000 Unreducible         | 0.000       | 0.000       | 0.000           |
| L16 | Stair 1.0   | 1.000      | 0.000       | 1.000 Unreducible         | 0.000       | 0.000       | 0.000           |

**Severud Associates**

1568 Broadway

Structural Calculations

# **CHAPTER 5**

## **RAM Loads and Applied Forces**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

11/01/16 16:55:07

**LOAD CASE: W**

Wind ASCE 7-05 / IBC2006/2009  
 Exposure: B  
 Basic Wind Speed (mph): 98.0 Importance Factor: 1.000  
 Apply Directionality Factor, Kd = 0.85  
 Use Topography Factor, Kzt: 1.00  
 Use Calculated Frequency for X-Dir.  
 Use Calculated Frequency for Y-Dir.  
 Gust Factor for Flexible Structures, G: Use Calculated G for X-Dir.  
 Gust Factor for Flexible Structures, G: Use Calculated G for Y-Dir.  
 Damping Ratio for Flexible Structures= 0.02  
 Mean Roof Height (ft): Top Story Height + Parapet = 512.45  
 Ground Level: Base

**WIND PRESSURES:**

X-Direction: Natural Frequency = 0.658 Structure is Flexible  
 Y-Direction: Natural Frequency = 0.269 Structure is Flexible  
 CpWindward = 0.80 qLeeward (qh) = 32.94 psf  
 GCpn (Parapet): Windward = 1.50 Leeward = -1.00

| Height<br>ft | Kz    | Kzt   | qz<br>psf | Gust Factor G |       | CpLeeward |        | Pressure (psf) |        |
|--------------|-------|-------|-----------|---------------|-------|-----------|--------|----------------|--------|
|              |       |       |           | X             | Y     | X         | Y      | X              | Y      |
| 512.45       | 1.576 | 1.000 | 32.940    | 0.846         | 0.902 | -0.263    | -0.500 | 29.622         | 38.633 |
| 502.33       | 1.567 | 1.000 | 32.753    | 0.844         | 0.901 | -0.278    | -0.500 | 29.841         | 38.431 |
| 492.91       | 1.559 | 1.000 | 32.576    | 0.844         | 0.901 | -0.278    | -0.500 | 29.722         | 38.304 |
| 481.91       | 1.549 | 1.000 | 32.367    | 0.844         | 0.901 | -0.278    | -0.500 | 29.580         | 38.153 |
| 469.41       | 1.537 | 1.000 | 32.125    | 0.843         | 0.900 | -0.282    | -0.500 | 29.507         | 37.960 |
| 460.71       | 1.529 | 1.000 | 31.954    | 0.843         | 0.900 | -0.282    | -0.500 | 29.392         | 37.837 |
| 452.01       | 1.521 | 1.000 | 31.780    | 0.843         | 0.900 | -0.282    | -0.500 | 29.275         | 37.712 |
| 441.97       | 1.511 | 1.000 | 31.577    | 0.843         | 0.900 | -0.282    | -0.500 | 29.138         | 37.565 |
| 433.27       | 1.502 | 1.000 | 31.398    | 0.843         | 0.900 | -0.282    | -0.500 | 29.017         | 37.436 |
| 424.57       | 1.494 | 1.000 | 31.216    | 0.843         | 0.900 | -0.282    | -0.500 | 28.895         | 37.306 |
| 415.87       | 1.485 | 1.000 | 31.032    | 0.843         | 0.900 | -0.282    | -0.500 | 28.771         | 37.173 |
| 407.17       | 1.476 | 1.000 | 30.845    | 0.843         | 0.900 | -0.282    | -0.500 | 28.645         | 37.038 |
| 398.47       | 1.467 | 1.000 | 30.656    | 0.843         | 0.900 | -0.282    | -0.500 | 28.517         | 36.902 |
| 389.77       | 1.458 | 1.000 | 30.463    | 0.843         | 0.900 | -0.282    | -0.500 | 28.387         | 36.763 |
| 381.07       | 1.448 | 1.000 | 30.267    | 0.843         | 0.900 | -0.282    | -0.500 | 28.254         | 36.622 |
| 372.37       | 1.439 | 1.000 | 30.068    | 0.843         | 0.900 | -0.282    | -0.500 | 28.120         | 36.479 |
| 363.67       | 1.429 | 1.000 | 29.866    | 0.843         | 0.900 | -0.282    | -0.500 | 27.984         | 36.333 |
| 354.97       | 1.419 | 1.000 | 29.660    | 0.843         | 0.900 | -0.282    | -0.500 | 27.845         | 36.185 |
| 346.27       | 1.409 | 1.000 | 29.450    | 0.843         | 0.900 | -0.282    | -0.500 | 27.703         | 36.034 |
| 337.57       | 1.399 | 1.000 | 29.237    | 0.843         | 0.900 | -0.282    | -0.500 | 27.560         | 35.880 |
| 328.87       | 1.389 | 1.000 | 29.020    | 0.843         | 0.900 | -0.282    | -0.500 | 27.413         | 35.724 |
| 320.17       | 1.378 | 1.000 | 28.798    | 0.843         | 0.900 | -0.282    | -0.500 | 27.264         | 35.564 |
| 311.47       | 1.367 | 1.000 | 28.572    | 0.843         | 0.900 | -0.282    | -0.500 | 27.111         | 35.402 |
| 302.77       | 1.356 | 1.000 | 28.342    | 0.843         | 0.900 | -0.282    | -0.500 | 26.956         | 35.236 |
| 294.07       | 1.345 | 1.000 | 28.107    | 0.843         | 0.900 | -0.282    | -0.500 | 26.797         | 35.066 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |       |       |        |       |       |        |        |        |        |
|--------|-------|-------|--------|-------|-------|--------|--------|--------|--------|
| 285.37 | 1.333 | 1.000 | 27.867 | 0.843 | 0.900 | -0.282 | -0.500 | 26.635 | 34.893 |
| 276.67 | 1.322 | 1.000 | 27.621 | 0.843 | 0.900 | -0.282 | -0.500 | 26.470 | 34.717 |
| 267.97 | 1.310 | 1.000 | 27.370 | 0.843 | 0.900 | -0.282 | -0.500 | 26.301 | 34.536 |
| 259.27 | 1.297 | 1.000 | 27.113 | 0.843 | 0.900 | -0.282 | -0.500 | 26.127 | 34.351 |
| 250.57 | 1.285 | 1.000 | 26.850 | 0.843 | 0.900 | -0.282 | -0.500 | 25.950 | 34.161 |
| 241.87 | 1.272 | 1.000 | 26.581 | 0.843 | 0.900 | -0.282 | -0.500 | 25.768 | 33.967 |
| 233.17 | 1.259 | 1.000 | 26.304 | 0.843 | 0.892 | -0.266 | -0.500 | 25.128 | 33.471 |
| 224.47 | 1.245 | 1.000 | 26.020 | 0.843 | 0.892 | -0.266 | -0.500 | 24.936 | 33.268 |
| 215.77 | 1.231 | 1.000 | 25.727 | 0.843 | 0.892 | -0.266 | -0.500 | 24.739 | 33.060 |
| 207.07 | 1.217 | 1.000 | 25.427 | 0.842 | 0.899 | -0.290 | -0.500 | 25.159 | 33.089 |
| 198.37 | 1.202 | 1.000 | 25.117 | 0.842 | 0.891 | -0.276 | -0.500 | 24.567 | 32.590 |
| 180.97 | 1.171 | 1.000 | 24.466 | 0.842 | 0.891 | -0.276 | -0.500 | 24.129 | 32.126 |
| 163.55 | 1.137 | 1.000 | 23.769 | 0.839 | 0.890 | -0.290 | -0.500 | 23.969 | 31.573 |
| 147.55 | 1.104 | 1.000 | 23.080 | 0.836 | 0.881 | -0.297 | -0.500 | 23.616 | 30.782 |
| 132.55 | 1.071 | 1.000 | 22.384 | 0.836 | 0.893 | -0.361 | -0.500 | 24.904 | 30.689 |
| 120.39 | 1.042 | 1.000 | 21.777 | 0.836 | 0.929 | -0.500 | -0.474 | 28.350 | 30.697 |
| 108.23 | 1.011 | 1.000 | 21.124 | 0.836 | 0.929 | -0.500 | -0.474 | 27.913 | 30.212 |
| 93.02  | 0.968 | 1.000 | 20.230 | 0.837 | 0.931 | -0.500 | -0.472 | 27.334 | 29.562 |
| 76.98  | 0.917 | 1.000 | 19.165 | 0.837 | 0.931 | -0.500 | -0.472 | 26.620 | 28.768 |
| 61.00  | 0.858 | 1.000 | 17.932 | 0.836 | 0.876 | -0.285 | -0.500 | 19.834 | 26.992 |
| 49.00  | 0.806 | 1.000 | 16.844 | 0.836 | 0.882 | -0.297 | -0.500 | 19.437 | 26.423 |
| 30.00  | 0.701 | 1.000 | 14.641 | 0.833 | 0.874 | -0.299 | -0.500 | 17.975 | 24.646 |
| 15.00  | 0.575 | 1.000 | 12.011 | 0.833 | 0.874 | -0.299 | -0.500 | 16.221 | 22.805 |
| 0.00   | 0.575 | 1.000 | 12.011 | 0.833 | 0.874 | -0.299 | -0.500 | 16.221 | 22.805 |

**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_1\_X

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 9.53       | 0.00       | 102.67  | 28.55   |
| F46MEP  | 1       | 502.33   | 18.55      | 0.00       | 102.67  | 32.07   |
| F45     | 1       | 492.91   | 20.53      | 0.00       | 102.67  | 33.92   |
| F44     | 1       | 481.91   | 23.53      | 0.00       | 102.67  | 33.92   |
| F43     | 1       | 469.41   | 21.46      | 0.00       | 102.67  | 34.40   |
| F42     | 1       | 460.71   | 17.90      | 0.00       | 102.67  | 35.08   |
| F41     | 1       | 452.01   | 19.20      | 0.00       | 102.67  | 35.08   |
| F40     | 1       | 441.97   | 19.12      | 0.00       | 102.67  | 35.08   |
| F39     | 1       | 433.27   | 17.67      | 0.00       | 102.67  | 35.08   |
| F38     | 1       | 424.57   | 17.60      | 0.00       | 102.67  | 35.08   |
| F37     | 1       | 415.87   | 17.52      | 0.00       | 102.67  | 35.08   |
| F36     | 1       | 407.17   | 17.44      | 0.00       | 102.67  | 35.08   |
| F35     | 1       | 398.47   | 17.37      | 0.00       | 102.67  | 35.08   |
| F34     | 1       | 389.77   | 17.29      | 0.00       | 102.67  | 35.08   |
| F33     | 1       | 381.07   | 17.21      | 0.00       | 102.67  | 35.08   |
| F32     | 1       | 372.37   | 17.12      | 0.00       | 102.67  | 35.08   |
| F31     | 1       | 363.67   | 17.04      | 0.00       | 102.67  | 35.08   |



|         |     |        |       |      |        |       |
|---------|-----|--------|-------|------|--------|-------|
| F30     | 1   | 354.97 | 16.96 | 0.00 | 102.67 | 35.08 |
| F29     | 1   | 346.27 | 16.87 | 0.00 | 102.67 | 35.08 |
| F28     | 1   | 337.57 | 16.78 | 0.00 | 102.67 | 35.08 |
| F27     | 1   | 328.87 | 16.69 | 0.00 | 102.67 | 35.08 |
| F26     | 1   | 320.17 | 16.60 | 0.00 | 102.67 | 35.08 |
| F25     | 1   | 311.47 | 16.51 | 0.00 | 102.67 | 35.08 |
| F24     | 1   | 302.77 | 16.42 | 0.00 | 102.67 | 35.08 |
| F23     | 1   | 294.07 | 16.32 | 0.00 | 102.67 | 35.08 |
| F22     | 1   | 285.37 | 16.22 | 0.00 | 102.67 | 35.08 |
| F21     | 1   | 276.67 | 16.12 | 0.00 | 102.67 | 35.08 |
| F20     | 1   | 267.97 | 16.02 | 0.00 | 102.67 | 35.08 |
| F19     | 1   | 259.27 | 15.91 | 0.00 | 102.67 | 35.08 |
| F18     | 1   | 250.57 | 15.80 | 0.00 | 102.67 | 35.08 |
| F17     | 1   | 241.87 | 15.65 | 0.00 | 102.67 | 35.08 |
| F16     | 1   | 233.17 | 15.35 | 0.00 | 114.00 | 35.08 |
| F15     | 1   | 224.47 | 15.19 | 0.00 | 114.00 | 35.08 |
| F14     | 1   | 215.77 | 15.13 | 0.00 | 114.00 | 35.08 |
| F13     | 1   | 207.07 | 15.79 | 0.00 | 103.17 | 36.45 |
| F12     | 1   | 198.37 | 24.21 | 0.00 | 114.00 | 37.89 |
| F11demo | --- | ---    | ---   | ---  | ---    | ---   |
| F11     | 1   | 180.97 | 31.89 | 0.00 | 114.00 | 37.97 |
| F9demo  | --- | ---    | ---   | ---  | ---    | ---   |
| F10     | 1   | 163.55 | 32.71 | 0.00 | 114.08 | 39.71 |
| F9      | 1   | 147.55 | 35.19 | 0.00 | 102.37 | 48.74 |
| F8      | 1   | 132.55 | 34.98 | 0.00 | 84.21  | 51.81 |
| F7      | 1   | 120.39 | 34.46 | 0.00 | 42.79  | 51.81 |
| F6      | 1   | 108.23 | 41.05 | 0.00 | 42.79  | 54.28 |
| F5      | 1   | 93.02  | 42.49 | 0.00 | 44.34  | 50.46 |
| F4      | 1   | 76.98  | 40.83 | 0.00 | 44.34  | 50.46 |
| F3      | 1   | 61.00  | 30.51 | 0.00 | 101.12 | 48.57 |
| F2      | 1   | 49.00  | 29.82 | 0.00 | 104.17 | 50.13 |
| Fground | 1   | 30.00  | 35.44 | 0.00 | 101.55 | 57.44 |
| Cellar  | 1   | 15.00  | 28.54 | 0.00 | 101.55 | 57.60 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F38    | 1 | 0.000 | 0.000 |
| F37    | 1 | 0.000 | 0.000 |
| F36    | 1 | 0.000 | 0.000 |
| F35    | 1 | 0.000 | 0.000 |
| F34    | 1 | 0.000 | 0.000 |
| F33    | 1 | 0.000 | 0.000 |
| F32    | 1 | 0.000 | 0.000 |
| F31    | 1 | 0.000 | 0.000 |
| F30    | 1 | 0.000 | 0.000 |
| F29    | 1 | 0.000 | 0.000 |
| F28    | 1 | 0.000 | 0.000 |
| F27    | 1 | 0.000 | 0.000 |
| F26    | 1 | 0.000 | 0.000 |
| F25    | 1 | 0.000 | 0.000 |
| F24    | 1 | 0.000 | 0.000 |
| F23    | 1 | 0.000 | 0.000 |
| F22    | 1 | 0.000 | 0.000 |
| F21    | 1 | 0.000 | 0.000 |
| F20    | 1 | 0.000 | 0.000 |
| F19    | 1 | 0.000 | 0.000 |
| F18    | 1 | 0.000 | 0.000 |
| F17    | 1 | 0.000 | 0.000 |
| F16    | 1 | 0.000 | 0.000 |
| F15    | 1 | 0.000 | 0.000 |
| F14    | 1 | 0.000 | 0.000 |
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_1\_X

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 9.53       | 0.00       |
| F46MEP  | 502.33   | 18.55      | 0.00       |
| F45     | 492.91   | 20.53      | 0.00       |
| F44     | 481.91   | 23.53      | 0.00       |
| F43     | 469.41   | 21.46      | 0.00       |
| F42     | 460.71   | 17.90      | 0.00       |
| F41     | 452.01   | 19.20      | 0.00       |
| F40     | 441.97   | 19.12      | 0.00       |
| F39     | 433.27   | 17.67      | 0.00       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |         |       |
|---------|--------|---------|-------|
| F38     | 424.57 | 17.60   | 0.00  |
| F37     | 415.87 | 17.52   | 0.00  |
| F36     | 407.17 | 17.44   | 0.00  |
| F35     | 398.47 | 17.37   | 0.00  |
| F34     | 389.77 | 17.29   | 0.00  |
| F33     | 381.07 | 17.21   | 0.00  |
| F32     | 372.37 | 17.12   | 0.00  |
| F31     | 363.67 | 17.04   | 0.00  |
| F30     | 354.97 | 16.96   | 0.00  |
| F29     | 346.27 | 16.87   | 0.00  |
| F28     | 337.57 | 16.78   | 0.00  |
| F27     | 328.87 | 16.69   | 0.00  |
| F26     | 320.17 | 16.60   | 0.00  |
| F25     | 311.47 | 16.51   | 0.00  |
| F24     | 302.77 | 16.42   | 0.00  |
| F23     | 294.07 | 16.32   | 0.00  |
| F22     | 285.37 | 16.22   | 0.00  |
| F21     | 276.67 | 16.12   | 0.00  |
| F20     | 267.97 | 16.02   | 0.00  |
| F19     | 259.27 | 15.91   | 0.00  |
| F18     | 250.57 | 15.80   | 0.00  |
| F17     | 241.87 | 15.65   | 0.00  |
| F16     | 233.17 | 15.35   | 0.00  |
| F15     | 224.47 | 15.19   | 0.00  |
| F14     | 215.77 | 15.13   | 0.00  |
| F13     | 207.07 | 15.79   | 0.00  |
| F12     | 198.37 | 24.21   | 0.00  |
| F11demo | 189.67 | ---     | ---   |
| F11     | 180.97 | 31.89   | 0.00  |
| F9demo  | 172.26 | ---     | ---   |
| F10     | 163.55 | 32.71   | 0.00  |
| F9      | 147.55 | 35.19   | 0.00  |
| F8      | 132.55 | 34.98   | 0.00  |
| F7      | 120.39 | 34.46   | 0.00  |
| F6      | 108.23 | 41.05   | 0.00  |
| F5      | 93.02  | 42.49   | 0.00  |
| F4      | 76.98  | 40.83   | 0.00  |
| F3      | 61.00  | 30.51   | 0.00  |
| F2      | 49.00  | 29.82   | 0.00  |
| Fground | 30.00  | 35.44   | 0.00  |
| Cellar  | 15.00  | 28.54   | 0.00  |
|         |        | <hr/>   | <hr/> |
|         |        | 1038.51 | 0.00  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_1\_Y

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 0.00       | 32.18      | 102.67  | 30.08   |
| F46MEP  | 1       | 502.33   | 0.00       | 61.93      | 102.67  | 33.92   |
| F45     | 1       | 492.91   | 0.00       | 64.45      | 102.67  | 33.92   |
| F44     | 1       | 481.91   | 0.00       | 73.87      | 102.67  | 33.92   |
| F43     | 1       | 469.41   | 0.00       | 66.36      | 102.67  | 35.08   |
| F42     | 1       | 460.71   | 0.00       | 54.26      | 102.67  | 35.08   |
| F41     | 1       | 452.01   | 0.00       | 58.23      | 102.67  | 35.08   |
| F40     | 1       | 441.97   | 0.00       | 58.03      | 102.67  | 35.08   |
| F39     | 1       | 433.27   | 0.00       | 53.68      | 102.67  | 35.08   |
| F38     | 1       | 424.57   | 0.00       | 53.50      | 102.67  | 35.08   |
| F37     | 1       | 415.87   | 0.00       | 53.31      | 102.67  | 35.08   |
| F36     | 1       | 407.17   | 0.00       | 53.11      | 102.67  | 35.08   |
| F35     | 1       | 398.47   | 0.00       | 52.92      | 102.67  | 35.08   |
| F34     | 1       | 389.77   | 0.00       | 52.72      | 102.67  | 35.08   |
| F33     | 1       | 381.07   | 0.00       | 52.52      | 102.67  | 35.08   |
| F32     | 1       | 372.37   | 0.00       | 52.31      | 102.67  | 35.08   |
| F31     | 1       | 363.67   | 0.00       | 52.10      | 102.67  | 35.08   |
| F30     | 1       | 354.97   | 0.00       | 51.89      | 102.67  | 35.08   |
| F29     | 1       | 346.27   | 0.00       | 51.67      | 102.67  | 35.08   |
| F28     | 1       | 337.57   | 0.00       | 51.45      | 102.67  | 35.08   |
| F27     | 1       | 328.87   | 0.00       | 51.23      | 102.67  | 35.08   |
| F26     | 1       | 320.17   | 0.00       | 51.00      | 102.67  | 35.08   |
| F25     | 1       | 311.47   | 0.00       | 50.77      | 102.67  | 35.08   |
| F24     | 1       | 302.77   | 0.00       | 50.53      | 102.67  | 35.08   |
| F23     | 1       | 294.07   | 0.00       | 50.29      | 102.67  | 35.08   |
| F22     | 1       | 285.37   | 0.00       | 50.04      | 102.67  | 35.08   |
| F21     | 1       | 276.67   | 0.00       | 49.78      | 102.67  | 35.08   |
| F20     | 1       | 267.97   | 0.00       | 49.53      | 102.67  | 35.08   |
| F19     | 1       | 259.27   | 0.00       | 49.26      | 102.67  | 35.08   |
| F18     | 1       | 250.57   | 0.00       | 48.99      | 102.67  | 35.08   |
| F17     | 1       | 241.87   | 0.00       | 48.64      | 102.67  | 35.08   |
| F16     | 1       | 233.17   | 0.00       | 51.36      | 108.68  | 35.08   |
| F15     | 1       | 224.47   | 0.00       | 54.27      | 114.00  | 35.08   |
| F14     | 1       | 215.77   | 0.00       | 57.08      | 118.48  | 35.08   |
| F13     | 1       | 207.07   | 0.00       | 47.61      | 103.17  | 37.72   |
| F12     | 1       | 198.37   | 0.00       | 82.71      | 117.09  | 37.97   |
| F11demo | ---     | ---      | ---        | ---        | ---     | ---     |
| F11     | 1       | 180.97   | 0.00       | 104.82     | 114.00  | 37.97   |
| F9demo  | ---     | ---      | ---        | ---        | ---     | ---     |
| F10     | 1       | 163.55   | 0.00       | 99.53      | 114.55  | 42.77   |
| F9      | 1       | 147.55   | 0.00       | 134.32     | 130.92  | 52.06   |
| F8      | 1       | 132.55   | 0.00       | 144.14     | 106.78  | 51.81   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |   |        |      |        |        |       |
|---------|---|--------|------|--------|--------|-------|
| F7      | 1 | 120.39 | 0.00 | 33.72  | 42.79  | 51.81 |
| F6      | 1 | 108.23 | 0.00 | 38.81  | 41.20  | 51.81 |
| F5      | 1 | 93.02  | 0.00 | 40.38  | 44.34  | 50.46 |
| F4      | 1 | 76.98  | 0.00 | 40.08  | 44.34  | 50.46 |
| F3      | 1 | 61.00  | 0.00 | 194.25 | 126.29 | 50.13 |
| F2      | 1 | 49.00  | 0.00 | 83.92  | 104.17 | 50.13 |
| Fground | 1 | 30.00  | 0.00 | 100.93 | 100.34 | 57.60 |
| Cellar  | 1 | 15.00  | 0.00 | 80.46  | 101.55 | 57.60 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |
| F29     | 1       | 0.000          | 0.000          |
| F28     | 1       | 0.000          | 0.000          |
| F27     | 1       | 0.000          | 0.000          |
| F26     | 1       | 0.000          | 0.000          |
| F25     | 1       | 0.000          | 0.000          |
| F24     | 1       | 0.000          | 0.000          |
| F23     | 1       | 0.000          | 0.000          |
| F22     | 1       | 0.000          | 0.000          |
| F21     | 1       | 0.000          | 0.000          |
| F20     | 1       | 0.000          | 0.000          |
| F19     | 1       | 0.000          | 0.000          |
| F18     | 1       | 0.000          | 0.000          |
| F17     | 1       | 0.000          | 0.000          |
| F16     | 1       | 0.000          | 0.000          |
| F15     | 1       | 0.000          | 0.000          |
| F14     | 1       | 0.000          | 0.000          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_1\_Y

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 0.00       | 32.18      |
| F46MEP  | 502.33   | 0.00       | 61.93      |
| F45     | 492.91   | 0.00       | 64.45      |
| F44     | 481.91   | 0.00       | 73.87      |
| F43     | 469.41   | 0.00       | 66.36      |
| F42     | 460.71   | 0.00       | 54.26      |
| F41     | 452.01   | 0.00       | 58.23      |
| F40     | 441.97   | 0.00       | 58.03      |
| F39     | 433.27   | 0.00       | 53.68      |
| F38     | 424.57   | 0.00       | 53.50      |
| F37     | 415.87   | 0.00       | 53.31      |
| F36     | 407.17   | 0.00       | 53.11      |
| F35     | 398.47   | 0.00       | 52.92      |
| F34     | 389.77   | 0.00       | 52.72      |
| F33     | 381.07   | 0.00       | 52.52      |
| F32     | 372.37   | 0.00       | 52.31      |
| F31     | 363.67   | 0.00       | 52.10      |
| F30     | 354.97   | 0.00       | 51.89      |
| F29     | 346.27   | 0.00       | 51.67      |
| F28     | 337.57   | 0.00       | 51.45      |
| F27     | 328.87   | 0.00       | 51.23      |
| F26     | 320.17   | 0.00       | 51.00      |
| F25     | 311.47   | 0.00       | 50.77      |
| F24     | 302.77   | 0.00       | 50.53      |
| F23     | 294.07   | 0.00       | 50.29      |
| F22     | 285.37   | 0.00       | 50.04      |
| F21     | 276.67   | 0.00       | 49.78      |
| F20     | 267.97   | 0.00       | 49.53      |
| F19     | 259.27   | 0.00       | 49.26      |
| F18     | 250.57   | 0.00       | 48.99      |
| F17     | 241.87   | 0.00       | 48.64      |
| F16     | 233.17   | 0.00       | 51.36      |
| F15     | 224.47   | 0.00       | 54.27      |
| F14     | 215.77   | 0.00       | 57.08      |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |      |         |
|---------|--------|------|---------|
| F13     | 207.07 | 0.00 | 47.61   |
| F12     | 198.37 | 0.00 | 82.71   |
| F11demo | 189.67 | ---  | ---     |
| F11     | 180.97 | 0.00 | 104.82  |
| F9demo  | 172.26 | ---  | ---     |
| F10     | 163.55 | 0.00 | 99.53   |
| F9      | 147.55 | 0.00 | 134.32  |
| F8      | 132.55 | 0.00 | 144.14  |
| F7      | 120.39 | 0.00 | 33.72   |
| F6      | 108.23 | 0.00 | 38.81   |
| F5      | 93.02  | 0.00 | 40.38   |
| F4      | 76.98  | 0.00 | 40.08   |
| F3      | 61.00  | 0.00 | 194.25  |
| F2      | 49.00  | 0.00 | 83.92   |
| Fground | 30.00  | 0.00 | 100.93  |
| Cellar  | 15.00  | 0.00 | 80.46   |
|         |        | 0.00 | 3038.95 |

**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_2\_X+E

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 7.15       | 0.00       | 102.67  | 37.78   |
| F46MEP  | 1       | 502.33   | 13.91      | 0.00       | 102.67  | 42.46   |
| F45     | 1       | 492.91   | 15.40      | 0.00       | 102.67  | 44.30   |
| F44     | 1       | 481.91   | 17.64      | 0.00       | 102.67  | 44.26   |
| F43     | 1       | 469.41   | 16.10      | 0.00       | 102.67  | 45.27   |
| F42     | 1       | 460.71   | 13.42      | 0.00       | 102.67  | 46.00   |
| F41     | 1       | 452.01   | 14.40      | 0.00       | 102.67  | 45.98   |
| F40     | 1       | 441.97   | 14.34      | 0.00       | 102.67  | 45.98   |
| F39     | 1       | 433.27   | 13.25      | 0.00       | 102.67  | 45.98   |
| F38     | 1       | 424.57   | 13.20      | 0.00       | 102.67  | 45.97   |
| F37     | 1       | 415.87   | 13.14      | 0.00       | 102.67  | 45.98   |
| F36     | 1       | 407.17   | 13.08      | 0.00       | 102.67  | 45.97   |
| F35     | 1       | 398.47   | 13.02      | 0.00       | 102.67  | 45.96   |
| F34     | 1       | 389.77   | 12.97      | 0.00       | 102.67  | 45.95   |
| F33     | 1       | 381.07   | 12.91      | 0.00       | 102.67  | 45.94   |
| F32     | 1       | 372.37   | 12.84      | 0.00       | 102.67  | 45.92   |
| F31     | 1       | 363.67   | 12.78      | 0.00       | 102.67  | 45.90   |
| F30     | 1       | 354.97   | 12.72      | 0.00       | 102.67  | 45.88   |
| F29     | 1       | 346.27   | 12.65      | 0.00       | 102.67  | 45.85   |
| F28     | 1       | 337.57   | 12.59      | 0.00       | 102.67  | 45.82   |
| F27     | 1       | 328.87   | 12.52      | 0.00       | 102.67  | 45.79   |
| F26     | 1       | 320.17   | 12.45      | 0.00       | 102.67  | 45.75   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |       |      |        |       |
|---------|-----|--------|-------|------|--------|-------|
| F25     | 1   | 311.47 | 12.38 | 0.00 | 102.67 | 45.71 |
| F24     | 1   | 302.77 | 12.31 | 0.00 | 102.67 | 45.68 |
| F23     | 1   | 294.07 | 12.24 | 0.00 | 102.67 | 45.63 |
| F22     | 1   | 285.37 | 12.17 | 0.00 | 102.67 | 45.59 |
| F21     | 1   | 276.67 | 12.09 | 0.00 | 102.67 | 45.55 |
| F20     | 1   | 267.97 | 12.01 | 0.00 | 102.67 | 45.52 |
| F19     | 1   | 259.27 | 11.93 | 0.00 | 102.67 | 45.49 |
| F18     | 1   | 250.57 | 11.85 | 0.00 | 102.67 | 45.47 |
| F17     | 1   | 241.87 | 11.73 | 0.00 | 102.67 | 45.46 |
| F16     | 1   | 233.17 | 11.51 | 0.00 | 114.00 | 45.51 |
| F15     | 1   | 224.47 | 11.39 | 0.00 | 114.00 | 45.53 |
| F14     | 1   | 215.77 | 11.35 | 0.00 | 114.00 | 45.58 |
| F13     | 1   | 207.07 | 11.84 | 0.00 | 103.17 | 47.68 |
| F12     | 1   | 198.37 | 18.16 | 0.00 | 114.00 | 49.24 |
| F11demo | --- | ---    | ---   | ---  | ---    | ---   |
| F11     | 1   | 180.97 | 23.92 | 0.00 | 114.00 | 49.27 |
| F9demo  | --- | ---    | ---   | ---  | ---    | ---   |
| F10     | 1   | 163.55 | 24.53 | 0.00 | 114.08 | 52.62 |
| F9      | 1   | 147.55 | 26.39 | 0.00 | 102.37 | 64.47 |
| F8      | 1   | 132.55 | 26.23 | 0.00 | 84.21  | 67.35 |
| F7      | 1   | 120.39 | 25.84 | 0.00 | 42.79  | 67.18 |
| F6      | 1   | 108.23 | 30.79 | 0.00 | 42.79  | 69.62 |
| F5      | 1   | 93.02  | 31.86 | 0.00 | 44.34  | 65.32 |
| F4      | 1   | 76.98  | 30.62 | 0.00 | 44.34  | 65.35 |
| F3      | 1   | 61.00  | 22.88 | 0.00 | 101.12 | 63.71 |
| F2      | 1   | 49.00  | 22.36 | 0.00 | 104.17 | 65.27 |
| Fground | 1   | 30.00  | 26.58 | 0.00 | 101.55 | 75.30 |
| Cellar  | 1   | 15.00  | 21.40 | 0.00 | 101.55 | 75.08 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F33    | 1 | 0.000 | 0.000 |
| F32    | 1 | 0.000 | 0.000 |
| F31    | 1 | 0.000 | 0.000 |
| F30    | 1 | 0.000 | 0.000 |
| F29    | 1 | 0.000 | 0.000 |
| F28    | 1 | 0.000 | 0.000 |
| F27    | 1 | 0.000 | 0.000 |
| F26    | 1 | 0.000 | 0.000 |
| F25    | 1 | 0.000 | 0.000 |
| F24    | 1 | 0.000 | 0.000 |
| F23    | 1 | 0.000 | 0.000 |
| F22    | 1 | 0.000 | 0.000 |
| F21    | 1 | 0.000 | 0.000 |
| F20    | 1 | 0.000 | 0.000 |
| F19    | 1 | 0.000 | 0.000 |
| F18    | 1 | 0.000 | 0.000 |
| F17    | 1 | 0.000 | 0.000 |
| F16    | 1 | 0.000 | 0.000 |
| F15    | 1 | 0.000 | 0.000 |
| F14    | 1 | 0.000 | 0.000 |
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_2\_X+E

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 7.15       | 0.00       |
| F46MEP  | 502.33   | 13.91      | 0.00       |
| F45     | 492.91   | 15.40      | 0.00       |
| F44     | 481.91   | 17.64      | 0.00       |
| F43     | 469.41   | 16.10      | 0.00       |
| F42     | 460.71   | 13.42      | 0.00       |
| F41     | 452.01   | 14.40      | 0.00       |
| F40     | 441.97   | 14.34      | 0.00       |
| F39     | 433.27   | 13.25      | 0.00       |
| F38     | 424.57   | 13.20      | 0.00       |
| F37     | 415.87   | 13.14      | 0.00       |
| F36     | 407.17   | 13.08      | 0.00       |
| F35     | 398.47   | 13.02      | 0.00       |
| F34     | 389.77   | 12.97      | 0.00       |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |       |
|---------|--------|--------|-------|
| F33     | 381.07 | 12.91  | 0.00  |
| F32     | 372.37 | 12.84  | 0.00  |
| F31     | 363.67 | 12.78  | 0.00  |
| F30     | 354.97 | 12.72  | 0.00  |
| F29     | 346.27 | 12.65  | 0.00  |
| F28     | 337.57 | 12.59  | 0.00  |
| F27     | 328.87 | 12.52  | 0.00  |
| F26     | 320.17 | 12.45  | 0.00  |
| F25     | 311.47 | 12.38  | 0.00  |
| F24     | 302.77 | 12.31  | 0.00  |
| F23     | 294.07 | 12.24  | 0.00  |
| F22     | 285.37 | 12.17  | 0.00  |
| F21     | 276.67 | 12.09  | 0.00  |
| F20     | 267.97 | 12.01  | 0.00  |
| F19     | 259.27 | 11.93  | 0.00  |
| F18     | 250.57 | 11.85  | 0.00  |
| F17     | 241.87 | 11.73  | 0.00  |
| F16     | 233.17 | 11.51  | 0.00  |
| F15     | 224.47 | 11.39  | 0.00  |
| F14     | 215.77 | 11.35  | 0.00  |
| F13     | 207.07 | 11.84  | 0.00  |
| F12     | 198.37 | 18.16  | 0.00  |
| F11demo | 189.67 | ---    | ---   |
| F11     | 180.97 | 23.92  | 0.00  |
| F9demo  | 172.26 | ---    | ---   |
| F10     | 163.55 | 24.53  | 0.00  |
| F9      | 147.55 | 26.39  | 0.00  |
| F8      | 132.55 | 26.23  | 0.00  |
| F7      | 120.39 | 25.84  | 0.00  |
| F6      | 108.23 | 30.79  | 0.00  |
| F5      | 93.02  | 31.86  | 0.00  |
| F4      | 76.98  | 30.62  | 0.00  |
| F3      | 61.00  | 22.88  | 0.00  |
| F2      | 49.00  | 22.36  | 0.00  |
| Fground | 30.00  | 26.58  | 0.00  |
| Cellar  | 15.00  | 21.40  | 0.00  |
|         |        | <hr/>  | <hr/> |
|         |        | 778.88 | 0.00  |

**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_2\_X-E

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 7.15       | 0.00       | 102.67  | 19.32   |
| F46MEP  | 1       | 502.33   | 13.91      | 0.00       | 102.67  | 21.68   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |       |      |        |       |
|---------|-----|--------|-------|------|--------|-------|
| F45     | 1   | 492.91 | 15.40 | 0.00 | 102.67 | 23.54 |
| F44     | 1   | 481.91 | 17.64 | 0.00 | 102.67 | 23.57 |
| F43     | 1   | 469.41 | 16.10 | 0.00 | 102.67 | 23.54 |
| F42     | 1   | 460.71 | 13.42 | 0.00 | 102.67 | 24.17 |
| F41     | 1   | 452.01 | 14.40 | 0.00 | 102.67 | 24.19 |
| F40     | 1   | 441.97 | 14.34 | 0.00 | 102.67 | 24.19 |
| F39     | 1   | 433.27 | 13.25 | 0.00 | 102.67 | 24.19 |
| F38     | 1   | 424.57 | 13.20 | 0.00 | 102.67 | 24.19 |
| F37     | 1   | 415.87 | 13.14 | 0.00 | 102.67 | 24.19 |
| F36     | 1   | 407.17 | 13.08 | 0.00 | 102.67 | 24.19 |
| F35     | 1   | 398.47 | 13.02 | 0.00 | 102.67 | 24.21 |
| F34     | 1   | 389.77 | 12.97 | 0.00 | 102.67 | 24.22 |
| F33     | 1   | 381.07 | 12.91 | 0.00 | 102.67 | 24.23 |
| F32     | 1   | 372.37 | 12.84 | 0.00 | 102.67 | 24.25 |
| F31     | 1   | 363.67 | 12.78 | 0.00 | 102.67 | 24.27 |
| F30     | 1   | 354.97 | 12.72 | 0.00 | 102.67 | 24.29 |
| F29     | 1   | 346.27 | 12.65 | 0.00 | 102.67 | 24.32 |
| F28     | 1   | 337.57 | 12.59 | 0.00 | 102.67 | 24.35 |
| F27     | 1   | 328.87 | 12.52 | 0.00 | 102.67 | 24.38 |
| F26     | 1   | 320.17 | 12.45 | 0.00 | 102.67 | 24.42 |
| F25     | 1   | 311.47 | 12.38 | 0.00 | 102.67 | 24.45 |
| F24     | 1   | 302.77 | 12.31 | 0.00 | 102.67 | 24.49 |
| F23     | 1   | 294.07 | 12.24 | 0.00 | 102.67 | 24.54 |
| F22     | 1   | 285.37 | 12.17 | 0.00 | 102.67 | 24.58 |
| F21     | 1   | 276.67 | 12.09 | 0.00 | 102.67 | 24.62 |
| F20     | 1   | 267.97 | 12.01 | 0.00 | 102.67 | 24.65 |
| F19     | 1   | 259.27 | 11.93 | 0.00 | 102.67 | 24.68 |
| F18     | 1   | 250.57 | 11.85 | 0.00 | 102.67 | 24.70 |
| F17     | 1   | 241.87 | 11.73 | 0.00 | 102.67 | 24.71 |
| F16     | 1   | 233.17 | 11.51 | 0.00 | 114.00 | 24.66 |
| F15     | 1   | 224.47 | 11.39 | 0.00 | 114.00 | 24.63 |
| F14     | 1   | 215.77 | 11.35 | 0.00 | 114.00 | 24.59 |
| F13     | 1   | 207.07 | 11.84 | 0.00 | 103.17 | 25.21 |
| F12     | 1   | 198.37 | 18.16 | 0.00 | 114.00 | 26.53 |
| F11demo | --- | ---    | ---   | ---  | ---    | ---   |
| F11     | 1   | 180.97 | 23.92 | 0.00 | 114.00 | 26.67 |
| F9demo  | --- | ---    | ---   | ---  | ---    | ---   |
| F10     | 1   | 163.55 | 24.53 | 0.00 | 114.08 | 26.81 |
| F9      | 1   | 147.55 | 26.39 | 0.00 | 102.37 | 33.02 |
| F8      | 1   | 132.55 | 26.23 | 0.00 | 84.21  | 36.28 |
| F7      | 1   | 120.39 | 25.84 | 0.00 | 42.79  | 36.45 |
| F6      | 1   | 108.23 | 30.79 | 0.00 | 42.79  | 38.94 |
| F5      | 1   | 93.02  | 31.86 | 0.00 | 44.34  | 35.60 |
| F4      | 1   | 76.98  | 30.62 | 0.00 | 44.34  | 35.57 |
| F3      | 1   | 61.00  | 22.88 | 0.00 | 101.12 | 33.44 |
| F2      | 1   | 49.00  | 22.36 | 0.00 | 104.17 | 34.99 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |   |       |       |      |        |       |
|---------|---|-------|-------|------|--------|-------|
| Fground | 1 | 30.00 | 26.58 | 0.00 | 101.55 | 39.58 |
| Cellar  | 1 | 15.00 | 21.40 | 0.00 | 101.55 | 40.12 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |
| F29     | 1       | 0.000          | 0.000          |
| F28     | 1       | 0.000          | 0.000          |
| F27     | 1       | 0.000          | 0.000          |
| F26     | 1       | 0.000          | 0.000          |
| F25     | 1       | 0.000          | 0.000          |
| F24     | 1       | 0.000          | 0.000          |
| F23     | 1       | 0.000          | 0.000          |
| F22     | 1       | 0.000          | 0.000          |
| F21     | 1       | 0.000          | 0.000          |
| F20     | 1       | 0.000          | 0.000          |
| F19     | 1       | 0.000          | 0.000          |
| F18     | 1       | 0.000          | 0.000          |
| F17     | 1       | 0.000          | 0.000          |
| F16     | 1       | 0.000          | 0.000          |
| F15     | 1       | 0.000          | 0.000          |
| F14     | 1       | 0.000          | 0.000          |
| F13     | 1       | 0.000          | 0.000          |
| F12     | 1       | 0.000          | 0.000          |
| F11     | 1       | 0.000          | 0.000          |
| F8      | 1       | 0.000          | 0.000          |
| Cellar  | 1       | 0.000          | 0.000          |



0.00

0.00

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_2\_X-E

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 7.15       | 0.00       |
| F46MEP  | 502.33   | 13.91      | 0.00       |
| F45     | 492.91   | 15.40      | 0.00       |
| F44     | 481.91   | 17.64      | 0.00       |
| F43     | 469.41   | 16.10      | 0.00       |
| F42     | 460.71   | 13.42      | 0.00       |
| F41     | 452.01   | 14.40      | 0.00       |
| F40     | 441.97   | 14.34      | 0.00       |
| F39     | 433.27   | 13.25      | 0.00       |
| F38     | 424.57   | 13.20      | 0.00       |
| F37     | 415.87   | 13.14      | 0.00       |
| F36     | 407.17   | 13.08      | 0.00       |
| F35     | 398.47   | 13.02      | 0.00       |
| F34     | 389.77   | 12.97      | 0.00       |
| F33     | 381.07   | 12.91      | 0.00       |
| F32     | 372.37   | 12.84      | 0.00       |
| F31     | 363.67   | 12.78      | 0.00       |
| F30     | 354.97   | 12.72      | 0.00       |
| F29     | 346.27   | 12.65      | 0.00       |
| F28     | 337.57   | 12.59      | 0.00       |
| F27     | 328.87   | 12.52      | 0.00       |
| F26     | 320.17   | 12.45      | 0.00       |
| F25     | 311.47   | 12.38      | 0.00       |
| F24     | 302.77   | 12.31      | 0.00       |
| F23     | 294.07   | 12.24      | 0.00       |
| F22     | 285.37   | 12.17      | 0.00       |
| F21     | 276.67   | 12.09      | 0.00       |
| F20     | 267.97   | 12.01      | 0.00       |
| F19     | 259.27   | 11.93      | 0.00       |
| F18     | 250.57   | 11.85      | 0.00       |
| F17     | 241.87   | 11.73      | 0.00       |
| F16     | 233.17   | 11.51      | 0.00       |
| F15     | 224.47   | 11.39      | 0.00       |
| F14     | 215.77   | 11.35      | 0.00       |
| F13     | 207.07   | 11.84      | 0.00       |
| F12     | 198.37   | 18.16      | 0.00       |
| F11demo | 189.67   | ---        | ---        |
| F11     | 180.97   | 23.92      | 0.00       |
| F9demo  | 172.26   | ---        | ---        |
| F10     | 163.55   | 24.53      | 0.00       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |       |
|---------|--------|--------|-------|
| F9      | 147.55 | 26.39  | 0.00  |
| F8      | 132.55 | 26.23  | 0.00  |
| F7      | 120.39 | 25.84  | 0.00  |
| F6      | 108.23 | 30.79  | 0.00  |
| F5      | 93.02  | 31.86  | 0.00  |
| F4      | 76.98  | 30.62  | 0.00  |
| F3      | 61.00  | 22.88  | 0.00  |
| F2      | 49.00  | 22.36  | 0.00  |
| Fground | 30.00  | 26.58  | 0.00  |
| Cellar  | 15.00  | 21.40  | 0.00  |
|         |        | <hr/>  | <hr/> |
|         |        | 778.88 | 0.00  |

**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_2\_Y+E

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 0.00       | 24.14      | 126.56  | 30.08   |
| F46MEP  | 1       | 502.33   | 0.00       | 46.45      | 126.52  | 33.92   |
| F45     | 1       | 492.91   | 0.00       | 48.34      | 126.56  | 33.92   |
| F44     | 1       | 481.91   | 0.00       | 55.40      | 126.65  | 33.92   |
| F43     | 1       | 469.41   | 0.00       | 49.77      | 126.65  | 35.08   |
| F42     | 1       | 460.71   | 0.00       | 40.69      | 126.68  | 35.08   |
| F41     | 1       | 452.01   | 0.00       | 43.68      | 126.74  | 35.08   |
| F40     | 1       | 441.97   | 0.00       | 43.52      | 126.80  | 35.08   |
| F39     | 1       | 433.27   | 0.00       | 40.26      | 126.85  | 35.08   |
| F38     | 1       | 424.57   | 0.00       | 40.12      | 126.92  | 35.08   |
| F37     | 1       | 415.87   | 0.00       | 39.98      | 126.94  | 35.08   |
| F36     | 1       | 407.17   | 0.00       | 39.84      | 127.03  | 35.08   |
| F35     | 1       | 398.47   | 0.00       | 39.69      | 127.14  | 35.08   |
| F34     | 1       | 389.77   | 0.00       | 39.54      | 127.26  | 35.08   |
| F33     | 1       | 381.07   | 0.00       | 39.39      | 127.40  | 35.08   |
| F32     | 1       | 372.37   | 0.00       | 39.23      | 127.56  | 35.08   |
| F31     | 1       | 363.67   | 0.00       | 39.08      | 127.75  | 35.08   |
| F30     | 1       | 354.97   | 0.00       | 38.92      | 127.97  | 35.08   |
| F29     | 1       | 346.27   | 0.00       | 38.76      | 128.22  | 35.08   |
| F28     | 1       | 337.57   | 0.00       | 38.59      | 128.50  | 35.08   |
| F27     | 1       | 328.87   | 0.00       | 38.42      | 128.83  | 35.08   |
| F26     | 1       | 320.17   | 0.00       | 38.25      | 129.19  | 35.08   |
| F25     | 1       | 311.47   | 0.00       | 38.08      | 129.59  | 35.08   |
| F24     | 1       | 302.77   | 0.00       | 37.90      | 130.02  | 35.08   |
| F23     | 1       | 294.07   | 0.00       | 37.71      | 130.50  | 35.08   |
| F22     | 1       | 285.37   | 0.00       | 37.53      | 131.00  | 35.08   |
| F21     | 1       | 276.67   | 0.00       | 37.34      | 131.49  | 35.08   |
| F20     | 1       | 267.97   | 0.00       | 37.14      | 131.94  | 35.08   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |      |        |        |       |
|---------|-----|--------|------|--------|--------|-------|
| F19     | 1   | 259.27 | 0.00 | 36.94  | 132.32 | 35.08 |
| F18     | 1   | 250.57 | 0.00 | 36.74  | 132.61 | 35.08 |
| F17     | 1   | 241.87 | 0.00 | 36.48  | 132.72 | 35.08 |
| F16     | 1   | 233.17 | 0.00 | 38.52  | 138.67 | 35.08 |
| F15     | 1   | 224.47 | 0.00 | 40.70  | 143.70 | 35.08 |
| F14     | 1   | 215.77 | 0.00 | 42.81  | 147.68 | 35.08 |
| F13     | 1   | 207.07 | 0.00 | 35.71  | 131.06 | 37.72 |
| F12     | 1   | 198.37 | 0.00 | 62.03  | 146.53 | 37.97 |
| F11demo | --- | ---    | ---  | ---    | ---    | ---   |
| F11     | 1   | 180.97 | 0.00 | 78.62  | 144.79 | 37.97 |
| F9demo  | --- | ---    | ---  | ---    | ---    | ---   |
| F10     | 1   | 163.55 | 0.00 | 74.65  | 144.38 | 42.77 |
| F9      | 1   | 147.55 | 0.00 | 100.74 | 164.06 | 52.06 |
| F8      | 1   | 132.55 | 0.00 | 108.11 | 135.27 | 51.81 |
| F7      | 1   | 120.39 | 0.00 | 25.29  | 75.77  | 51.81 |
| F6      | 1   | 108.23 | 0.00 | 29.11  | 71.33  | 51.81 |
| F5      | 1   | 93.02  | 0.00 | 30.28  | 73.33  | 50.46 |
| F4      | 1   | 76.98  | 0.00 | 30.06  | 72.03  | 50.46 |
| F3      | 1   | 61.00  | 0.00 | 145.69 | 158.48 | 50.13 |
| F2      | 1   | 49.00  | 0.00 | 62.94  | 142.11 | 50.13 |
| Fground | 1   | 30.00  | 0.00 | 75.70  | 138.34 | 57.60 |
| Cellar  | 1   | 15.00  | 0.00 | 60.35  | 139.86 | 57.60 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |
| F29     | 1       | 0.000          | 0.000          |
| F28     | 1       | 0.000          | 0.000          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F27    | 1 | 0.000 | 0.000 |
| F26    | 1 | 0.000 | 0.000 |
| F25    | 1 | 0.000 | 0.000 |
| F24    | 1 | 0.000 | 0.000 |
| F23    | 1 | 0.000 | 0.000 |
| F22    | 1 | 0.000 | 0.000 |
| F21    | 1 | 0.000 | 0.000 |
| F20    | 1 | 0.000 | 0.000 |
| F19    | 1 | 0.000 | 0.000 |
| F18    | 1 | 0.000 | 0.000 |
| F17    | 1 | 0.000 | 0.000 |
| F16    | 1 | 0.000 | 0.000 |
| F15    | 1 | 0.000 | 0.000 |
| F14    | 1 | 0.000 | 0.000 |
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_2\_Y+E

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 0.00       | 24.14      |
| F46MEP  | 502.33   | 0.00       | 46.45      |
| F45     | 492.91   | 0.00       | 48.34      |
| F44     | 481.91   | 0.00       | 55.40      |
| F43     | 469.41   | 0.00       | 49.77      |
| F42     | 460.71   | 0.00       | 40.69      |
| F41     | 452.01   | 0.00       | 43.68      |
| F40     | 441.97   | 0.00       | 43.52      |
| F39     | 433.27   | 0.00       | 40.26      |
| F38     | 424.57   | 0.00       | 40.12      |
| F37     | 415.87   | 0.00       | 39.98      |
| F36     | 407.17   | 0.00       | 39.84      |
| F35     | 398.47   | 0.00       | 39.69      |
| F34     | 389.77   | 0.00       | 39.54      |
| F33     | 381.07   | 0.00       | 39.39      |
| F32     | 372.37   | 0.00       | 39.23      |
| F31     | 363.67   | 0.00       | 39.08      |
| F30     | 354.97   | 0.00       | 38.92      |
| F29     | 346.27   | 0.00       | 38.76      |
| F28     | 337.57   | 0.00       | 38.59      |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |      |         |
|---------|--------|------|---------|
| F27     | 328.87 | 0.00 | 38.42   |
| F26     | 320.17 | 0.00 | 38.25   |
| F25     | 311.47 | 0.00 | 38.08   |
| F24     | 302.77 | 0.00 | 37.90   |
| F23     | 294.07 | 0.00 | 37.71   |
| F22     | 285.37 | 0.00 | 37.53   |
| F21     | 276.67 | 0.00 | 37.34   |
| F20     | 267.97 | 0.00 | 37.14   |
| F19     | 259.27 | 0.00 | 36.94   |
| F18     | 250.57 | 0.00 | 36.74   |
| F17     | 241.87 | 0.00 | 36.48   |
| F16     | 233.17 | 0.00 | 38.52   |
| F15     | 224.47 | 0.00 | 40.70   |
| F14     | 215.77 | 0.00 | 42.81   |
| F13     | 207.07 | 0.00 | 35.71   |
| F12     | 198.37 | 0.00 | 62.03   |
| F11demo | 189.67 | ---  | ---     |
| F11     | 180.97 | 0.00 | 78.62   |
| F9demo  | 172.26 | ---  | ---     |
| F10     | 163.55 | 0.00 | 74.65   |
| F9      | 147.55 | 0.00 | 100.74  |
| F8      | 132.55 | 0.00 | 108.11  |
| F7      | 120.39 | 0.00 | 25.29   |
| F6      | 108.23 | 0.00 | 29.11   |
| F5      | 93.02  | 0.00 | 30.28   |
| F4      | 76.98  | 0.00 | 30.06   |
| F3      | 61.00  | 0.00 | 145.69  |
| F2      | 49.00  | 0.00 | 62.94   |
| Fground | 30.00  | 0.00 | 75.70   |
| Cellar  | 15.00  | 0.00 | 60.35   |
|         |        | 0.00 | 2279.21 |

**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_2\_Y-E

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 0.00       | 24.14      | 78.78   | 30.08   |
| F46MEP  | 1       | 502.33   | 0.00       | 46.45      | 78.81   | 33.92   |
| F45     | 1       | 492.91   | 0.00       | 48.34      | 78.78   | 33.92   |
| F44     | 1       | 481.91   | 0.00       | 55.40      | 78.69   | 33.92   |
| F43     | 1       | 469.41   | 0.00       | 49.77      | 78.68   | 35.08   |
| F42     | 1       | 460.71   | 0.00       | 40.69      | 78.66   | 35.08   |
| F41     | 1       | 452.01   | 0.00       | 43.68      | 78.59   | 35.08   |
| F40     | 1       | 441.97   | 0.00       | 43.52      | 78.53   | 35.08   |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |      |        |       |       |
|---------|-----|--------|------|--------|-------|-------|
| F39     | 1   | 433.27 | 0.00 | 40.26  | 78.49 | 35.08 |
| F38     | 1   | 424.57 | 0.00 | 40.12  | 78.42 | 35.08 |
| F37     | 1   | 415.87 | 0.00 | 39.98  | 78.39 | 35.08 |
| F36     | 1   | 407.17 | 0.00 | 39.84  | 78.30 | 35.08 |
| F35     | 1   | 398.47 | 0.00 | 39.69  | 78.19 | 35.08 |
| F34     | 1   | 389.77 | 0.00 | 39.54  | 78.07 | 35.08 |
| F33     | 1   | 381.07 | 0.00 | 39.39  | 77.93 | 35.08 |
| F32     | 1   | 372.37 | 0.00 | 39.23  | 77.77 | 35.08 |
| F31     | 1   | 363.67 | 0.00 | 39.08  | 77.58 | 35.08 |
| F30     | 1   | 354.97 | 0.00 | 38.92  | 77.37 | 35.08 |
| F29     | 1   | 346.27 | 0.00 | 38.76  | 77.12 | 35.08 |
| F28     | 1   | 337.57 | 0.00 | 38.59  | 76.83 | 35.08 |
| F27     | 1   | 328.87 | 0.00 | 38.42  | 76.51 | 35.08 |
| F26     | 1   | 320.17 | 0.00 | 38.25  | 76.14 | 35.08 |
| F25     | 1   | 311.47 | 0.00 | 38.08  | 75.74 | 35.08 |
| F24     | 1   | 302.77 | 0.00 | 37.90  | 75.32 | 35.08 |
| F23     | 1   | 294.07 | 0.00 | 37.71  | 74.84 | 35.08 |
| F22     | 1   | 285.37 | 0.00 | 37.53  | 74.34 | 35.08 |
| F21     | 1   | 276.67 | 0.00 | 37.34  | 73.85 | 35.08 |
| F20     | 1   | 267.97 | 0.00 | 37.14  | 73.39 | 35.08 |
| F19     | 1   | 259.27 | 0.00 | 36.94  | 73.01 | 35.08 |
| F18     | 1   | 250.57 | 0.00 | 36.74  | 72.73 | 35.08 |
| F17     | 1   | 241.87 | 0.00 | 36.48  | 72.61 | 35.08 |
| F16     | 1   | 233.17 | 0.00 | 38.52  | 78.69 | 35.08 |
| F15     | 1   | 224.47 | 0.00 | 40.70  | 84.30 | 35.08 |
| F14     | 1   | 215.77 | 0.00 | 42.81  | 89.28 | 35.08 |
| F13     | 1   | 207.07 | 0.00 | 35.71  | 75.28 | 37.72 |
| F12     | 1   | 198.37 | 0.00 | 62.03  | 87.66 | 37.97 |
| F11demo | --- | ---    | ---  | ---    | ---   | ---   |
| F11     | 1   | 180.97 | 0.00 | 78.62  | 83.21 | 37.97 |
| F9demo  | --- | ---    | ---  | ---    | ---   | ---   |
| F10     | 1   | 163.55 | 0.00 | 74.65  | 84.72 | 42.77 |
| F9      | 1   | 147.55 | 0.00 | 100.74 | 97.78 | 52.06 |
| F8      | 1   | 132.55 | 0.00 | 108.11 | 78.29 | 51.81 |
| F7      | 1   | 120.39 | 0.00 | 25.29  | 9.82  | 51.81 |
| F6      | 1   | 108.23 | 0.00 | 29.11  | 11.07 | 51.81 |
| F5      | 1   | 93.02  | 0.00 | 30.28  | 15.34 | 50.46 |
| F4      | 1   | 76.98  | 0.00 | 30.06  | 16.64 | 50.46 |
| F3      | 1   | 61.00  | 0.00 | 145.69 | 94.11 | 50.13 |
| F2      | 1   | 49.00  | 0.00 | 62.94  | 66.23 | 50.13 |
| Fground | 1   | 30.00  | 0.00 | 75.70  | 62.33 | 57.60 |
| Cellar  | 1   | 15.00  | 0.00 | 60.35  | 63.23 | 57.60 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|-------|---------|----------------|----------------|
|-------|---------|----------------|----------------|



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |   |       |       |
|---------|---|-------|-------|
| F47roof | 1 | 0.000 | 0.000 |
| F46MEP  | 1 | 0.000 | 0.000 |
| F45     | 1 | 0.000 | 0.000 |
| F44     | 1 | 0.000 | 0.000 |
| F43     | 1 | 0.000 | 0.000 |
| F42     | 1 | 0.000 | 0.000 |
| F41     | 1 | 0.000 | 0.000 |
| F40     | 1 | 0.000 | 0.000 |
| F39     | 1 | 0.000 | 0.000 |
| F38     | 1 | 0.000 | 0.000 |
| F37     | 1 | 0.000 | 0.000 |
| F36     | 1 | 0.000 | 0.000 |
| F35     | 1 | 0.000 | 0.000 |
| F34     | 1 | 0.000 | 0.000 |
| F33     | 1 | 0.000 | 0.000 |
| F32     | 1 | 0.000 | 0.000 |
| F31     | 1 | 0.000 | 0.000 |
| F30     | 1 | 0.000 | 0.000 |
| F29     | 1 | 0.000 | 0.000 |
| F28     | 1 | 0.000 | 0.000 |
| F27     | 1 | 0.000 | 0.000 |
| F26     | 1 | 0.000 | 0.000 |
| F25     | 1 | 0.000 | 0.000 |
| F24     | 1 | 0.000 | 0.000 |
| F23     | 1 | 0.000 | 0.000 |
| F22     | 1 | 0.000 | 0.000 |
| F21     | 1 | 0.000 | 0.000 |
| F20     | 1 | 0.000 | 0.000 |
| F19     | 1 | 0.000 | 0.000 |
| F18     | 1 | 0.000 | 0.000 |
| F17     | 1 | 0.000 | 0.000 |
| F16     | 1 | 0.000 | 0.000 |
| F15     | 1 | 0.000 | 0.000 |
| F14     | 1 | 0.000 | 0.000 |
| F13     | 1 | 0.000 | 0.000 |
| F12     | 1 | 0.000 | 0.000 |
| F11     | 1 | 0.000 | 0.000 |
| F8      | 1 | 0.000 | 0.000 |
| Cellar  | 1 | 0.000 | 0.000 |
|         |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_2\_Y-E

| Level | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|-------|----------|------------|------------|
|-------|----------|------------|------------|



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |      |        |
|---------|--------|------|--------|
| F47roof | 512.45 | 0.00 | 24.14  |
| F46MEP  | 502.33 | 0.00 | 46.45  |
| F45     | 492.91 | 0.00 | 48.34  |
| F44     | 481.91 | 0.00 | 55.40  |
| F43     | 469.41 | 0.00 | 49.77  |
| F42     | 460.71 | 0.00 | 40.69  |
| F41     | 452.01 | 0.00 | 43.68  |
| F40     | 441.97 | 0.00 | 43.52  |
| F39     | 433.27 | 0.00 | 40.26  |
| F38     | 424.57 | 0.00 | 40.12  |
| F37     | 415.87 | 0.00 | 39.98  |
| F36     | 407.17 | 0.00 | 39.84  |
| F35     | 398.47 | 0.00 | 39.69  |
| F34     | 389.77 | 0.00 | 39.54  |
| F33     | 381.07 | 0.00 | 39.39  |
| F32     | 372.37 | 0.00 | 39.23  |
| F31     | 363.67 | 0.00 | 39.08  |
| F30     | 354.97 | 0.00 | 38.92  |
| F29     | 346.27 | 0.00 | 38.76  |
| F28     | 337.57 | 0.00 | 38.59  |
| F27     | 328.87 | 0.00 | 38.42  |
| F26     | 320.17 | 0.00 | 38.25  |
| F25     | 311.47 | 0.00 | 38.08  |
| F24     | 302.77 | 0.00 | 37.90  |
| F23     | 294.07 | 0.00 | 37.71  |
| F22     | 285.37 | 0.00 | 37.53  |
| F21     | 276.67 | 0.00 | 37.34  |
| F20     | 267.97 | 0.00 | 37.14  |
| F19     | 259.27 | 0.00 | 36.94  |
| F18     | 250.57 | 0.00 | 36.74  |
| F17     | 241.87 | 0.00 | 36.48  |
| F16     | 233.17 | 0.00 | 38.52  |
| F15     | 224.47 | 0.00 | 40.70  |
| F14     | 215.77 | 0.00 | 42.81  |
| F13     | 207.07 | 0.00 | 35.71  |
| F12     | 198.37 | 0.00 | 62.03  |
| F11demo | 189.67 | ---  | ---    |
| F11     | 180.97 | 0.00 | 78.62  |
| F9demo  | 172.26 | ---  | ---    |
| F10     | 163.55 | 0.00 | 74.65  |
| F9      | 147.55 | 0.00 | 100.74 |
| F8      | 132.55 | 0.00 | 108.11 |
| F7      | 120.39 | 0.00 | 25.29  |
| F6      | 108.23 | 0.00 | 29.11  |
| F5      | 93.02  | 0.00 | 30.28  |
| F4      | 76.98  | 0.00 | 30.06  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |       |      |         |
|---------|-------|------|---------|
| F3      | 61.00 | 0.00 | 145.69  |
| F2      | 49.00 | 0.00 | 62.94   |
| Fground | 30.00 | 0.00 | 75.70   |
| Cellar  | 15.00 | 0.00 | 60.35   |
|         |       | 0.00 | 2279.21 |

**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_3\_X+Y

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 7.15       | 24.14      | 102.67  | 28.55   |
| F46MEP  | 1       | 502.33   | 13.91      | 46.45      | 102.67  | 32.07   |
| F45     | 1       | 492.91   | 15.40      | 48.34      | 102.67  | 33.92   |
| F44     | 1       | 481.91   | 17.64      | 55.40      | 102.67  | 33.92   |
| F43     | 1       | 469.41   | 16.10      | 49.77      | 102.67  | 34.40   |
| F42     | 1       | 460.71   | 13.42      | 40.69      | 102.67  | 35.08   |
| F41     | 1       | 452.01   | 14.40      | 43.68      | 102.67  | 35.08   |
| F40     | 1       | 441.97   | 14.34      | 43.52      | 102.67  | 35.08   |
| F39     | 1       | 433.27   | 13.25      | 40.26      | 102.67  | 35.08   |
| F38     | 1       | 424.57   | 13.20      | 40.12      | 102.67  | 35.08   |
| F37     | 1       | 415.87   | 13.14      | 39.98      | 102.67  | 35.08   |
| F36     | 1       | 407.17   | 13.08      | 39.84      | 102.67  | 35.08   |
| F35     | 1       | 398.47   | 13.02      | 39.69      | 102.67  | 35.08   |
| F34     | 1       | 389.77   | 12.97      | 39.54      | 102.67  | 35.08   |
| F33     | 1       | 381.07   | 12.91      | 39.39      | 102.67  | 35.08   |
| F32     | 1       | 372.37   | 12.84      | 39.23      | 102.67  | 35.08   |
| F31     | 1       | 363.67   | 12.78      | 39.08      | 102.67  | 35.08   |
| F30     | 1       | 354.97   | 12.72      | 38.92      | 102.67  | 35.08   |
| F29     | 1       | 346.27   | 12.65      | 38.76      | 102.67  | 35.08   |
| F28     | 1       | 337.57   | 12.59      | 38.59      | 102.67  | 35.08   |
| F27     | 1       | 328.87   | 12.52      | 38.42      | 102.67  | 35.08   |
| F26     | 1       | 320.17   | 12.45      | 38.25      | 102.67  | 35.08   |
| F25     | 1       | 311.47   | 12.38      | 38.08      | 102.67  | 35.08   |
| F24     | 1       | 302.77   | 12.31      | 37.90      | 102.67  | 35.08   |
| F23     | 1       | 294.07   | 12.24      | 37.71      | 102.67  | 35.08   |
| F22     | 1       | 285.37   | 12.17      | 37.53      | 102.67  | 35.08   |
| F21     | 1       | 276.67   | 12.09      | 37.34      | 102.67  | 35.08   |
| F20     | 1       | 267.97   | 12.01      | 37.14      | 102.67  | 35.08   |
| F19     | 1       | 259.27   | 11.93      | 36.94      | 102.67  | 35.08   |
| F18     | 1       | 250.57   | 11.85      | 36.74      | 102.67  | 35.08   |
| F17     | 1       | 241.87   | 11.73      | 36.48      | 102.67  | 35.08   |
| F16     | 1       | 233.17   | 11.51      | 38.52      | 108.68  | 35.08   |
| F15     | 1       | 224.47   | 11.39      | 40.70      | 114.00  | 35.08   |
| F14     | 1       | 215.77   | 11.35      | 42.81      | 118.48  | 35.08   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |       |        |        |       |
|---------|-----|--------|-------|--------|--------|-------|
| F13     | 1   | 207.07 | 11.84 | 35.71  | 103.17 | 36.45 |
| F12     | 1   | 198.37 | 18.16 | 62.03  | 117.09 | 37.89 |
| F11demo | --- | ---    | ---   | ---    | ---    | ---   |
| F11     | 1   | 180.97 | 23.92 | 78.62  | 114.00 | 37.97 |
| F9demo  | --- | ---    | ---   | ---    | ---    | ---   |
| F10     | 1   | 163.55 | 24.53 | 74.65  | 114.55 | 39.71 |
| F9      | 1   | 147.55 | 26.39 | 100.74 | 130.92 | 48.74 |
| F8      | 1   | 132.55 | 26.23 | 108.11 | 106.78 | 51.81 |
| F7      | 1   | 120.39 | 25.84 | 25.29  | 42.79  | 51.81 |
| F6      | 1   | 108.23 | 30.79 | 29.11  | 41.20  | 54.28 |
| F5      | 1   | 93.02  | 31.86 | 30.28  | 44.34  | 50.46 |
| F4      | 1   | 76.98  | 30.62 | 30.06  | 44.34  | 50.46 |
| F3      | 1   | 61.00  | 22.88 | 145.69 | 126.29 | 48.57 |
| F2      | 1   | 49.00  | 22.36 | 62.94  | 104.17 | 50.13 |
| Fground | 1   | 30.00  | 26.58 | 75.70  | 100.34 | 57.44 |
| Cellar  | 1   | 15.00  | 21.40 | 60.35  | 101.55 | 57.60 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |
| F29     | 1       | 0.000          | 0.000          |
| F28     | 1       | 0.000          | 0.000          |
| F27     | 1       | 0.000          | 0.000          |
| F26     | 1       | 0.000          | 0.000          |
| F25     | 1       | 0.000          | 0.000          |
| F24     | 1       | 0.000          | 0.000          |
| F23     | 1       | 0.000          | 0.000          |
| F22     | 1       | 0.000          | 0.000          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F21    | 1 | 0.000 | 0.000 |
| F20    | 1 | 0.000 | 0.000 |
| F19    | 1 | 0.000 | 0.000 |
| F18    | 1 | 0.000 | 0.000 |
| F17    | 1 | 0.000 | 0.000 |
| F16    | 1 | 0.000 | 0.000 |
| F15    | 1 | 0.000 | 0.000 |
| F14    | 1 | 0.000 | 0.000 |
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_3\_X+Y

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 7.15       | 24.14      |
| F46MEP  | 502.33   | 13.91      | 46.45      |
| F45     | 492.91   | 15.40      | 48.34      |
| F44     | 481.91   | 17.64      | 55.40      |
| F43     | 469.41   | 16.10      | 49.77      |
| F42     | 460.71   | 13.42      | 40.69      |
| F41     | 452.01   | 14.40      | 43.68      |
| F40     | 441.97   | 14.34      | 43.52      |
| F39     | 433.27   | 13.25      | 40.26      |
| F38     | 424.57   | 13.20      | 40.12      |
| F37     | 415.87   | 13.14      | 39.98      |
| F36     | 407.17   | 13.08      | 39.84      |
| F35     | 398.47   | 13.02      | 39.69      |
| F34     | 389.77   | 12.97      | 39.54      |
| F33     | 381.07   | 12.91      | 39.39      |
| F32     | 372.37   | 12.84      | 39.23      |
| F31     | 363.67   | 12.78      | 39.08      |
| F30     | 354.97   | 12.72      | 38.92      |
| F29     | 346.27   | 12.65      | 38.76      |
| F28     | 337.57   | 12.59      | 38.59      |
| F27     | 328.87   | 12.52      | 38.42      |
| F26     | 320.17   | 12.45      | 38.25      |
| F25     | 311.47   | 12.38      | 38.08      |
| F24     | 302.77   | 12.31      | 37.90      |
| F23     | 294.07   | 12.24      | 37.71      |
| F22     | 285.37   | 12.17      | 37.53      |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |         |
|---------|--------|--------|---------|
| F21     | 276.67 | 12.09  | 37.34   |
| F20     | 267.97 | 12.01  | 37.14   |
| F19     | 259.27 | 11.93  | 36.94   |
| F18     | 250.57 | 11.85  | 36.74   |
| F17     | 241.87 | 11.73  | 36.48   |
| F16     | 233.17 | 11.51  | 38.52   |
| F15     | 224.47 | 11.39  | 40.70   |
| F14     | 215.77 | 11.35  | 42.81   |
| F13     | 207.07 | 11.84  | 35.71   |
| F12     | 198.37 | 18.16  | 62.03   |
| F11demo | 189.67 | ---    | ---     |
| F11     | 180.97 | 23.92  | 78.62   |
| F9demo  | 172.26 | ---    | ---     |
| F10     | 163.55 | 24.53  | 74.65   |
| F9      | 147.55 | 26.39  | 100.74  |
| F8      | 132.55 | 26.23  | 108.11  |
| F7      | 120.39 | 25.84  | 25.29   |
| F6      | 108.23 | 30.79  | 29.11   |
| F5      | 93.02  | 31.86  | 30.28   |
| F4      | 76.98  | 30.62  | 30.06   |
| F3      | 61.00  | 22.88  | 145.69  |
| F2      | 49.00  | 22.36  | 62.94   |
| Fground | 30.00  | 26.58  | 75.70   |
| Cellar  | 15.00  | 21.40  | 60.35   |
|         |        | <hr/>  | <hr/>   |
|         |        | 778.88 | 2279.21 |

**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_3\_X-Y

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 7.15       | -24.14     | 102.67  | 28.55   |
| F46MEP  | 1       | 502.33   | 13.91      | -46.45     | 102.67  | 32.07   |
| F45     | 1       | 492.91   | 15.40      | -48.34     | 102.67  | 33.92   |
| F44     | 1       | 481.91   | 17.64      | -55.40     | 102.67  | 33.92   |
| F43     | 1       | 469.41   | 16.10      | -49.77     | 102.67  | 34.40   |
| F42     | 1       | 460.71   | 13.42      | -40.69     | 102.67  | 35.08   |
| F41     | 1       | 452.01   | 14.40      | -43.68     | 102.67  | 35.08   |
| F40     | 1       | 441.97   | 14.34      | -43.52     | 102.67  | 35.08   |
| F39     | 1       | 433.27   | 13.25      | -40.26     | 102.67  | 35.08   |
| F38     | 1       | 424.57   | 13.20      | -40.12     | 102.67  | 35.08   |
| F37     | 1       | 415.87   | 13.14      | -39.98     | 102.67  | 35.08   |
| F36     | 1       | 407.17   | 13.08      | -39.84     | 102.67  | 35.08   |
| F35     | 1       | 398.47   | 13.02      | -39.69     | 102.67  | 35.08   |
| F34     | 1       | 389.77   | 12.97      | -39.54     | 102.67  | 35.08   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |       |         |        |       |
|---------|-----|--------|-------|---------|--------|-------|
| F33     | 1   | 381.07 | 12.91 | -39.39  | 102.67 | 35.08 |
| F32     | 1   | 372.37 | 12.84 | -39.23  | 102.67 | 35.08 |
| F31     | 1   | 363.67 | 12.78 | -39.08  | 102.67 | 35.08 |
| F30     | 1   | 354.97 | 12.72 | -38.92  | 102.67 | 35.08 |
| F29     | 1   | 346.27 | 12.65 | -38.76  | 102.67 | 35.08 |
| F28     | 1   | 337.57 | 12.59 | -38.59  | 102.67 | 35.08 |
| F27     | 1   | 328.87 | 12.52 | -38.42  | 102.67 | 35.08 |
| F26     | 1   | 320.17 | 12.45 | -38.25  | 102.67 | 35.08 |
| F25     | 1   | 311.47 | 12.38 | -38.08  | 102.67 | 35.08 |
| F24     | 1   | 302.77 | 12.31 | -37.90  | 102.67 | 35.08 |
| F23     | 1   | 294.07 | 12.24 | -37.71  | 102.67 | 35.08 |
| F22     | 1   | 285.37 | 12.17 | -37.53  | 102.67 | 35.08 |
| F21     | 1   | 276.67 | 12.09 | -37.34  | 102.67 | 35.08 |
| F20     | 1   | 267.97 | 12.01 | -37.14  | 102.67 | 35.08 |
| F19     | 1   | 259.27 | 11.93 | -36.94  | 102.67 | 35.08 |
| F18     | 1   | 250.57 | 11.85 | -36.74  | 102.67 | 35.08 |
| F17     | 1   | 241.87 | 11.73 | -36.48  | 102.67 | 35.08 |
| F16     | 1   | 233.17 | 11.51 | -38.52  | 108.68 | 35.08 |
| F15     | 1   | 224.47 | 11.39 | -40.70  | 114.00 | 35.08 |
| F14     | 1   | 215.77 | 11.35 | -42.81  | 118.48 | 35.08 |
| F13     | 1   | 207.07 | 11.84 | -35.71  | 103.17 | 36.45 |
| F12     | 1   | 198.37 | 18.16 | -62.03  | 117.09 | 37.89 |
| F11demo | --- | ---    | ---   | ---     | ---    | ---   |
| F11     | 1   | 180.97 | 23.92 | -78.62  | 114.00 | 37.97 |
| F9demo  | --- | ---    | ---   | ---     | ---    | ---   |
| F10     | 1   | 163.55 | 24.53 | -74.65  | 114.55 | 39.71 |
| F9      | 1   | 147.55 | 26.39 | -100.74 | 130.92 | 48.74 |
| F8      | 1   | 132.55 | 26.23 | -108.11 | 106.78 | 51.81 |
| F7      | 1   | 120.39 | 25.84 | -25.29  | 42.79  | 51.81 |
| F6      | 1   | 108.23 | 30.79 | -29.11  | 41.20  | 54.28 |
| F5      | 1   | 93.02  | 31.86 | -30.28  | 44.34  | 50.46 |
| F4      | 1   | 76.98  | 30.62 | -30.06  | 44.34  | 50.46 |
| F3      | 1   | 61.00  | 22.88 | -145.69 | 126.29 | 48.57 |
| F2      | 1   | 49.00  | 22.36 | -62.94  | 104.17 | 50.13 |
| Fground | 1   | 30.00  | 26.58 | -75.70  | 100.34 | 57.44 |
| Cellar  | 1   | 15.00  | 21.40 | -60.35  | 101.55 | 57.60 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F41    | 1 | 0.000 | 0.000 |
| F40    | 1 | 0.000 | 0.000 |
| F39    | 1 | 0.000 | 0.000 |
| F38    | 1 | 0.000 | 0.000 |
| F37    | 1 | 0.000 | 0.000 |
| F36    | 1 | 0.000 | 0.000 |
| F35    | 1 | 0.000 | 0.000 |
| F34    | 1 | 0.000 | 0.000 |
| F33    | 1 | 0.000 | 0.000 |
| F32    | 1 | 0.000 | 0.000 |
| F31    | 1 | 0.000 | 0.000 |
| F30    | 1 | 0.000 | 0.000 |
| F29    | 1 | 0.000 | 0.000 |
| F28    | 1 | 0.000 | 0.000 |
| F27    | 1 | 0.000 | 0.000 |
| F26    | 1 | 0.000 | 0.000 |
| F25    | 1 | 0.000 | 0.000 |
| F24    | 1 | 0.000 | 0.000 |
| F23    | 1 | 0.000 | 0.000 |
| F22    | 1 | 0.000 | 0.000 |
| F21    | 1 | 0.000 | 0.000 |
| F20    | 1 | 0.000 | 0.000 |
| F19    | 1 | 0.000 | 0.000 |
| F18    | 1 | 0.000 | 0.000 |
| F17    | 1 | 0.000 | 0.000 |
| F16    | 1 | 0.000 | 0.000 |
| F15    | 1 | 0.000 | 0.000 |
| F14    | 1 | 0.000 | 0.000 |
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_3\_X-Y

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 7.15       | -24.14     |
| F46MEP  | 502.33   | 13.91      | -46.45     |
| F45     | 492.91   | 15.40      | -48.34     |
| F44     | 481.91   | 17.64      | -55.40     |
| F43     | 469.41   | 16.10      | -49.77     |
| F42     | 460.71   | 13.42      | -40.69     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |       |         |
|---------|--------|-------|---------|
| F41     | 452.01 | 14.40 | -43.68  |
| F40     | 441.97 | 14.34 | -43.52  |
| F39     | 433.27 | 13.25 | -40.26  |
| F38     | 424.57 | 13.20 | -40.12  |
| F37     | 415.87 | 13.14 | -39.98  |
| F36     | 407.17 | 13.08 | -39.84  |
| F35     | 398.47 | 13.02 | -39.69  |
| F34     | 389.77 | 12.97 | -39.54  |
| F33     | 381.07 | 12.91 | -39.39  |
| F32     | 372.37 | 12.84 | -39.23  |
| F31     | 363.67 | 12.78 | -39.08  |
| F30     | 354.97 | 12.72 | -38.92  |
| F29     | 346.27 | 12.65 | -38.76  |
| F28     | 337.57 | 12.59 | -38.59  |
| F27     | 328.87 | 12.52 | -38.42  |
| F26     | 320.17 | 12.45 | -38.25  |
| F25     | 311.47 | 12.38 | -38.08  |
| F24     | 302.77 | 12.31 | -37.90  |
| F23     | 294.07 | 12.24 | -37.71  |
| F22     | 285.37 | 12.17 | -37.53  |
| F21     | 276.67 | 12.09 | -37.34  |
| F20     | 267.97 | 12.01 | -37.14  |
| F19     | 259.27 | 11.93 | -36.94  |
| F18     | 250.57 | 11.85 | -36.74  |
| F17     | 241.87 | 11.73 | -36.48  |
| F16     | 233.17 | 11.51 | -38.52  |
| F15     | 224.47 | 11.39 | -40.70  |
| F14     | 215.77 | 11.35 | -42.81  |
| F13     | 207.07 | 11.84 | -35.71  |
| F12     | 198.37 | 18.16 | -62.03  |
| F11demo | 189.67 | ---   | ---     |
| F11     | 180.97 | 23.92 | -78.62  |
| F9demo  | 172.26 | ---   | ---     |
| F10     | 163.55 | 24.53 | -74.65  |
| F9      | 147.55 | 26.39 | -100.74 |
| F8      | 132.55 | 26.23 | -108.11 |
| F7      | 120.39 | 25.84 | -25.29  |
| F6      | 108.23 | 30.79 | -29.11  |
| F5      | 93.02  | 31.86 | -30.28  |
| F4      | 76.98  | 30.62 | -30.06  |
| F3      | 61.00  | 22.88 | -145.69 |
| F2      | 49.00  | 22.36 | -62.94  |
| Fground | 30.00  | 26.58 | -75.70  |
| Cellar  | 15.00  | 21.40 | -60.35  |

778.88 -2279.21



**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_4\_X+Y\_CW

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 5.36       | 18.10      | 78.78   | 37.78   |
| F46MEP  | 1       | 502.33   | 10.44      | 34.84      | 78.81   | 42.46   |
| F45     | 1       | 492.91   | 11.55      | 36.25      | 78.78   | 44.30   |
| F44     | 1       | 481.91   | 13.23      | 41.55      | 78.69   | 44.26   |
| F43     | 1       | 469.41   | 12.07      | 37.33      | 78.68   | 45.27   |
| F42     | 1       | 460.71   | 10.07      | 30.52      | 78.66   | 46.00   |
| F41     | 1       | 452.01   | 10.80      | 32.76      | 78.59   | 45.98   |
| F40     | 1       | 441.97   | 10.75      | 32.64      | 78.53   | 45.98   |
| F39     | 1       | 433.27   | 9.94       | 30.20      | 78.49   | 45.98   |
| F38     | 1       | 424.57   | 9.90       | 30.09      | 78.42   | 45.97   |
| F37     | 1       | 415.87   | 9.86       | 29.99      | 78.39   | 45.98   |
| F36     | 1       | 407.17   | 9.81       | 29.88      | 78.30   | 45.97   |
| F35     | 1       | 398.47   | 9.77       | 29.77      | 78.19   | 45.96   |
| F34     | 1       | 389.77   | 9.72       | 29.65      | 78.07   | 45.95   |
| F33     | 1       | 381.07   | 9.68       | 29.54      | 77.93   | 45.94   |
| F32     | 1       | 372.37   | 9.63       | 29.43      | 77.77   | 45.92   |
| F31     | 1       | 363.67   | 9.59       | 29.31      | 77.58   | 45.90   |
| F30     | 1       | 354.97   | 9.54       | 29.19      | 77.37   | 45.88   |
| F29     | 1       | 346.27   | 9.49       | 29.07      | 77.12   | 45.85   |
| F28     | 1       | 337.57   | 9.44       | 28.94      | 76.83   | 45.82   |
| F27     | 1       | 328.87   | 9.39       | 28.82      | 76.51   | 45.79   |
| F26     | 1       | 320.17   | 9.34       | 28.69      | 76.14   | 45.75   |
| F25     | 1       | 311.47   | 9.29       | 28.56      | 75.74   | 45.71   |
| F24     | 1       | 302.77   | 9.23       | 28.42      | 75.32   | 45.68   |
| F23     | 1       | 294.07   | 9.18       | 28.29      | 74.84   | 45.63   |
| F22     | 1       | 285.37   | 9.12       | 28.15      | 74.34   | 45.59   |
| F21     | 1       | 276.67   | 9.07       | 28.00      | 73.85   | 45.55   |
| F20     | 1       | 267.97   | 9.01       | 27.86      | 73.39   | 45.52   |
| F19     | 1       | 259.27   | 8.95       | 27.71      | 73.01   | 45.49   |
| F18     | 1       | 250.57   | 8.89       | 27.56      | 72.73   | 45.47   |
| F17     | 1       | 241.87   | 8.80       | 27.36      | 72.61   | 45.46   |
| F16     | 1       | 233.17   | 8.63       | 28.89      | 78.69   | 45.51   |
| F15     | 1       | 224.47   | 8.54       | 30.53      | 84.30   | 45.53   |
| F14     | 1       | 215.77   | 8.51       | 32.11      | 89.28   | 45.58   |
| F13     | 1       | 207.07   | 8.88       | 26.78      | 75.28   | 47.68   |
| F12     | 1       | 198.37   | 13.62      | 46.53      | 87.66   | 49.24   |
| F11demo | ---     | ---      | ---        | ---        | ---     | ---     |
| F11     | 1       | 180.97   | 17.94      | 58.96      | 83.21   | 49.27   |
| F9demo  | ---     | ---      | ---        | ---        | ---     | ---     |
| F10     | 1       | 163.55   | 18.40      | 55.99      | 84.72   | 52.62   |
| F9      | 1       | 147.55   | 19.79      | 75.55      | 97.78   | 64.47   |
| F8      | 1       | 132.55   | 19.68      | 81.08      | 78.29   | 67.35   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |   |        |       |        |       |       |
|---------|---|--------|-------|--------|-------|-------|
| F7      | 1 | 120.39 | 19.38 | 18.97  | 9.82  | 67.18 |
| F6      | 1 | 108.23 | 23.09 | 21.83  | 11.07 | 69.62 |
| F5      | 1 | 93.02  | 23.90 | 22.71  | 15.34 | 65.32 |
| F4      | 1 | 76.98  | 22.97 | 22.54  | 16.64 | 65.35 |
| F3      | 1 | 61.00  | 17.16 | 109.27 | 94.11 | 63.71 |
| F2      | 1 | 49.00  | 16.77 | 47.20  | 66.23 | 65.27 |
| Fground | 1 | 30.00  | 19.94 | 56.77  | 62.33 | 75.30 |
| Cellar  | 1 | 15.00  | 16.05 | 45.26  | 63.23 | 75.08 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |
| F29     | 1       | 0.000          | 0.000          |
| F28     | 1       | 0.000          | 0.000          |
| F27     | 1       | 0.000          | 0.000          |
| F26     | 1       | 0.000          | 0.000          |
| F25     | 1       | 0.000          | 0.000          |
| F24     | 1       | 0.000          | 0.000          |
| F23     | 1       | 0.000          | 0.000          |
| F22     | 1       | 0.000          | 0.000          |
| F21     | 1       | 0.000          | 0.000          |
| F20     | 1       | 0.000          | 0.000          |
| F19     | 1       | 0.000          | 0.000          |
| F18     | 1       | 0.000          | 0.000          |
| F17     | 1       | 0.000          | 0.000          |
| F16     | 1       | 0.000          | 0.000          |
| F15     | 1       | 0.000          | 0.000          |
| F14     | 1       | 0.000          | 0.000          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_4\_X+Y\_CW

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 5.36       | 18.10      |
| F46MEP  | 502.33   | 10.44      | 34.84      |
| F45     | 492.91   | 11.55      | 36.25      |
| F44     | 481.91   | 13.23      | 41.55      |
| F43     | 469.41   | 12.07      | 37.33      |
| F42     | 460.71   | 10.07      | 30.52      |
| F41     | 452.01   | 10.80      | 32.76      |
| F40     | 441.97   | 10.75      | 32.64      |
| F39     | 433.27   | 9.94       | 30.20      |
| F38     | 424.57   | 9.90       | 30.09      |
| F37     | 415.87   | 9.86       | 29.99      |
| F36     | 407.17   | 9.81       | 29.88      |
| F35     | 398.47   | 9.77       | 29.77      |
| F34     | 389.77   | 9.72       | 29.65      |
| F33     | 381.07   | 9.68       | 29.54      |
| F32     | 372.37   | 9.63       | 29.43      |
| F31     | 363.67   | 9.59       | 29.31      |
| F30     | 354.97   | 9.54       | 29.19      |
| F29     | 346.27   | 9.49       | 29.07      |
| F28     | 337.57   | 9.44       | 28.94      |
| F27     | 328.87   | 9.39       | 28.82      |
| F26     | 320.17   | 9.34       | 28.69      |
| F25     | 311.47   | 9.29       | 28.56      |
| F24     | 302.77   | 9.23       | 28.42      |
| F23     | 294.07   | 9.18       | 28.29      |
| F22     | 285.37   | 9.12       | 28.15      |
| F21     | 276.67   | 9.07       | 28.00      |
| F20     | 267.97   | 9.01       | 27.86      |
| F19     | 259.27   | 8.95       | 27.71      |
| F18     | 250.57   | 8.89       | 27.56      |
| F17     | 241.87   | 8.80       | 27.36      |
| F16     | 233.17   | 8.63       | 28.89      |
| F15     | 224.47   | 8.54       | 30.53      |
| F14     | 215.77   | 8.51       | 32.11      |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |         |
|---------|--------|--------|---------|
| F13     | 207.07 | 8.88   | 26.78   |
| F12     | 198.37 | 13.62  | 46.53   |
| F11demo | 189.67 | ---    | ---     |
| F11     | 180.97 | 17.94  | 58.96   |
| F9demo  | 172.26 | ---    | ---     |
| F10     | 163.55 | 18.40  | 55.99   |
| F9      | 147.55 | 19.79  | 75.55   |
| F8      | 132.55 | 19.68  | 81.08   |
| F7      | 120.39 | 19.38  | 18.97   |
| F6      | 108.23 | 23.09  | 21.83   |
| F5      | 93.02  | 23.90  | 22.71   |
| F4      | 76.98  | 22.97  | 22.54   |
| F3      | 61.00  | 17.16  | 109.27  |
| F2      | 49.00  | 16.77  | 47.20   |
| Fground | 30.00  | 19.94  | 56.77   |
| Cellar  | 15.00  | 16.05  | 45.26   |
|         |        | <hr/>  | <hr/>   |
|         |        | 584.16 | 1709.41 |

**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_4\_X+Y\_CCW

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 5.36       | 18.10      | 126.56  | 19.32   |
| F46MEP  | 1       | 502.33   | 10.44      | 34.84      | 126.52  | 21.68   |
| F45     | 1       | 492.91   | 11.55      | 36.25      | 126.56  | 23.54   |
| F44     | 1       | 481.91   | 13.23      | 41.55      | 126.65  | 23.57   |
| F43     | 1       | 469.41   | 12.07      | 37.33      | 126.65  | 23.54   |
| F42     | 1       | 460.71   | 10.07      | 30.52      | 126.68  | 24.17   |
| F41     | 1       | 452.01   | 10.80      | 32.76      | 126.74  | 24.19   |
| F40     | 1       | 441.97   | 10.75      | 32.64      | 126.80  | 24.19   |
| F39     | 1       | 433.27   | 9.94       | 30.20      | 126.85  | 24.19   |
| F38     | 1       | 424.57   | 9.90       | 30.09      | 126.92  | 24.19   |
| F37     | 1       | 415.87   | 9.86       | 29.99      | 126.94  | 24.19   |
| F36     | 1       | 407.17   | 9.81       | 29.88      | 127.03  | 24.19   |
| F35     | 1       | 398.47   | 9.77       | 29.77      | 127.14  | 24.21   |
| F34     | 1       | 389.77   | 9.72       | 29.65      | 127.26  | 24.22   |
| F33     | 1       | 381.07   | 9.68       | 29.54      | 127.40  | 24.23   |
| F32     | 1       | 372.37   | 9.63       | 29.43      | 127.56  | 24.25   |
| F31     | 1       | 363.67   | 9.59       | 29.31      | 127.75  | 24.27   |
| F30     | 1       | 354.97   | 9.54       | 29.19      | 127.97  | 24.29   |
| F29     | 1       | 346.27   | 9.49       | 29.07      | 128.22  | 24.32   |
| F28     | 1       | 337.57   | 9.44       | 28.94      | 128.50  | 24.35   |
| F27     | 1       | 328.87   | 9.39       | 28.82      | 128.83  | 24.38   |
| F26     | 1       | 320.17   | 9.34       | 28.69      | 129.19  | 24.42   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |       |        |        |       |
|---------|-----|--------|-------|--------|--------|-------|
| F25     | 1   | 311.47 | 9.29  | 28.56  | 129.59 | 24.45 |
| F24     | 1   | 302.77 | 9.23  | 28.42  | 130.02 | 24.49 |
| F23     | 1   | 294.07 | 9.18  | 28.29  | 130.50 | 24.54 |
| F22     | 1   | 285.37 | 9.12  | 28.15  | 131.00 | 24.58 |
| F21     | 1   | 276.67 | 9.07  | 28.00  | 131.49 | 24.62 |
| F20     | 1   | 267.97 | 9.01  | 27.86  | 131.94 | 24.65 |
| F19     | 1   | 259.27 | 8.95  | 27.71  | 132.32 | 24.68 |
| F18     | 1   | 250.57 | 8.89  | 27.56  | 132.61 | 24.70 |
| F17     | 1   | 241.87 | 8.80  | 27.36  | 132.72 | 24.71 |
| F16     | 1   | 233.17 | 8.63  | 28.89  | 138.67 | 24.66 |
| F15     | 1   | 224.47 | 8.54  | 30.53  | 143.70 | 24.63 |
| F14     | 1   | 215.77 | 8.51  | 32.11  | 147.68 | 24.59 |
| F13     | 1   | 207.07 | 8.88  | 26.78  | 131.06 | 25.21 |
| F12     | 1   | 198.37 | 13.62 | 46.53  | 146.53 | 26.53 |
| F11demo | --- | ---    | ---   | ---    | ---    | ---   |
| F11     | 1   | 180.97 | 17.94 | 58.96  | 144.79 | 26.67 |
| F9demo  | --- | ---    | ---   | ---    | ---    | ---   |
| F10     | 1   | 163.55 | 18.40 | 55.99  | 144.38 | 26.81 |
| F9      | 1   | 147.55 | 19.79 | 75.55  | 164.06 | 33.02 |
| F8      | 1   | 132.55 | 19.68 | 81.08  | 135.27 | 36.28 |
| F7      | 1   | 120.39 | 19.38 | 18.97  | 75.77  | 36.45 |
| F6      | 1   | 108.23 | 23.09 | 21.83  | 71.33  | 38.94 |
| F5      | 1   | 93.02  | 23.90 | 22.71  | 73.33  | 35.60 |
| F4      | 1   | 76.98  | 22.97 | 22.54  | 72.03  | 35.57 |
| F3      | 1   | 61.00  | 17.16 | 109.27 | 158.48 | 33.44 |
| F2      | 1   | 49.00  | 16.77 | 47.20  | 142.11 | 34.99 |
| Fground | 1   | 30.00  | 19.94 | 56.77  | 138.34 | 39.58 |
| Cellar  | 1   | 15.00  | 16.05 | 45.26  | 139.86 | 40.12 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F33    | 1 | 0.000 | 0.000 |
| F32    | 1 | 0.000 | 0.000 |
| F31    | 1 | 0.000 | 0.000 |
| F30    | 1 | 0.000 | 0.000 |
| F29    | 1 | 0.000 | 0.000 |
| F28    | 1 | 0.000 | 0.000 |
| F27    | 1 | 0.000 | 0.000 |
| F26    | 1 | 0.000 | 0.000 |
| F25    | 1 | 0.000 | 0.000 |
| F24    | 1 | 0.000 | 0.000 |
| F23    | 1 | 0.000 | 0.000 |
| F22    | 1 | 0.000 | 0.000 |
| F21    | 1 | 0.000 | 0.000 |
| F20    | 1 | 0.000 | 0.000 |
| F19    | 1 | 0.000 | 0.000 |
| F18    | 1 | 0.000 | 0.000 |
| F17    | 1 | 0.000 | 0.000 |
| F16    | 1 | 0.000 | 0.000 |
| F15    | 1 | 0.000 | 0.000 |
| F14    | 1 | 0.000 | 0.000 |
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_4\_X+Y\_CCW

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 5.36       | 18.10      |
| F46MEP  | 502.33   | 10.44      | 34.84      |
| F45     | 492.91   | 11.55      | 36.25      |
| F44     | 481.91   | 13.23      | 41.55      |
| F43     | 469.41   | 12.07      | 37.33      |
| F42     | 460.71   | 10.07      | 30.52      |
| F41     | 452.01   | 10.80      | 32.76      |
| F40     | 441.97   | 10.75      | 32.64      |
| F39     | 433.27   | 9.94       | 30.20      |
| F38     | 424.57   | 9.90       | 30.09      |
| F37     | 415.87   | 9.86       | 29.99      |
| F36     | 407.17   | 9.81       | 29.88      |
| F35     | 398.47   | 9.77       | 29.77      |
| F34     | 389.77   | 9.72       | 29.65      |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |         |
|---------|--------|--------|---------|
| F33     | 381.07 | 9.68   | 29.54   |
| F32     | 372.37 | 9.63   | 29.43   |
| F31     | 363.67 | 9.59   | 29.31   |
| F30     | 354.97 | 9.54   | 29.19   |
| F29     | 346.27 | 9.49   | 29.07   |
| F28     | 337.57 | 9.44   | 28.94   |
| F27     | 328.87 | 9.39   | 28.82   |
| F26     | 320.17 | 9.34   | 28.69   |
| F25     | 311.47 | 9.29   | 28.56   |
| F24     | 302.77 | 9.23   | 28.42   |
| F23     | 294.07 | 9.18   | 28.29   |
| F22     | 285.37 | 9.12   | 28.15   |
| F21     | 276.67 | 9.07   | 28.00   |
| F20     | 267.97 | 9.01   | 27.86   |
| F19     | 259.27 | 8.95   | 27.71   |
| F18     | 250.57 | 8.89   | 27.56   |
| F17     | 241.87 | 8.80   | 27.36   |
| F16     | 233.17 | 8.63   | 28.89   |
| F15     | 224.47 | 8.54   | 30.53   |
| F14     | 215.77 | 8.51   | 32.11   |
| F13     | 207.07 | 8.88   | 26.78   |
| F12     | 198.37 | 13.62  | 46.53   |
| F11demo | 189.67 | ---    | ---     |
| F11     | 180.97 | 17.94  | 58.96   |
| F9demo  | 172.26 | ---    | ---     |
| F10     | 163.55 | 18.40  | 55.99   |
| F9      | 147.55 | 19.79  | 75.55   |
| F8      | 132.55 | 19.68  | 81.08   |
| F7      | 120.39 | 19.38  | 18.97   |
| F6      | 108.23 | 23.09  | 21.83   |
| F5      | 93.02  | 23.90  | 22.71   |
| F4      | 76.98  | 22.97  | 22.54   |
| F3      | 61.00  | 17.16  | 109.27  |
| F2      | 49.00  | 16.77  | 47.20   |
| Fground | 30.00  | 19.94  | 56.77   |
| Cellar  | 15.00  | 16.05  | 45.26   |
|         |        | 584.16 | 1709.41 |

**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_4\_X-Y\_CW

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 5.36       | -18.10     | 126.56  | 37.78   |
| F46MEP  | 1       | 502.33   | 10.44      | -34.84     | 126.52  | 42.46   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |       |         |        |       |
|---------|-----|--------|-------|---------|--------|-------|
| F45     | 1   | 492.91 | 11.55 | -36.25  | 126.56 | 44.30 |
| F44     | 1   | 481.91 | 13.23 | -41.55  | 126.65 | 44.26 |
| F43     | 1   | 469.41 | 12.07 | -37.33  | 126.65 | 45.27 |
| F42     | 1   | 460.71 | 10.07 | -30.52  | 126.68 | 46.00 |
| F41     | 1   | 452.01 | 10.80 | -32.76  | 126.74 | 45.98 |
| F40     | 1   | 441.97 | 10.75 | -32.64  | 126.80 | 45.98 |
| F39     | 1   | 433.27 | 9.94  | -30.20  | 126.85 | 45.98 |
| F38     | 1   | 424.57 | 9.90  | -30.09  | 126.92 | 45.97 |
| F37     | 1   | 415.87 | 9.86  | -29.99  | 126.94 | 45.98 |
| F36     | 1   | 407.17 | 9.81  | -29.88  | 127.03 | 45.97 |
| F35     | 1   | 398.47 | 9.77  | -29.77  | 127.14 | 45.96 |
| F34     | 1   | 389.77 | 9.72  | -29.65  | 127.26 | 45.95 |
| F33     | 1   | 381.07 | 9.68  | -29.54  | 127.40 | 45.94 |
| F32     | 1   | 372.37 | 9.63  | -29.43  | 127.56 | 45.92 |
| F31     | 1   | 363.67 | 9.59  | -29.31  | 127.75 | 45.90 |
| F30     | 1   | 354.97 | 9.54  | -29.19  | 127.97 | 45.88 |
| F29     | 1   | 346.27 | 9.49  | -29.07  | 128.22 | 45.85 |
| F28     | 1   | 337.57 | 9.44  | -28.94  | 128.50 | 45.82 |
| F27     | 1   | 328.87 | 9.39  | -28.82  | 128.83 | 45.79 |
| F26     | 1   | 320.17 | 9.34  | -28.69  | 129.19 | 45.75 |
| F25     | 1   | 311.47 | 9.29  | -28.56  | 129.59 | 45.71 |
| F24     | 1   | 302.77 | 9.23  | -28.42  | 130.02 | 45.68 |
| F23     | 1   | 294.07 | 9.18  | -28.29  | 130.50 | 45.63 |
| F22     | 1   | 285.37 | 9.12  | -28.15  | 131.00 | 45.59 |
| F21     | 1   | 276.67 | 9.07  | -28.00  | 131.49 | 45.55 |
| F20     | 1   | 267.97 | 9.01  | -27.86  | 131.94 | 45.52 |
| F19     | 1   | 259.27 | 8.95  | -27.71  | 132.32 | 45.49 |
| F18     | 1   | 250.57 | 8.89  | -27.56  | 132.61 | 45.47 |
| F17     | 1   | 241.87 | 8.80  | -27.36  | 132.72 | 45.46 |
| F16     | 1   | 233.17 | 8.63  | -28.89  | 138.67 | 45.51 |
| F15     | 1   | 224.47 | 8.54  | -30.53  | 143.70 | 45.53 |
| F14     | 1   | 215.77 | 8.51  | -32.11  | 147.68 | 45.58 |
| F13     | 1   | 207.07 | 8.88  | -26.78  | 131.06 | 47.68 |
| F12     | 1   | 198.37 | 13.62 | -46.53  | 146.53 | 49.24 |
| F11demo | --- | ---    | ---   | ---     | ---    | ---   |
| F11     | 1   | 180.97 | 17.94 | -58.96  | 144.79 | 49.27 |
| F9demo  | --- | ---    | ---   | ---     | ---    | ---   |
| F10     | 1   | 163.55 | 18.40 | -55.99  | 144.38 | 52.62 |
| F9      | 1   | 147.55 | 19.79 | -75.55  | 164.06 | 64.47 |
| F8      | 1   | 132.55 | 19.68 | -81.08  | 135.27 | 67.35 |
| F7      | 1   | 120.39 | 19.38 | -18.97  | 75.77  | 67.18 |
| F6      | 1   | 108.23 | 23.09 | -21.83  | 71.33  | 69.62 |
| F5      | 1   | 93.02  | 23.90 | -22.71  | 73.33  | 65.32 |
| F4      | 1   | 76.98  | 22.97 | -22.54  | 72.03  | 65.35 |
| F3      | 1   | 61.00  | 17.16 | -109.27 | 158.48 | 63.71 |
| F2      | 1   | 49.00  | 16.77 | -47.20  | 142.11 | 65.27 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |   |       |       |        |        |       |
|---------|---|-------|-------|--------|--------|-------|
| Fground | 1 | 30.00 | 19.94 | -56.77 | 138.34 | 75.30 |
| Cellar  | 1 | 15.00 | 16.05 | -45.26 | 139.86 | 75.08 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |
| F29     | 1       | 0.000          | 0.000          |
| F28     | 1       | 0.000          | 0.000          |
| F27     | 1       | 0.000          | 0.000          |
| F26     | 1       | 0.000          | 0.000          |
| F25     | 1       | 0.000          | 0.000          |
| F24     | 1       | 0.000          | 0.000          |
| F23     | 1       | 0.000          | 0.000          |
| F22     | 1       | 0.000          | 0.000          |
| F21     | 1       | 0.000          | 0.000          |
| F20     | 1       | 0.000          | 0.000          |
| F19     | 1       | 0.000          | 0.000          |
| F18     | 1       | 0.000          | 0.000          |
| F17     | 1       | 0.000          | 0.000          |
| F16     | 1       | 0.000          | 0.000          |
| F15     | 1       | 0.000          | 0.000          |
| F14     | 1       | 0.000          | 0.000          |
| F13     | 1       | 0.000          | 0.000          |
| F12     | 1       | 0.000          | 0.000          |
| F11     | 1       | 0.000          | 0.000          |
| F8      | 1       | 0.000          | 0.000          |
| Cellar  | 1       | 0.000          | 0.000          |



0.00

0.00

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_4\_X-Y\_CW

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 5.36       | -18.10     |
| F46MEP  | 502.33   | 10.44      | -34.84     |
| F45     | 492.91   | 11.55      | -36.25     |
| F44     | 481.91   | 13.23      | -41.55     |
| F43     | 469.41   | 12.07      | -37.33     |
| F42     | 460.71   | 10.07      | -30.52     |
| F41     | 452.01   | 10.80      | -32.76     |
| F40     | 441.97   | 10.75      | -32.64     |
| F39     | 433.27   | 9.94       | -30.20     |
| F38     | 424.57   | 9.90       | -30.09     |
| F37     | 415.87   | 9.86       | -29.99     |
| F36     | 407.17   | 9.81       | -29.88     |
| F35     | 398.47   | 9.77       | -29.77     |
| F34     | 389.77   | 9.72       | -29.65     |
| F33     | 381.07   | 9.68       | -29.54     |
| F32     | 372.37   | 9.63       | -29.43     |
| F31     | 363.67   | 9.59       | -29.31     |
| F30     | 354.97   | 9.54       | -29.19     |
| F29     | 346.27   | 9.49       | -29.07     |
| F28     | 337.57   | 9.44       | -28.94     |
| F27     | 328.87   | 9.39       | -28.82     |
| F26     | 320.17   | 9.34       | -28.69     |
| F25     | 311.47   | 9.29       | -28.56     |
| F24     | 302.77   | 9.23       | -28.42     |
| F23     | 294.07   | 9.18       | -28.29     |
| F22     | 285.37   | 9.12       | -28.15     |
| F21     | 276.67   | 9.07       | -28.00     |
| F20     | 267.97   | 9.01       | -27.86     |
| F19     | 259.27   | 8.95       | -27.71     |
| F18     | 250.57   | 8.89       | -27.56     |
| F17     | 241.87   | 8.80       | -27.36     |
| F16     | 233.17   | 8.63       | -28.89     |
| F15     | 224.47   | 8.54       | -30.53     |
| F14     | 215.77   | 8.51       | -32.11     |
| F13     | 207.07   | 8.88       | -26.78     |
| F12     | 198.37   | 13.62      | -46.53     |
| F11demo | 189.67   | ---        | ---        |
| F11     | 180.97   | 17.94      | -58.96     |
| F9demo  | 172.26   | ---        | ---        |
| F10     | 163.55   | 18.40      | -55.99     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |          |
|---------|--------|--------|----------|
| F9      | 147.55 | 19.79  | -75.55   |
| F8      | 132.55 | 19.68  | -81.08   |
| F7      | 120.39 | 19.38  | -18.97   |
| F6      | 108.23 | 23.09  | -21.83   |
| F5      | 93.02  | 23.90  | -22.71   |
| F4      | 76.98  | 22.97  | -22.54   |
| F3      | 61.00  | 17.16  | -109.27  |
| F2      | 49.00  | 16.77  | -47.20   |
| Fground | 30.00  | 19.94  | -56.77   |
| Cellar  | 15.00  | 16.05  | -45.26   |
|         |        | <hr/>  | <hr/>    |
|         |        | 584.16 | -1709.41 |

**APPLIED DIAPHRAGM FORCES**

Type: Wind\_IBC09\_4\_X-Y\_CCW

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 5.36       | -18.10     | 78.78   | 19.32   |
| F46MEP  | 1       | 502.33   | 10.44      | -34.84     | 78.81   | 21.68   |
| F45     | 1       | 492.91   | 11.55      | -36.25     | 78.78   | 23.54   |
| F44     | 1       | 481.91   | 13.23      | -41.55     | 78.69   | 23.57   |
| F43     | 1       | 469.41   | 12.07      | -37.33     | 78.68   | 23.54   |
| F42     | 1       | 460.71   | 10.07      | -30.52     | 78.66   | 24.17   |
| F41     | 1       | 452.01   | 10.80      | -32.76     | 78.59   | 24.19   |
| F40     | 1       | 441.97   | 10.75      | -32.64     | 78.53   | 24.19   |
| F39     | 1       | 433.27   | 9.94       | -30.20     | 78.49   | 24.19   |
| F38     | 1       | 424.57   | 9.90       | -30.09     | 78.42   | 24.19   |
| F37     | 1       | 415.87   | 9.86       | -29.99     | 78.39   | 24.19   |
| F36     | 1       | 407.17   | 9.81       | -29.88     | 78.30   | 24.19   |
| F35     | 1       | 398.47   | 9.77       | -29.77     | 78.19   | 24.21   |
| F34     | 1       | 389.77   | 9.72       | -29.65     | 78.07   | 24.22   |
| F33     | 1       | 381.07   | 9.68       | -29.54     | 77.93   | 24.23   |
| F32     | 1       | 372.37   | 9.63       | -29.43     | 77.77   | 24.25   |
| F31     | 1       | 363.67   | 9.59       | -29.31     | 77.58   | 24.27   |
| F30     | 1       | 354.97   | 9.54       | -29.19     | 77.37   | 24.29   |
| F29     | 1       | 346.27   | 9.49       | -29.07     | 77.12   | 24.32   |
| F28     | 1       | 337.57   | 9.44       | -28.94     | 76.83   | 24.35   |
| F27     | 1       | 328.87   | 9.39       | -28.82     | 76.51   | 24.38   |
| F26     | 1       | 320.17   | 9.34       | -28.69     | 76.14   | 24.42   |
| F25     | 1       | 311.47   | 9.29       | -28.56     | 75.74   | 24.45   |
| F24     | 1       | 302.77   | 9.23       | -28.42     | 75.32   | 24.49   |
| F23     | 1       | 294.07   | 9.18       | -28.29     | 74.84   | 24.54   |
| F22     | 1       | 285.37   | 9.12       | -28.15     | 74.34   | 24.58   |
| F21     | 1       | 276.67   | 9.07       | -28.00     | 73.85   | 24.62   |
| F20     | 1       | 267.97   | 9.01       | -27.86     | 73.39   | 24.65   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |       |         |       |       |
|---------|-----|--------|-------|---------|-------|-------|
| F19     | 1   | 259.27 | 8.95  | -27.71  | 73.01 | 24.68 |
| F18     | 1   | 250.57 | 8.89  | -27.56  | 72.73 | 24.70 |
| F17     | 1   | 241.87 | 8.80  | -27.36  | 72.61 | 24.71 |
| F16     | 1   | 233.17 | 8.63  | -28.89  | 78.69 | 24.66 |
| F15     | 1   | 224.47 | 8.54  | -30.53  | 84.30 | 24.63 |
| F14     | 1   | 215.77 | 8.51  | -32.11  | 89.28 | 24.59 |
| F13     | 1   | 207.07 | 8.88  | -26.78  | 75.28 | 25.21 |
| F12     | 1   | 198.37 | 13.62 | -46.53  | 87.66 | 26.53 |
| F11demo | --- | ---    | ---   | ---     | ---   | ---   |
| F11     | 1   | 180.97 | 17.94 | -58.96  | 83.21 | 26.67 |
| F9demo  | --- | ---    | ---   | ---     | ---   | ---   |
| F10     | 1   | 163.55 | 18.40 | -55.99  | 84.72 | 26.81 |
| F9      | 1   | 147.55 | 19.79 | -75.55  | 97.78 | 33.02 |
| F8      | 1   | 132.55 | 19.68 | -81.08  | 78.29 | 36.28 |
| F7      | 1   | 120.39 | 19.38 | -18.97  | 9.82  | 36.45 |
| F6      | 1   | 108.23 | 23.09 | -21.83  | 11.07 | 38.94 |
| F5      | 1   | 93.02  | 23.90 | -22.71  | 15.34 | 35.60 |
| F4      | 1   | 76.98  | 22.97 | -22.54  | 16.64 | 35.57 |
| F3      | 1   | 61.00  | 17.16 | -109.27 | 94.11 | 33.44 |
| F2      | 1   | 49.00  | 16.77 | -47.20  | 66.23 | 34.99 |
| Fground | 1   | 30.00  | 19.94 | -56.77  | 62.33 | 39.58 |
| Cellar  | 1   | 15.00  | 16.05 | -45.26  | 63.23 | 40.12 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |
| F29     | 1       | 0.000          | 0.000          |
| F28     | 1       | 0.000          | 0.000          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F27    | 1 | 0.000 | 0.000 |
| F26    | 1 | 0.000 | 0.000 |
| F25    | 1 | 0.000 | 0.000 |
| F24    | 1 | 0.000 | 0.000 |
| F23    | 1 | 0.000 | 0.000 |
| F22    | 1 | 0.000 | 0.000 |
| F21    | 1 | 0.000 | 0.000 |
| F20    | 1 | 0.000 | 0.000 |
| F19    | 1 | 0.000 | 0.000 |
| F18    | 1 | 0.000 | 0.000 |
| F17    | 1 | 0.000 | 0.000 |
| F16    | 1 | 0.000 | 0.000 |
| F15    | 1 | 0.000 | 0.000 |
| F14    | 1 | 0.000 | 0.000 |
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: Wind\_IBC09\_4\_X-Y\_CCW

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 5.36       | -18.10     |
| F46MEP  | 502.33   | 10.44      | -34.84     |
| F45     | 492.91   | 11.55      | -36.25     |
| F44     | 481.91   | 13.23      | -41.55     |
| F43     | 469.41   | 12.07      | -37.33     |
| F42     | 460.71   | 10.07      | -30.52     |
| F41     | 452.01   | 10.80      | -32.76     |
| F40     | 441.97   | 10.75      | -32.64     |
| F39     | 433.27   | 9.94       | -30.20     |
| F38     | 424.57   | 9.90       | -30.09     |
| F37     | 415.87   | 9.86       | -29.99     |
| F36     | 407.17   | 9.81       | -29.88     |
| F35     | 398.47   | 9.77       | -29.77     |
| F34     | 389.77   | 9.72       | -29.65     |
| F33     | 381.07   | 9.68       | -29.54     |
| F32     | 372.37   | 9.63       | -29.43     |
| F31     | 363.67   | 9.59       | -29.31     |
| F30     | 354.97   | 9.54       | -29.19     |
| F29     | 346.27   | 9.49       | -29.07     |
| F28     | 337.57   | 9.44       | -28.94     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |          |
|---------|--------|--------|----------|
| F27     | 328.87 | 9.39   | -28.82   |
| F26     | 320.17 | 9.34   | -28.69   |
| F25     | 311.47 | 9.29   | -28.56   |
| F24     | 302.77 | 9.23   | -28.42   |
| F23     | 294.07 | 9.18   | -28.29   |
| F22     | 285.37 | 9.12   | -28.15   |
| F21     | 276.67 | 9.07   | -28.00   |
| F20     | 267.97 | 9.01   | -27.86   |
| F19     | 259.27 | 8.95   | -27.71   |
| F18     | 250.57 | 8.89   | -27.56   |
| F17     | 241.87 | 8.80   | -27.36   |
| F16     | 233.17 | 8.63   | -28.89   |
| F15     | 224.47 | 8.54   | -30.53   |
| F14     | 215.77 | 8.51   | -32.11   |
| F13     | 207.07 | 8.88   | -26.78   |
| F12     | 198.37 | 13.62  | -46.53   |
| F11demo | 189.67 | ---    | ---      |
| F11     | 180.97 | 17.94  | -58.96   |
| F9demo  | 172.26 | ---    | ---      |
| F10     | 163.55 | 18.40  | -55.99   |
| F9      | 147.55 | 19.79  | -75.55   |
| F8      | 132.55 | 19.68  | -81.08   |
| F7      | 120.39 | 19.38  | -18.97   |
| F6      | 108.23 | 23.09  | -21.83   |
| F5      | 93.02  | 23.90  | -22.71   |
| F4      | 76.98  | 22.97  | -22.54   |
| F3      | 61.00  | 17.16  | -109.27  |
| F2      | 49.00  | 16.77  | -47.20   |
| Fground | 30.00  | 19.94  | -56.77   |
| Cellar  | 15.00  | 16.05  | -45.26   |
|         |        | <hr/>  | <hr/>    |
|         |        | 584.16 | -1709.41 |





**LOAD CASE: E**

Seismic ASCE 7-10 Equivalent Lateral Force  
 Site Class: B Importance Factor: 1.00 Ss: 0.281 g S1: 0.073 g TL: 6.00 s  
 Fa: 1.000 Fv: 1.000 SDs: 0.187 g SD1: 0.049 g  
 Occupancy Category: II Seismic Design Category: B  
 Provisions for: Force  
 Ground Level: Base

| Dir | Eccent  | R   | Ta Equation         | Building Period-T |
|-----|---------|-----|---------------------|-------------------|
| X   | + And - | 3.0 | Std,Ct=0.020,x=0.75 | Use Ta            |
| Y   | + And - | 3.0 | Std,Ct=0.020,x=0.75 | Use Ta            |

| Dir | Ta    | Cu    | T     | T-used | Cs       | Cs(max)  | Cs(min)  | Cs-used | k     |
|-----|-------|-------|-------|--------|----------|----------|----------|---------|-------|
|     |       |       |       |        | Eq12.8-2 | Eq12.8-3 | Eq12.8-5 |         |       |
| X   | 2.154 | 1.700 | 2.154 | 2.154  | 0.062    | 0.008    | 0.010    | 0.010   | 1.827 |

| Dir | Ta    | Cu    | T     | T-used | Cs       | Cs(max)  | Cs(min)  | Cs-used | k     |
|-----|-------|-------|-------|--------|----------|----------|----------|---------|-------|
|     |       |       |       |        | Eq12.8-2 | Eq12.8-3 | Eq12.8-5 |         |       |
| Y   | 2.154 | 1.700 | 2.154 | 2.154  | 0.062    | 0.008    | 0.010    | 0.010   | 1.827 |

Total Building Weight (kips) = 106011.38

**APPLIED DIAPHRAGM FORCES**

Type: EQ\_ASCE710\_X+E\_F

| Level   | Diaph.# | Ht     | Fx    | Fy   | X     | Y     |
|---------|---------|--------|-------|------|-------|-------|
|         |         | ft     | kips  | kips | ft    | ft    |
| F47roof | 1       | 512.45 | 33.04 | 0.00 | 95.35 | 36.15 |
| F46MEP  | 1       | 502.33 | 46.61 | 0.00 | 95.90 | 38.61 |
| F45     | 1       | 492.91 | 44.58 | 0.00 | 95.89 | 38.52 |
| F44     | 1       | 481.91 | 44.62 | 0.00 | 95.57 | 38.13 |
| F43     | 1       | 469.41 | 45.86 | 0.00 | 95.91 | 41.32 |
| F42     | 1       | 460.71 | 42.52 | 0.00 | 96.03 | 42.12 |
| F41     | 1       | 452.01 | 41.90 | 0.00 | 95.93 | 41.97 |
| F40     | 1       | 441.97 | 40.21 | 0.00 | 95.93 | 41.97 |
| F39     | 1       | 433.27 | 38.01 | 0.00 | 96.03 | 42.12 |
| F38     | 1       | 424.57 | 36.63 | 0.00 | 96.03 | 42.12 |
| F37     | 1       | 415.87 | 35.13 | 0.00 | 96.37 | 42.35 |
| F36     | 1       | 407.17 | 33.80 | 0.00 | 96.37 | 42.35 |
| F35     | 1       | 398.47 | 32.49 | 0.00 | 96.37 | 42.35 |
| F34     | 1       | 389.77 | 31.20 | 0.00 | 96.37 | 42.35 |
| F33     | 1       | 381.07 | 29.94 | 0.00 | 96.37 | 42.35 |
| F32     | 1       | 372.37 | 28.71 | 0.00 | 96.37 | 42.35 |
| F31     | 1       | 363.67 | 27.49 | 0.00 | 96.37 | 42.35 |
| F30     | 1       | 354.97 | 26.30 | 0.00 | 96.37 | 42.35 |
| F29     | 1       | 346.27 | 25.14 | 0.00 | 96.37 | 42.35 |
| F28     | 1       | 337.57 | 24.00 | 0.00 | 96.37 | 42.35 |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |       |      |        |       |
|---------|-----|--------|-------|------|--------|-------|
| F27     | 1   | 328.87 | 22.88 | 0.00 | 96.37  | 42.34 |
| F26     | 1   | 320.17 | 21.78 | 0.00 | 96.37  | 42.34 |
| F25     | 1   | 311.47 | 20.72 | 0.00 | 96.37  | 42.34 |
| F24     | 1   | 302.77 | 19.67 | 0.00 | 96.37  | 42.34 |
| F23     | 1   | 294.07 | 18.65 | 0.00 | 96.37  | 42.34 |
| F22     | 1   | 285.37 | 17.65 | 0.00 | 96.37  | 42.34 |
| F21     | 1   | 276.67 | 16.68 | 0.00 | 96.37  | 42.34 |
| F20     | 1   | 267.97 | 15.74 | 0.00 | 96.37  | 42.34 |
| F19     | 1   | 259.27 | 14.82 | 0.00 | 96.37  | 42.34 |
| F18     | 1   | 250.57 | 13.92 | 0.00 | 96.37  | 42.34 |
| F17     | 1   | 241.87 | 13.21 | 0.00 | 96.59  | 42.43 |
| F16     | 1   | 233.17 | 19.59 | 0.00 | 107.97 | 43.78 |
| F15     | 1   | 224.47 | 19.33 | 0.00 | 108.45 | 43.82 |
| F14     | 1   | 215.77 | 18.52 | 0.00 | 110.00 | 44.14 |
| F13     | 1   | 207.07 | 15.35 | 0.00 | 102.70 | 43.28 |
| F12     | 1   | 198.37 | 16.02 | 0.00 | 105.94 | 44.02 |
| F11demo | --- | ---    | ---   | ---  | ---    | ---   |
| F11     | 1   | 180.97 | 11.34 | 0.00 | 97.84  | 43.28 |
| F9demo  | --- | ---    | ---   | ---  | ---    | ---   |
| F10     | 1   | 163.55 | 11.70 | 0.00 | 103.54 | 49.58 |
| F9      | 1   | 147.55 | 13.19 | 0.00 | 101.00 | 58.10 |
| F8      | 1   | 132.55 | 9.66  | 0.00 | 94.04  | 56.84 |
| F7      | 1   | 120.39 | 3.50  | 0.00 | 46.64  | 54.23 |
| F6      | 1   | 108.23 | 3.02  | 0.00 | 47.88  | 54.24 |
| F5      | 1   | 93.02  | 2.61  | 0.00 | 46.31  | 53.00 |
| F4      | 1   | 76.98  | 1.69  | 0.00 | 50.03  | 54.04 |
| F3      | 1   | 61.00  | 8.16  | 0.00 | 133.19 | 57.06 |
| F2      | 1   | 49.00  | 1.24  | 0.00 | 96.93  | 51.70 |
| Fground | 1   | 30.00  | 1.03  | 0.00 | 107.15 | 66.91 |
| Cellar  | 1   | 15.00  | 0.26  | 0.00 | 99.72  | 64.25 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F35    | 1 | 0.000 | 0.000 |
| F34    | 1 | 0.000 | 0.000 |
| F33    | 1 | 0.000 | 0.000 |
| F32    | 1 | 0.000 | 0.000 |
| F31    | 1 | 0.000 | 0.000 |
| F30    | 1 | 0.000 | 0.000 |
| F29    | 1 | 0.000 | 0.000 |
| F28    | 1 | 0.000 | 0.000 |
| F27    | 1 | 0.000 | 0.000 |
| F26    | 1 | 0.000 | 0.000 |
| F25    | 1 | 0.000 | 0.000 |
| F24    | 1 | 0.000 | 0.000 |
| F23    | 1 | 0.000 | 0.000 |
| F22    | 1 | 0.000 | 0.000 |
| F21    | 1 | 0.000 | 0.000 |
| F20    | 1 | 0.000 | 0.000 |
| F19    | 1 | 0.000 | 0.000 |
| F18    | 1 | 0.000 | 0.000 |
| F17    | 1 | 0.000 | 0.000 |
| F16    | 1 | 0.000 | 0.000 |
| F15    | 1 | 0.000 | 0.000 |
| F14    | 1 | 0.000 | 0.000 |
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: EQ\_ASCE710\_X\_+E\_F

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 33.04      | 0.00       |
| F46MEP  | 502.33   | 46.61      | 0.00       |
| F45     | 492.91   | 44.58      | 0.00       |
| F44     | 481.91   | 44.62      | 0.00       |
| F43     | 469.41   | 45.86      | 0.00       |
| F42     | 460.71   | 42.52      | 0.00       |
| F41     | 452.01   | 41.90      | 0.00       |
| F40     | 441.97   | 40.21      | 0.00       |
| F39     | 433.27   | 38.01      | 0.00       |
| F38     | 424.57   | 36.63      | 0.00       |
| F37     | 415.87   | 35.13      | 0.00       |
| F36     | 407.17   | 33.80      | 0.00       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |         |       |
|---------|--------|---------|-------|
| F35     | 398.47 | 32.49   | 0.00  |
| F34     | 389.77 | 31.20   | 0.00  |
| F33     | 381.07 | 29.94   | 0.00  |
| F32     | 372.37 | 28.71   | 0.00  |
| F31     | 363.67 | 27.49   | 0.00  |
| F30     | 354.97 | 26.30   | 0.00  |
| F29     | 346.27 | 25.14   | 0.00  |
| F28     | 337.57 | 24.00   | 0.00  |
| F27     | 328.87 | 22.88   | 0.00  |
| F26     | 320.17 | 21.78   | 0.00  |
| F25     | 311.47 | 20.72   | 0.00  |
| F24     | 302.77 | 19.67   | 0.00  |
| F23     | 294.07 | 18.65   | 0.00  |
| F22     | 285.37 | 17.65   | 0.00  |
| F21     | 276.67 | 16.68   | 0.00  |
| F20     | 267.97 | 15.74   | 0.00  |
| F19     | 259.27 | 14.82   | 0.00  |
| F18     | 250.57 | 13.92   | 0.00  |
| F17     | 241.87 | 13.21   | 0.00  |
| F16     | 233.17 | 19.59   | 0.00  |
| F15     | 224.47 | 19.33   | 0.00  |
| F14     | 215.77 | 18.52   | 0.00  |
| F13     | 207.07 | 15.35   | 0.00  |
| F12     | 198.37 | 16.02   | 0.00  |
| F11demo | 189.67 | ---     | ---   |
| F11     | 180.97 | 11.34   | 0.00  |
| F9demo  | 172.26 | ---     | ---   |
| F10     | 163.55 | 11.70   | 0.00  |
| F9      | 147.55 | 13.19   | 0.00  |
| F8      | 132.55 | 9.66    | 0.00  |
| F7      | 120.39 | 3.50    | 0.00  |
| F6      | 108.23 | 3.02    | 0.00  |
| F5      | 93.02  | 2.61    | 0.00  |
| F4      | 76.98  | 1.69    | 0.00  |
| F3      | 61.00  | 8.16    | 0.00  |
| F2      | 49.00  | 1.24    | 0.00  |
| Fground | 30.00  | 1.03    | 0.00  |
| Cellar  | 15.00  | 0.26    | 0.00  |
|         |        | <hr/>   | <hr/> |
|         |        | 1060.11 | 0.00  |

**APPLIED DIAPHRAGM FORCES**

Type: EQ\_ASCE710\_X\_-E\_F

| Level | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|-------|---------|----------|------------|------------|---------|---------|
|-------|---------|----------|------------|------------|---------|---------|



|         |     |        |       |      |        |       |
|---------|-----|--------|-------|------|--------|-------|
| F47roof | 1   | 512.45 | 33.04 | 0.00 | 95.35  | 30.14 |
| F46MEP  | 1   | 502.33 | 46.61 | 0.00 | 95.90  | 31.85 |
| F45     | 1   | 492.91 | 44.58 | 0.00 | 95.89  | 31.75 |
| F44     | 1   | 481.91 | 44.62 | 0.00 | 95.57  | 31.36 |
| F43     | 1   | 469.41 | 45.86 | 0.00 | 95.91  | 34.32 |
| F42     | 1   | 460.71 | 42.52 | 0.00 | 96.03  | 35.12 |
| F41     | 1   | 452.01 | 41.90 | 0.00 | 95.93  | 34.97 |
| F40     | 1   | 441.97 | 40.21 | 0.00 | 95.93  | 34.97 |
| F39     | 1   | 433.27 | 38.01 | 0.00 | 96.03  | 35.12 |
| F38     | 1   | 424.57 | 36.63 | 0.00 | 96.03  | 35.12 |
| F37     | 1   | 415.87 | 35.13 | 0.00 | 96.37  | 35.35 |
| F36     | 1   | 407.17 | 33.80 | 0.00 | 96.37  | 35.35 |
| F35     | 1   | 398.47 | 32.49 | 0.00 | 96.37  | 35.35 |
| F34     | 1   | 389.77 | 31.20 | 0.00 | 96.37  | 35.35 |
| F33     | 1   | 381.07 | 29.94 | 0.00 | 96.37  | 35.35 |
| F32     | 1   | 372.37 | 28.71 | 0.00 | 96.37  | 35.35 |
| F31     | 1   | 363.67 | 27.49 | 0.00 | 96.37  | 35.35 |
| F30     | 1   | 354.97 | 26.30 | 0.00 | 96.37  | 35.35 |
| F29     | 1   | 346.27 | 25.14 | 0.00 | 96.37  | 35.35 |
| F28     | 1   | 337.57 | 24.00 | 0.00 | 96.37  | 35.35 |
| F27     | 1   | 328.87 | 22.88 | 0.00 | 96.37  | 35.34 |
| F26     | 1   | 320.17 | 21.78 | 0.00 | 96.37  | 35.34 |
| F25     | 1   | 311.47 | 20.72 | 0.00 | 96.37  | 35.34 |
| F24     | 1   | 302.77 | 19.67 | 0.00 | 96.37  | 35.34 |
| F23     | 1   | 294.07 | 18.65 | 0.00 | 96.37  | 35.34 |
| F22     | 1   | 285.37 | 17.65 | 0.00 | 96.37  | 35.34 |
| F21     | 1   | 276.67 | 16.68 | 0.00 | 96.37  | 35.34 |
| F20     | 1   | 267.97 | 15.74 | 0.00 | 96.37  | 35.34 |
| F19     | 1   | 259.27 | 14.82 | 0.00 | 96.37  | 35.34 |
| F18     | 1   | 250.57 | 13.92 | 0.00 | 96.37  | 35.34 |
| F17     | 1   | 241.87 | 13.21 | 0.00 | 96.59  | 35.43 |
| F16     | 1   | 233.17 | 19.59 | 0.00 | 107.97 | 36.78 |
| F15     | 1   | 224.47 | 19.33 | 0.00 | 108.45 | 36.82 |
| F14     | 1   | 215.77 | 18.52 | 0.00 | 110.00 | 37.14 |
| F13     | 1   | 207.07 | 15.35 | 0.00 | 102.70 | 35.76 |
| F12     | 1   | 198.37 | 16.02 | 0.00 | 105.94 | 36.45 |
| F11demo | --- | ---    | ---   | ---  | ---    | ---   |
| F11     | 1   | 180.97 | 11.34 | 0.00 | 97.84  | 35.70 |
| F9demo  | --- | ---    | ---   | ---  | ---    | ---   |
| F10     | 1   | 163.55 | 11.70 | 0.00 | 103.54 | 41.04 |
| F9      | 1   | 147.55 | 13.19 | 0.00 | 101.00 | 47.82 |
| F8      | 1   | 132.55 | 9.66  | 0.00 | 94.04  | 46.61 |
| F7      | 1   | 120.39 | 3.50  | 0.00 | 46.64  | 44.00 |
| F6      | 1   | 108.23 | 3.02  | 0.00 | 47.88  | 44.01 |
| F5      | 1   | 93.02  | 2.61  | 0.00 | 46.31  | 43.04 |
| F4      | 1   | 76.98  | 1.69  | 0.00 | 50.03  | 44.08 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |   |       |      |      |        |       |
|---------|---|-------|------|------|--------|-------|
| F3      | 1 | 61.00 | 8.16 | 0.00 | 133.19 | 47.03 |
| F2      | 1 | 49.00 | 1.24 | 0.00 | 96.93  | 41.67 |
| Fground | 1 | 30.00 | 1.03 | 0.00 | 107.15 | 55.39 |
| Cellar  | 1 | 15.00 | 0.26 | 0.00 | 99.72  | 52.73 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |
| F29     | 1       | 0.000          | 0.000          |
| F28     | 1       | 0.000          | 0.000          |
| F27     | 1       | 0.000          | 0.000          |
| F26     | 1       | 0.000          | 0.000          |
| F25     | 1       | 0.000          | 0.000          |
| F24     | 1       | 0.000          | 0.000          |
| F23     | 1       | 0.000          | 0.000          |
| F22     | 1       | 0.000          | 0.000          |
| F21     | 1       | 0.000          | 0.000          |
| F20     | 1       | 0.000          | 0.000          |
| F19     | 1       | 0.000          | 0.000          |
| F18     | 1       | 0.000          | 0.000          |
| F17     | 1       | 0.000          | 0.000          |
| F16     | 1       | 0.000          | 0.000          |
| F15     | 1       | 0.000          | 0.000          |
| F14     | 1       | 0.000          | 0.000          |
| F13     | 1       | 0.000          | 0.000          |
| F12     | 1       | 0.000          | 0.000          |
| F11     | 1       | 0.000          | 0.000          |
| F8      | 1       | 0.000          | 0.000          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: EQ\_ASCE710\_X\_-E\_F

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 33.04      | 0.00       |
| F46MEP  | 502.33   | 46.61      | 0.00       |
| F45     | 492.91   | 44.58      | 0.00       |
| F44     | 481.91   | 44.62      | 0.00       |
| F43     | 469.41   | 45.86      | 0.00       |
| F42     | 460.71   | 42.52      | 0.00       |
| F41     | 452.01   | 41.90      | 0.00       |
| F40     | 441.97   | 40.21      | 0.00       |
| F39     | 433.27   | 38.01      | 0.00       |
| F38     | 424.57   | 36.63      | 0.00       |
| F37     | 415.87   | 35.13      | 0.00       |
| F36     | 407.17   | 33.80      | 0.00       |
| F35     | 398.47   | 32.49      | 0.00       |
| F34     | 389.77   | 31.20      | 0.00       |
| F33     | 381.07   | 29.94      | 0.00       |
| F32     | 372.37   | 28.71      | 0.00       |
| F31     | 363.67   | 27.49      | 0.00       |
| F30     | 354.97   | 26.30      | 0.00       |
| F29     | 346.27   | 25.14      | 0.00       |
| F28     | 337.57   | 24.00      | 0.00       |
| F27     | 328.87   | 22.88      | 0.00       |
| F26     | 320.17   | 21.78      | 0.00       |
| F25     | 311.47   | 20.72      | 0.00       |
| F24     | 302.77   | 19.67      | 0.00       |
| F23     | 294.07   | 18.65      | 0.00       |
| F22     | 285.37   | 17.65      | 0.00       |
| F21     | 276.67   | 16.68      | 0.00       |
| F20     | 267.97   | 15.74      | 0.00       |
| F19     | 259.27   | 14.82      | 0.00       |
| F18     | 250.57   | 13.92      | 0.00       |
| F17     | 241.87   | 13.21      | 0.00       |
| F16     | 233.17   | 19.59      | 0.00       |
| F15     | 224.47   | 19.33      | 0.00       |
| F14     | 215.77   | 18.52      | 0.00       |
| F13     | 207.07   | 15.35      | 0.00       |
| F12     | 198.37   | 16.02      | 0.00       |
| F11demo | 189.67   | ---        | ---        |
| F11     | 180.97   | 11.34      | 0.00       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |         |      |
|---------|--------|---------|------|
| F9demo  | 172.26 | ---     | ---  |
| F10     | 163.55 | 11.70   | 0.00 |
| F9      | 147.55 | 13.19   | 0.00 |
| F8      | 132.55 | 9.66    | 0.00 |
| F7      | 120.39 | 3.50    | 0.00 |
| F6      | 108.23 | 3.02    | 0.00 |
| F5      | 93.02  | 2.61    | 0.00 |
| F4      | 76.98  | 1.69    | 0.00 |
| F3      | 61.00  | 8.16    | 0.00 |
| F2      | 49.00  | 1.24    | 0.00 |
| Fground | 30.00  | 1.03    | 0.00 |
| Cellar  | 15.00  | 0.26    | 0.00 |
|         |        | 1060.11 | 0.00 |

**APPLIED DIAPHRAGM FORCES**

Type: EQ\_ASCE710\_Y\_+E\_F

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 0.00       | 33.04      | 103.59  | 33.14   |
| F46MEP  | 1       | 502.33   | 0.00       | 46.61      | 104.14  | 35.23   |
| F45     | 1       | 492.91   | 0.00       | 44.58      | 104.13  | 35.14   |
| F44     | 1       | 481.91   | 0.00       | 44.62      | 103.81  | 34.74   |
| F43     | 1       | 469.41   | 0.00       | 45.86      | 104.15  | 37.82   |
| F42     | 1       | 460.71   | 0.00       | 42.52      | 104.27  | 38.62   |
| F41     | 1       | 452.01   | 0.00       | 41.90      | 104.17  | 38.47   |
| F40     | 1       | 441.97   | 0.00       | 40.21      | 104.17  | 38.47   |
| F39     | 1       | 433.27   | 0.00       | 38.01      | 104.27  | 38.62   |
| F38     | 1       | 424.57   | 0.00       | 36.63      | 104.27  | 38.62   |
| F37     | 1       | 415.87   | 0.00       | 35.13      | 104.61  | 38.85   |
| F36     | 1       | 407.17   | 0.00       | 33.80      | 104.61  | 38.85   |
| F35     | 1       | 398.47   | 0.00       | 32.49      | 104.61  | 38.85   |
| F34     | 1       | 389.77   | 0.00       | 31.20      | 104.61  | 38.85   |
| F33     | 1       | 381.07   | 0.00       | 29.94      | 104.61  | 38.85   |
| F32     | 1       | 372.37   | 0.00       | 28.71      | 104.61  | 38.85   |
| F31     | 1       | 363.67   | 0.00       | 27.49      | 104.61  | 38.85   |
| F30     | 1       | 354.97   | 0.00       | 26.30      | 104.61  | 38.85   |
| F29     | 1       | 346.27   | 0.00       | 25.14      | 104.61  | 38.85   |
| F28     | 1       | 337.57   | 0.00       | 24.00      | 104.61  | 38.85   |
| F27     | 1       | 328.87   | 0.00       | 22.88      | 104.61  | 38.84   |
| F26     | 1       | 320.17   | 0.00       | 21.78      | 104.61  | 38.84   |
| F25     | 1       | 311.47   | 0.00       | 20.72      | 104.61  | 38.84   |
| F24     | 1       | 302.77   | 0.00       | 19.67      | 104.61  | 38.84   |
| F23     | 1       | 294.07   | 0.00       | 18.65      | 104.61  | 38.84   |
| F22     | 1       | 285.37   | 0.00       | 17.65      | 104.61  | 38.84   |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |      |       |        |       |
|---------|-----|--------|------|-------|--------|-------|
| F21     | 1   | 276.67 | 0.00 | 16.68 | 104.61 | 38.84 |
| F20     | 1   | 267.97 | 0.00 | 15.74 | 104.61 | 38.84 |
| F19     | 1   | 259.27 | 0.00 | 14.82 | 104.61 | 38.84 |
| F18     | 1   | 250.57 | 0.00 | 13.92 | 104.61 | 38.84 |
| F17     | 1   | 241.87 | 0.00 | 13.21 | 104.83 | 38.93 |
| F16     | 1   | 233.17 | 0.00 | 19.59 | 117.34 | 40.28 |
| F15     | 1   | 224.47 | 0.00 | 19.33 | 117.82 | 40.32 |
| F14     | 1   | 215.77 | 0.00 | 18.52 | 119.38 | 40.64 |
| F13     | 1   | 207.07 | 0.00 | 15.35 | 110.99 | 39.52 |
| F12     | 1   | 198.37 | 0.00 | 16.02 | 115.31 | 40.23 |
| F11demo | --- | ---    | ---  | ---   | ---    | ---   |
| F11     | 1   | 180.97 | 0.00 | 11.34 | 107.21 | 39.49 |
| F9demo  | --- | ---    | ---  | ---   | ---    | ---   |
| F10     | 1   | 163.55 | 0.00 | 11.70 | 112.95 | 45.31 |
| F9      | 1   | 147.55 | 0.00 | 13.19 | 111.54 | 52.96 |
| F8      | 1   | 132.55 | 0.00 | 9.66  | 102.71 | 51.73 |
| F7      | 1   | 120.39 | 0.00 | 3.50  | 51.17  | 49.11 |
| F6      | 1   | 108.23 | 0.00 | 3.02  | 52.41  | 49.13 |
| F5      | 1   | 93.02  | 0.00 | 2.61  | 50.69  | 48.02 |
| F4      | 1   | 76.98  | 0.00 | 1.69  | 54.41  | 49.06 |
| F3      | 1   | 61.00  | 0.00 | 8.16  | 144.75 | 52.04 |
| F2      | 1   | 49.00  | 0.00 | 1.24  | 107.29 | 46.68 |
| Fground | 1   | 30.00  | 0.00 | 1.03  | 118.75 | 61.15 |
| Cellar  | 1   | 15.00  | 0.00 | 0.26  | 111.33 | 58.49 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F29    | 1 | 0.000 | 0.000 |
| F28    | 1 | 0.000 | 0.000 |
| F27    | 1 | 0.000 | 0.000 |
| F26    | 1 | 0.000 | 0.000 |
| F25    | 1 | 0.000 | 0.000 |
| F24    | 1 | 0.000 | 0.000 |
| F23    | 1 | 0.000 | 0.000 |
| F22    | 1 | 0.000 | 0.000 |
| F21    | 1 | 0.000 | 0.000 |
| F20    | 1 | 0.000 | 0.000 |
| F19    | 1 | 0.000 | 0.000 |
| F18    | 1 | 0.000 | 0.000 |
| F17    | 1 | 0.000 | 0.000 |
| F16    | 1 | 0.000 | 0.000 |
| F15    | 1 | 0.000 | 0.000 |
| F14    | 1 | 0.000 | 0.000 |
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

Type: EQ\_ASCE710\_Y\_+E\_F

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 0.00       | 33.04      |
| F46MEP  | 502.33   | 0.00       | 46.61      |
| F45     | 492.91   | 0.00       | 44.58      |
| F44     | 481.91   | 0.00       | 44.62      |
| F43     | 469.41   | 0.00       | 45.86      |
| F42     | 460.71   | 0.00       | 42.52      |
| F41     | 452.01   | 0.00       | 41.90      |
| F40     | 441.97   | 0.00       | 40.21      |
| F39     | 433.27   | 0.00       | 38.01      |
| F38     | 424.57   | 0.00       | 36.63      |
| F37     | 415.87   | 0.00       | 35.13      |
| F36     | 407.17   | 0.00       | 33.80      |
| F35     | 398.47   | 0.00       | 32.49      |
| F34     | 389.77   | 0.00       | 31.20      |
| F33     | 381.07   | 0.00       | 29.94      |
| F32     | 372.37   | 0.00       | 28.71      |
| F31     | 363.67   | 0.00       | 27.49      |
| F30     | 354.97   | 0.00       | 26.30      |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |      |         |
|---------|--------|------|---------|
| F29     | 346.27 | 0.00 | 25.14   |
| F28     | 337.57 | 0.00 | 24.00   |
| F27     | 328.87 | 0.00 | 22.88   |
| F26     | 320.17 | 0.00 | 21.78   |
| F25     | 311.47 | 0.00 | 20.72   |
| F24     | 302.77 | 0.00 | 19.67   |
| F23     | 294.07 | 0.00 | 18.65   |
| F22     | 285.37 | 0.00 | 17.65   |
| F21     | 276.67 | 0.00 | 16.68   |
| F20     | 267.97 | 0.00 | 15.74   |
| F19     | 259.27 | 0.00 | 14.82   |
| F18     | 250.57 | 0.00 | 13.92   |
| F17     | 241.87 | 0.00 | 13.21   |
| F16     | 233.17 | 0.00 | 19.59   |
| F15     | 224.47 | 0.00 | 19.33   |
| F14     | 215.77 | 0.00 | 18.52   |
| F13     | 207.07 | 0.00 | 15.35   |
| F12     | 198.37 | 0.00 | 16.02   |
| F11demo | 189.67 | ---  | ---     |
| F11     | 180.97 | 0.00 | 11.34   |
| F9demo  | 172.26 | ---  | ---     |
| F10     | 163.55 | 0.00 | 11.70   |
| F9      | 147.55 | 0.00 | 13.19   |
| F8      | 132.55 | 0.00 | 9.66    |
| F7      | 120.39 | 0.00 | 3.50    |
| F6      | 108.23 | 0.00 | 3.02    |
| F5      | 93.02  | 0.00 | 2.61    |
| F4      | 76.98  | 0.00 | 1.69    |
| F3      | 61.00  | 0.00 | 8.16    |
| F2      | 49.00  | 0.00 | 1.24    |
| Fground | 30.00  | 0.00 | 1.03    |
| Cellar  | 15.00  | 0.00 | 0.26    |
|         |        | 0.00 | 1060.11 |

**APPLIED DIAPHRAGM FORCES**

Type: EQ\_ASCE710\_Y\_-E\_F

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 0.00       | 33.04      | 87.11   | 33.14   |
| F46MEP  | 1       | 502.33   | 0.00       | 46.61      | 87.66   | 35.23   |
| F45     | 1       | 492.91   | 0.00       | 44.58      | 87.65   | 35.14   |
| F44     | 1       | 481.91   | 0.00       | 44.62      | 87.33   | 34.74   |
| F43     | 1       | 469.41   | 0.00       | 45.86      | 87.67   | 37.82   |
| F42     | 1       | 460.71   | 0.00       | 42.52      | 87.78   | 38.62   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |      |       |        |       |
|---------|-----|--------|------|-------|--------|-------|
| F41     | 1   | 452.01 | 0.00 | 41.90 | 87.68  | 38.47 |
| F40     | 1   | 441.97 | 0.00 | 40.21 | 87.68  | 38.47 |
| F39     | 1   | 433.27 | 0.00 | 38.01 | 87.78  | 38.62 |
| F38     | 1   | 424.57 | 0.00 | 36.63 | 87.78  | 38.62 |
| F37     | 1   | 415.87 | 0.00 | 35.13 | 88.13  | 38.85 |
| F36     | 1   | 407.17 | 0.00 | 33.80 | 88.13  | 38.85 |
| F35     | 1   | 398.47 | 0.00 | 32.49 | 88.13  | 38.85 |
| F34     | 1   | 389.77 | 0.00 | 31.20 | 88.13  | 38.85 |
| F33     | 1   | 381.07 | 0.00 | 29.94 | 88.13  | 38.85 |
| F32     | 1   | 372.37 | 0.00 | 28.71 | 88.13  | 38.85 |
| F31     | 1   | 363.67 | 0.00 | 27.49 | 88.13  | 38.85 |
| F30     | 1   | 354.97 | 0.00 | 26.30 | 88.13  | 38.85 |
| F29     | 1   | 346.27 | 0.00 | 25.14 | 88.13  | 38.85 |
| F28     | 1   | 337.57 | 0.00 | 24.00 | 88.13  | 38.85 |
| F27     | 1   | 328.87 | 0.00 | 22.88 | 88.13  | 38.84 |
| F26     | 1   | 320.17 | 0.00 | 21.78 | 88.13  | 38.84 |
| F25     | 1   | 311.47 | 0.00 | 20.72 | 88.13  | 38.84 |
| F24     | 1   | 302.77 | 0.00 | 19.67 | 88.13  | 38.84 |
| F23     | 1   | 294.07 | 0.00 | 18.65 | 88.13  | 38.84 |
| F22     | 1   | 285.37 | 0.00 | 17.65 | 88.13  | 38.84 |
| F21     | 1   | 276.67 | 0.00 | 16.68 | 88.13  | 38.84 |
| F20     | 1   | 267.97 | 0.00 | 15.74 | 88.13  | 38.84 |
| F19     | 1   | 259.27 | 0.00 | 14.82 | 88.13  | 38.84 |
| F18     | 1   | 250.57 | 0.00 | 13.92 | 88.13  | 38.84 |
| F17     | 1   | 241.87 | 0.00 | 13.21 | 88.35  | 38.93 |
| F16     | 1   | 233.17 | 0.00 | 19.59 | 98.59  | 40.28 |
| F15     | 1   | 224.47 | 0.00 | 19.33 | 99.07  | 40.32 |
| F14     | 1   | 215.77 | 0.00 | 18.52 | 100.63 | 40.64 |
| F13     | 1   | 207.07 | 0.00 | 15.35 | 94.40  | 39.52 |
| F12     | 1   | 198.37 | 0.00 | 16.02 | 96.56  | 40.23 |
| F11demo | --- | ---    | ---  | ---   | ---    | ---   |
| F11     | 1   | 180.97 | 0.00 | 11.34 | 88.46  | 39.49 |
| F9demo  | --- | ---    | ---  | ---   | ---    | ---   |
| F10     | 1   | 163.55 | 0.00 | 11.70 | 94.13  | 45.31 |
| F9      | 1   | 147.55 | 0.00 | 13.19 | 90.46  | 52.96 |
| F8      | 1   | 132.55 | 0.00 | 9.66  | 85.36  | 51.73 |
| F7      | 1   | 120.39 | 0.00 | 3.50  | 42.11  | 49.11 |
| F6      | 1   | 108.23 | 0.00 | 3.02  | 43.35  | 49.13 |
| F5      | 1   | 93.02  | 0.00 | 2.61  | 41.94  | 48.02 |
| F4      | 1   | 76.98  | 0.00 | 1.69  | 45.66  | 49.06 |
| F3      | 1   | 61.00  | 0.00 | 8.16  | 121.64 | 52.04 |
| F2      | 1   | 49.00  | 0.00 | 1.24  | 86.57  | 46.68 |
| Fground | 1   | 30.00  | 0.00 | 1.03  | 95.54  | 61.15 |
| Cellar  | 1   | 15.00  | 0.00 | 0.26  | 88.12  | 58.49 |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |
| F29     | 1       | 0.000          | 0.000          |
| F28     | 1       | 0.000          | 0.000          |
| F27     | 1       | 0.000          | 0.000          |
| F26     | 1       | 0.000          | 0.000          |
| F25     | 1       | 0.000          | 0.000          |
| F24     | 1       | 0.000          | 0.000          |
| F23     | 1       | 0.000          | 0.000          |
| F22     | 1       | 0.000          | 0.000          |
| F21     | 1       | 0.000          | 0.000          |
| F20     | 1       | 0.000          | 0.000          |
| F19     | 1       | 0.000          | 0.000          |
| F18     | 1       | 0.000          | 0.000          |
| F17     | 1       | 0.000          | 0.000          |
| F16     | 1       | 0.000          | 0.000          |
| F15     | 1       | 0.000          | 0.000          |
| F14     | 1       | 0.000          | 0.000          |
| F13     | 1       | 0.000          | 0.000          |
| F12     | 1       | 0.000          | 0.000          |
| F11     | 1       | 0.000          | 0.000          |
| F8      | 1       | 0.000          | 0.000          |
| Cellar  | 1       | 0.000          | 0.000          |
|         |         | 0.00           | 0.00           |



**APPLIED STORY FORCES**

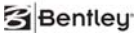
Type: EQ\_ASCE710\_Y\_-E\_F

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 0.00       | 33.04      |
| F46MEP  | 502.33   | 0.00       | 46.61      |
| F45     | 492.91   | 0.00       | 44.58      |
| F44     | 481.91   | 0.00       | 44.62      |
| F43     | 469.41   | 0.00       | 45.86      |
| F42     | 460.71   | 0.00       | 42.52      |
| F41     | 452.01   | 0.00       | 41.90      |
| F40     | 441.97   | 0.00       | 40.21      |
| F39     | 433.27   | 0.00       | 38.01      |
| F38     | 424.57   | 0.00       | 36.63      |
| F37     | 415.87   | 0.00       | 35.13      |
| F36     | 407.17   | 0.00       | 33.80      |
| F35     | 398.47   | 0.00       | 32.49      |
| F34     | 389.77   | 0.00       | 31.20      |
| F33     | 381.07   | 0.00       | 29.94      |
| F32     | 372.37   | 0.00       | 28.71      |
| F31     | 363.67   | 0.00       | 27.49      |
| F30     | 354.97   | 0.00       | 26.30      |
| F29     | 346.27   | 0.00       | 25.14      |
| F28     | 337.57   | 0.00       | 24.00      |
| F27     | 328.87   | 0.00       | 22.88      |
| F26     | 320.17   | 0.00       | 21.78      |
| F25     | 311.47   | 0.00       | 20.72      |
| F24     | 302.77   | 0.00       | 19.67      |
| F23     | 294.07   | 0.00       | 18.65      |
| F22     | 285.37   | 0.00       | 17.65      |
| F21     | 276.67   | 0.00       | 16.68      |
| F20     | 267.97   | 0.00       | 15.74      |
| F19     | 259.27   | 0.00       | 14.82      |
| F18     | 250.57   | 0.00       | 13.92      |
| F17     | 241.87   | 0.00       | 13.21      |
| F16     | 233.17   | 0.00       | 19.59      |
| F15     | 224.47   | 0.00       | 19.33      |
| F14     | 215.77   | 0.00       | 18.52      |
| F13     | 207.07   | 0.00       | 15.35      |
| F12     | 198.37   | 0.00       | 16.02      |
| F11demo | 189.67   | ---        | ---        |
| F11     | 180.97   | 0.00       | 11.34      |
| F9demo  | 172.26   | ---        | ---        |
| F10     | 163.55   | 0.00       | 11.70      |
| F9      | 147.55   | 0.00       | 13.19      |
| F8      | 132.55   | 0.00       | 9.66       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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|         |        |      |         |
|---------|--------|------|---------|
| F7      | 120.39 | 0.00 | 3.50    |
| F6      | 108.23 | 0.00 | 3.02    |
| F5      | 93.02  | 0.00 | 2.61    |
| F4      | 76.98  | 0.00 | 1.69    |
| F3      | 61.00  | 0.00 | 8.16    |
| F2      | 49.00  | 0.00 | 1.24    |
| Fground | 30.00  | 0.00 | 1.03    |
| Cellar  | 15.00  | 0.00 | 0.26    |
|         |        | 0.00 | 1060.11 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**LOAD CASE: Shear Test**

Other User Defined Story Forces  
 Ground Level: Base

**APPLIED DIAPHRAGM FORCES**

Type: User\_User

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 512.45   | 0.00       | 0.00       | 0.00    | 0.00    |
| F46MEP  | 1       | 502.33   | 0.00       | 0.00       | 0.00    | 0.00    |
| F45     | 1       | 492.91   | 0.00       | 0.00       | 0.00    | 0.00    |
| F44     | 1       | 481.91   | 0.00       | 0.00       | 0.00    | 0.00    |
| F43     | 1       | 469.41   | 0.00       | 0.00       | 102.67  | 35.08   |
| F42     | 1       | 460.71   | 0.00       | 0.00       | 102.67  | 35.08   |
| F41     | 1       | 452.01   | 0.00       | 0.00       | 102.67  | 35.08   |
| F40     | 1       | 441.97   | 0.00       | 0.00       | 102.67  | 35.08   |
| F39     | 1       | 433.27   | 0.00       | 0.00       | 102.67  | 35.08   |
| F38     | 1       | 424.57   | 0.00       | 0.00       | 102.67  | 35.08   |
| F37     | 1       | 415.87   | 0.00       | 0.00       | 102.67  | 35.08   |
| F36     | 1       | 407.17   | 0.00       | 0.00       | 102.67  | 35.08   |
| F35     | 1       | 398.47   | 0.00       | 0.00       | 102.67  | 35.08   |
| F34     | 1       | 389.77   | 0.00       | 0.00       | 102.67  | 35.08   |
| F33     | 1       | 381.07   | 0.00       | 0.00       | 102.67  | 35.08   |
| F32     | 1       | 372.37   | 0.00       | 0.00       | 102.67  | 35.08   |
| F31     | 1       | 363.67   | 0.00       | 0.00       | 102.67  | 35.08   |
| F30     | 1       | 354.97   | 0.00       | 0.00       | 102.67  | 35.08   |
| F29     | 1       | 346.27   | 0.00       | 0.00       | 102.67  | 35.08   |
| F28     | 1       | 337.57   | 0.00       | 0.00       | 102.67  | 35.08   |
| F27     | 1       | 328.87   | 0.00       | 0.00       | 102.67  | 35.08   |
| F26     | 1       | 320.17   | 0.00       | 0.00       | 102.67  | 35.08   |
| F25     | 1       | 311.47   | 0.00       | 0.00       | 102.67  | 35.08   |
| F24     | 1       | 302.77   | 0.00       | 0.00       | 102.67  | 35.08   |
| F23     | 1       | 294.07   | 0.00       | 0.00       | 102.67  | 35.08   |
| F22     | 1       | 285.37   | 0.00       | 0.00       | 102.67  | 35.08   |
| F21     | 1       | 276.67   | 0.00       | 0.00       | 102.67  | 35.08   |
| F20     | 1       | 267.97   | 0.00       | 0.00       | 102.67  | 35.08   |
| F19     | 1       | 259.27   | 0.00       | 0.00       | 102.67  | 35.08   |
| F18     | 1       | 250.57   | 0.00       | 0.00       | 102.67  | 35.08   |
| F17     | 1       | 241.87   | 0.00       | 0.00       | 102.67  | 35.08   |
| F16     | 1       | 233.17   | 0.00       | 0.00       | 114.00  | 35.08   |
| F15     | 1       | 224.47   | 0.00       | 0.00       | 114.00  | 35.08   |
| F14     | 1       | 215.77   | 0.00       | 0.00       | 114.00  | 35.08   |
| F13     | 1       | 207.07   | 0.00       | 0.00       | 103.17  | 35.08   |
| F12     | 1       | 198.37   | 0.00       | 0.00       | 0.00    | 0.00    |
| F11demo | ---     | ---      | ---        | ---        | ---     | ---     |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |     |        |      |      |        |       |
|---------|-----|--------|------|------|--------|-------|
| F11     | 1   | 180.97 | 0.00 | 0.00 | 114.00 | 37.97 |
| F9demo  | --- | ---    | ---  | ---  | ---    | ---   |
| F10     | 1   | 163.55 | 0.00 | 0.00 | 0.00   | 0.00  |
| F9      | 1   | 147.55 | 0.00 | 0.00 | 0.00   | 0.00  |
| F8      | 1   | 132.55 | 0.00 | 0.00 | 91.33  | 50.21 |
| F7      | 1   | 120.39 | 0.00 | 0.00 | 0.00   | 0.00  |
| F6      | 1   | 108.23 | 0.00 | 0.00 | 0.00   | 0.00  |
| F5      | 1   | 93.02  | 0.00 | 0.00 | 0.00   | 0.00  |
| F4      | 1   | 76.98  | 0.00 | 0.00 | 0.00   | 0.00  |
| F3      | 1   | 61.00  | 0.00 | 0.00 | 0.00   | 0.00  |
| F2      | 1   | 49.00  | 0.00 | 0.00 | 0.00   | 0.00  |
| Fground | 1   | 30.00  | 0.00 | 0.00 | 0.00   | 0.00  |
| Cellar  | 1   | 15.00  | 0.00 | 0.00 | 0.00   | 0.00  |

**Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:**

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |
| F29     | 1       | 0.000          | 0.000          |
| F28     | 1       | 0.000          | 0.000          |
| F27     | 1       | 0.000          | 0.000          |
| F26     | 1       | 0.000          | 0.000          |
| F25     | 1       | 0.000          | 0.000          |
| F24     | 1       | 0.000          | 0.000          |
| F23     | 1       | 0.000          | 0.000          |
| F22     | 1       | 0.000          | 0.000          |
| F21     | 1       | 0.000          | 0.000          |
| F20     | 1       | 0.000          | 0.000          |
| F19     | 1       | 0.000          | 0.000          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |   |       |       |
|--------|---|-------|-------|
| F18    | 1 | 0.000 | 0.000 |
| F17    | 1 | 0.000 | 0.000 |
| F16    | 1 | 0.000 | 0.000 |
| F15    | 1 | 0.000 | 0.000 |
| F14    | 1 | 0.000 | 0.000 |
| F13    | 1 | 0.000 | 0.000 |
| F12    | 1 | 0.000 | 0.000 |
| F11    | 1 | 0.000 | 0.000 |
| F8     | 1 | 0.000 | 0.000 |
| Cellar | 1 | 0.000 | 0.000 |
|        |   | 0.00  | 0.00  |

**APPLIED STORY FORCES**

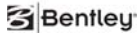
Type: User\_User

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 512.45   | 0.00       | 0.00       |
| F46MEP  | 502.33   | 0.00       | 0.00       |
| F45     | 492.91   | 0.00       | 0.00       |
| F44     | 481.91   | 0.00       | 0.00       |
| F43     | 469.41   | 0.00       | 0.00       |
| F42     | 460.71   | 0.00       | 0.00       |
| F41     | 452.01   | 0.00       | 0.00       |
| F40     | 441.97   | 0.00       | 0.00       |
| F39     | 433.27   | 0.00       | 0.00       |
| F38     | 424.57   | 0.00       | 0.00       |
| F37     | 415.87   | 0.00       | 0.00       |
| F36     | 407.17   | 0.00       | 0.00       |
| F35     | 398.47   | 0.00       | 0.00       |
| F34     | 389.77   | 0.00       | 0.00       |
| F33     | 381.07   | 0.00       | 0.00       |
| F32     | 372.37   | 0.00       | 0.00       |
| F31     | 363.67   | 0.00       | 0.00       |
| F30     | 354.97   | 0.00       | 0.00       |
| F29     | 346.27   | 0.00       | 0.00       |
| F28     | 337.57   | 0.00       | 0.00       |
| F27     | 328.87   | 0.00       | 0.00       |
| F26     | 320.17   | 0.00       | 0.00       |
| F25     | 311.47   | 0.00       | 0.00       |
| F24     | 302.77   | 0.00       | 0.00       |
| F23     | 294.07   | 0.00       | 0.00       |
| F22     | 285.37   | 0.00       | 0.00       |
| F21     | 276.67   | 0.00       | 0.00       |
| F20     | 267.97   | 0.00       | 0.00       |
| F19     | 259.27   | 0.00       | 0.00       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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|         |        |      |      |
|---------|--------|------|------|
| F18     | 250.57 | 0.00 | 0.00 |
| F17     | 241.87 | 0.00 | 0.00 |
| F16     | 233.17 | 0.00 | 0.00 |
| F15     | 224.47 | 0.00 | 0.00 |
| F14     | 215.77 | 0.00 | 0.00 |
| F13     | 207.07 | 0.00 | 0.00 |
| F12     | 198.37 | 0.00 | 0.00 |
| F11demo | 189.67 | ---  | ---  |
| F11     | 180.97 | 0.00 | 0.00 |
| F9demo  | 172.26 | ---  | ---  |
| F10     | 163.55 | 0.00 | 0.00 |
| F9      | 147.55 | 0.00 | 0.00 |
| F8      | 132.55 | 0.00 | 0.00 |
| F7      | 120.39 | 0.00 | 0.00 |
| F6      | 108.23 | 0.00 | 0.00 |
| F5      | 93.02  | 0.00 | 0.00 |
| F4      | 76.98  | 0.00 | 0.00 |
| F3      | 61.00  | 0.00 | 0.00 |
| F2      | 49.00  | 0.00 | 0.00 |
| Fground | 30.00  | 0.00 | 0.00 |
| Cellar  | 15.00  | 0.00 | 0.00 |

**Severud Associates**

1568 Broadway

Structural Calculations

# **CHAPTER 6**

## **RAM Frame Model Data**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

11/01/16 16:55:07

**STORY DATA:**

| Level | Story Label | Layout Type       | Height<br>ft |
|-------|-------------|-------------------|--------------|
| 50    | F47roof     | 47th FL Main Roof | 10.13        |
| 49    | F46MEP      | 46th FL MEP       | 9.42         |
| 48    | F45         | 45th FL           | 11.00        |
| 47    | F44         | 44th FL           | 12.50        |
| 46    | F43         | 43rd FL           | 8.70         |
| 45    | F42         | 38th-42th         | 8.70         |
| 44    | F41         | 38th-42th         | 10.04        |
| 43    | F40         | 38th-42th         | 8.70         |
| 42    | F39         | 38th-42th         | 8.70         |
| 41    | F38         | 38th-42th         | 8.70         |
| 40    | F37         | 28th-37th         | 8.70         |
| 39    | F36         | 28th-37th         | 8.70         |
| 38    | F35         | 28th-37th         | 8.70         |
| 37    | F34         | 28th-37th         | 8.70         |
| 36    | F33         | 28th-37th         | 8.70         |
| 35    | F32         | 28th-37th         | 8.70         |
| 34    | F31         | 28th-37th         | 8.70         |
| 33    | F30         | 28th-37th         | 8.70         |
| 32    | F29         | 28th-37th         | 8.70         |
| 31    | F28         | 28th-37th         | 8.70         |
| 30    | F27         | 18th-27th         | 8.70         |
| 29    | F26         | 18th-27th         | 8.70         |
| 28    | F25         | 18th-27th         | 8.70         |
| 27    | F24         | 18th-27th         | 8.70         |
| 26    | F23         | 18th-27th         | 8.70         |
| 25    | F22         | 18th-27th         | 8.70         |
| 24    | F21         | 18th-27th         | 8.70         |
| 23    | F20         | 18th-27th         | 8.70         |
| 22    | F19         | 18th-27th         | 8.70         |
| 21    | F18         | 18th-27th         | 8.70         |
| 20    | F17         | 17th              | 8.70         |
| 19    | F16         | 16th FL           | 8.70         |
| 18    | F15         | 15th FL           | 8.70         |
| 17    | F14         | 14th FL           | 8.70         |
| 16    | F13         | 13th FL           | 8.70         |
| 15    | F12         | 12th FL           | 8.70         |
| 14    | F11demo     | 11th FL Demo      | 8.70         |
| 13    | F11         | 11th FL           | 8.71         |
| 12    | F9demo      | 9th FL Demo       | 8.71         |
| 11    | F10         | 10th FL           | 16.00        |
| 10    | F9          | 9th FL            | 15.00        |
| 9     | F8          | 8th FL model1     | 12.16        |
| 8     | F7          | 7th FL            | 12.16        |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Level | Story Label | Layout Type  | Height |
|-------|-------------|--------------|--------|
| 7     | F6          | 6th FL       | 15.21  |
| 6     | F5          | 5th FL       | 16.04  |
| 5     | F4          | 4th FL       | 15.98  |
| 4     | F3          | 3rd FL new   | 12.00  |
| 3     | F2          | 2nd FL       | 19.00  |
| 2     | Fground     | Ground Floor | 15.00  |
| 1     | Cellar      | Cellar       | 15.00  |

**COLUMN SECTION PROPERTIES:**

Concrete:

| #  | Label   | Shape     | Depth/Diam<br>in | Width<br>in | Cracked Factors |       |         |
|----|---------|-----------|------------------|-------------|-----------------|-------|---------|
|    |         |           |                  |             | Bending         | Axial | Torsion |
| 1  | 26x26   | Rectangle | 26.00            | 26.00       | 0.70            | 1.00  | 1.00    |
| 2  | 22" DIA | Round     | 22.00            | ----        | 0.70            | 1.00  | 1.00    |
| 3  | 36x22   | Rectangle | 36.00            | 22.00       | 0.70            | 1.00  | 1.00    |
| 4  | 28x28   | Rectangle | 28.00            | 28.00       | 0.70            | 1.00  | 1.00    |
| 5  | 21x26   | Rectangle | 26.00            | 21.00       | 0.70            | 1.00  | 1.00    |
| 6  | 12X20   | Rectangle | 20.00            | 12.00       | 0.70            | 1.00  | 1.00    |
| 7  | 12x18   | Rectangle | 18.00            | 12.00       | 0.70            | 1.00  | 1.00    |
| 8  | 18x26   | Rectangle | 26.00            | 18.00       | 0.70            | 1.00  | 1.00    |
| 9  | 14x36   | Rectangle | 36.00            | 14.00       | 0.70            | 1.00  | 1.00    |
| 10 | 10x36   | Rectangle | 36.00            | 10.00       | 0.70            | 1.00  | 1.00    |
| 11 | 12x36   | Rectangle | 36.00            | 12.00       | 0.70            | 1.00  | 1.00    |
| 12 | 12" DIA | Round     | 12.00            | ----        | 0.70            | 1.00  | 1.00    |
| 13 | 12X24   | Rectangle | 24.00            | 12.00       | 0.70            | 1.00  | 1.00    |
| 14 | 24X24   | Rectangle | 24.00            | 24.00       | 0.70            | 1.00  | 1.00    |
| 15 | 24" DIA | Round     | 24.00            | ----        | 0.70            | 1.00  | 1.00    |
| 16 | 28X24   | Rectangle | 28.00            | 24.00       | 0.70            | 1.00  | 1.00    |
| 17 | 16x36   | Rectangle | 36.00            | 16.00       | 0.70            | 1.00  | 1.00    |

**BEAM SECTION PROPERTIES:**

Concrete:

| #  | Label     | Shape     | Depth | Width<br>in | Flange         |                 | Web-Thk<br>in |
|----|-----------|-----------|-------|-------------|----------------|-----------------|---------------|
|    |           |           |       |             | Overhang<br>in | Thickness<br>in |               |
| 1  | 14.5x29.5 | Rectangle | 29.50 | 14.50       | ----           | ----            | ----          |
| 2  | 44B1      | Rectangle | 32.00 | 18.00       | ----           | ----            | ----          |
| 3  | 44B2      | Rectangle | 32.00 | 22.00       | ----           | ----            | ----          |
| 4  | 44B3      | Rectangle | 32.00 | 18.00       | ----           | ----            | ----          |
| 5  | 12x17     | Rectangle | 17.00 | 12.00       | ----           | ----            | ----          |
| 6  | 45B1      | Rectangle | 46.00 | 14.00       | ----           | ----            | ----          |
| 7  | 46B5      | Rectangle | 29.50 | 12.25       | ----           | ----            | ----          |
| 8  | T33       | Rectangle | 96.00 | 28.00       | ----           | ----            | ----          |
| 9  | 14x17     | Rectangle | 17.00 | 14.00       | ----           | ----            | ----          |
| 10 | 8x8       | Rectangle | 8.00  | 8.00        | ----           | ----            | ----          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | Label    | Shape     | Depth  | Width | Flange | Web-Thk |
|----|----------|-----------|--------|-------|--------|---------|
| 11 | 24x24LB  | Rectangle | 24.00  | 24.00 | ----   | ----    |
| 12 | 48x42.6  | Rectangle | 42.60  | 48.00 | ----   | ----    |
| 13 | 48x25.5  | Rectangle | 25.50  | 48.00 | ----   | ----    |
| 14 | 14x30    | Rectangle | 14.00  | 30.00 | ----   | ----    |
| 15 | 12x24    | Rectangle | 24.00  | 12.00 | ----   | ----    |
| 16 | 24x24    | Rectangle | 24.00  | 24.00 | ----   | ----    |
| 17 | infinity | Rectangle | 200.00 | 24.00 | ----   | ----    |

| #  | Label     | Cracked Factors |       |         |
|----|-----------|-----------------|-------|---------|
|    |           | Bending         | Axial | Torsion |
| 1  | 14.5x29.5 | 0.35            | 1.00  | 0.10    |
| 2  | 44B1      | 0.35            | 1.00  | 0.10    |
| 3  | 44B2      | 0.35            | 1.00  | 0.10    |
| 4  | 44B3      | 0.35            | 1.00  | 0.10    |
| 5  | 12x17     | 0.35            | 1.00  | 0.10    |
| 6  | 45B1      | 0.35            | 1.00  | 0.10    |
| 7  | 46B5      | 0.35            | 1.00  | 0.10    |
| 8  | T33       | 0.35            | 1.00  | 0.10    |
| 9  | 14x17     | 0.35            | 1.00  | 0.10    |
| 10 | 8x8       | 0.35            | 1.00  | 0.10    |
| 11 | 24x24LB   | 0.35            | 1.00  | 0.10    |
| 12 | 48x42.6   | 1.00            | 1.00  | 0.10    |
| 13 | 48x25.5   | 1.00            | 1.00  | 0.10    |
| 14 | 14x30     | 0.35            | 1.00  | 0.10    |
| 15 | 12x24     | 0.35            | 1.00  | 0.10    |
| 16 | 24x24     | 0.35            | 1.00  | 0.10    |
| 17 | infinity  | 1.00            | 1.00  | 0.10    |

**FRAME MEMBERS**

Frame #0:

Level: F47roof

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 7  | 77.333  | 42.792  | 512.455 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 4   |
|    | 77.333  | 42.792  | 502.330 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 11 | 113.083 | 22.500  | 512.455 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 113.083 | 22.500  | 502.330 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 12 | 113.083 | 36.583  | 512.455 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 113.083 | 36.583  | 502.330 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 161.083 | 22.500  | 512.455 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 161.083 | 22.500  | 502.330 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 161.083 | 36.583  | 512.455 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 161.083 | 36.583  | 502.330 | 0.00         | 0.00         | FFF           |      |               |                |            |     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 37.667  | 1.667   | 512.455 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 37.667  | 19.833  | 512.455 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 502.330 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 502.330 |      |               |                |            |       |       |
| 2  | 37.667  | 1.667   | 512.455 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 1.667   | 512.455 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 502.330 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 502.330 |      |               |                |            |       |       |
| 3  | 37.667  | 19.833  | 512.455 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 45.500  | 19.833  | 512.455 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 502.330 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 502.330 |      |               |                |            |       |       |
| 4  | 54.625  | 37.167  | 512.455 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 512.455 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 502.330 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 502.330 |      |               |                |            |       |       |
| 5  | 63.083  | 1.667   | 512.455 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 512.455 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 502.330 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 502.330 |      |               |                |            |       |       |
| 6  | 63.083  | 1.667   | 512.455 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 1.667   | 512.455 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 502.330 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 502.330 |      |               |                |            |       |       |
| 7  | 63.083  | 19.000  | 512.455 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 512.455 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 502.330 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 502.330 |      |               |                |            |       |       |
| 9  | 77.333  | 1.667   | 512.455 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 29.500  | 512.455 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 502.330 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 502.330 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 512.455 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 42.792  | 512.455 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 502.330 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 502.330 |      |               |                |            |       |       |
| 11 | 77.333  | 29.500  | 512.455 | 0.20 | 145.0         | 150.0          | 8.000      | 10.0  | 0     |
|    | 89.083  | 29.500  | 512.455 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 502.330 |      |               |                |            |       |       |
|    | 89.083  | 29.500  | 502.330 |      |               |                |            |       |       |
| 13 | 137.083 | 21.583  | 512.455 | 0.20 | 145.0         | 150.0          | 8.000      | 10.0  | 0     |
|    | 137.083 | 36.583  | 512.455 |      |               |                |            |       |       |
|    | 137.083 | 21.583  | 502.330 |      |               |                |            |       |       |





|    |         |        |         |      |       |       |       |      |   |
|----|---------|--------|---------|------|-------|-------|-------|------|---|
|    | 137.083 | 36.583 | 502.330 |      |       |       |       |      |   |
| 14 | 185.083 | 22.500 | 512.455 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 185.083 | 60.167 | 512.455 |      |       |       |       |      |   |
|    | 185.083 | 22.500 | 502.330 |      |       |       |       |      |   |
|    | 185.083 | 60.167 | 502.330 |      |       |       |       |      |   |
| 16 | 89.083  | 21.583 | 512.455 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 512.455 |      |       |       |       |      |   |
|    | 89.083  | 21.583 | 502.330 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 502.330 |      |       |       |       |      |   |
| 17 | 89.083  | 29.500 | 512.455 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 512.455 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 502.330 |      |       |       |       |      |   |
|    | 89.083  | 36.583 | 502.330 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |

**Level: F46MEP**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 9  | 77.333  | 42.792  | 502.330 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 4   |
|    | 77.333  | 42.792  | 492.910 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 14 | 113.083 | 22.500  | 502.330 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 113.083 | 22.500  | 492.910 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 36.583  | 502.330 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 113.083 | 36.583  | 492.910 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 22 | 161.083 | 22.500  | 502.330 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 161.083 | 22.500  | 492.910 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 36.583  | 502.330 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 161.083 | 36.583  | 492.910 | 0.00         | 0.00         | FFF           |      |               |                |            |     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 37.667  | 1.667   | 502.330 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 37.667  | 19.833  | 502.330 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 492.910 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 492.910 |      |               |                |            |       |       |
| 2  | 37.667  | 1.667   | 502.330 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 1.667   | 502.330 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 492.910 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 492.910 |      |               |                |            |       |       |
| 3  | 37.667  | 19.833  | 502.330 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 45.500  | 19.833  | 502.330 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 492.910 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 492.910 |      |               |                |            |       |       |
| 4  | 54.625  | 37.167  | 502.330 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 502.330 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 492.910 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 492.910 |      |               |                |            |       |       |
| 5  | 63.083  | 1.667   | 502.330 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 502.330 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 492.910 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 492.910 |      |               |                |            |       |       |
| 6  | 63.083  | 1.667   | 502.330 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 1.667   | 502.330 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 492.910 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 492.910 |      |               |                |            |       |       |
| 7  | 63.083  | 19.000  | 502.330 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 502.330 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 492.910 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 492.910 |      |               |                |            |       |       |
| 9  | 77.333  | 1.667   | 502.330 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 29.500  | 502.330 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 492.910 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 492.910 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 502.330 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 42.792  | 502.330 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 492.910 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 492.910 |      |               |                |            |       |       |
| 11 | 77.333  | 29.500  | 502.330 | 0.20 | 145.0         | 150.0          | 8.000      | 10.0  | 0     |
|    | 89.083  | 29.500  | 502.330 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 492.910 |      |               |                |            |       |       |
|    | 89.083  | 29.500  | 492.910 |      |               |                |            |       |       |
| 13 | 137.083 | 21.583  | 502.330 | 0.20 | 145.0         | 150.0          | 8.000      | 10.0  | 0     |
|    | 137.083 | 36.583  | 502.330 |      |               |                |            |       |       |
|    | 137.083 | 21.583  | 492.910 |      |               |                |            |       |       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |       |      |   |
|----|---------|--------|---------|------|-------|-------|-------|------|---|
|    | 137.083 | 36.583 | 492.910 |      |       |       |       |      |   |
| 14 | 185.083 | 22.500 | 502.330 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 185.083 | 63.337 | 502.330 |      |       |       |       |      |   |
|    | 185.083 | 22.500 | 492.910 |      |       |       |       |      |   |
|    | 185.083 | 63.337 | 492.910 |      |       |       |       |      |   |
| 15 | 89.083  | 21.583 | 502.330 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 502.330 |      |       |       |       |      |   |
|    | 89.083  | 21.583 | 492.910 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 492.910 |      |       |       |       |      |   |
| 16 | 89.083  | 29.500 | 502.330 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 502.330 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 492.910 |      |       |       |       |      |   |
|    | 89.083  | 36.583 | 492.910 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |

**Level: F45**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 9  | 77.333  | 42.792  | 492.910 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 4   |
|    | 77.333  | 42.792  | 481.910 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 14 | 113.083 | 22.500  | 492.910 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 113.083 | 22.500  | 481.910 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 36.583  | 492.910 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 113.083 | 36.583  | 481.910 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 22 | 161.083 | 22.500  | 492.910 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 161.083 | 22.500  | 481.910 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 36.583  | 492.910 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 161.083 | 36.583  | 481.910 | 0.00         | 0.00         | FFF           |      |               |                |            |     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 37.667  | 1.667   | 492.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 37.667  | 19.833  | 492.910 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 481.910 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 481.910 |      |               |                |            |       |       |
| 2  | 37.667  | 1.667   | 492.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 1.667   | 492.910 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 481.910 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 481.910 |      |               |                |            |       |       |
| 3  | 37.667  | 19.833  | 492.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 45.500  | 19.833  | 492.910 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 481.910 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 481.910 |      |               |                |            |       |       |
| 4  | 54.625  | 37.167  | 492.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 492.910 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 481.910 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 481.910 |      |               |                |            |       |       |
| 5  | 63.083  | 1.667   | 492.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 492.910 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 481.910 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 481.910 |      |               |                |            |       |       |
| 6  | 63.083  | 1.667   | 492.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 1.667   | 492.910 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 481.910 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 481.910 |      |               |                |            |       |       |
| 7  | 63.083  | 19.000  | 492.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 492.910 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 481.910 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 481.910 |      |               |                |            |       |       |
| 9  | 77.333  | 1.667   | 492.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 29.500  | 492.910 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 481.910 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 481.910 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 492.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 42.792  | 492.910 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 481.910 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 481.910 |      |               |                |            |       |       |
| 11 | 77.333  | 29.500  | 492.910 | 0.20 | 145.0         | 150.0          | 8.000      | 10.0  | 0     |
|    | 89.083  | 29.500  | 492.910 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 481.910 |      |               |                |            |       |       |
|    | 89.083  | 29.500  | 481.910 |      |               |                |            |       |       |
| 13 | 137.083 | 21.583  | 492.910 | 0.20 | 145.0         | 150.0          | 8.000      | 10.0  | 0     |
|    | 137.083 | 36.583  | 492.910 |      |               |                |            |       |       |
|    | 137.083 | 21.583  | 481.910 |      |               |                |            |       |       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |       |      |   |
|----|---------|--------|---------|------|-------|-------|-------|------|---|
|    | 137.083 | 36.583 | 481.910 |      |       |       |       |      |   |
| 14 | 185.083 | 22.500 | 492.910 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 185.083 | 63.337 | 492.910 |      |       |       |       |      |   |
|    | 185.083 | 22.500 | 481.910 |      |       |       |       |      |   |
|    | 185.083 | 63.337 | 481.910 |      |       |       |       |      |   |
| 15 | 89.083  | 29.500 | 492.910 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 492.910 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 481.910 |      |       |       |       |      |   |
|    | 89.083  | 36.583 | 481.910 |      |       |       |       |      |   |
| 16 | 89.083  | 21.583 | 492.910 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 492.910 |      |       |       |       |      |   |
|    | 89.083  | 21.583 | 481.910 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 481.910 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 0.350    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |

**Level: F44**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 9  | 77.333  | 42.792  | 481.910 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 4   |
|    | 77.333  | 42.792  | 469.410 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 14 | 113.083 | 22.500  | 481.910 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 113.083 | 22.500  | 469.410 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 36.583  | 481.910 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 113.083 | 36.583  | 469.410 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 22 | 161.083 | 22.500  | 481.910 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 161.083 | 22.500  | 469.410 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 36.583  | 481.910 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 13  |
|    | 161.083 | 36.583  | 469.410 | 0.00         | 0.00         | FFF           |      |               |                |            |     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 37.667  | 1.667   | 481.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 37.667  | 19.833  | 481.910 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 469.410 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 469.410 |      |               |                |            |       |       |
| 2  | 37.667  | 1.667   | 481.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 1.667   | 481.910 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 469.410 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 469.410 |      |               |                |            |       |       |
| 3  | 37.667  | 19.833  | 481.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 45.500  | 19.833  | 481.910 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 469.410 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 469.410 |      |               |                |            |       |       |
| 4  | 54.625  | 37.167  | 481.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 481.910 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 469.410 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 469.410 |      |               |                |            |       |       |
| 5  | 63.083  | 1.667   | 481.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 481.910 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 469.410 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 469.410 |      |               |                |            |       |       |
| 6  | 63.083  | 1.667   | 481.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 1.667   | 481.910 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 469.410 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 469.410 |      |               |                |            |       |       |
| 7  | 63.083  | 19.000  | 481.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 481.910 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 469.410 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 469.410 |      |               |                |            |       |       |
| 9  | 77.333  | 1.667   | 481.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 29.500  | 481.910 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 469.410 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 469.410 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 481.910 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 42.792  | 481.910 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 469.410 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 469.410 |      |               |                |            |       |       |
| 11 | 77.333  | 29.500  | 481.910 | 0.20 | 145.0         | 150.0          | 8.000      | 10.0  | 0     |
|    | 89.083  | 29.500  | 481.910 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 469.410 |      |               |                |            |       |       |
|    | 89.083  | 29.500  | 469.410 |      |               |                |            |       |       |
| 13 | 137.083 | 21.583  | 481.910 | 0.20 | 145.0         | 150.0          | 8.000      | 10.0  | 0     |
|    | 137.083 | 36.583  | 481.910 |      |               |                |            |       |       |
|    | 137.083 | 21.583  | 469.410 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |       |      |   |
|----|---------|--------|---------|------|-------|-------|-------|------|---|
|    | 137.083 | 36.583 | 469.410 |      |       |       |       |      |   |
| 14 | 185.083 | 22.500 | 481.910 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 185.083 | 63.337 | 481.910 |      |       |       |       |      |   |
|    | 185.083 | 22.500 | 469.410 |      |       |       |       |      |   |
|    | 185.083 | 63.337 | 469.410 |      |       |       |       |      |   |
| 15 | 89.083  | 29.500 | 481.910 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 481.910 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 469.410 |      |       |       |       |      |   |
|    | 89.083  | 36.583 | 469.410 |      |       |       |       |      |   |
| 16 | 89.083  | 21.583 | 481.910 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 481.910 |      |       |       |       |      |   |
|    | 89.083  | 21.583 | 469.410 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 469.410 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 0.350    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |

**Level: F43**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 469.410 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 16  |
|    | 77.333  | 42.792  | 460.710 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 469.410 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 22.500  | 460.710 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 469.410 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 36.583  | 460.710 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 469.410 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 56.583  | 460.710 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 469.410 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 68.667  | 460.710 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 469.410 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c   | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|-------|-----|
|    | 161.083 | 22.500 | 460.710 | 0.00   | 0.00   | FFF    |      |        |         |       |     |
| 24 | 161.083 | 36.583 | 469.410 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 11  |
|    | 161.083 | 36.583 | 460.710 | 0.00   | 0.00   | FFF    |      |        |         |       |     |
| 25 | 161.083 | 56.670 | 469.410 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 11  |
|    | 161.083 | 56.670 | 460.710 | 0.00   | 0.00   | FFF    |      |        |         |       |     |
| 26 | 161.083 | 68.667 | 469.410 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 11  |
|    | 161.083 | 68.667 | 460.710 | 0.00   | 0.00   | FFF    |      |        |         |       |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 3 | 89.083  | 36.583  | 469.410 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 469.410 | 0.00         | FFF           |      |               |                |            |     |     |
| 5 | 137.083 | 36.583  | 469.410 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 469.410 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 469.410 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 37.667  | 19.833  | 469.410 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 460.710 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 460.710 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 469.410 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 1.667   | 469.410 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 460.710 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 460.710 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 469.410 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 45.500  | 19.833  | 469.410 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 460.710 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 460.710 |      |               |                |            |       |       |
| 4 | 54.625  | 37.167  | 469.410 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 37.167  | 469.410 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 460.710 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 460.710 |      |               |                |            |       |       |
| 5 | 63.083  | 1.667   | 469.410 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 19.000  | 469.410 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 460.710 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 460.710 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 469.410 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 77.333  | 1.667   | 469.410 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 460.710 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 460.710 |      |               |                |            |       |       |
| 7 | 63.083  | 19.000  | 469.410 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 37.167  | 469.410 |      |               |                |            |       |       |





|    |         |        |         |      |       |       |       |      |   |
|----|---------|--------|---------|------|-------|-------|-------|------|---|
|    | 63.083  | 19.000 | 460.710 |      |       |       |       |      |   |
|    | 63.083  | 37.167 | 460.710 |      |       |       |       |      |   |
| 9  | 77.333  | 1.667  | 469.410 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 469.410 |      |       |       |       |      |   |
|    | 77.333  | 1.667  | 460.710 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 460.710 |      |       |       |       |      |   |
| 10 | 77.333  | 29.500 | 469.410 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 469.410 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 460.710 |      |       |       |       |      |   |
|    | 77.333  | 42.792 | 460.710 |      |       |       |       |      |   |
| 11 | 77.333  | 29.500 | 469.410 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 469.410 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 460.710 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 460.710 |      |       |       |       |      |   |
| 13 | 89.083  | 56.670 | 469.410 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 469.410 |      |       |       |       |      |   |
|    | 89.083  | 56.670 | 460.710 |      |       |       |       |      |   |
|    | 89.083  | 69.584 | 460.710 |      |       |       |       |      |   |
| 14 | 137.083 | 21.583 | 469.410 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 469.410 |      |       |       |       |      |   |
|    | 137.083 | 21.583 | 460.710 |      |       |       |       |      |   |
|    | 137.083 | 36.583 | 460.710 |      |       |       |       |      |   |
| 15 | 137.083 | 56.670 | 469.410 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 469.410 |      |       |       |       |      |   |
|    | 137.083 | 56.670 | 460.710 |      |       |       |       |      |   |
|    | 137.083 | 69.584 | 460.710 |      |       |       |       |      |   |
| 16 | 185.083 | 22.500 | 469.410 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 469.410 |      |       |       |       |      |   |
|    | 185.083 | 22.500 | 460.710 |      |       |       |       |      |   |
|    | 185.083 | 68.667 | 460.710 |      |       |       |       |      |   |
| 17 | 89.083  | 29.500 | 469.410 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 469.410 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 460.710 |      |       |       |       |      |   |
|    | 89.083  | 36.583 | 460.710 |      |       |       |       |      |   |
| 18 | 89.083  | 21.583 | 469.410 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 469.410 |      |       |       |       |      |   |
|    | 89.083  | 21.583 | 460.710 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 460.710 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |       |       |
|----|-------|-------|
| 6  | 0.500 | 1.000 |
| 7  | 0.500 | 1.000 |
| 9  | 0.500 | 1.000 |
| 10 | 0.500 | 1.000 |
| 11 | 0.500 | 1.000 |
| 13 | 1.000 | 1.000 |
| 14 | 1.000 | 1.000 |
| 15 | 1.000 | 1.000 |
| 16 | 1.000 | 1.000 |
| 17 | 1.000 | 1.000 |
| 18 | 1.000 | 1.000 |

**Level: F42**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 460.710 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 16  |
|    | 77.333  | 42.792  | 452.010 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 460.710 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 22.500  | 452.010 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 460.710 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 36.583  | 452.010 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 460.710 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 56.583  | 452.010 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 460.710 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 68.667  | 452.010 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 460.710 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 22.500  | 452.010 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 460.710 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 36.583  | 452.010 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 460.710 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 56.670  | 452.010 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 460.710 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 68.667  | 452.010 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 3 | 89.083  | 36.583  | 460.710 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 9   | --- |
|   | 89.083  | 56.670  | 460.710 | 0.00         | FFF           |      |               |                |            |     |     |
| 4 | 137.083 | 36.583  | 460.710 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 460.710 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|



|    |         |        |         |      |       |       |       |      |   |
|----|---------|--------|---------|------|-------|-------|-------|------|---|
| 1  | 37.667  | 1.667  | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 37.667  | 19.833 | 460.710 |      |       |       |       |      |   |
|    | 37.667  | 1.667  | 452.010 |      |       |       |       |      |   |
|    | 37.667  | 19.833 | 452.010 |      |       |       |       |      |   |
| 2  | 37.667  | 1.667  | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 63.083  | 1.667  | 460.710 |      |       |       |       |      |   |
|    | 37.667  | 1.667  | 452.010 |      |       |       |       |      |   |
|    | 63.083  | 1.667  | 452.010 |      |       |       |       |      |   |
| 3  | 37.667  | 19.833 | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 45.500  | 19.833 | 460.710 |      |       |       |       |      |   |
|    | 37.667  | 19.833 | 452.010 |      |       |       |       |      |   |
|    | 45.500  | 19.833 | 452.010 |      |       |       |       |      |   |
| 4  | 54.625  | 37.167 | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 460.710 |      |       |       |       |      |   |
|    | 54.625  | 37.167 | 452.010 |      |       |       |       |      |   |
|    | 63.083  | 37.167 | 452.010 |      |       |       |       |      |   |
| 5  | 63.083  | 1.667  | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 63.083  | 19.000 | 460.710 |      |       |       |       |      |   |
|    | 63.083  | 1.667  | 452.010 |      |       |       |       |      |   |
|    | 63.083  | 19.000 | 452.010 |      |       |       |       |      |   |
| 6  | 63.083  | 1.667  | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 460.710 |      |       |       |       |      |   |
|    | 63.083  | 1.667  | 452.010 |      |       |       |       |      |   |
|    | 77.333  | 1.667  | 452.010 |      |       |       |       |      |   |
| 7  | 63.083  | 19.000 | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 460.710 |      |       |       |       |      |   |
|    | 63.083  | 19.000 | 452.010 |      |       |       |       |      |   |
|    | 63.083  | 37.167 | 452.010 |      |       |       |       |      |   |
| 9  | 77.333  | 1.667  | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 460.710 |      |       |       |       |      |   |
|    | 77.333  | 1.667  | 452.010 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 452.010 |      |       |       |       |      |   |
| 10 | 77.333  | 29.500 | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 460.710 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 452.010 |      |       |       |       |      |   |
|    | 77.333  | 42.792 | 452.010 |      |       |       |       |      |   |
| 11 | 77.333  | 29.500 | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 460.710 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 452.010 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 452.010 |      |       |       |       |      |   |
| 13 | 89.083  | 56.670 | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 460.710 |      |       |       |       |      |   |
|    | 89.083  | 56.670 | 452.010 |      |       |       |       |      |   |
|    | 89.083  | 69.584 | 452.010 |      |       |       |       |      |   |
| 14 | 137.083 | 21.583 | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 460.710 |      |       |       |       |      |   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |       |      |   |
|----|---------|--------|---------|------|-------|-------|-------|------|---|
|    | 137.083 | 21.583 | 452.010 |      |       |       |       |      |   |
|    | 137.083 | 36.583 | 452.010 |      |       |       |       |      |   |
| 15 | 137.083 | 56.670 | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 460.710 |      |       |       |       |      |   |
|    | 137.083 | 56.670 | 452.010 |      |       |       |       |      |   |
|    | 137.083 | 69.584 | 452.010 |      |       |       |       |      |   |
| 16 | 185.083 | 22.500 | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 460.710 |      |       |       |       |      |   |
|    | 185.083 | 22.500 | 452.010 |      |       |       |       |      |   |
|    | 185.083 | 68.667 | 452.010 |      |       |       |       |      |   |
| 17 | 89.083  | 29.500 | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 460.710 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 452.010 |      |       |       |       |      |   |
|    | 89.083  | 36.583 | 452.010 |      |       |       |       |      |   |
| 18 | 89.083  | 21.583 | 460.710 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 460.710 |      |       |       |       |      |   |
|    | 89.083  | 21.583 | 452.010 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 452.010 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F41**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 452.010 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 16  |
|    | 77.333  | 42.792  | 441.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 452.010 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 22.500  | 441.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c   | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|-------|-----|
| 16 | 113.083 | 36.583 | 452.010 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 11  |
|    | 113.083 | 36.583 | 441.970 | 0.00   | 0.00   | FFF    |      |        |         |       |     |
| 17 | 113.083 | 56.583 | 452.010 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 11  |
|    | 113.083 | 56.583 | 441.970 | 0.00   | 0.00   | FFF    |      |        |         |       |     |
| 18 | 113.083 | 68.667 | 452.010 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 11  |
|    | 113.083 | 68.667 | 441.970 | 0.00   | 0.00   | FFF    |      |        |         |       |     |
| 23 | 161.083 | 22.500 | 452.010 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 11  |
|    | 161.083 | 22.500 | 441.970 | 0.00   | 0.00   | FFF    |      |        |         |       |     |
| 24 | 161.083 | 36.583 | 452.010 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 11  |
|    | 161.083 | 36.583 | 441.970 | 0.00   | 0.00   | FFF    |      |        |         |       |     |
| 25 | 161.083 | 56.670 | 452.010 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 11  |
|    | 161.083 | 56.670 | 441.970 | 0.00   | 0.00   | FFF    |      |        |         |       |     |
| 26 | 161.083 | 68.667 | 452.010 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 11  |
|    | 161.083 | 68.667 | 441.970 | 0.00   | 0.00   | FFF    |      |        |         |       |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 3 | 89.083  | 36.583  | 452.010 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 9   | --- |
|   | 89.083  | 56.670  | 452.010 | 0.00         | FFF           |      |               |                |            |     |     |
| 4 | 137.083 | 36.583  | 452.010 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 452.010 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 452.010 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 37.667  | 19.833  | 452.010 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 441.970 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 441.970 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 452.010 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 1.667   | 452.010 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 441.970 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 441.970 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 452.010 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 45.500  | 19.833  | 452.010 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 441.970 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 441.970 |      |               |                |            |       |       |
| 4 | 54.625  | 37.167  | 452.010 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 37.167  | 452.010 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 441.970 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 441.970 |      |               |                |            |       |       |
| 5 | 63.083  | 1.667   | 452.010 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 19.000  | 452.010 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 441.970 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |       |      |   |
|----|---------|--------|---------|------|-------|-------|-------|------|---|
|    | 63.083  | 19.000 | 441.970 |      |       |       |       |      |   |
| 6  | 63.083  | 1.667  | 452.010 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 452.010 |      |       |       |       |      |   |
|    | 63.083  | 1.667  | 441.970 |      |       |       |       |      |   |
|    | 77.333  | 1.667  | 441.970 |      |       |       |       |      |   |
| 7  | 63.083  | 19.000 | 452.010 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 452.010 |      |       |       |       |      |   |
|    | 63.083  | 19.000 | 441.970 |      |       |       |       |      |   |
|    | 63.083  | 37.167 | 441.970 |      |       |       |       |      |   |
| 9  | 77.333  | 1.667  | 452.010 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 452.010 |      |       |       |       |      |   |
|    | 77.333  | 1.667  | 441.970 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 441.970 |      |       |       |       |      |   |
| 10 | 77.333  | 29.500 | 452.010 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 452.010 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 441.970 |      |       |       |       |      |   |
|    | 77.333  | 42.792 | 441.970 |      |       |       |       |      |   |
| 11 | 77.333  | 29.500 | 452.010 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 452.010 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 441.970 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 441.970 |      |       |       |       |      |   |
| 13 | 89.083  | 56.670 | 452.010 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 452.010 |      |       |       |       |      |   |
|    | 89.083  | 56.670 | 441.970 |      |       |       |       |      |   |
|    | 89.083  | 69.584 | 441.970 |      |       |       |       |      |   |
| 14 | 137.083 | 21.583 | 452.010 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 452.010 |      |       |       |       |      |   |
|    | 137.083 | 21.583 | 441.970 |      |       |       |       |      |   |
|    | 137.083 | 36.583 | 441.970 |      |       |       |       |      |   |
| 15 | 137.083 | 56.670 | 452.010 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 452.010 |      |       |       |       |      |   |
|    | 137.083 | 56.670 | 441.970 |      |       |       |       |      |   |
|    | 137.083 | 69.584 | 441.970 |      |       |       |       |      |   |
| 16 | 185.083 | 22.500 | 452.010 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 452.010 |      |       |       |       |      |   |
|    | 185.083 | 22.500 | 441.970 |      |       |       |       |      |   |
|    | 185.083 | 68.667 | 441.970 |      |       |       |       |      |   |
| 17 | 89.083  | 29.500 | 452.010 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 452.010 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 441.970 |      |       |       |       |      |   |
|    | 89.083  | 36.583 | 441.970 |      |       |       |       |      |   |
| 18 | 89.083  | 21.583 | 452.010 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 452.010 |      |       |       |       |      |   |
|    | 89.083  | 21.583 | 441.970 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 441.970 |      |       |       |       |      |   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F40**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 441.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 16  |
|    | 77.333  | 42.792  | 433.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 441.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 22.500  | 433.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 441.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 36.583  | 433.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 441.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 56.583  | 433.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 441.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 68.667  | 433.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 441.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 22.500  | 433.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 441.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 36.583  | 433.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 441.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 56.670  | 433.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 441.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 68.667  | 433.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 3 | 89.083  | 36.583  | 441.970 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 9   | --- |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | X       | Y      | Z       | RigEnd | Fixity | Pois | UnitWt | UW Self | f'c   | Sec | T-O |
|---|---------|--------|---------|--------|--------|------|--------|---------|-------|-----|-----|
|   | 89.083  | 56.670 | 441.970 | 0.00   | FFF    |      |        |         |       |     |     |
| 4 | 137.083 | 36.583 | 441.970 | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 6.000 | 11  | --- |
|   | 137.083 | 56.670 | 441.970 | 0.00   | FFF    |      |        |         |       |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 37.667  | 1.667   | 441.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 37.667  | 19.833  | 441.970 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 433.270 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 433.270 |      |               |                |            |       |       |
| 2  | 37.667  | 1.667   | 441.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 1.667   | 441.970 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 433.270 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 433.270 |      |               |                |            |       |       |
| 3  | 37.667  | 19.833  | 441.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 45.500  | 19.833  | 441.970 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 433.270 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 433.270 |      |               |                |            |       |       |
| 4  | 54.625  | 37.167  | 441.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 441.970 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 433.270 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 433.270 |      |               |                |            |       |       |
| 5  | 63.083  | 1.667   | 441.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 441.970 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 433.270 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 433.270 |      |               |                |            |       |       |
| 6  | 63.083  | 1.667   | 441.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 1.667   | 441.970 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 433.270 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 433.270 |      |               |                |            |       |       |
| 7  | 63.083  | 19.000  | 441.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 441.970 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 433.270 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 433.270 |      |               |                |            |       |       |
| 9  | 77.333  | 1.667   | 441.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 29.500  | 441.970 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 433.270 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 433.270 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 441.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 42.792  | 441.970 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 433.270 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 433.270 |      |               |                |            |       |       |
| 11 | 77.333  | 29.500  | 441.970 | 0.20 | 145.0         | 150.0          | 8.000      | 10.0  | 0     |
|    | 89.083  | 29.500  | 441.970 |      |               |                |            |       |       |





|    |         |        |         |      |       |       |       |      |   |
|----|---------|--------|---------|------|-------|-------|-------|------|---|
|    | 77.333  | 29.500 | 433.270 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 433.270 |      |       |       |       |      |   |
| 13 | 89.083  | 56.670 | 441.970 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 441.970 |      |       |       |       |      |   |
|    | 89.083  | 56.670 | 433.270 |      |       |       |       |      |   |
|    | 89.083  | 69.584 | 433.270 |      |       |       |       |      |   |
| 14 | 137.083 | 21.583 | 441.970 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 441.970 |      |       |       |       |      |   |
|    | 137.083 | 21.583 | 433.270 |      |       |       |       |      |   |
|    | 137.083 | 36.583 | 433.270 |      |       |       |       |      |   |
| 15 | 137.083 | 56.670 | 441.970 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 441.970 |      |       |       |       |      |   |
|    | 137.083 | 56.670 | 433.270 |      |       |       |       |      |   |
|    | 137.083 | 69.584 | 433.270 |      |       |       |       |      |   |
| 16 | 185.083 | 22.500 | 441.970 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 441.970 |      |       |       |       |      |   |
|    | 185.083 | 22.500 | 433.270 |      |       |       |       |      |   |
|    | 185.083 | 68.667 | 433.270 |      |       |       |       |      |   |
| 17 | 89.083  | 29.500 | 441.970 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 441.970 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 433.270 |      |       |       |       |      |   |
|    | 89.083  | 36.583 | 433.270 |      |       |       |       |      |   |
| 18 | 89.083  | 21.583 | 441.970 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 441.970 |      |       |       |       |      |   |
|    | 89.083  | 21.583 | 433.270 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 433.270 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |



**Level: F39**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 433.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 16  |
|    | 77.333  | 42.792  | 424.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 433.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 22.500  | 424.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 433.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 36.583  | 424.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 433.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 56.583  | 424.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 433.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 68.667  | 424.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 433.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 22.500  | 424.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 433.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 36.583  | 424.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 433.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 56.670  | 424.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 433.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 68.667  | 424.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 3 | 89.083  | 36.583  | 433.270 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 9   | --- |
|   | 89.083  | 56.670  | 433.270 | 0.00         | FFF           |      |               |                |            |     |     |
| 4 | 137.083 | 36.583  | 433.270 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 433.270 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 433.270 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 37.667  | 19.833  | 433.270 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 424.570 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 424.570 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 433.270 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 1.667   | 433.270 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 424.570 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 424.570 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 433.270 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 45.500  | 19.833  | 433.270 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 424.570 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |       |      |   |
|----|---------|--------|---------|------|-------|-------|-------|------|---|
|    | 45.500  | 19.833 | 424.570 |      |       |       |       |      |   |
| 4  | 54.625  | 37.167 | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 433.270 |      |       |       |       |      |   |
|    | 54.625  | 37.167 | 424.570 |      |       |       |       |      |   |
|    | 63.083  | 37.167 | 424.570 |      |       |       |       |      |   |
| 5  | 63.083  | 1.667  | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 63.083  | 19.000 | 433.270 |      |       |       |       |      |   |
|    | 63.083  | 1.667  | 424.570 |      |       |       |       |      |   |
|    | 63.083  | 19.000 | 424.570 |      |       |       |       |      |   |
| 6  | 63.083  | 1.667  | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 433.270 |      |       |       |       |      |   |
|    | 63.083  | 1.667  | 424.570 |      |       |       |       |      |   |
|    | 77.333  | 1.667  | 424.570 |      |       |       |       |      |   |
| 7  | 63.083  | 19.000 | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 433.270 |      |       |       |       |      |   |
|    | 63.083  | 19.000 | 424.570 |      |       |       |       |      |   |
|    | 63.083  | 37.167 | 424.570 |      |       |       |       |      |   |
| 9  | 77.333  | 1.667  | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 433.270 |      |       |       |       |      |   |
|    | 77.333  | 1.667  | 424.570 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 424.570 |      |       |       |       |      |   |
| 10 | 77.333  | 29.500 | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 433.270 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 424.570 |      |       |       |       |      |   |
|    | 77.333  | 42.792 | 424.570 |      |       |       |       |      |   |
| 11 | 77.333  | 29.500 | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 433.270 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 424.570 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 424.570 |      |       |       |       |      |   |
| 13 | 89.083  | 56.670 | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 433.270 |      |       |       |       |      |   |
|    | 89.083  | 56.670 | 424.570 |      |       |       |       |      |   |
|    | 89.083  | 69.584 | 424.570 |      |       |       |       |      |   |
| 14 | 137.083 | 21.583 | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 433.270 |      |       |       |       |      |   |
|    | 137.083 | 21.583 | 424.570 |      |       |       |       |      |   |
|    | 137.083 | 36.583 | 424.570 |      |       |       |       |      |   |
| 15 | 137.083 | 56.670 | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 433.270 |      |       |       |       |      |   |
|    | 137.083 | 56.670 | 424.570 |      |       |       |       |      |   |
|    | 137.083 | 69.584 | 424.570 |      |       |       |       |      |   |
| 16 | 185.083 | 22.500 | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 433.270 |      |       |       |       |      |   |
|    | 185.083 | 22.500 | 424.570 |      |       |       |       |      |   |
|    | 185.083 | 68.667 | 424.570 |      |       |       |       |      |   |
| 17 | 89.083  | 29.500 | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |        |        |         |      |       |       |       |      |   |
|----|--------|--------|---------|------|-------|-------|-------|------|---|
|    | 89.083 | 36.583 | 433.270 |      |       |       |       |      |   |
|    | 89.083 | 29.500 | 424.570 |      |       |       |       |      |   |
|    | 89.083 | 36.583 | 424.570 |      |       |       |       |      |   |
| 18 | 89.083 | 21.583 | 433.270 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083 | 29.500 | 433.270 |      |       |       |       |      |   |
|    | 89.083 | 21.583 | 424.570 |      |       |       |       |      |   |
|    | 89.083 | 29.500 | 424.570 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F38**

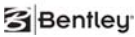
**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 424.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 16  |
|    | 77.333  | 42.792  | 415.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 424.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 22.500  | 415.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 424.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 36.583  | 415.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 424.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 56.583  | 415.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 424.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 113.083 | 68.667  | 415.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 424.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 22.500  | 415.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 424.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |
|    | 161.083 | 36.583  | 415.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 424.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 11  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c   | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|-------|-----|
|    | 161.083 | 56.670 | 415.870 | 0.00   | 0.00   | FFF    |      |        |         |       |     |
| 26 | 161.083 | 68.667 | 424.570 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 11  |
|    | 161.083 | 68.667 | 415.870 | 0.00   | 0.00   | FFF    |      |        |         |       |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 3 | 89.083  | 36.583  | 424.570 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 9   | --- |
|   | 89.083  | 56.670  | 424.570 | 0.00         | FFF           |      |               |                |            |     |     |
| 4 | 137.083 | 36.583  | 424.570 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 424.570 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 424.570 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 37.667  | 19.833  | 424.570 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 415.870 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 415.870 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 424.570 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 1.667   | 424.570 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 415.870 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 415.870 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 424.570 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 45.500  | 19.833  | 424.570 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 415.870 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 415.870 |      |               |                |            |       |       |
| 4 | 54.625  | 37.167  | 424.570 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 37.167  | 424.570 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 415.870 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 415.870 |      |               |                |            |       |       |
| 5 | 63.083  | 1.667   | 424.570 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 19.000  | 424.570 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 415.870 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 415.870 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 424.570 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 77.333  | 1.667   | 424.570 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 415.870 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 415.870 |      |               |                |            |       |       |
| 7 | 63.083  | 19.000  | 424.570 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 37.167  | 424.570 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 415.870 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 415.870 |      |               |                |            |       |       |
| 9 | 77.333  | 1.667   | 424.570 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 77.333  | 29.500  | 424.570 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |       |      |   |
|----|---------|--------|---------|------|-------|-------|-------|------|---|
|    | 77.333  | 1.667  | 415.870 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 415.870 |      |       |       |       |      |   |
| 10 | 77.333  | 29.500 | 424.570 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 424.570 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 415.870 |      |       |       |       |      |   |
|    | 77.333  | 42.792 | 415.870 |      |       |       |       |      |   |
| 11 | 77.333  | 29.500 | 424.570 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 424.570 |      |       |       |       |      |   |
|    | 77.333  | 29.500 | 415.870 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 415.870 |      |       |       |       |      |   |
| 13 | 89.083  | 56.670 | 424.570 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 424.570 |      |       |       |       |      |   |
|    | 89.083  | 56.670 | 415.870 |      |       |       |       |      |   |
|    | 89.083  | 69.584 | 415.870 |      |       |       |       |      |   |
| 14 | 137.083 | 21.583 | 424.570 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 424.570 |      |       |       |       |      |   |
|    | 137.083 | 21.583 | 415.870 |      |       |       |       |      |   |
|    | 137.083 | 36.583 | 415.870 |      |       |       |       |      |   |
| 15 | 137.083 | 56.670 | 424.570 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 424.570 |      |       |       |       |      |   |
|    | 137.083 | 56.670 | 415.870 |      |       |       |       |      |   |
|    | 137.083 | 69.584 | 415.870 |      |       |       |       |      |   |
| 16 | 185.083 | 22.500 | 424.570 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 424.570 |      |       |       |       |      |   |
|    | 185.083 | 22.500 | 415.870 |      |       |       |       |      |   |
|    | 185.083 | 68.667 | 415.870 |      |       |       |       |      |   |
| 17 | 89.083  | 29.500 | 424.570 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 424.570 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 415.870 |      |       |       |       |      |   |
|    | 89.083  | 36.583 | 415.870 |      |       |       |       |      |   |
| 18 | 89.083  | 21.583 | 424.570 | 0.20 | 145.0 | 150.0 | 8.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 424.570 |      |       |       |       |      |   |
|    | 89.083  | 21.583 | 415.870 |      |       |       |       |      |   |
|    | 89.083  | 29.500 | 415.870 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |       |       |
|----|-------|-------|
| 11 | 0.500 | 1.000 |
| 13 | 1.000 | 1.000 |
| 14 | 1.000 | 1.000 |
| 15 | 1.000 | 1.000 |
| 16 | 1.000 | 1.000 |
| 17 | 1.000 | 1.000 |
| 18 | 1.000 | 1.000 |

**Level: F37**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 415.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  |
|    | 77.333  | 42.792  | 407.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 415.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 22.500  | 407.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 415.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 36.583  | 407.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 415.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 56.583  | 407.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 415.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 68.667  | 407.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 415.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 22.500  | 407.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 415.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 36.583  | 407.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 415.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 56.670  | 407.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 415.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 68.667  | 407.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 415.870 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 415.870 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 415.870 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 415.870 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 415.870 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 415.870 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 407.170 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 407.170 |      |               |                |            |       |       |



RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
| 2  | 37.667  | 1.667  | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 1.667  | 415.870 |      |       |       |        |      |   |
|    | 37.667  | 1.667  | 407.170 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 407.170 |      |       |       |        |      |   |
| 3  | 37.667  | 19.833 | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 45.500  | 19.833 | 415.870 |      |       |       |        |      |   |
|    | 37.667  | 19.833 | 407.170 |      |       |       |        |      |   |
|    | 45.500  | 19.833 | 407.170 |      |       |       |        |      |   |
| 4  | 54.625  | 37.167 | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 415.870 |      |       |       |        |      |   |
|    | 54.625  | 37.167 | 407.170 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 407.170 |      |       |       |        |      |   |
| 5  | 63.083  | 1.667  | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 19.000 | 415.870 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 407.170 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 407.170 |      |       |       |        |      |   |
| 6  | 63.083  | 1.667  | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 415.870 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 407.170 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 407.170 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 415.870 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 407.170 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 407.170 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 415.870 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 407.170 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 407.170 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 415.870 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 407.170 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 407.170 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 415.870 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 407.170 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 407.170 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 415.870 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 407.170 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 407.170 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 415.870 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 407.170 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 407.170 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 415.870 |      |       |       |        |      |   |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 137.083 | 56.670 | 407.170 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 407.170 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 415.870 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 407.170 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 407.170 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 415.870 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 407.170 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 407.170 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 415.870 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 415.870 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 407.170 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 407.170 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F36**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 407.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  |
|    | 77.333  | 42.792  | 398.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 407.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 22.500  | 398.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 407.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 36.583  | 398.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 407.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 56.583  | 398.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |



| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c    | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|--------|-----|
| 18 | 113.083 | 68.667 | 407.170 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 113.083 | 68.667 | 398.470 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 23 | 161.083 | 22.500 | 407.170 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 22.500 | 398.470 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 24 | 161.083 | 36.583 | 407.170 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 36.583 | 398.470 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 25 | 161.083 | 56.670 | 407.170 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 56.670 | 398.470 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 26 | 161.083 | 68.667 | 407.170 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 68.667 | 398.470 | 0.00   | 0.00   | FFF    |      |        |         |        |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 407.170 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 407.170 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 407.170 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 407.170 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 407.170 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 407.170 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 398.470 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 398.470 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 407.170 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 407.170 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 398.470 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 398.470 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 407.170 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 407.170 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 398.470 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 398.470 |      |               |                |            |       |       |
| 4 | 54.625  | 37.167  | 407.170 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 407.170 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 398.470 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 398.470 |      |               |                |            |       |       |
| 5 | 63.083  | 1.667   | 407.170 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 19.000  | 407.170 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 398.470 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 398.470 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 407.170 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 77.333  | 1.667   | 407.170 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 398.470 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 77.333  | 1.667  | 398.470 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 407.170 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 407.170 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 398.470 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 398.470 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 407.170 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 407.170 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 398.470 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 398.470 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 407.170 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 407.170 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 398.470 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 398.470 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 407.170 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 407.170 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 398.470 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 398.470 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 407.170 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 407.170 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 398.470 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 398.470 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 407.170 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 407.170 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 398.470 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 398.470 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 407.170 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 407.170 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 398.470 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 398.470 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 407.170 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 407.170 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 398.470 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 398.470 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 407.170 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 407.170 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 398.470 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 398.470 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 407.170 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 407.170 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 398.470 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 398.470 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |       |       |
|----|-------|-------|
| 3  | 0.500 | 1.000 |
| 4  | 0.500 | 1.000 |
| 5  | 0.500 | 1.000 |
| 6  | 0.500 | 1.000 |
| 7  | 0.500 | 1.000 |
| 9  | 0.500 | 1.000 |
| 10 | 0.500 | 1.000 |
| 11 | 0.500 | 1.000 |
| 13 | 1.000 | 1.000 |
| 14 | 1.000 | 1.000 |
| 15 | 1.000 | 1.000 |
| 16 | 1.000 | 1.000 |
| 17 | 1.000 | 1.000 |
| 18 | 1.000 | 1.000 |

**Level: F35**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 398.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  |
|    | 77.333  | 42.792  | 389.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 398.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 22.500  | 389.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 398.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 36.583  | 389.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 398.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 56.583  | 389.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 398.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 68.667  | 389.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 398.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 22.500  | 389.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 398.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 36.583  | 389.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 398.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 56.670  | 389.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 398.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 68.667  | 389.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 398.470 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 398.470 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 398.470 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 398.470 | 0.00         | FFF           |      |               |                |            |     |     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 37.667  | 1.667   | 398.470 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 37.667  | 19.833  | 398.470 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 389.770 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 389.770 |      |               |                |            |       |       |
| 2  | 37.667  | 1.667   | 398.470 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 1.667   | 398.470 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 389.770 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 389.770 |      |               |                |            |       |       |
| 3  | 37.667  | 19.833  | 398.470 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 45.500  | 19.833  | 398.470 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 389.770 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 389.770 |      |               |                |            |       |       |
| 4  | 54.625  | 37.167  | 398.470 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 398.470 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 389.770 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 389.770 |      |               |                |            |       |       |
| 5  | 63.083  | 1.667   | 398.470 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 19.000  | 398.470 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 389.770 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 389.770 |      |               |                |            |       |       |
| 6  | 63.083  | 1.667   | 398.470 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 77.333  | 1.667   | 398.470 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 389.770 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 389.770 |      |               |                |            |       |       |
| 7  | 63.083  | 19.000  | 398.470 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 398.470 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 389.770 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 389.770 |      |               |                |            |       |       |
| 9  | 77.333  | 1.667   | 398.470 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 77.333  | 29.500  | 398.470 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 389.770 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 389.770 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 398.470 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 77.333  | 42.792  | 398.470 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 389.770 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 389.770 |      |               |                |            |       |       |
| 11 | 77.333  | 29.500  | 398.470 | 0.20 | 145.0         | 150.0          | 10.000     | 10.0  | 0     |
|    | 89.083  | 29.500  | 398.470 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 389.770 |      |               |                |            |       |       |
|    | 89.083  | 29.500  | 389.770 |      |               |                |            |       |       |
| 13 | 89.083  | 56.670  | 398.470 | 0.20 | 145.0         | 150.0          | 10.000     | 10.0  | 0     |
|    | 89.083  | 69.584  | 398.470 |      |               |                |            |       |       |
|    | 89.083  | 56.670  | 389.770 |      |               |                |            |       |       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 89.083  | 69.584 | 389.770 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 398.470 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 398.470 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 389.770 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 389.770 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 398.470 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 398.470 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 389.770 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 389.770 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 398.470 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 398.470 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 389.770 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 389.770 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 398.470 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 398.470 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 389.770 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 389.770 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 398.470 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 398.470 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 389.770 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 389.770 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F34**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 389.770 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c    | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|--------|-----|
|    | 77.333  | 42.792 | 381.070 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 15 | 113.083 | 22.500 | 389.770 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 113.083 | 22.500 | 381.070 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 16 | 113.083 | 36.583 | 389.770 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 113.083 | 36.583 | 381.070 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 17 | 113.083 | 56.583 | 389.770 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 113.083 | 56.583 | 381.070 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 18 | 113.083 | 68.667 | 389.770 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 113.083 | 68.667 | 381.070 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 23 | 161.083 | 22.500 | 389.770 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 22.500 | 381.070 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 24 | 161.083 | 36.583 | 389.770 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 36.583 | 381.070 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 25 | 161.083 | 56.670 | 389.770 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 56.670 | 381.070 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 26 | 161.083 | 68.667 | 389.770 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 68.667 | 381.070 | 0.00   | 0.00   | FFF    |      |        |         |        |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 389.770 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 389.770 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 389.770 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 389.770 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 389.770 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 389.770 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 381.070 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 381.070 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 389.770 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 389.770 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 381.070 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 381.070 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 389.770 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 389.770 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 381.070 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 381.070 |      |               |                |            |       |       |
| 4 | 54.625  | 37.167  | 389.770 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 389.770 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 381.070 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 381.070 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
| 5  | 63.083  | 1.667  | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 19.000 | 389.770 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 381.070 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 381.070 |      |       |       |        |      |   |
| 6  | 63.083  | 1.667  | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 389.770 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 381.070 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 381.070 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 389.770 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 381.070 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 381.070 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 389.770 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 381.070 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 381.070 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 389.770 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 381.070 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 381.070 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 389.770 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 381.070 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 381.070 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 389.770 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 381.070 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 381.070 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 389.770 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 381.070 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 381.070 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 389.770 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 381.070 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 381.070 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 389.770 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 381.070 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 381.070 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 389.770 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 381.070 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 381.070 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 389.770 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 389.770 |      |       |       |        |      |   |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |        |         |
|--------|--------|---------|
| 89.083 | 21.583 | 381.070 |
| 89.083 | 29.500 | 381.070 |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F33**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 381.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  |
|    | 77.333  | 42.792  | 372.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 381.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 22.500  | 372.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 381.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 36.583  | 372.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 381.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 56.583  | 372.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 381.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 68.667  | 372.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 381.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 22.500  | 372.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 381.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 36.583  | 372.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 381.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 56.670  | 372.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 381.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 68.667  | 372.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 381.070 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 381.070 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 381.070 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 381.070 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 37.667  | 1.667   | 381.070 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 37.667  | 19.833  | 381.070 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 372.370 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 372.370 |      |               |                |            |       |       |
| 2  | 37.667  | 1.667   | 381.070 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 1.667   | 381.070 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 372.370 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 372.370 |      |               |                |            |       |       |
| 3  | 37.667  | 19.833  | 381.070 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 45.500  | 19.833  | 381.070 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 372.370 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 372.370 |      |               |                |            |       |       |
| 4  | 54.625  | 37.167  | 381.070 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 381.070 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 372.370 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 372.370 |      |               |                |            |       |       |
| 5  | 63.083  | 1.667   | 381.070 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 19.000  | 381.070 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 372.370 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 372.370 |      |               |                |            |       |       |
| 6  | 63.083  | 1.667   | 381.070 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 77.333  | 1.667   | 381.070 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 372.370 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 372.370 |      |               |                |            |       |       |
| 7  | 63.083  | 19.000  | 381.070 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 381.070 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 372.370 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 372.370 |      |               |                |            |       |       |
| 9  | 77.333  | 1.667   | 381.070 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 77.333  | 29.500  | 381.070 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 372.370 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 372.370 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 381.070 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 77.333  | 42.792  | 381.070 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 372.370 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 372.370 |      |               |                |            |       |       |



RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
| 11 | 77.333  | 29.500 | 381.070 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 381.070 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 372.370 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 372.370 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 381.070 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 381.070 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 372.370 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 372.370 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 381.070 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 381.070 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 372.370 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 372.370 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 381.070 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 381.070 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 372.370 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 372.370 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 381.070 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 381.070 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 372.370 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 372.370 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 381.070 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 381.070 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 372.370 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 372.370 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 381.070 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 381.070 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 372.370 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 372.370 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

18 1.000 1.000

**Level: F32**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 372.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  |
|    | 77.333  | 42.792  | 363.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 372.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 22.500  | 363.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 372.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 36.583  | 363.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 372.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 56.583  | 363.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 372.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 68.667  | 363.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 372.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 22.500  | 363.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 372.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 36.583  | 363.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 372.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 56.670  | 363.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 372.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 68.667  | 363.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 372.370 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 372.370 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 372.370 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 372.370 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 372.370 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 372.370 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 363.670 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 363.670 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 372.370 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 372.370 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 363.670 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 363.670 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 372.370 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 372.370 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 37.667  | 19.833 | 363.670 |      |       |       |        |      |   |
|    | 45.500  | 19.833 | 363.670 |      |       |       |        |      |   |
| 4  | 54.625  | 37.167 | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 372.370 |      |       |       |        |      |   |
|    | 54.625  | 37.167 | 363.670 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 363.670 |      |       |       |        |      |   |
| 5  | 63.083  | 1.667  | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 19.000 | 372.370 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 363.670 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 363.670 |      |       |       |        |      |   |
| 6  | 63.083  | 1.667  | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 372.370 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 363.670 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 363.670 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 372.370 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 363.670 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 363.670 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 372.370 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 363.670 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 363.670 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 372.370 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 363.670 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 363.670 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 372.370 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 363.670 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 363.670 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 372.370 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 363.670 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 363.670 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 372.370 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 363.670 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 363.670 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 372.370 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 363.670 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 363.670 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 372.370 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 363.670 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 363.670 |      |       |       |        |      |   |



RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |        |        |         |      |       |       |        |      |   |
|----|--------|--------|---------|------|-------|-------|--------|------|---|
| 17 | 89.083 | 29.500 | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083 | 36.583 | 372.370 |      |       |       |        |      |   |
|    | 89.083 | 29.500 | 363.670 |      |       |       |        |      |   |
|    | 89.083 | 36.583 | 363.670 |      |       |       |        |      |   |
| 18 | 89.083 | 21.583 | 372.370 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083 | 29.500 | 372.370 |      |       |       |        |      |   |
|    | 89.083 | 21.583 | 363.670 |      |       |       |        |      |   |
|    | 89.083 | 29.500 | 363.670 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F31**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 363.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  |
|    | 77.333  | 42.792  | 354.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 363.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 22.500  | 354.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 363.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 36.583  | 354.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 363.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 56.583  | 354.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 363.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 68.667  | 354.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 363.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 22.500  | 354.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 363.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 36.583  | 354.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c    | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|--------|-----|
| 25 | 161.083 | 56.670 | 363.670 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 56.670 | 354.970 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 26 | 161.083 | 68.667 | 363.670 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 68.667 | 354.970 | 0.00   | 0.00   | FFF    |      |        |         |        |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 363.670 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 363.670 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 363.670 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 363.670 | 0.00         | FFF           |      |               |                |            |     |     |

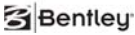
**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 363.670 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 363.670 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 354.970 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 354.970 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 363.670 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 363.670 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 354.970 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 354.970 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 363.670 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 363.670 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 354.970 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 354.970 |      |               |                |            |       |       |
| 4 | 54.625  | 37.167  | 363.670 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 363.670 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 354.970 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 354.970 |      |               |                |            |       |       |
| 5 | 63.083  | 1.667   | 363.670 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 19.000  | 363.670 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 354.970 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 354.970 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 363.670 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 77.333  | 1.667   | 363.670 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 354.970 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 354.970 |      |               |                |            |       |       |
| 7 | 63.083  | 19.000  | 363.670 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 363.670 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 354.970 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 354.970 |      |               |                |            |       |       |
| 9 | 77.333  | 1.667   | 363.670 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 77.333  | 29.500 | 363.670 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 354.970 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 354.970 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 363.670 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 363.670 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 354.970 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 354.970 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 363.670 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 363.670 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 354.970 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 354.970 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 363.670 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 363.670 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 354.970 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 354.970 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 363.670 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 363.670 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 354.970 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 354.970 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 363.670 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 363.670 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 354.970 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 354.970 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 363.670 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 363.670 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 354.970 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 354.970 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 363.670 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 363.670 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 354.970 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 354.970 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 363.670 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 363.670 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 354.970 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 354.970 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |       |       |
|----|-------|-------|
| 10 | 0.500 | 1.000 |
| 11 | 0.500 | 1.000 |
| 13 | 1.000 | 1.000 |
| 14 | 1.000 | 1.000 |
| 15 | 1.000 | 1.000 |
| 16 | 1.000 | 1.000 |
| 17 | 1.000 | 1.000 |
| 18 | 1.000 | 1.000 |

**Level: F30**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 354.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  |
|    | 77.333  | 42.792  | 346.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 354.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 22.500  | 346.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 354.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 36.583  | 346.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 354.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 56.583  | 346.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 354.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 68.667  | 346.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 354.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 22.500  | 346.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 354.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 36.583  | 346.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 354.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 56.670  | 346.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 354.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 68.667  | 346.270 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 354.970 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 354.970 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 354.970 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 354.970 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 354.970 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 354.970 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 346.270 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 37.667  | 19.833 | 346.270 |      |       |       |        |      |   |
| 2  | 37.667  | 1.667  | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 1.667  | 354.970 |      |       |       |        |      |   |
|    | 37.667  | 1.667  | 346.270 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 346.270 |      |       |       |        |      |   |
| 3  | 37.667  | 19.833 | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 45.500  | 19.833 | 354.970 |      |       |       |        |      |   |
|    | 37.667  | 19.833 | 346.270 |      |       |       |        |      |   |
|    | 45.500  | 19.833 | 346.270 |      |       |       |        |      |   |
| 4  | 54.625  | 37.167 | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 354.970 |      |       |       |        |      |   |
|    | 54.625  | 37.167 | 346.270 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 346.270 |      |       |       |        |      |   |
| 5  | 63.083  | 1.667  | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 19.000 | 354.970 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 346.270 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 346.270 |      |       |       |        |      |   |
| 6  | 63.083  | 1.667  | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 354.970 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 346.270 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 346.270 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 354.970 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 346.270 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 346.270 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 354.970 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 346.270 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 346.270 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 354.970 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 346.270 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 346.270 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 354.970 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 346.270 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 346.270 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 354.970 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 346.270 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 346.270 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 354.970 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 346.270 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 346.270 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 137.083 | 69.584 | 354.970 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 346.270 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 346.270 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 354.970 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 346.270 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 346.270 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 354.970 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 346.270 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 346.270 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 354.970 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 354.970 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 346.270 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 346.270 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F29**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 346.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  |
|    | 77.333  | 42.792  | 337.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 346.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 22.500  | 337.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 346.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 36.583  | 337.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 346.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c    | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|--------|-----|
|    | 113.083 | 56.583 | 337.570 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 18 | 113.083 | 68.667 | 346.270 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 113.083 | 68.667 | 337.570 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 23 | 161.083 | 22.500 | 346.270 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 22.500 | 337.570 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 24 | 161.083 | 36.583 | 346.270 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 36.583 | 337.570 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 25 | 161.083 | 56.670 | 346.270 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 56.670 | 337.570 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 26 | 161.083 | 68.667 | 346.270 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 10.000 | 11  |
|    | 161.083 | 68.667 | 337.570 | 0.00   | 0.00   | FFF    |      |        |         |        |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 346.270 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 346.270 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 346.270 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 346.270 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 346.270 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 346.270 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 337.570 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 337.570 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 346.270 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 346.270 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 337.570 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 337.570 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 346.270 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 346.270 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 337.570 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 337.570 |      |               |                |            |       |       |
| 4 | 54.625  | 37.167  | 346.270 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 346.270 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 337.570 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 337.570 |      |               |                |            |       |       |
| 5 | 63.083  | 1.667   | 346.270 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 63.083  | 19.000  | 346.270 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 337.570 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 337.570 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 346.270 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|   | 77.333  | 1.667   | 346.270 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 63.083  | 1.667  | 337.570 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 337.570 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 346.270 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 346.270 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 337.570 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 337.570 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 346.270 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 346.270 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 337.570 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 337.570 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 346.270 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 346.270 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 337.570 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 337.570 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 346.270 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 346.270 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 337.570 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 337.570 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 346.270 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 346.270 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 337.570 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 337.570 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 346.270 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 346.270 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 337.570 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 337.570 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 346.270 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 346.270 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 337.570 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 337.570 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 346.270 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 346.270 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 337.570 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 337.570 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 346.270 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 346.270 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 337.570 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 337.570 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 346.270 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 346.270 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 337.570 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 337.570 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |       |       |
|----|-------|-------|
| 2  | 0.500 | 1.000 |
| 3  | 0.500 | 1.000 |
| 4  | 0.500 | 1.000 |
| 5  | 0.500 | 1.000 |
| 6  | 0.500 | 1.000 |
| 7  | 0.500 | 1.000 |
| 9  | 0.500 | 1.000 |
| 10 | 0.500 | 1.000 |
| 11 | 0.500 | 1.000 |
| 13 | 1.000 | 1.000 |
| 14 | 1.000 | 1.000 |
| 15 | 1.000 | 1.000 |
| 16 | 1.000 | 1.000 |
| 17 | 1.000 | 1.000 |
| 18 | 1.000 | 1.000 |

**Level: F28**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 337.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  |
|    | 77.333  | 42.792  | 328.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 337.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 22.500  | 328.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 337.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 36.583  | 328.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 337.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 56.583  | 328.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 337.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 113.083 | 68.667  | 328.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 337.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 22.500  | 328.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 337.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 36.583  | 328.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 337.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 56.670  | 328.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 337.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 11  |
|    | 161.083 | 68.667  | 328.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 337.570 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 337.570 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 337.570 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 337.570 | 0.00         | FFF           |      |               |                |            |     |     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 37.667  | 1.667   | 337.570 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 37.667  | 19.833  | 337.570 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 328.870 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 328.870 |      |               |                |            |       |       |
| 2  | 37.667  | 1.667   | 337.570 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 1.667   | 337.570 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 328.870 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 328.870 |      |               |                |            |       |       |
| 3  | 37.667  | 19.833  | 337.570 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 45.500  | 19.833  | 337.570 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 328.870 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 328.870 |      |               |                |            |       |       |
| 4  | 54.625  | 37.167  | 337.570 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 337.570 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 328.870 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 328.870 |      |               |                |            |       |       |
| 5  | 63.083  | 1.667   | 337.570 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 19.000  | 337.570 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 328.870 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 328.870 |      |               |                |            |       |       |
| 6  | 63.083  | 1.667   | 337.570 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 77.333  | 1.667   | 337.570 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 328.870 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 328.870 |      |               |                |            |       |       |
| 7  | 63.083  | 19.000  | 337.570 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 337.570 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 328.870 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 328.870 |      |               |                |            |       |       |
| 9  | 77.333  | 1.667   | 337.570 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 77.333  | 29.500  | 337.570 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 328.870 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 328.870 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 337.570 | 0.20 | 145.0         | 150.0          | 10.000     | 12.0  | 0     |
|    | 77.333  | 42.792  | 337.570 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 328.870 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 328.870 |      |               |                |            |       |       |
| 11 | 77.333  | 29.500  | 337.570 | 0.20 | 145.0         | 150.0          | 10.000     | 10.0  | 0     |
|    | 89.083  | 29.500  | 337.570 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 328.870 |      |               |                |            |       |       |
|    | 89.083  | 29.500  | 328.870 |      |               |                |            |       |       |
| 13 | 89.083  | 56.670  | 337.570 | 0.20 | 145.0         | 150.0          | 10.000     | 10.0  | 0     |
|    | 89.083  | 69.584  | 337.570 |      |               |                |            |       |       |
|    | 89.083  | 56.670  | 328.870 |      |               |                |            |       |       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 89.083  | 69.584 | 328.870 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 337.570 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 337.570 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 328.870 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 328.870 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 337.570 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 337.570 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 328.870 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 328.870 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 337.570 | 0.20 | 145.0 | 150.0 | 10.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 337.570 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 328.870 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 328.870 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 337.570 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 337.570 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 328.870 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 328.870 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 337.570 | 0.20 | 145.0 | 150.0 | 10.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 337.570 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 328.870 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 328.870 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F27**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 328.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 16  |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c    | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|--------|-----|
|    | 77.333  | 42.792 | 320.170 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 15 | 113.083 | 22.500 | 328.870 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 113.083 | 22.500 | 320.170 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 16 | 113.083 | 36.583 | 328.870 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 113.083 | 36.583 | 320.170 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 17 | 113.083 | 56.583 | 328.870 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 113.083 | 56.583 | 320.170 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 18 | 113.083 | 68.667 | 328.870 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 113.083 | 68.667 | 320.170 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 23 | 161.083 | 22.500 | 328.870 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 22.500 | 320.170 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 24 | 161.083 | 36.583 | 328.870 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 36.583 | 320.170 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 25 | 161.083 | 56.670 | 328.870 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 56.670 | 320.170 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 26 | 161.083 | 68.667 | 328.870 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 68.667 | 320.170 | 0.00   | 0.00   | FFF    |      |        |         |        |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 328.870 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 328.870 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 328.870 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 328.870 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 328.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 328.870 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 320.170 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 320.170 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 328.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 328.870 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 320.170 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 320.170 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 328.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 328.870 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 320.170 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 320.170 |      |               |                |            |       |       |
| 4 | 54.625  | 37.167  | 328.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 328.870 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 320.170 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 320.170 |      |               |                |            |       |       |



RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
| 5  | 63.083  | 1.667  | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 19.000 | 328.870 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 320.170 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 320.170 |      |       |       |        |      |   |
| 6  | 63.083  | 1.667  | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 328.870 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 320.170 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 320.170 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 328.870 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 320.170 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 320.170 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 328.870 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 320.170 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 320.170 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 328.870 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 320.170 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 320.170 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 328.870 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 320.170 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 320.170 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 328.870 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 320.170 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 320.170 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 328.870 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 320.170 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 320.170 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 328.870 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 320.170 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 320.170 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 328.870 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 320.170 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 320.170 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 328.870 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 320.170 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 320.170 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 328.870 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 328.870 |      |       |       |        |      |   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |        |         |
|--------|--------|---------|
| 89.083 | 21.583 | 320.170 |
| 89.083 | 29.500 | 320.170 |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F26**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 320.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 16  |
|    | 77.333  | 42.792  | 311.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 320.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 22.500  | 311.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 320.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 36.583  | 311.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 320.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 56.583  | 311.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 320.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 68.667  | 311.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 320.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 22.500  | 311.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 320.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 36.583  | 311.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 320.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 56.670  | 311.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 320.170 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 68.667  | 311.470 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 320.170 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 320.170 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 320.170 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 320.170 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 37.667  | 1.667   | 320.170 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 37.667  | 19.833  | 320.170 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 311.470 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 311.470 |      |               |                |            |       |       |
| 2  | 37.667  | 1.667   | 320.170 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 1.667   | 320.170 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 311.470 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 311.470 |      |               |                |            |       |       |
| 3  | 37.667  | 19.833  | 320.170 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 45.500  | 19.833  | 320.170 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 311.470 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 311.470 |      |               |                |            |       |       |
| 4  | 54.625  | 37.167  | 320.170 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 320.170 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 311.470 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 311.470 |      |               |                |            |       |       |
| 5  | 63.083  | 1.667   | 320.170 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 19.000  | 320.170 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 311.470 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 311.470 |      |               |                |            |       |       |
| 6  | 63.083  | 1.667   | 320.170 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 77.333  | 1.667   | 320.170 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 311.470 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 311.470 |      |               |                |            |       |       |
| 7  | 63.083  | 19.000  | 320.170 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 320.170 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 311.470 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 311.470 |      |               |                |            |       |       |
| 9  | 77.333  | 1.667   | 320.170 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 77.333  | 29.500  | 320.170 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 311.470 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 311.470 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 320.170 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 77.333  | 42.792  | 320.170 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 311.470 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 311.470 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
| 11 | 77.333  | 29.500 | 320.170 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 320.170 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 311.470 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 311.470 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 320.170 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 320.170 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 311.470 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 311.470 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 320.170 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 320.170 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 311.470 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 311.470 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 320.170 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 320.170 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 311.470 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 311.470 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 320.170 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 320.170 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 311.470 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 311.470 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 320.170 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 320.170 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 311.470 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 311.470 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 320.170 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 320.170 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 311.470 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 311.470 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

18 1.000 1.000

**Level: F25**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 311.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 16  |
|    | 77.333  | 42.792  | 302.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 311.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 22.500  | 302.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 311.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 36.583  | 302.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 311.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 56.583  | 302.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 311.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 68.667  | 302.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 311.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 22.500  | 302.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 311.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 36.583  | 302.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 311.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 56.670  | 302.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 311.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 68.667  | 302.770 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 311.470 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 311.470 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 311.470 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 311.470 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 311.470 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 311.470 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 302.770 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 302.770 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 311.470 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 311.470 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 302.770 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 302.770 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 311.470 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 311.470 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 37.667  | 19.833 | 302.770 |      |       |       |        |      |   |
|    | 45.500  | 19.833 | 302.770 |      |       |       |        |      |   |
| 4  | 54.625  | 37.167 | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 311.470 |      |       |       |        |      |   |
|    | 54.625  | 37.167 | 302.770 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 302.770 |      |       |       |        |      |   |
| 5  | 63.083  | 1.667  | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 19.000 | 311.470 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 302.770 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 302.770 |      |       |       |        |      |   |
| 6  | 63.083  | 1.667  | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 311.470 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 302.770 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 302.770 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 311.470 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 302.770 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 302.770 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 311.470 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 302.770 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 302.770 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 311.470 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 302.770 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 302.770 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 311.470 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 302.770 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 302.770 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 311.470 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 302.770 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 302.770 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 311.470 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 302.770 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 302.770 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 311.470 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 302.770 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 302.770 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 311.470 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 302.770 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 302.770 |      |       |       |        |      |   |



RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |        |        |         |      |       |       |        |      |   |
|----|--------|--------|---------|------|-------|-------|--------|------|---|
| 17 | 89.083 | 29.500 | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083 | 36.583 | 311.470 |      |       |       |        |      |   |
|    | 89.083 | 29.500 | 302.770 |      |       |       |        |      |   |
|    | 89.083 | 36.583 | 302.770 |      |       |       |        |      |   |
| 18 | 89.083 | 21.583 | 311.470 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083 | 29.500 | 311.470 |      |       |       |        |      |   |
|    | 89.083 | 21.583 | 302.770 |      |       |       |        |      |   |
|    | 89.083 | 29.500 | 302.770 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F24**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 302.770 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 16  |
|    | 77.333  | 42.792  | 294.070 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 302.770 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 22.500  | 294.070 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 302.770 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 36.583  | 294.070 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 302.770 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 56.583  | 294.070 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 302.770 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 68.667  | 294.070 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 302.770 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 22.500  | 294.070 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 302.770 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 36.583  | 294.070 | 0.00         | 0.00         | FFF           |      |               |                |            |     |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c    | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|--------|-----|
| 25 | 161.083 | 56.670 | 302.770 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 56.670 | 294.070 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 26 | 161.083 | 68.667 | 302.770 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 68.667 | 294.070 | 0.00   | 0.00   | FFF    |      |        |         |        |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 302.770 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 302.770 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 302.770 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 302.770 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 302.770 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 302.770 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 294.070 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 294.070 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 302.770 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 302.770 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 294.070 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 294.070 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 302.770 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 302.770 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 294.070 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 294.070 |      |               |                |            |       |       |
| 4 | 54.625  | 37.167  | 302.770 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 302.770 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 294.070 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 294.070 |      |               |                |            |       |       |
| 5 | 63.083  | 1.667   | 302.770 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 19.000  | 302.770 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 294.070 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 294.070 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 302.770 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 77.333  | 1.667   | 302.770 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 294.070 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 294.070 |      |               |                |            |       |       |
| 7 | 63.083  | 19.000  | 302.770 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 302.770 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 294.070 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 294.070 |      |               |                |            |       |       |
| 9 | 77.333  | 1.667   | 302.770 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 77.333  | 29.500 | 302.770 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 294.070 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 294.070 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 302.770 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 302.770 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 294.070 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 294.070 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 302.770 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 302.770 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 294.070 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 294.070 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 302.770 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 302.770 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 294.070 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 294.070 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 302.770 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 302.770 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 294.070 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 294.070 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 302.770 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 302.770 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 294.070 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 294.070 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 302.770 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 302.770 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 294.070 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 294.070 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 302.770 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 302.770 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 294.070 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 294.070 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 302.770 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 302.770 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 294.070 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 294.070 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |       |       |
|----|-------|-------|
| 10 | 0.500 | 1.000 |
| 11 | 0.500 | 1.000 |
| 13 | 1.000 | 1.000 |
| 14 | 0.500 | 1.000 |
| 15 | 0.500 | 1.000 |
| 16 | 0.500 | 1.000 |
| 17 | 1.000 | 1.000 |
| 18 | 1.000 | 1.000 |

**Level: F23**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 294.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 16  |
|    | 77.333  | 42.792  | 285.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 294.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 22.500  | 285.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 294.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 36.583  | 285.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 294.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 56.583  | 285.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 294.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 68.667  | 285.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 294.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 22.500  | 285.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 294.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 36.583  | 285.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 294.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 56.670  | 285.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 294.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 68.667  | 285.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 294.070 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 294.070 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 294.070 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 294.070 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 294.070 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 294.070 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 285.370 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 37.667  | 19.833 | 285.370 |      |       |       |        |      |   |
| 2  | 37.667  | 1.667  | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 1.667  | 294.070 |      |       |       |        |      |   |
|    | 37.667  | 1.667  | 285.370 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 285.370 |      |       |       |        |      |   |
| 3  | 37.667  | 19.833 | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 45.500  | 19.833 | 294.070 |      |       |       |        |      |   |
|    | 37.667  | 19.833 | 285.370 |      |       |       |        |      |   |
|    | 45.500  | 19.833 | 285.370 |      |       |       |        |      |   |
| 4  | 54.625  | 37.167 | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 294.070 |      |       |       |        |      |   |
|    | 54.625  | 37.167 | 285.370 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 285.370 |      |       |       |        |      |   |
| 5  | 63.083  | 1.667  | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 19.000 | 294.070 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 285.370 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 285.370 |      |       |       |        |      |   |
| 6  | 63.083  | 1.667  | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 294.070 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 285.370 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 285.370 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 294.070 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 285.370 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 285.370 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 294.070 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 285.370 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 285.370 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 294.070 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 285.370 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 285.370 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 294.070 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 285.370 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 285.370 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 294.070 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 285.370 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 285.370 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 294.070 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 285.370 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 285.370 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |



RAM Structural System

RAM Frame 15.03.00.000



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|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 137.083 | 69.584 | 294.070 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 285.370 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 285.370 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 294.070 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 285.370 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 285.370 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 294.070 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 285.370 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 285.370 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 294.070 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 294.070 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 285.370 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 285.370 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 0.500    | 1.000   |
| 15     | 0.500    | 1.000   |
| 16     | 0.500    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F22**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 285.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 16  |
|    | 77.333  | 42.792  | 276.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 285.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 22.500  | 276.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 285.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 36.583  | 276.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 285.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c    | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|--------|-----|
|    | 113.083 | 56.583 | 276.670 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 18 | 113.083 | 68.667 | 285.370 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 113.083 | 68.667 | 276.670 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 23 | 161.083 | 22.500 | 285.370 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 22.500 | 276.670 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 24 | 161.083 | 36.583 | 285.370 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 36.583 | 276.670 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 25 | 161.083 | 56.670 | 285.370 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 56.670 | 276.670 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 26 | 161.083 | 68.667 | 285.370 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 68.667 | 276.670 | 0.00   | 0.00   | FFF    |      |        |         |        |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 285.370 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 285.370 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 285.370 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 285.370 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 285.370 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 285.370 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 276.670 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 276.670 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 285.370 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 285.370 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 276.670 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 276.670 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 285.370 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 285.370 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 276.670 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 276.670 |      |               |                |            |       |       |
| 4 | 54.625  | 37.167  | 285.370 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 285.370 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 276.670 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 276.670 |      |               |                |            |       |       |
| 5 | 63.083  | 1.667   | 285.370 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 19.000  | 285.370 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 276.670 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 276.670 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 285.370 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 77.333  | 1.667   | 285.370 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 63.083  | 1.667  | 276.670 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 276.670 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 285.370 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 285.370 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 276.670 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 276.670 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 285.370 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 285.370 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 276.670 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 276.670 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 285.370 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 285.370 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 276.670 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 276.670 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 285.370 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 285.370 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 276.670 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 276.670 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 285.370 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 285.370 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 276.670 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 276.670 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 285.370 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 285.370 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 276.670 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 276.670 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 285.370 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 285.370 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 276.670 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 276.670 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 285.370 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 285.370 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 276.670 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 276.670 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 285.370 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 285.370 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 276.670 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 276.670 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 285.370 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 285.370 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 276.670 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 276.670 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |       |       |
|----|-------|-------|
| 2  | 0.500 | 1.000 |
| 3  | 0.500 | 1.000 |
| 4  | 0.500 | 1.000 |
| 5  | 0.500 | 1.000 |
| 6  | 0.500 | 1.000 |
| 7  | 0.500 | 1.000 |
| 9  | 0.500 | 1.000 |
| 10 | 0.500 | 1.000 |
| 11 | 0.500 | 1.000 |
| 13 | 1.000 | 1.000 |
| 14 | 0.500 | 1.000 |
| 15 | 0.500 | 1.000 |
| 16 | 0.500 | 1.000 |
| 17 | 1.000 | 1.000 |
| 18 | 1.000 | 1.000 |

**Level: F21**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 276.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 16  |
|    | 77.333  | 42.792  | 267.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 276.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 22.500  | 267.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 276.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 36.583  | 267.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 276.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 56.583  | 267.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 276.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 68.667  | 267.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 276.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 22.500  | 267.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 276.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 36.583  | 267.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 276.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 56.670  | 267.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 276.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 68.667  | 267.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 276.670 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 276.670 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 276.670 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 276.670 | 0.00         | FFF           |      |               |                |            |     |     |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 37.667  | 1.667   | 276.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 37.667  | 19.833  | 276.670 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 267.970 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 267.970 |      |               |                |            |       |       |
| 2  | 37.667  | 1.667   | 276.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 1.667   | 276.670 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 267.970 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 267.970 |      |               |                |            |       |       |
| 3  | 37.667  | 19.833  | 276.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 45.500  | 19.833  | 276.670 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 267.970 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 267.970 |      |               |                |            |       |       |
| 4  | 54.625  | 37.167  | 276.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 276.670 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 267.970 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 267.970 |      |               |                |            |       |       |
| 5  | 63.083  | 1.667   | 276.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 19.000  | 276.670 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 267.970 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 267.970 |      |               |                |            |       |       |
| 6  | 63.083  | 1.667   | 276.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 77.333  | 1.667   | 276.670 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 267.970 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 267.970 |      |               |                |            |       |       |
| 7  | 63.083  | 19.000  | 276.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 276.670 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 267.970 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 267.970 |      |               |                |            |       |       |
| 9  | 77.333  | 1.667   | 276.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 77.333  | 29.500  | 276.670 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 267.970 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 267.970 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 276.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 77.333  | 42.792  | 276.670 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 267.970 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 267.970 |      |               |                |            |       |       |
| 11 | 77.333  | 29.500  | 276.670 | 0.20 | 145.0         | 150.0          | 12.000     | 10.0  | 0     |
|    | 89.083  | 29.500  | 276.670 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 267.970 |      |               |                |            |       |       |
|    | 89.083  | 29.500  | 267.970 |      |               |                |            |       |       |
| 13 | 89.083  | 56.670  | 276.670 | 0.20 | 145.0         | 150.0          | 12.000     | 10.0  | 0     |
|    | 89.083  | 69.584  | 276.670 |      |               |                |            |       |       |
|    | 89.083  | 56.670  | 267.970 |      |               |                |            |       |       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 89.083  | 69.584 | 267.970 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 276.670 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 276.670 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 267.970 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 267.970 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 276.670 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 276.670 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 267.970 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 267.970 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 276.670 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 276.670 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 267.970 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 267.970 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 276.670 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 276.670 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 267.970 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 267.970 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 276.670 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 276.670 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 267.970 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 267.970 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 0.500    | 1.000   |
| 15     | 0.500    | 1.000   |
| 16     | 0.500    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F20**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 267.970 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 16  |



| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c    | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|--------|-----|
|    | 77.333  | 42.792 | 259.270 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 15 | 113.083 | 22.500 | 267.970 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 113.083 | 22.500 | 259.270 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 16 | 113.083 | 36.583 | 267.970 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 113.083 | 36.583 | 259.270 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 17 | 113.083 | 56.583 | 267.970 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 113.083 | 56.583 | 259.270 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 18 | 113.083 | 68.667 | 267.970 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 113.083 | 68.667 | 259.270 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 23 | 161.083 | 22.500 | 267.970 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 22.500 | 259.270 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 24 | 161.083 | 36.583 | 267.970 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 36.583 | 259.270 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 25 | 161.083 | 56.670 | 267.970 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 56.670 | 259.270 | 0.00   | 0.00   | FFF    |      |        |         |        |     |
| 26 | 161.083 | 68.667 | 267.970 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 11  |
|    | 161.083 | 68.667 | 259.270 | 0.00   | 0.00   | FFF    |      |        |         |        |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 267.970 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 267.970 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 267.970 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 267.970 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 267.970 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 267.970 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 259.270 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 259.270 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 267.970 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 267.970 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 259.270 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 259.270 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 267.970 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 267.970 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 259.270 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 259.270 |      |               |                |            |       |       |
| 4 | 54.625  | 37.167  | 267.970 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 267.970 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 259.270 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 259.270 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
| 5  | 63.083  | 1.667  | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 19.000 | 267.970 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 259.270 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 259.270 |      |       |       |        |      |   |
| 6  | 63.083  | 1.667  | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 267.970 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 259.270 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 259.270 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 267.970 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 259.270 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 259.270 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 267.970 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 259.270 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 259.270 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 267.970 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 259.270 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 259.270 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 267.970 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 259.270 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 259.270 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 267.970 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 259.270 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 259.270 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 267.970 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 259.270 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 259.270 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 267.970 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 259.270 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 259.270 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 267.970 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 259.270 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 259.270 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 267.970 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 259.270 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 259.270 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 267.970 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 267.970 |      |       |       |        |      |   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |        |         |
|--------|--------|---------|
| 89.083 | 21.583 | 259.270 |
| 89.083 | 29.500 | 259.270 |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 0.500    | 1.000   |
| 15     | 0.500    | 1.000   |
| 16     | 0.500    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F19**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 259.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 16  |
|    | 77.333  | 42.792  | 250.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 259.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 22.500  | 250.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 259.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 36.583  | 250.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 259.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 56.583  | 250.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 259.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 68.667  | 250.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 259.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 22.500  | 250.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 259.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 36.583  | 250.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 259.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 56.670  | 250.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 259.270 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 68.667  | 250.570 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 259.270 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 259.270 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 259.270 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 259.270 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 37.667  | 1.667   | 259.270 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 37.667  | 19.833  | 259.270 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 250.570 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 250.570 |      |               |                |            |       |       |
| 2  | 37.667  | 1.667   | 259.270 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 1.667   | 259.270 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 250.570 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 250.570 |      |               |                |            |       |       |
| 3  | 37.667  | 19.833  | 259.270 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 45.500  | 19.833  | 259.270 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 250.570 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 250.570 |      |               |                |            |       |       |
| 4  | 54.625  | 37.167  | 259.270 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 259.270 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 250.570 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 250.570 |      |               |                |            |       |       |
| 5  | 63.083  | 1.667   | 259.270 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 19.000  | 259.270 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 250.570 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 250.570 |      |               |                |            |       |       |
| 6  | 63.083  | 1.667   | 259.270 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 77.333  | 1.667   | 259.270 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 250.570 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 250.570 |      |               |                |            |       |       |
| 7  | 63.083  | 19.000  | 259.270 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 63.083  | 37.167  | 259.270 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 250.570 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 250.570 |      |               |                |            |       |       |
| 9  | 77.333  | 1.667   | 259.270 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 77.333  | 29.500  | 259.270 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 250.570 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 250.570 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 259.270 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 77.333  | 42.792  | 259.270 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 250.570 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 250.570 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
| 11 | 77.333  | 29.500 | 259.270 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 259.270 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 250.570 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 250.570 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 259.270 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 259.270 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 250.570 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 250.570 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 259.270 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 259.270 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 250.570 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 250.570 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 259.270 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 259.270 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 250.570 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 250.570 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 259.270 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 259.270 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 250.570 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 250.570 |      |       |       |        |      |   |
| 17 | 89.083  | 29.500 | 259.270 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 36.583 | 259.270 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 250.570 |      |       |       |        |      |   |
|    | 89.083  | 36.583 | 250.570 |      |       |       |        |      |   |
| 18 | 89.083  | 21.583 | 259.270 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 259.270 |      |       |       |        |      |   |
|    | 89.083  | 21.583 | 250.570 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 250.570 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 0.500    | 1.000   |
| 15     | 0.500    | 1.000   |
| 16     | 0.500    | 1.000   |
| 17     | 1.000    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

18 1.000 1.000

**Level: F18**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 250.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 16  |
|    | 77.333  | 42.792  | 241.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 15 | 113.083 | 22.500  | 250.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 22.500  | 241.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 250.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 36.583  | 241.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 250.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 56.583  | 241.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 250.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 113.083 | 68.667  | 241.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 250.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 22.500  | 241.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 250.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 36.583  | 241.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 250.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 56.670  | 241.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 161.083 | 68.667  | 250.570 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 11  |
|    | 161.083 | 68.667  | 241.870 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 250.570 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 250.570 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 137.083 | 36.583  | 250.570 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 250.570 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 250.570 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 250.570 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 241.870 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 241.870 |      |               |                |            |       |       |
| 2 | 37.667  | 1.667   | 250.570 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 250.570 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 241.870 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 241.870 |      |               |                |            |       |       |
| 3 | 37.667  | 19.833  | 250.570 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 250.570 |      |               |                |            |       |       |





|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 37.667  | 19.833 | 241.870 |      |       |       |        |      |   |
|    | 45.500  | 19.833 | 241.870 |      |       |       |        |      |   |
| 4  | 54.625  | 37.167 | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 250.570 |      |       |       |        |      |   |
|    | 54.625  | 37.167 | 241.870 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 241.870 |      |       |       |        |      |   |
| 5  | 63.083  | 1.667  | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 19.000 | 250.570 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 241.870 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 241.870 |      |       |       |        |      |   |
| 6  | 63.083  | 1.667  | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 1.667  | 250.570 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 241.870 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 241.870 |      |       |       |        |      |   |
| 7  | 63.083  | 19.000 | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 63.083  | 37.167 | 250.570 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 241.870 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 241.870 |      |       |       |        |      |   |
| 9  | 77.333  | 1.667  | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 29.500 | 250.570 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 241.870 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 241.870 |      |       |       |        |      |   |
| 10 | 77.333  | 29.500 | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 77.333  | 42.792 | 250.570 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 241.870 |      |       |       |        |      |   |
|    | 77.333  | 42.792 | 241.870 |      |       |       |        |      |   |
| 11 | 77.333  | 29.500 | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 29.500 | 250.570 |      |       |       |        |      |   |
|    | 77.333  | 29.500 | 241.870 |      |       |       |        |      |   |
|    | 89.083  | 29.500 | 241.870 |      |       |       |        |      |   |
| 13 | 89.083  | 56.670 | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083  | 69.584 | 250.570 |      |       |       |        |      |   |
|    | 89.083  | 56.670 | 241.870 |      |       |       |        |      |   |
|    | 89.083  | 69.584 | 241.870 |      |       |       |        |      |   |
| 14 | 137.083 | 21.583 | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 36.583 | 250.570 |      |       |       |        |      |   |
|    | 137.083 | 21.583 | 241.870 |      |       |       |        |      |   |
|    | 137.083 | 36.583 | 241.870 |      |       |       |        |      |   |
| 15 | 137.083 | 56.670 | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 137.083 | 69.584 | 250.570 |      |       |       |        |      |   |
|    | 137.083 | 56.670 | 241.870 |      |       |       |        |      |   |
|    | 137.083 | 69.584 | 241.870 |      |       |       |        |      |   |
| 16 | 185.083 | 22.500 | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 185.083 | 68.667 | 250.570 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 241.870 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 241.870 |      |       |       |        |      |   |



|    |        |        |         |      |       |       |        |      |   |
|----|--------|--------|---------|------|-------|-------|--------|------|---|
| 17 | 89.083 | 29.500 | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083 | 36.583 | 250.570 |      |       |       |        |      |   |
|    | 89.083 | 29.500 | 241.870 |      |       |       |        |      |   |
|    | 89.083 | 36.583 | 241.870 |      |       |       |        |      |   |
| 18 | 89.083 | 21.583 | 250.570 | 0.20 | 145.0 | 150.0 | 12.000 | 10.0 | 0 |
|    | 89.083 | 29.500 | 250.570 |      |       |       |        |      |   |
|    | 89.083 | 21.583 | 241.870 |      |       |       |        |      |   |
|    | 89.083 | 29.500 | 241.870 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.500    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |
| 11     | 0.500    | 1.000   |
| 13     | 1.000    | 1.000   |
| 14     | 0.500    | 1.000   |
| 15     | 0.500    | 1.000   |
| 16     | 0.500    | 1.000   |
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F17**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 15 | 113.083 | 22.500  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 113.083 | 22.500  | 233.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 16 | 113.083 | 36.583  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 113.083 | 36.583  | 233.170 | 9.80         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 56.583  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 113.083 | 56.583  | 233.170 | 9.80         | 0.00         | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 113.083 | 68.667  | 233.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 22.500  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 161.083 | 22.500  | 233.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 24 | 161.083 | 36.583  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 161.083 | 36.583  | 233.170 | 9.80         | 0.00         | FFF           |      |               |                |            |     |
| 25 | 161.083 | 56.670  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 161.083 | 56.670  | 233.170 | 9.80         | 0.00         | FFF           |      |               |                |            |     |



| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c    | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|--------|-----|
| 26 | 161.083 | 68.667 | 241.870 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 12.000 | 9   |
|    | 161.083 | 68.667 | 233.170 | 0.00   | 0.00   | FFF    |      |        |         |        |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 17 | 89.083  | 29.500  | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 10.0  | 0     |
|    | 89.083  | 36.583  | 241.870 |      |               |                |            |       |       |
|    | 89.083  | 29.500  | 233.170 |      |               |                |            |       |       |
|    | 89.083  | 36.583  | 233.170 |      |               |                |            |       |       |
| 18 | 89.083  | 22.500  | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 10.0  | 0     |
|    | 89.083  | 29.500  | 241.870 |      |               |                |            |       |       |
|    | 89.083  | 22.500  | 233.170 |      |               |                |            |       |       |
|    | 89.083  | 29.500  | 233.170 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 17     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |

**Level: F16**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 23 | 21.583  | 1.667   | 233.170 | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 233.170 |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 224.470 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 224.470 |      |               |                |            |       |       |
| 24 | 77.333  | 12.500  | 233.170 | 0.20 | 145.0         | 150.0          | 8.000      | 25.0  | 0     |
|    | 77.333  | 22.500  | 233.170 |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 224.470 |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 224.470 |      |               |                |            |       |       |
| 25 | 77.333  | 1.667   | 233.170 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 12.500  | 233.170 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 224.470 |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 224.470 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 23     | 0.350    | 1.000   |
| 24     | 0.350    | 1.000   |
| 25     | 0.350    | 1.000   |

**Level: F15**

**Steel Column:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 14 | 89.083  | 36.583  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 89.083  | 36.583  | 215.770 | 9.80         | 0.00         | FFF           |           |         |
| 15 | 89.083  | 56.670  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 89.083  | 56.670  | 215.770 | 9.80         | 0.00         | FFF           |           |         |
| 18 | 113.083 | 36.583  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 113.083 | 36.583  | 215.770 | 9.80         | 0.00         | FFF           |           |         |
| 19 | 113.083 | 56.670  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 113.083 | 56.670  | 215.770 | 9.80         | 0.00         | FFF           |           |         |
| 22 | 137.083 | 36.583  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 137.083 | 36.583  | 215.770 | 9.80         | 0.00         | FFF           |           |         |
| 23 | 137.083 | 56.670  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 137.083 | 56.670  | 215.770 | 9.80         | 0.00         | FFF           |           |         |
| 26 | 161.083 | 36.583  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 161.083 | 36.583  | 215.770 | 9.80         | 0.00         | FFF           |           |         |
| 27 | 161.083 | 56.670  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 161.083 | 56.670  | 215.770 | 9.80         | 0.00         | FFF           |           |         |
| 30 | 185.083 | 36.583  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 185.083 | 36.583  | 215.770 | 9.80         | 0.00         | FFF           |           |         |
| 31 | 185.083 | 56.670  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 185.083 | 56.670  | 215.770 | 9.80         | 0.00         | FFF           |           |         |

**Concrete Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|---|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 5 | 42.083  | 56.670  | 224.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 4   |
|   | 42.083  | 56.670  | 215.770 | 0.00         | 3.94         | FFF           |      |               |                |            |     |
| 6 | 42.083  | 68.667  | 224.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 1   |
|   | 42.083  | 68.667  | 215.770 | 0.00         | 3.94         | FFF           |      |               |                |            |     |
| 8 | 65.083  | 56.667  | 224.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 4   |
|   | 65.083  | 56.667  | 215.770 | 0.00         | 3.94         | FFF           |      |               |                |            |     |
| 9 | 65.083  | 68.667  | 224.470 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 1   |
|   | 65.083  | 68.667  | 215.770 | 0.00         | 3.94         | FFF           |      |               |                |            |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 23 | 21.583  | 1.667   | 224.470 | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 224.470 |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 215.770 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 215.770 |      |               |                |            |       |       |
| 24 | 77.333  | 12.500  | 224.470 | 0.20 | 145.0         | 150.0          | 8.000      | 25.0  | 0     |
|    | 77.333  | 22.500  | 224.470 |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 215.770 |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 215.770 |      |               |                |            |       |       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |        |        |         |      |       |       |       |      |   |
|----|--------|--------|---------|------|-------|-------|-------|------|---|
| 25 | 77.333 | 1.667  | 224.470 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|    | 77.333 | 12.500 | 224.470 |      |       |       |       |      |   |
|    | 77.333 | 1.667  | 215.770 |      |       |       |       |      |   |
|    | 77.333 | 12.500 | 215.770 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 23     | 0.350    | 1.000   |
| 24     | 0.350    | 1.000   |
| 25     | 0.350    | 1.000   |

**Level: F14**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 28 | 65.083  | 64.654  | 215.770 | 3.94         | 0.00         | FFF           | 50        | W14X99  |
|    | 65.083  | 64.654  | 207.070 | 10.45        | 0.00         | FFF           |           |         |
| 29 | 42.083  | 64.654  | 215.770 | 3.94         | 0.00         | FFF           | 50        | W14X99  |
|    | 42.083  | 64.654  | 207.070 | 10.45        | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 41 | 65.083  | 56.667  | 215.770 | 7.10         | FFF           | 50        | W8X10   | --- |
|    | 65.083  | 74.024  | 215.770 | 7.10         | FFF           |           |         |     |
| 42 | 42.083  | 56.670  | 215.770 | 7.10         | FFF           | 50        | W8X10   | --- |
|    | 42.083  | 74.024  | 215.770 | 7.10         | FFF           |           |         |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 23 | 21.583  | 1.667   | 215.770 | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 215.770 |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 207.070 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 207.070 |      |               |                |            |       |       |
| 24 | 77.333  | 12.500  | 215.770 | 0.20 | 145.0         | 150.0          | 8.000      | 25.0  | 0     |
|    | 77.333  | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 207.070 |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 207.070 |      |               |                |            |       |       |
| 25 | 77.333  | 1.667   | 215.770 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 12.500  | 215.770 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 207.070 |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 207.070 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
|--------|----------|---------|



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |       |       |
|----|-------|-------|
| 23 | 0.350 | 1.000 |
| 24 | 0.350 | 1.000 |
| 25 | 0.350 | 1.000 |

**Level: F13**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 5* | 42.083  | 56.670  | 215.770 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 42.083  | 56.670  | 207.070 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 8* | 65.083  | 56.667  | 215.770 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 65.083  | 56.667  | 207.070 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 14 | 89.083  | 44.583  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 89.083  | 44.583  | 198.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 17 | 113.083 | 44.583  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 113.083 | 44.583  | 198.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 20 | 137.083 | 44.583  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 137.083 | 44.583  | 198.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 23 | 161.083 | 44.583  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 161.083 | 44.583  | 198.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 26 | 185.083 | 44.583  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 185.083 | 44.583  | 198.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

(\* ) Hanging Column

**Steel Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|---|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 2 | 42.083  | 64.654  | 207.070 | 0.00         | PPF           | 50        | W14X605 | --- |
|   | 42.083  | 74.024  | 207.070 | 0.00         | PPF           |           |         |     |
| 5 | 65.083  | 64.654  | 207.070 | 0.00         | FFF           | 50        | W14X605 | --- |
|   | 65.083  | 74.024  | 207.070 | 7.10         | FFF           |           |         |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 33 | 21.583  | 1.667   | 207.070 | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 207.070 |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 198.370 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 198.370 |      |               |                |            |       |       |
| 34 | 77.333  | 12.500  | 207.070 | 0.20 | 145.0         | 150.0          | 8.000      | 25.0  | 0     |
|    | 77.333  | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 198.370 |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 198.370 |      |               |                |            |       |       |
| 35 | 77.333  | 1.667   | 207.070 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 12.500  | 207.070 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 198.370 |      |               |                |            |       |       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

77.333 12.500 198.370

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 33     | 0.350    | 1.000   |
| 34     | 0.350    | 1.000   |
| 35     | 0.350    | 1.000   |

**Level: F12**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 12 | 89.083  | 44.583  | 198.370 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 44.583  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 15 | 113.083 | 44.583  | 198.370 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 113.083 | 44.583  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 18 | 137.083 | 44.583  | 198.370 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 137.083 | 44.583  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 21 | 161.083 | 44.583  | 198.370 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 161.083 | 44.583  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 24 | 185.083 | 44.583  | 198.370 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 185.083 | 44.583  | 189.670 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 5* | 42.083  | 56.670  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 42.083  | 56.670  | 198.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 7* | 65.083  | 56.667  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 65.083  | 56.667  | 198.370 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

(\* ) Hanging Column

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 19 | 21.583  | 1.667   | 198.370 | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 198.370 |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 189.670 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 189.670 |      |               |                |            |       |       |
| 22 | 77.333  | 12.500  | 198.370 | 0.20 | 145.0         | 150.0          | 8.000      | 25.0  | 0     |
|    | 77.333  | 22.500  | 198.370 |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 189.670 |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 189.670 |      |               |                |            |       |       |
| 23 | 77.333  | 1.667   | 198.370 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 12.500  | 198.370 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 189.670 |      |               |                |            |       |       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

77.333 12.500 189.670

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 19     | 0.350    | 1.000   |
| 22     | 0.350    | 1.000   |
| 23     | 0.350    | 1.000   |

**Level: F11demo**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 8  | 77.333  | 22.500  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 22.500  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 9  | 77.333  | 42.792  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 42.792  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 10 | 77.333  | 68.667  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 68.667  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 11 | 89.083  | 22.500  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 22.500  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 12 | 89.083  | 44.583  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 44.583  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 13 | 89.083  | 68.667  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 68.667  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 14 | 113.083 | 22.500  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 113.083 | 22.500  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 15 | 113.083 | 44.583  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 113.083 | 44.583  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 16 | 113.083 | 68.667  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 113.083 | 68.667  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 17 | 137.083 | 22.500  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 137.083 | 22.500  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 18 | 137.083 | 44.583  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 137.083 | 44.583  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 19 | 137.083 | 68.667  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 137.083 | 68.667  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 20 | 161.083 | 22.500  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 161.083 | 22.500  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 21 | 161.083 | 44.583  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 161.083 | 44.583  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 22 | 161.083 | 68.667  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 161.083 | 68.667  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 23 | 185.083 | 22.500  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 185.083 | 22.500  | 180.970 | 0.00         | 0.00         | FFF           |           |         |
| 24 | 185.083 | 44.583  | 189.670 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 185.083 | 44.583  | 180.970 | 0.00         | 0.00         | FFF           |           |         |





| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section |
|----|---------|--------|---------|--------|--------|--------|----|---------|
| 25 | 185.083 | 68.667 | 189.670 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 185.083 | 68.667 | 180.970 | 0.00   | 0.00   | FFF    |    |         |
| 26 | 206.750 | 22.500 | 189.670 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 206.750 | 22.500 | 180.970 | 0.00   | 0.00   | FFF    |    |         |
| 27 | 206.750 | 68.667 | 189.670 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 206.750 | 68.667 | 180.970 | 0.00   | 0.00   | FFF    |    |         |

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 5* | 42.083  | 56.670  | 198.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 42.083  | 56.670  | 189.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 7* | 65.083  | 56.667  | 198.370 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 65.083  | 56.667  | 189.670 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

(\* ) Hanging Column

**Steel Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|---|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 5 | 77.333  | 22.500  | 189.670 | 0.00         | PPF           | 50        | W14X455 | --- |
|   | 77.333  | 42.792  | 189.670 | 0.00         | PPF           |           |         |     |
| 6 | 77.333  | 42.792  | 189.670 | 0.00         | PPF           | 50        | W14X455 | --- |
|   | 77.333  | 68.667  | 189.670 | 0.00         | PPF           |           |         |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 37.163  | 64.654  | 189.670 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 40.663  | 64.654  | 189.670 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 46.863  | 64.654  | 189.670 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 50.363  | 64.654  | 189.670 | 0.00         | FFF           |      |               |                |            |     |     |
| 3 | 56.863  | 64.654  | 189.670 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 60.363  | 64.654  | 189.670 | 0.00         | FFF           |      |               |                |            |     |     |
| 4 | 66.563  | 64.654  | 189.670 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 70.063  | 64.654  | 189.670 | 0.00         | FFF           |      |               |                |            |     |     |

**Steel Brace:**

| # | Level   | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|---------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F11demo | 77.333  | 32.646  | 189.670 | PPP        | 36        | W14X176 | N   | N   |
|   | F11     | 77.333  | 22.500  | 180.970 | PPP        |           |         |     |     |
| 2 | F11demo | 77.333  | 32.646  | 189.670 | PPP        | 36        | W14X176 | N   | N   |
|   | F11     | 77.333  | 42.792  | 180.970 | PPP        |           |         |     |     |

**Concrete Wall:**



| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1  | 34.163  | 64.654  | 189.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 34.163  | 74.024  | 189.670 |      |               |                |            |       |       |
|    | 34.163  | 64.654  | 180.970 |      |               |                |            |       |       |
|    | 34.163  | 74.024  | 180.970 |      |               |                |            |       |       |
| 2  | 34.163  | 64.654  | 189.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 37.163  | 64.654  | 189.670 |      |               |                |            |       |       |
|    | 34.163  | 64.654  | 180.970 |      |               |                |            |       |       |
|    | 37.163  | 64.654  | 180.970 |      |               |                |            |       |       |
| 3  | 34.163  | 74.024  | 189.670 | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|    | 74.093  | 74.024  | 189.670 |      |               |                |            |       |       |
|    | 34.163  | 74.024  | 180.970 |      |               |                |            |       |       |
|    | 74.093  | 74.024  | 180.970 |      |               |                |            |       |       |
| 4  | 37.667  | 1.667   | 189.670 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 37.667  | 19.833  | 189.670 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 180.970 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 180.970 |      |               |                |            |       |       |
| 5  | 37.667  | 1.667   | 189.670 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 1.667   | 189.670 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 180.970 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 180.970 |      |               |                |            |       |       |
| 6  | 37.667  | 19.833  | 189.670 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 45.500  | 19.833  | 189.670 |      |               |                |            |       |       |
|    | 37.667  | 19.833  | 180.970 |      |               |                |            |       |       |
|    | 45.500  | 19.833  | 180.970 |      |               |                |            |       |       |
| 7  | 40.663  | 64.654  | 189.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 46.863  | 64.654  | 189.670 |      |               |                |            |       |       |
|    | 40.663  | 64.654  | 180.970 |      |               |                |            |       |       |
|    | 46.863  | 64.654  | 180.970 |      |               |                |            |       |       |
| 8  | 50.363  | 64.654  | 189.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 56.863  | 64.654  | 189.670 |      |               |                |            |       |       |
|    | 50.363  | 64.654  | 180.970 |      |               |                |            |       |       |
|    | 56.863  | 64.654  | 180.970 |      |               |                |            |       |       |
| 9  | 54.625  | 37.167  | 189.670 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 189.670 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 180.970 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 180.970 |      |               |                |            |       |       |
| 10 | 60.363  | 64.654  | 189.670 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 66.563  | 64.654  | 189.670 |      |               |                |            |       |       |
|    | 60.363  | 64.654  | 180.970 |      |               |                |            |       |       |
|    | 66.563  | 64.654  | 180.970 |      |               |                |            |       |       |
| 11 | 63.083  | 1.667   | 189.670 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 189.670 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 180.970 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 180.970 |      |               |                |            |       |       |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
| 12 | 63.083  | 1.667  | 189.670 | 0.20 | 145.0 | 150.0 | 8.000  | 12.0 | 0 |
|    | 77.333  | 1.667  | 189.670 |      |       |       |        |      |   |
|    | 63.083  | 1.667  | 180.970 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 180.970 |      |       |       |        |      |   |
| 13 | 63.083  | 19.000 | 189.670 | 0.20 | 145.0 | 150.0 | 8.000  | 12.0 | 0 |
|    | 63.083  | 37.167 | 189.670 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 180.970 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 180.970 |      |       |       |        |      |   |
| 14 | 70.063  | 64.654 | 189.670 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 74.093  | 64.654 | 189.670 |      |       |       |        |      |   |
|    | 70.063  | 64.654 | 180.970 |      |       |       |        |      |   |
|    | 74.093  | 64.654 | 180.970 |      |       |       |        |      |   |
| 15 | 74.093  | 64.654 | 189.670 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 74.093  | 74.024 | 189.670 |      |       |       |        |      |   |
|    | 74.093  | 64.654 | 180.970 |      |       |       |        |      |   |
|    | 74.093  | 74.024 | 180.970 |      |       |       |        |      |   |
| 18 | 206.750 | 22.500 | 189.670 | 0.20 | 145.0 | 150.0 | 8.000  | 12.0 | 0 |
|    | 206.750 | 68.667 | 189.670 |      |       |       |        |      |   |
|    | 206.750 | 22.500 | 180.970 |      |       |       |        |      |   |
|    | 206.750 | 68.667 | 180.970 |      |       |       |        |      |   |
| 19 | 21.583  | 1.667  | 189.670 | 0.20 | 145.0 | 150.0 | 12.000 | 14.0 | 0 |
|    | 37.667  | 1.667  | 189.670 |      |       |       |        |      |   |
|    | 21.583  | 1.667  | 180.970 |      |       |       |        |      |   |
|    | 37.667  | 1.667  | 180.970 |      |       |       |        |      |   |
| 20 | 77.333  | 12.500 | 189.670 | 0.20 | 145.0 | 150.0 | 8.000  | 25.0 | 0 |
|    | 77.333  | 22.500 | 189.670 |      |       |       |        |      |   |
|    | 77.333  | 12.500 | 180.970 |      |       |       |        |      |   |
|    | 77.333  | 22.500 | 180.970 |      |       |       |        |      |   |
| 21 | 77.333  | 1.667  | 189.670 | 0.20 | 145.0 | 150.0 | 8.000  | 12.0 | 0 |
|    | 77.333  | 12.500 | 189.670 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 180.970 |      |       |       |        |      |   |
|    | 77.333  | 12.500 | 180.970 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.350    | 1.000   |
| 3      | 0.500    | 1.000   |
| 4      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |
| 7      | 0.350    | 1.000   |
| 8      | 0.350    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.350    | 1.000   |
| 11     | 0.500    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |       |       |
|----|-------|-------|
| 12 | 0.500 | 1.000 |
| 13 | 0.500 | 1.000 |
| 14 | 0.350 | 1.000 |
| 15 | 0.500 | 1.000 |
| 18 | 1.000 | 1.000 |
| 19 | 0.350 | 1.000 |
| 20 | 0.350 | 1.000 |
| 21 | 0.350 | 1.000 |

**Level: F11**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 11 | 89.083  | 22.500  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 22.500  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 12 | 89.083  | 44.583  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 44.583  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 13 | 89.083  | 68.667  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 68.667  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 14 | 113.083 | 22.500  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 113.083 | 22.500  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 15 | 113.083 | 44.583  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 113.083 | 44.583  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 16 | 113.083 | 68.667  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 113.083 | 68.667  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 17 | 137.083 | 22.500  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 137.083 | 22.500  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 18 | 137.083 | 44.583  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 137.083 | 44.583  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 19 | 137.083 | 68.667  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 137.083 | 68.667  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 20 | 161.083 | 22.500  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 161.083 | 22.500  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 21 | 161.083 | 44.583  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 161.083 | 44.583  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 22 | 161.083 | 68.667  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 161.083 | 68.667  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 23 | 185.083 | 22.500  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 185.083 | 22.500  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 24 | 185.083 | 44.583  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 185.083 | 44.583  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 25 | 185.083 | 68.667  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 185.083 | 68.667  | 172.260 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Column:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 5* | 42.083  | 56.670  | 189.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 42.083  | 56.670  | 180.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 7* | 65.083  | 56.667  | 189.670 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 1   |
|    | 65.083  | 56.667  | 180.970 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

(\* ) Hanging Column

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 19 | 21.583  | 1.667   | 180.970 | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 180.970 |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 172.260 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 172.260 |      |               |                |            |       |       |
| 22 | 77.333  | 12.500  | 180.970 | 0.20 | 145.0         | 150.0          | 8.000      | 25.0  | 0     |
|    | 77.333  | 22.500  | 180.970 |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 172.260 |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 172.260 |      |               |                |            |       |       |
| 23 | 77.333  | 1.667   | 180.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 12.500  | 180.970 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 172.260 |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 172.260 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 19     | 0.350    | 1.000   |
| 22     | 0.350    | 1.000   |
| 23     | 0.350    | 1.000   |

**Level: F9demo**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 6  | 77.333  | 22.500  | 172.260 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 22.500  | 163.550 | 0.00         | 0.00         | FFF           |           |         |
| 7  | 77.333  | 42.792  | 172.260 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 42.792  | 163.550 | 0.00         | 0.00         | FFF           |           |         |
| 8  | 77.333  | 68.667  | 172.260 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 68.667  | 163.550 | 0.00         | 0.00         | FFF           |           |         |
| 9  | 89.083  | 22.500  | 172.260 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 22.500  | 163.550 | 0.00         | 0.00         | FFF           |           |         |
| 10 | 89.083  | 44.583  | 172.260 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 44.583  | 163.550 | 0.00         | 0.00         | FFF           |           |         |
| 11 | 89.083  | 68.667  | 172.260 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 68.667  | 163.550 | 0.00         | 0.00         | FFF           |           |         |



| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section |
|----|---------|--------|---------|--------|--------|--------|----|---------|
| 12 | 113.083 | 22.500 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 113.083 | 22.500 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 13 | 113.083 | 44.583 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 113.083 | 44.583 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 14 | 113.083 | 68.667 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 113.083 | 68.667 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 15 | 137.083 | 22.500 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 137.083 | 22.500 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 16 | 137.083 | 44.583 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 137.083 | 44.583 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 17 | 137.083 | 68.667 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 137.083 | 68.667 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 18 | 161.083 | 22.500 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 161.083 | 22.500 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 19 | 161.083 | 44.583 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 161.083 | 44.583 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 20 | 161.083 | 68.667 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 161.083 | 68.667 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 21 | 185.083 | 22.500 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 185.083 | 22.500 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 22 | 185.083 | 44.583 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 185.083 | 44.583 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 23 | 185.083 | 68.667 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 185.083 | 68.667 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 24 | 206.750 | 22.500 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 206.750 | 22.500 | 163.550 | 0.00   | 0.00   | FFF    |    |         |
| 25 | 206.750 | 68.667 | 172.260 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 206.750 | 68.667 | 163.550 | 0.00   | 0.00   | FFF    |    |         |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 37.163  | 64.654  | 172.260 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 40.663  | 64.654  | 172.260 | 0.00         | FFF           |      |               |                |            |     |     |
| 2 | 46.863  | 64.654  | 172.260 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 50.363  | 64.654  | 172.260 | 0.00         | FFF           |      |               |                |            |     |     |
| 3 | 56.863  | 64.654  | 172.260 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 60.363  | 64.654  | 172.260 | 0.00         | FFF           |      |               |                |            |     |     |
| 4 | 66.563  | 64.654  | 172.260 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 70.063  | 64.654  | 172.260 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 172.260 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |        |        |         |      |       |       |        |      |   |
|----|--------|--------|---------|------|-------|-------|--------|------|---|
|    | 34.163 | 74.024 | 172.260 |      |       |       |        |      |   |
|    | 34.163 | 64.654 | 163.550 |      |       |       |        |      |   |
|    | 34.163 | 74.024 | 163.550 |      |       |       |        |      |   |
| 2  | 34.163 | 64.654 | 172.260 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 37.163 | 64.654 | 172.260 |      |       |       |        |      |   |
|    | 34.163 | 64.654 | 163.550 |      |       |       |        |      |   |
|    | 37.163 | 64.654 | 163.550 |      |       |       |        |      |   |
| 3  | 34.163 | 74.024 | 172.260 | 0.20 | 145.0 | 150.0 | 12.000 | 24.0 | 0 |
|    | 74.093 | 74.024 | 172.260 |      |       |       |        |      |   |
|    | 34.163 | 74.024 | 163.550 |      |       |       |        |      |   |
|    | 74.093 | 74.024 | 163.550 |      |       |       |        |      |   |
| 4  | 37.667 | 1.667  | 172.260 | 0.20 | 145.0 | 150.0 | 8.000  | 12.0 | 0 |
|    | 37.667 | 19.833 | 172.260 |      |       |       |        |      |   |
|    | 37.667 | 1.667  | 163.550 |      |       |       |        |      |   |
|    | 37.667 | 19.833 | 163.550 |      |       |       |        |      |   |
| 5  | 37.667 | 1.667  | 172.260 | 0.20 | 145.0 | 150.0 | 8.000  | 14.0 | 0 |
|    | 63.083 | 1.667  | 172.260 |      |       |       |        |      |   |
|    | 37.667 | 1.667  | 163.550 |      |       |       |        |      |   |
|    | 63.083 | 1.667  | 163.550 |      |       |       |        |      |   |
| 6  | 37.667 | 19.833 | 172.260 | 0.20 | 145.0 | 150.0 | 8.000  | 12.0 | 0 |
|    | 45.500 | 19.833 | 172.260 |      |       |       |        |      |   |
|    | 37.667 | 19.833 | 163.550 |      |       |       |        |      |   |
|    | 45.500 | 19.833 | 163.550 |      |       |       |        |      |   |
| 7  | 40.663 | 64.654 | 172.260 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 46.863 | 64.654 | 172.260 |      |       |       |        |      |   |
|    | 40.663 | 64.654 | 163.550 |      |       |       |        |      |   |
|    | 46.863 | 64.654 | 163.550 |      |       |       |        |      |   |
| 8  | 50.363 | 64.654 | 172.260 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 56.863 | 64.654 | 172.260 |      |       |       |        |      |   |
|    | 50.363 | 64.654 | 163.550 |      |       |       |        |      |   |
|    | 56.863 | 64.654 | 163.550 |      |       |       |        |      |   |
| 9  | 54.625 | 37.167 | 172.260 | 0.20 | 145.0 | 150.0 | 8.000  | 12.0 | 0 |
|    | 63.083 | 37.167 | 172.260 |      |       |       |        |      |   |
|    | 54.625 | 37.167 | 163.550 |      |       |       |        |      |   |
|    | 63.083 | 37.167 | 163.550 |      |       |       |        |      |   |
| 10 | 60.363 | 64.654 | 172.260 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 66.563 | 64.654 | 172.260 |      |       |       |        |      |   |
|    | 60.363 | 64.654 | 163.550 |      |       |       |        |      |   |
|    | 66.563 | 64.654 | 163.550 |      |       |       |        |      |   |
| 11 | 63.083 | 1.667  | 172.260 | 0.20 | 145.0 | 150.0 | 8.000  | 12.0 | 0 |
|    | 63.083 | 19.000 | 172.260 |      |       |       |        |      |   |
|    | 63.083 | 1.667  | 163.550 |      |       |       |        |      |   |
|    | 63.083 | 19.000 | 163.550 |      |       |       |        |      |   |
| 12 | 63.083 | 1.667  | 172.260 | 0.20 | 145.0 | 150.0 | 8.000  | 14.0 | 0 |
|    | 77.333 | 1.667  | 172.260 |      |       |       |        |      |   |
|    | 63.083 | 1.667  | 163.550 |      |       |       |        |      |   |



|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 77.333  | 1.667  | 163.550 |      |       |       |        |      |   |
| 13 | 63.083  | 19.000 | 172.260 | 0.20 | 145.0 | 150.0 | 8.000  | 12.0 | 0 |
|    | 63.083  | 37.167 | 172.260 |      |       |       |        |      |   |
|    | 63.083  | 19.000 | 163.550 |      |       |       |        |      |   |
|    | 63.083  | 37.167 | 163.550 |      |       |       |        |      |   |
| 14 | 70.063  | 64.654 | 172.260 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 74.093  | 64.654 | 172.260 |      |       |       |        |      |   |
|    | 70.063  | 64.654 | 163.550 |      |       |       |        |      |   |
|    | 74.093  | 64.654 | 163.550 |      |       |       |        |      |   |
| 15 | 74.093  | 64.654 | 172.260 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 74.093  | 74.024 | 172.260 |      |       |       |        |      |   |
|    | 74.093  | 64.654 | 163.550 |      |       |       |        |      |   |
|    | 74.093  | 74.024 | 163.550 |      |       |       |        |      |   |
| 18 | 206.750 | 22.500 | 172.260 | 0.20 | 145.0 | 150.0 | 8.000  | 12.0 | 0 |
|    | 206.750 | 68.667 | 172.260 |      |       |       |        |      |   |
|    | 206.750 | 22.500 | 163.550 |      |       |       |        |      |   |
|    | 206.750 | 68.667 | 163.550 |      |       |       |        |      |   |
| 19 | 21.583  | 1.667  | 172.260 | 0.20 | 145.0 | 150.0 | 12.000 | 14.0 | 0 |
|    | 37.667  | 1.667  | 172.260 |      |       |       |        |      |   |
|    | 21.583  | 1.667  | 163.550 |      |       |       |        |      |   |
|    | 37.667  | 1.667  | 163.550 |      |       |       |        |      |   |
| 20 | 77.333  | 12.500 | 172.260 | 0.20 | 145.0 | 150.0 | 8.000  | 25.0 | 0 |
|    | 77.333  | 22.500 | 172.260 |      |       |       |        |      |   |
|    | 77.333  | 12.500 | 163.550 |      |       |       |        |      |   |
|    | 77.333  | 22.500 | 163.550 |      |       |       |        |      |   |
| 21 | 77.333  | 1.667  | 172.260 | 0.20 | 145.0 | 150.0 | 8.000  | 12.0 | 0 |
|    | 77.333  | 12.500 | 172.260 |      |       |       |        |      |   |
|    | 77.333  | 1.667  | 163.550 |      |       |       |        |      |   |
|    | 77.333  | 12.500 | 163.550 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |
| 2      | 0.350    | 1.000   |
| 3      | 0.500    | 1.000   |
| 5      | 0.500    | 1.000   |
| 7      | 0.350    | 1.000   |
| 8      | 0.350    | 1.000   |
| 9      | 0.500    | 1.000   |
| 10     | 0.350    | 1.000   |
| 11     | 0.500    | 1.000   |
| 12     | 0.500    | 1.000   |
| 13     | 0.500    | 1.000   |
| 14     | 0.350    | 1.000   |
| 15     | 0.500    | 1.000   |
| 18     | 1.000    | 1.000   |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |       |       |
|----|-------|-------|
| 19 | 0.350 | 1.000 |
| 20 | 0.350 | 1.000 |
| 21 | 0.350 | 1.000 |
| 4  | 0.500 | 1.000 |
| 6  | 0.500 | 1.000 |

**Level: F10**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 1  | 21.583  | 1.667   | 163.550 | 0.00         | 0.00         | FFF           | 36        | W14X211 |
|    | 21.583  | 1.667   | 147.550 | 0.00         | 8.00         | FFF           |           |         |
| 2  | 21.583  | 21.833  | 163.550 | 0.00         | 0.00         | FFF           | 36        | W14X342 |
|    | 21.583  | 21.833  | 147.550 | 0.00         | 7.60         | FFF           |           |         |
| 5  | 37.667  | 1.667   | 163.550 | 6.10         | 0.00         | FFF           | 36        | W14X82  |
|    | 37.667  | 1.667   | 147.550 | 7.15         | 0.00         | FFF           |           |         |
| 6  | 37.667  | 19.833  | 163.550 | 6.85         | 6.10         | FFF           | 36        | W14X342 |
|    | 37.667  | 19.833  | 147.550 | 21.80        | 7.15         | FFF           |           |         |
| 7  | 43.875  | 37.167  | 163.550 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 43.875  | 37.167  | 147.550 | 0.01         | 4.92         | FFF           |           |         |
| 8  | 54.625  | 37.167  | 163.550 | 0.00         | 0.00         | FFF           | 36        | W14X43  |
|    | 54.625  | 37.167  | 147.550 | 0.00         | 21.80        | FFF           |           |         |
| 9  | 63.083  | 1.667   | 163.550 | 0.00         | 0.00         | FFF           | 36        | W14X120 |
|    | 63.083  | 1.667   | 147.550 | 0.00         | 0.00         | FFF           |           |         |
| 10 | 63.083  | 19.000  | 163.550 | 0.00         | 7.85         | FFF           | 36        | W14X61  |
|    | 63.083  | 19.000  | 147.550 | 0.00         | 0.00         | FFF           |           |         |
| 11 | 63.083  | 37.167  | 163.550 | 7.85         | 0.00         | FFF           | 36        | W14X48  |
|    | 63.083  | 37.167  | 147.550 | 0.00         | 0.00         | FFF           |           |         |
| 12 | 77.333  | 1.667   | 163.550 | 0.00         | 0.00         | FFF           | 36        | W14X99  |
|    | 77.333  | 1.667   | 147.550 | 0.00         | 0.00         | FFF           |           |         |
| 13 | 77.333  | 12.500  | 163.550 | 0.00         | 0.00         | FFF           | 36        | W14X82  |
|    | 77.333  | 12.500  | 147.550 | 0.00         | 0.00         | FFF           |           |         |
| 17 | 89.083  | 22.500  | 163.550 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 22.500  | 147.550 | 8.35         | 0.00         | FFF           |           |         |
| 18 | 89.083  | 44.583  | 163.550 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 44.583  | 147.550 | 8.35         | 0.00         | FFF           |           |         |
| 19 | 89.083  | 68.667  | 163.550 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 68.667  | 147.550 | 8.00         | 0.00         | FFF           |           |         |
| 20 | 113.083 | 22.500  | 163.550 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 113.083 | 22.500  | 147.550 | 0.00         | 0.00         | FFF           |           |         |
| 21 | 113.083 | 44.583  | 163.550 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 113.083 | 44.583  | 147.550 | 0.00         | 0.00         | FFF           |           |         |
| 22 | 113.083 | 68.667  | 163.550 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 113.083 | 68.667  | 147.550 | 0.00         | 0.00         | FFF           |           |         |
| 23 | 137.083 | 22.500  | 163.550 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 137.083 | 22.500  | 147.550 | 0.00         | 0.00         | FFF           |           |         |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section |
|----|---------|--------|---------|--------|--------|--------|----|---------|
| 24 | 137.083 | 44.583 | 163.550 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 137.083 | 44.583 | 147.550 | 0.00   | 0.00   | FFF    |    |         |
| 25 | 137.083 | 68.667 | 163.550 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 137.083 | 68.667 | 147.550 | 0.00   | 0.00   | FFF    |    |         |
| 26 | 161.083 | 22.500 | 163.550 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 161.083 | 22.500 | 147.550 | 8.35   | 0.00   | FFF    |    |         |
| 27 | 161.083 | 44.583 | 163.550 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 161.083 | 44.583 | 147.550 | 8.35   | 0.00   | FFF    |    |         |
| 28 | 161.083 | 68.667 | 163.550 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 161.083 | 68.667 | 147.550 | 8.00   | 0.00   | FFF    |    |         |
| 29 | 185.083 | 22.500 | 163.550 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 185.083 | 22.500 | 147.550 | 0.00   | 0.00   | FFF    |    |         |
| 30 | 185.083 | 44.583 | 163.550 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 185.083 | 44.583 | 147.550 | 0.00   | 0.00   | FFF    |    |         |
| 31 | 185.083 | 68.667 | 163.550 | 0.00   | 0.00   | FFF    | 50 | W12X120 |
|    | 185.083 | 68.667 | 147.550 | 0.00   | 0.00   | FFF    |    |         |

**Steel Beam / Horiz Brace:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 31  | 54.625  | 1.667   | 163.550 | 0.00         | PPF           | 36        | W24X62  | --- |
|     | 54.625  | 37.167  | 163.550 | 0.00         | PPF           |           |         |     |
| 220 | 63.083  | 19.000  | 163.550 | 0.00         | FFF           | 50        | W16X26  | --- |
|     | 63.083  | 37.167  | 163.550 | 6.90         | FFF           |           |         |     |
| 222 | 37.667  | 1.667   | 163.550 | 7.15         | FFF           | 50        | W12X19  | --- |
|     | 37.667  | 19.833  | 163.550 | 0.00         | FFF           |           |         |     |
| 223 | 37.667  | 19.833  | 163.550 | 8.75         | FFF           | 50        | W14X22  | --- |
|     | 54.625  | 19.833  | 163.550 | 0.00         | FFF           |           |         |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 19 | 21.583  | 1.667   | 163.550 | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 163.550 |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 147.550 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 147.550 |      |               |                |            |       |       |
| 20 | 54.625  | 37.167  | 163.550 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 163.550 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 147.550 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 147.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 19     | 0.350    | 1.000   |
| 20     | 0.350    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Level: F9**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 12 | 24.000  | 58.666  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W14X426    |
|    | 21.583  | 58.666  | 132.550 | 7.60         | 0.00         | FFF           |           |            |
| 15 | 43.083  | 19.833  | 147.550 | 7.85         | 4.92         | FFF           | 50        | W14X120    |
|    | 43.083  | 19.833  | 132.550 | 0.00         | 0.00         | FFF           |           |            |
| 16 | 43.875  | 37.167  | 147.550 | 4.92         | 0.01         | FFF           | 50        | W14X311    |
|    | 43.875  | 37.167  | 132.550 | 0.00         | 0.00         | FFF           |           |            |
| 18 | 63.083  | 1.667   | 147.550 | 0.00         | 0.00         | FFF           | 36        | W14X159    |
|    | 63.083  | 1.667   | 132.550 | 0.00         | 0.00         | FFF           |           |            |
| 21 | 77.333  | 1.667   | 147.550 | 0.00         | 0.00         | FFF           | 36        | W14X120    |
|    | 77.333  | 1.667   | 132.550 | 0.00         | 0.00         | FFF           |           |            |
| 22 | 77.333  | 12.500  | 147.550 | 0.00         | 0.00         | FFF           | 36        | W14X82     |
|    | 77.333  | 12.500  | 132.550 | 3.57         | 0.49         | FFF           |           |            |
| 35 | 113.083 | 22.500  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W12X120    |
|    | 113.083 | 22.500  | 132.550 | 0.00         | 0.00         | FFF           |           |            |
| 36 | 113.083 | 44.583  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W12X120    |
|    | 113.083 | 44.583  | 132.550 | 0.00         | 0.00         | FFF           |           |            |
| 37 | 113.083 | 68.667  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W12X120    |
|    | 113.083 | 68.667  | 132.550 | 0.00         | 0.00         | FFF           |           |            |
| 39 | 137.083 | 22.500  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W12X120    |
|    | 137.083 | 22.500  | 132.550 | 0.60         | 3.46         | FFF           |           |            |
| 40 | 137.083 | 44.583  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W12X120    |
|    | 137.083 | 44.583  | 132.550 | 0.00         | 0.00         | FFF           |           |            |
| 41 | 137.083 | 68.667  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W12X120    |
|    | 137.083 | 68.667  | 132.550 | 0.00         | 0.00         | FFF           |           |            |
| 50 | 185.083 | 22.500  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W12X120    |
|    | 185.083 | 22.500  | 132.550 | 4.05         | 4.05         | FFF           |           |            |
| 51 | 185.083 | 44.583  | 147.550 | 0.00         | 0.00         | FFF           | 50        | Pipe1/2Std |
|    | 185.083 | 44.583  | 132.550 | 4.05         | 4.05         | FFF           |           |            |
| 52 | 185.083 | 68.667  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W12X120    |
|    | 185.083 | 68.667  | 132.550 | 4.05         | 4.05         | FFF           |           |            |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 31 | 21.583  | 19.833  | 147.550 | 0.00         | PPF           | 50        | W40X655 | --- |
|    | 43.083  | 19.833  | 147.550 | 0.00         | PPF           |           |         |     |
| 33 | 21.583  | 39.631  | 147.550 | 0.00         | PPF           | 36        | W14X176 | --- |
|    | 43.875  | 37.167  | 147.550 | 0.00         | PPF           |           |         |     |
| 42 | 37.667  | 1.667   | 147.550 | 7.15         | FFF           | 36        | W14X109 | --- |
|    | 37.667  | 19.833  | 147.550 | 0.00         | FFF           |           |         |     |
| 44 | 43.083  | 19.833  | 147.550 | 7.25         | FFF           | 50        | W16X26  | --- |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X      | Y      | Z       | RigEnd | Fixity | Fy | Section | T-O |
|-----|--------|--------|---------|--------|--------|----|---------|-----|
|     | 63.083 | 19.833 | 147.550 | 0.00   | FFF    |    |         |     |
| 45  | 43.875 | 37.167 | 147.550 | 0.00   | PPF    | 36 | W40X655 | --- |
|     | 63.083 | 37.167 | 147.550 | 0.00   | PPF    |    |         |     |
| 192 | 43.083 | 19.833 | 147.550 | 0.02   | FFF    | 50 | W10X12  | --- |
|     | 43.875 | 37.167 | 147.550 | 8.53   | FFF    |    |         |     |

**Steel Brace:**

| #  | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|----|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 2  | F9    | 21.583  | 19.833  | 147.550 | PPP        | 36        | W14X132 | N   | N   |
|    | F8    | 21.583  | 11.468  | 132.550 | PPP        |           |         |     |     |
| 7  | F9    | 21.583  | 65.487  | 147.550 | PPP        | 36        | W14X132 | N   | N   |
|    | F8    | 21.583  | 75.387  | 132.550 | PPP        |           |         |     |     |
| 9  | F9    | 32.729  | 38.399  | 147.550 | PPP        | 36        | W14X233 | N   | N   |
|    | F8    | 21.583  | 43.108  | 132.550 | PPP        |           |         |     |     |
| 10 | F9    | 32.729  | 38.399  | 147.550 | PPP        | 36        | W14X233 | N   | N   |
|    | F8    | 43.875  | 37.167  | 132.550 | PPP        |           |         |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 12 | 21.583  | 1.667   | 147.550 | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 147.550 |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 132.550 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 132.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 12     | 0.350    | 1.000   |

Level: F8

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 13 | 43.083  | 19.833  | 132.550 | 0.00         | 0.00         | FFF           | 50        | W14X109    |
|    | 43.083  | 19.833  | 120.390 | 0.00         | 0.00         | FFF           |           |            |
| 16 | 63.083  | 1.667   | 132.550 | 0.00         | 0.00         | FFF           | 36        | W14X159    |
|    | 63.083  | 1.667   | 120.390 | 0.00         | 0.00         | FFF           |           |            |
| 18 | 63.083  | 37.167  | 132.550 | 0.00         | 0.00         | FFF           | 36        | W14X61     |
|    | 63.083  | 37.167  | 120.390 | 0.00         | 0.00         | FFF           |           |            |
| 19 | 77.333  | 1.667   | 132.550 | 0.00         | 0.00         | FFF           | 36        | W14X120    |
|    | 77.333  | 1.667   | 120.390 | 0.00         | 0.00         | FFF           |           |            |
| 27 | 82.270  | 14.330  | 132.550 | 2.97         | 3.78         | FFF           | 50        | W14X500    |
|    | 82.270  | 14.330  | 120.390 | 0.00         | 0.00         | FFF           |           |            |
| 28 | 89.083  | 12.500  | 132.550 | 3.78         | 4.05         | FFF           | 42        | Pipe1/2Std |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|---------|--------|--------|--------|----|------------|
|    | 89.083  | 12.500 | 120.390 | 3.46   | 4.05   | FFF    |    |            |
| 34 | 113.083 | 22.500 | 132.550 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 22.500 | 120.390 | 4.05   | 4.05   | FFF    |    |            |
| 35 | 113.083 | 44.583 | 132.550 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 44.583 | 120.390 | 4.05   | 4.05   | FFF    |    |            |
| 36 | 113.083 | 68.667 | 132.550 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 68.667 | 120.390 | 4.05   | 4.05   | FFF    |    |            |
| 38 | 137.083 | 22.500 | 132.550 | 3.46   | 0.60   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 22.500 | 120.390 | 4.05   | 4.05   | FFF    |    |            |
| 39 | 137.083 | 44.583 | 132.550 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 44.583 | 120.390 | 4.05   | 4.05   | FFF    |    |            |
| 40 | 137.083 | 68.667 | 132.550 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 68.667 | 120.390 | 4.05   | 4.05   | FFF    |    |            |
| 42 | 161.083 | 12.500 | 132.550 | 3.46   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 12.500 | 120.390 | 3.46   | 4.05   | FFF    |    |            |
| 49 | 185.083 | 22.500 | 132.550 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 22.500 | 120.390 | 4.05   | 4.05   | FFF    |    |            |
| 50 | 185.083 | 44.583 | 132.550 | 4.05   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 185.083 | 44.583 | 120.390 | 4.05   | 4.05   | FFF    |    |            |
| 51 | 185.083 | 68.667 | 132.550 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 68.667 | 120.390 | 4.05   | 4.05   | FFF    |    |            |

**Steel Beam / Horiz Brace:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 35  | 21.583  | 65.487  | 132.550 | 0.00         | PPF           | 50        | W16X26  | --- |
|     | 34.163  | 65.487  | 132.550 | 0.00         | PPF           |           |         |     |
| 115 | 77.333  | 12.500  | 132.550 | 6.29         | FFF           | 50        | W8X15   | --- |
|     | 82.270  | 14.330  | 132.550 | 1.18         | FFF           |           |         |     |
| 117 | 77.333  | 22.500  | 132.550 | 13.37        | FFF           | 50        | W8X15   | --- |
|     | 82.270  | 14.330  | 132.550 | 7.18         | FFF           |           |         |     |
| 124 | 82.270  | 14.330  | 132.550 | 0.66         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 12.500  | 132.550 | 0.39         | FFF           |           |         |     |
| 125 | 82.270  | 14.330  | 132.550 | 5.78         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 22.500  | 132.550 | 0.17         | FFF           |           |         |     |
| 126 | 89.083  | 12.500  | 132.550 | 0.00         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 22.500  | 132.550 | 0.00         | FFF           |           |         |     |
| 135 | 137.083 | 22.500  | 132.550 | 0.36         | FFF           | 50        | W8X15   | --- |
|     | 161.083 | 12.500  | 132.550 | 0.36         | FFF           |           |         |     |
| 138 | 161.083 | 12.500  | 132.550 | 0.00         | FFF           | 50        | W8X15   | --- |
|     | 161.083 | 22.500  | 132.550 | 0.00         | FFF           |           |         |     |
| 139 | 161.083 | 12.500  | 132.550 | 0.36         | FFF           | 50        | W8X15   | --- |
|     | 185.083 | 22.500  | 132.550 | 0.36         | FFF           |           |         |     |
| 141 | 161.083 | 22.500  | 132.550 | 0.42         | FFF           | 50        | W8X15   | --- |
|     | 185.083 | 22.500  | 132.550 | 0.42         | FFF           |           |         |     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | RigEnd | Fixity | Fy | Section | T-O |
|-----|---------|--------|---------|--------|--------|----|---------|-----|
| 142 | 161.083 | 22.500 | 132.550 | 0.23   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 44.583 | 132.550 | 0.19   | FFF    |    |         |     |
| 145 | 161.083 | 44.583 | 132.550 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 44.583 | 132.550 | 0.00   | FFF    |    |         |     |
| 147 | 161.083 | 68.667 | 132.550 | 0.03   | FFF    | 50 | W8X15   | --- |
|     | 169.916 | 98.747 | 132.550 | 0.39   | FFF    |    |         |     |
| 148 | 161.083 | 68.667 | 132.550 | 0.21   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 44.583 | 132.550 | 0.21   | FFF    |    |         |     |
| 149 | 161.083 | 68.667 | 132.550 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 68.667 | 132.550 | 0.42   | FFF    |    |         |     |
| 151 | 169.916 | 98.747 | 132.550 | 0.33   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 68.667 | 132.550 | 0.09   | FFF    |    |         |     |
| 152 | 185.083 | 22.500 | 132.550 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 44.583 | 132.550 | 0.42   | FFF    |    |         |     |
| 153 | 185.083 | 44.583 | 132.550 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 68.667 | 132.550 | 0.00   | FFF    |    |         |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 21.583  | 1.667   | 132.550 | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 132.550 |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 120.390 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 120.390 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 0.350    | 1.000   |

**Level: F7**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 13 | 43.083  | 19.833  | 120.390 | 0.00         | 0.00         | FFF           | 50        | W14X109 |
|    | 43.083  | 19.833  | 108.230 | 0.00         | 0.00         | FFF           |           |         |
| 14 | 43.875  | 37.167  | 120.390 | 0.00         | 0.00         | FFF           | 50        | W14X311 |
|    | 43.875  | 37.167  | 108.230 | 0.00         | 0.00         | FFF           |           |         |
| 16 | 63.083  | 1.667   | 120.390 | 0.00         | 0.00         | FFF           | 36        | W14X176 |
|    | 63.083  | 1.667   | 108.230 | 0.00         | 0.00         | FFF           |           |         |
| 18 | 63.083  | 37.167  | 120.390 | 0.00         | 0.00         | FFF           | 36        | W14X61  |
|    | 63.083  | 37.167  | 108.230 | 0.00         | 0.00         | FFF           |           |         |
| 19 | 77.333  | 1.667   | 120.390 | 0.00         | 0.00         | FFF           | 36        | W14X132 |
|    | 77.333  | 1.667   | 108.230 | 0.00         | 0.00         | FFF           |           |         |
| 20 | 77.333  | 12.500  | 120.390 | 0.00         | 0.00         | FFF           | 36        | W14X90  |
|    | 77.333  | 12.500  | 108.230 | 0.00         | 0.00         | FFF           |           |         |



| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|---------|--------|--------|--------|----|------------|
| 26 | 80.770  | 98.747 | 120.390 | 3.77   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 80.770  | 98.747 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 29 | 89.083  | 12.500 | 120.390 | 3.46   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 12.500 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 30 | 89.083  | 22.500 | 120.390 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 22.500 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 31 | 89.083  | 28.500 | 120.390 | 4.05   | 3.22   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 28.500 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 32 | 89.083  | 44.583 | 120.390 | 4.05   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 89.083  | 44.583 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 33 | 89.083  | 68.667 | 120.390 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 68.667 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 34 | 89.083  | 98.747 | 120.390 | 4.05   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 89.083  | 98.747 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 35 | 113.083 | 22.500 | 120.390 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 22.500 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 36 | 113.083 | 44.583 | 120.390 | 4.05   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 44.583 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 37 | 113.083 | 68.667 | 120.390 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 68.667 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 38 | 113.083 | 98.747 | 120.390 | 4.05   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 98.747 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 39 | 137.083 | 22.500 | 120.390 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 22.500 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 40 | 137.083 | 44.583 | 120.390 | 4.05   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 44.583 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 41 | 137.083 | 68.667 | 120.390 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 68.667 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 42 | 137.083 | 98.747 | 120.390 | 4.05   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 98.747 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 43 | 161.083 | 12.500 | 120.390 | 3.46   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 12.500 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 44 | 161.083 | 22.500 | 120.390 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 22.500 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 45 | 161.083 | 28.500 | 120.390 | 4.05   | 3.82   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 28.500 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 46 | 161.083 | 44.583 | 120.390 | 4.05   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 161.083 | 44.583 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 47 | 161.083 | 68.667 | 120.390 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 68.667 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 48 | 161.083 | 98.747 | 120.390 | 4.05   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 161.083 | 98.747 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 49 | 169.916 | 98.747 | 120.390 | 3.73   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 169.916 | 98.747 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 50 | 185.083 | 22.500 | 120.390 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|---------|--------|--------|--------|----|------------|
|    | 185.083 | 22.500 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 51 | 185.083 | 44.583 | 120.390 | 4.05   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 185.083 | 44.583 | 108.230 | 0.00   | 0.00   | FFF    |    |            |
| 52 | 185.083 | 68.667 | 120.390 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 68.667 | 108.230 | 0.00   | 0.00   | FFF    |    |            |

**Steel Beam / Horiz Brace:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 91  | 77.333  | 22.500  | 120.390 | 0.00         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 22.500  | 120.390 | 0.42         | FFF           |           |         |     |
| 92  | 77.333  | 22.500  | 120.390 | 3.77         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 28.500  | 120.390 | 0.09         | FFF           |           |         |     |
| 94  | 77.333  | 42.792  | 120.390 | 6.68         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 28.500  | 120.390 | 0.25         | FFF           |           |         |     |
| 95  | 77.333  | 42.792  | 120.390 | 0.25         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 44.583  | 120.390 | 0.01         | FFF           |           |         |     |
| 97  | 77.333  | 68.667  | 120.390 | 0.00         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 68.667  | 120.390 | 0.42         | FFF           |           |         |     |
| 101 | 77.333  | 102.459 | 120.390 | 0.00         | FFF           | 50        | W8X15   | --- |
|     | 80.770  | 98.747  | 120.390 | 0.23         | FFF           |           |         |     |
| 103 | 80.770  | 98.747  | 120.390 | 0.39         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 68.667  | 120.390 | 0.03         | FFF           |           |         |     |
| 104 | 80.770  | 98.747  | 120.390 | 0.00         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 98.747  | 120.390 | 0.00         | FFF           |           |         |     |
| 108 | 89.083  | 12.500  | 120.390 | 0.00         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 22.500  | 120.390 | 0.00         | FFF           |           |         |     |
| 109 | 89.083  | 12.500  | 120.390 | 0.36         | FFF           | 50        | W8X15   | --- |
|     | 113.083 | 22.500  | 120.390 | 0.36         | FFF           |           |         |     |
| 110 | 89.083  | 22.500  | 120.390 | 0.00         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 28.500  | 120.390 | 0.42         | FFF           |           |         |     |
| 111 | 89.083  | 22.500  | 120.390 | 0.42         | FFF           | 50        | W8X15   | --- |
|     | 113.083 | 22.500  | 120.390 | 0.42         | FFF           |           |         |     |
| 112 | 89.083  | 28.500  | 120.390 | 0.42         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 44.583  | 120.390 | 0.42         | FFF           |           |         |     |
| 113 | 89.083  | 44.583  | 120.390 | 0.42         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 68.667  | 120.390 | 0.00         | FFF           |           |         |     |
| 114 | 89.083  | 44.583  | 120.390 | 0.19         | FFF           | 50        | W8X15   | --- |
|     | 113.083 | 22.500  | 120.390 | 0.23         | FFF           |           |         |     |
| 115 | 89.083  | 44.583  | 120.390 | 0.00         | FFF           | 50        | W8X15   | --- |
|     | 113.083 | 44.583  | 120.390 | 0.00         | FFF           |           |         |     |
| 116 | 89.083  | 68.667  | 120.390 | 0.00         | FFF           | 50        | W8X15   | --- |
|     | 89.083  | 98.747  | 120.390 | 0.42         | FFF           |           |         |     |
| 117 | 89.083  | 68.667  | 120.390 | 0.21         | FFF           | 50        | W8X15   | --- |
|     | 113.083 | 44.583  | 120.390 | 0.21         | FFF           |           |         |     |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | RigEnd | Fixity | Fy | Section | T-O |
|-----|---------|--------|---------|--------|--------|----|---------|-----|
| 118 | 89.083  | 68.667 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 113.083 | 68.667 | 120.390 | 0.42   | FFF    |    |         |     |
| 119 | 89.083  | 68.667 | 120.390 | 0.16   | FFF    | 50 | W8X15   | --- |
|     | 113.083 | 98.747 | 120.390 | 0.26   | FFF    |    |         |     |
| 120 | 89.083  | 98.747 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 113.083 | 98.747 | 120.390 | 0.00   | FFF    |    |         |     |
| 121 | 113.083 | 22.500 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 113.083 | 44.583 | 120.390 | 0.42   | FFF    |    |         |     |
| 122 | 113.083 | 22.500 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 22.500 | 120.390 | 0.42   | FFF    |    |         |     |
| 123 | 113.083 | 22.500 | 120.390 | 0.23   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 44.583 | 120.390 | 0.19   | FFF    |    |         |     |
| 124 | 113.083 | 44.583 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 113.083 | 68.667 | 120.390 | 0.00   | FFF    |    |         |     |
| 125 | 113.083 | 44.583 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 44.583 | 120.390 | 0.00   | FFF    |    |         |     |
| 126 | 113.083 | 68.667 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 113.083 | 98.747 | 120.390 | 0.42   | FFF    |    |         |     |
| 127 | 113.083 | 68.667 | 120.390 | 0.21   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 44.583 | 120.390 | 0.21   | FFF    |    |         |     |
| 128 | 113.083 | 68.667 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 68.667 | 120.390 | 0.42   | FFF    |    |         |     |
| 129 | 113.083 | 98.747 | 120.390 | 0.26   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 68.667 | 120.390 | 0.16   | FFF    |    |         |     |
| 130 | 113.083 | 98.747 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 98.747 | 120.390 | 0.00   | FFF    |    |         |     |
| 131 | 137.083 | 22.500 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 44.583 | 120.390 | 0.42   | FFF    |    |         |     |
| 132 | 137.083 | 22.500 | 120.390 | 0.36   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 12.500 | 120.390 | 0.36   | FFF    |    |         |     |
| 133 | 137.083 | 22.500 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 22.500 | 120.390 | 0.42   | FFF    |    |         |     |
| 134 | 137.083 | 44.583 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 68.667 | 120.390 | 0.00   | FFF    |    |         |     |
| 135 | 137.083 | 44.583 | 120.390 | 0.19   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 22.500 | 120.390 | 0.23   | FFF    |    |         |     |
| 136 | 137.083 | 44.583 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 44.583 | 120.390 | 0.00   | FFF    |    |         |     |
| 137 | 137.083 | 68.667 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 98.747 | 120.390 | 0.42   | FFF    |    |         |     |
| 138 | 137.083 | 68.667 | 120.390 | 0.21   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 44.583 | 120.390 | 0.21   | FFF    |    |         |     |
| 139 | 137.083 | 68.667 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 68.667 | 120.390 | 0.42   | FFF    |    |         |     |
| 140 | 137.083 | 68.667 | 120.390 | 0.16   | FFF    | 50 | W8X15   | --- |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | RigEnd | Fixity | Fy | Section | T-O |
|-----|---------|--------|---------|--------|--------|----|---------|-----|
|     | 161.083 | 98.747 | 120.390 | 0.26   | FFF    |    |         |     |
| 141 | 137.083 | 98.747 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 98.747 | 120.390 | 0.00   | FFF    |    |         |     |
| 142 | 161.083 | 12.500 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 22.500 | 120.390 | 0.00   | FFF    |    |         |     |
| 143 | 161.083 | 22.500 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 28.500 | 120.390 | 0.42   | FFF    |    |         |     |
| 144 | 161.083 | 22.500 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 22.500 | 120.390 | 0.42   | FFF    |    |         |     |
| 145 | 161.083 | 28.500 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 44.583 | 120.390 | 0.42   | FFF    |    |         |     |
| 146 | 161.083 | 28.500 | 120.390 | 0.02   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 22.500 | 120.390 | 0.40   | FFF    |    |         |     |
| 147 | 161.083 | 28.500 | 120.390 | 0.13   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 44.583 | 120.390 | 0.13   | FFF    |    |         |     |
| 148 | 161.083 | 44.583 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 68.667 | 120.390 | 0.00   | FFF    |    |         |     |
| 149 | 161.083 | 44.583 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 44.583 | 120.390 | 0.00   | FFF    |    |         |     |
| 150 | 161.083 | 68.667 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 161.083 | 98.747 | 120.390 | 0.42   | FFF    |    |         |     |
| 151 | 161.083 | 68.667 | 120.390 | 0.03   | FFF    | 50 | W8X15   | --- |
|     | 169.916 | 98.747 | 120.390 | 0.39   | FFF    |    |         |     |
| 152 | 161.083 | 68.667 | 120.390 | 0.21   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 44.583 | 120.390 | 0.21   | FFF    |    |         |     |
| 153 | 161.083 | 68.667 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 68.667 | 120.390 | 0.42   | FFF    |    |         |     |
| 154 | 161.083 | 98.747 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 169.916 | 98.747 | 120.390 | 0.00   | FFF    |    |         |     |
| 155 | 169.916 | 98.747 | 120.390 | 0.33   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 68.667 | 120.390 | 0.09   | FFF    |    |         |     |
| 156 | 185.083 | 22.500 | 120.390 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 44.583 | 120.390 | 0.42   | FFF    |    |         |     |
| 157 | 185.083 | 44.583 | 120.390 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 185.083 | 68.667 | 120.390 | 0.00   | FFF    |    |         |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 21.583  | 1.667   | 120.390 | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 120.390 |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 108.230 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 108.230 |      |               |                |            |       |       |

**Wall Crack Factors:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 0.350    | 1.000   |

**Level: F6**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 14 | 43.083  | 19.833  | 108.230 | 0.00         | 0.00         | FFF           | 50        | W14X145    |
|    | 43.083  | 19.833  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 15 | 43.875  | 37.167  | 108.230 | 0.00         | 0.00         | FFF           | 50        | W14X398    |
|    | 43.875  | 37.167  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 17 | 63.083  | 1.667   | 108.230 | 0.00         | 0.00         | FFF           | 36        | W14X176    |
|    | 63.083  | 1.667   | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 19 | 63.083  | 37.167  | 108.230 | 0.00         | 0.00         | FFF           | 36        | W14X82     |
|    | 63.083  | 37.167  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 20 | 77.333  | 1.667   | 108.230 | 0.00         | 0.00         | FFF           | 36        | W14X132    |
|    | 77.333  | 1.667   | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 21 | 77.333  | 12.500  | 108.230 | 0.00         | 0.00         | FFF           | 36        | W14X90     |
|    | 77.333  | 12.500  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 27 | 80.770  | 98.747  | 108.230 | 0.00         | 0.00         | FFF           | 50        | Pipe1/2Std |
|    | 80.770  | 98.747  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 30 | 89.083  | 12.500  | 108.230 | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 12.500  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 31 | 89.083  | 22.500  | 108.230 | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 22.500  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 32 | 89.083  | 28.500  | 108.230 | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 28.500  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 33 | 89.083  | 44.583  | 108.230 | 0.00         | 0.00         | FFF           | 50        | Pipe1/2Std |
|    | 89.083  | 44.583  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 34 | 89.083  | 68.667  | 108.230 | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 68.667  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 35 | 89.083  | 98.747  | 108.230 | 0.00         | 0.00         | FFF           | 50        | Pipe1/2Std |
|    | 89.083  | 98.747  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 36 | 113.083 | 22.500  | 108.230 | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 113.083 | 22.500  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 37 | 113.083 | 44.583  | 108.230 | 0.00         | 0.00         | FFF           | 50        | Pipe1/2Std |
|    | 113.083 | 44.583  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 38 | 113.083 | 68.667  | 108.230 | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 113.083 | 68.667  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 39 | 113.083 | 98.747  | 108.230 | 0.00         | 0.00         | FFF           | 50        | Pipe1/2Std |
|    | 113.083 | 98.747  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 40 | 137.083 | 22.500  | 108.230 | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 137.083 | 22.500  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 41 | 137.083 | 44.583  | 108.230 | 0.00         | 0.00         | FFF           | 50        | Pipe1/2Std |
|    | 137.083 | 44.583  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 42 | 137.083 | 68.667  | 108.230 | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|---------|--------|--------|--------|----|------------|
|    | 137.083 | 68.667 | 93.020  | 0.00   | 0.00   | FFF    |    |            |
| 43 | 137.083 | 98.747 | 108.230 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 98.747 | 93.020  | 0.00   | 0.00   | FFF    |    |            |
| 44 | 161.083 | 12.500 | 108.230 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 12.500 | 93.020  | 0.00   | 0.00   | FFF    |    |            |
| 45 | 161.083 | 22.500 | 108.230 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 22.500 | 93.020  | 0.00   | 0.00   | FFF    |    |            |
| 46 | 161.083 | 28.500 | 108.230 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 28.500 | 93.020  | 0.00   | 0.00   | FFF    |    |            |
| 47 | 161.083 | 44.583 | 108.230 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 161.083 | 44.583 | 93.020  | 0.00   | 0.00   | FFF    |    |            |
| 48 | 161.083 | 68.667 | 108.230 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 68.667 | 93.020  | 0.00   | 0.00   | FFF    |    |            |
| 49 | 161.083 | 98.747 | 108.230 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 161.083 | 98.747 | 93.020  | 0.00   | 0.00   | FFF    |    |            |
| 50 | 169.916 | 98.747 | 108.230 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 169.916 | 98.747 | 93.020  | 0.00   | 0.00   | FFF    |    |            |
| 51 | 185.083 | 22.500 | 108.230 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 22.500 | 93.020  | 0.00   | 0.00   | FFF    |    |            |
| 52 | 185.083 | 44.583 | 108.230 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 185.083 | 44.583 | 93.020  | 0.00   | 0.00   | FFF    |    |            |
| 53 | 185.083 | 68.667 | 108.230 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 68.667 | 93.020  | 0.00   | 0.00   | FFF    |    |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 12 | 21.583  | 1.667   | 108.230 | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 108.230 |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 93.020  |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 93.020  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 12     | 0.350    | 1.000   |

**Level: F5**

**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 1 | 1.583   | 1.667   | 93.020  | 0.00         | 0.00         | FFF           | 36        | W14X43  |
|   | 1.583   | 1.667   | 76.980  | 0.00         | 0.00         | FFF           |           |         |
| 2 | 1.583   | 19.833  | 93.020  | 0.00         | 0.00         | FFF           | 36        | W14X43  |
|   | 1.583   | 19.833  | 76.980  | 0.00         | 0.00         | FFF           |           |         |
| 3 | 1.583   | 58.666  | 93.020  | 0.00         | 0.00         | FFF           | 36        | W12X40  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|--------|--------|--------|--------|----|------------|
|    | 1.583   | 58.666 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 5  | 1.583   | 76.375 | 93.020 | 0.00   | 0.00   | FFF    | 36 | W12X40     |
|    | 1.583   | 76.375 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 14 | 43.083  | 19.833 | 93.020 | 0.00   | 0.00   | FFF    | 50 | W14X145    |
|    | 43.083  | 19.833 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 15 | 43.875  | 37.167 | 93.020 | 0.00   | 0.00   | FFF    | 50 | W14X398    |
|    | 43.875  | 37.167 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 17 | 63.083  | 1.667  | 93.020 | 0.00   | 0.00   | FFF    | 36 | W14X233    |
|    | 63.083  | 1.667  | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 19 | 63.083  | 37.167 | 93.020 | 0.00   | 0.00   | FFF    | 36 | W14X82     |
|    | 63.083  | 37.167 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 20 | 77.333  | 1.667  | 93.020 | 0.00   | 0.00   | FFF    | 36 | W14X193    |
|    | 77.333  | 1.667  | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 21 | 77.333  | 12.500 | 93.020 | 0.00   | 0.00   | FFF    | 36 | W14X99     |
|    | 77.333  | 12.500 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 26 | 80.770  | 98.747 | 93.020 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 80.770  | 98.747 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 29 | 89.083  | 12.500 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 12.500 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 30 | 89.083  | 22.500 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 22.500 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 31 | 89.083  | 28.500 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 28.500 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 32 | 89.083  | 44.583 | 93.020 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 89.083  | 44.583 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 33 | 89.083  | 68.667 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 68.667 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 34 | 89.083  | 98.747 | 93.020 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 89.083  | 98.747 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 35 | 113.083 | 22.500 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 22.500 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 36 | 113.083 | 44.583 | 93.020 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 44.583 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 37 | 113.083 | 68.667 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 68.667 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 38 | 113.083 | 98.747 | 93.020 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 98.747 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 39 | 137.083 | 22.500 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 22.500 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 40 | 137.083 | 44.583 | 93.020 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 44.583 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 41 | 137.083 | 68.667 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 68.667 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 42 | 137.083 | 98.747 | 93.020 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 98.747 | 76.980 | 0.00   | 0.00   | FFF    |    |            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|--------|--------|--------|--------|----|------------|
| 43 | 161.083 | 12.500 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 12.500 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 44 | 161.083 | 22.500 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 22.500 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 45 | 161.083 | 28.500 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 28.500 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 46 | 161.083 | 44.583 | 93.020 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 161.083 | 44.583 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 47 | 161.083 | 68.667 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 68.667 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 48 | 161.083 | 98.747 | 93.020 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 161.083 | 98.747 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 49 | 169.916 | 98.747 | 93.020 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 169.916 | 98.747 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 50 | 185.083 | 22.500 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 22.500 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 51 | 185.083 | 44.583 | 93.020 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 185.083 | 44.583 | 76.980 | 0.00   | 0.00   | FFF    |    |            |
| 52 | 185.083 | 68.667 | 93.020 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 68.667 | 76.980 | 0.00   | 0.00   | FFF    |    |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 12 | 21.583  | 1.667   | 93.020  | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 93.020  |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 76.980  |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 76.980  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 12     | 0.350    | 1.000   |

**Level: F4**

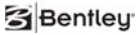
**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 2 | 1.583   | 1.667   | 76.980  | 0.00         | 0.00         | FFF           | 36        | W14X43  |
|   | 1.583   | 1.667   | 61.000  | 0.00         | 0.00         | FFF           |           |         |
| 3 | 1.583   | 19.833  | 76.980  | 0.00         | 0.00         | FFF           | 36        | W14X43  |
|   | 1.583   | 19.833  | 61.000  | 0.00         | 0.00         | FFF           |           |         |
| 4 | 1.583   | 58.666  | 76.980  | 0.00         | 0.00         | FFF           | 36        | W12X40  |
|   | 1.583   | 58.666  | 61.000  | 0.00         | 0.00         | FFF           |           |         |
| 5 | 1.583   | 76.375  | 76.980  | 0.00         | 0.00         | FFF           | 36        | W12X40  |
|   | 1.583   | 76.375  | 61.000  | 0.00         | 0.00         | FFF           |           |         |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|--------|--------|--------|--------|----|------------|
| 13 | 43.083  | 19.833 | 76.980 | 0.00   | 0.00   | FFF    | 50 | W14X145    |
|    | 43.083  | 19.833 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 14 | 43.875  | 37.167 | 76.980 | 0.00   | 0.00   | FFF    | 50 | W14X398    |
|    | 43.875  | 37.167 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 16 | 63.083  | 1.667  | 76.980 | 0.00   | 0.00   | FFF    | 36 | W14X233    |
|    | 63.083  | 1.667  | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 18 | 63.083  | 37.167 | 76.980 | 0.00   | 0.00   | FFF    | 36 | W14X82     |
|    | 63.083  | 37.167 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 19 | 77.333  | 1.667  | 76.980 | 0.00   | 0.00   | FFF    | 36 | W14X193    |
|    | 77.333  | 1.667  | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 20 | 77.333  | 12.500 | 76.980 | 0.00   | 0.00   | FFF    | 36 | W14X99     |
|    | 77.333  | 12.500 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 25 | 80.770  | 98.747 | 76.980 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 80.770  | 98.747 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 28 | 89.083  | 12.500 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 12.500 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 29 | 89.083  | 22.500 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 22.500 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 30 | 89.083  | 28.500 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 28.500 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 31 | 89.083  | 44.583 | 76.980 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 89.083  | 44.583 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 32 | 89.083  | 68.667 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 68.667 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 33 | 89.083  | 98.747 | 76.980 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 89.083  | 98.747 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 34 | 113.083 | 22.500 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 22.500 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 35 | 113.083 | 44.583 | 76.980 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 44.583 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 36 | 113.083 | 68.667 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 68.667 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 37 | 113.083 | 98.747 | 76.980 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 98.747 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 38 | 137.083 | 22.500 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 22.500 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 39 | 137.083 | 44.583 | 76.980 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 44.583 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 40 | 137.083 | 68.667 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 68.667 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 41 | 137.083 | 98.747 | 76.980 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 98.747 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 42 | 161.083 | 12.500 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 12.500 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 43 | 161.083 | 22.500 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|--------|--------|--------|--------|----|------------|
|    | 161.083 | 22.500 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 44 | 161.083 | 28.500 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 28.500 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 45 | 161.083 | 44.583 | 76.980 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 161.083 | 44.583 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 46 | 161.083 | 68.667 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 68.667 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 47 | 161.083 | 98.747 | 76.980 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 161.083 | 98.747 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 48 | 169.916 | 98.747 | 76.980 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 169.916 | 98.747 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 49 | 185.083 | 22.500 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 22.500 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 50 | 185.083 | 44.583 | 76.980 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 185.083 | 44.583 | 61.000 | 0.00   | 0.00   | FFF    |    |            |
| 51 | 185.083 | 68.667 | 76.980 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 68.667 | 61.000 | 0.00   | 0.00   | FFF    |    |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 12 | 21.583  | 1.667   | 76.980  | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 76.980  |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 61.000  |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 61.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 12     | 0.350    | 1.000   |

**Level: F3**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 1  | 1.583   | 1.667   | 61.000  | 0.00         | 0.00         | FFF           | 36        | W14X82  |
|    | 1.583   | 1.667   | 49.000  | 0.00         | 0.00         | FFF           |           |         |
| 2  | 1.583   | 19.833  | 61.000  | 0.00         | 0.00         | FFF           | 36        | W14X99  |
|    | 1.583   | 19.833  | 49.000  | 0.00         | 0.00         | FFF           |           |         |
| 3  | 1.583   | 58.666  | 61.000  | 0.00         | 0.00         | FFF           | 36        | W12X96  |
|    | 1.583   | 58.666  | 49.000  | 0.00         | 0.00         | FFF           |           |         |
| 4  | 1.583   | 76.375  | 61.000  | 0.00         | 0.00         | FFF           | 36        | W12X72  |
|    | 1.583   | 76.375  | 49.000  | 0.00         | 0.00         | FFF           |           |         |
| 12 | 43.083  | 19.833  | 61.000  | 0.00         | 0.00         | FFF           | 50        | W14X145 |
|    | 43.083  | 19.833  | 49.000  | 0.00         | 0.00         | FFF           |           |         |
| 13 | 43.875  | 37.167  | 61.000  | 0.00         | 0.00         | FFF           | 50        | W14X398 |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|--------|--------|--------|--------|----|------------|
|    | 43.875  | 37.167 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 15 | 63.083  | 1.667  | 61.000 | 0.00   | 0.00   | FFF    | 36 | W14X257    |
|    | 63.083  | 1.667  | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 17 | 63.083  | 37.167 | 61.000 | 0.00   | 0.00   | FFF    | 36 | W14X82     |
|    | 63.083  | 37.167 | 49.000 | 0.00   | 7.10   | FFF    |    |            |
| 18 | 77.333  | 1.667  | 61.000 | 0.00   | 0.00   | FFF    | 36 | W14X120    |
|    | 77.333  | 1.667  | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 19 | 77.333  | 12.500 | 61.000 | 0.00   | 0.00   | FFF    | 36 | W14X132    |
|    | 77.333  | 12.500 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 20 | 77.333  | 22.500 | 61.000 | 9.50   | 11.32  | FFF    | 36 | 000000S1S2 |
|    | 77.333  | 22.500 | 49.000 | 9.50   | 6.70   | FFF    |    |            |
| 25 | 77.333  | 68.667 | 61.000 | 9.50   | 0.00   | FFF    | 36 | 000000S1S2 |
|    | 77.333  | 68.667 | 49.000 | 9.50   | 0.00   | FFF    |    |            |
| 29 | 80.770  | 98.747 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 80.770  | 98.747 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 33 | 82.270  | 14.330 | 61.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 82.270  | 14.330 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 34 | 82.270  | 98.247 | 61.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 82.270  | 98.247 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 35 | 89.083  | 12.500 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 12.500 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 36 | 89.083  | 22.500 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 22.500 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 37 | 89.083  | 28.500 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 28.500 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 38 | 89.083  | 44.583 | 61.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 89.083  | 44.583 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 39 | 89.083  | 68.667 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 68.667 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 40 | 89.083  | 98.747 | 61.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 89.083  | 98.747 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 52 | 113.083 | 22.500 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 22.500 | 49.000 | 4.05   | 4.05   | FFF    |    |            |
| 53 | 113.083 | 44.583 | 61.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 44.583 | 49.000 | 4.05   | 4.05   | FFF    |    |            |
| 54 | 113.083 | 68.667 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 68.667 | 49.000 | 4.05   | 4.05   | FFF    |    |            |
| 55 | 113.083 | 98.747 | 61.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 98.747 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 60 | 137.083 | 22.500 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 22.500 | 49.000 | 4.05   | 4.05   | FFF    |    |            |
| 61 | 137.083 | 44.583 | 61.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 44.583 | 49.000 | 4.05   | 4.05   | FFF    |    |            |
| 62 | 137.083 | 68.667 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 68.667 | 49.000 | 4.05   | 4.05   | FFF    |    |            |



| #  | X       | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|--------|--------|--------|--------|----|------------|
| 63 | 137.083 | 98.747 | 61.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 98.747 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 69 | 161.083 | 12.500 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 12.500 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 70 | 161.083 | 22.500 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 22.500 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 71 | 161.083 | 28.500 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 28.500 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 72 | 161.083 | 44.583 | 61.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 161.083 | 44.583 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 73 | 161.083 | 68.667 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 68.667 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 74 | 161.083 | 98.747 | 61.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 161.083 | 98.747 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 85 | 169.916 | 98.747 | 61.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 169.916 | 98.747 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 89 | 185.083 | 22.500 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 22.500 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 90 | 185.083 | 44.583 | 61.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 185.083 | 44.583 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 91 | 185.083 | 68.667 | 61.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 68.667 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 94 | 202.413 | 14.330 | 61.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 202.413 | 14.330 | 49.000 | 0.00   | 0.00   | FFF    |    |            |
| 95 | 202.413 | 98.247 | 61.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 202.413 | 98.247 | 49.000 | 0.00   | 0.00   | FFF    |    |            |

**Concrete Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|----|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 86 | 63.083  | 19.000  | 61.000  | 7.87         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 15  | --- |
|    | 77.333  | 22.500  | 61.000  | 1.04         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 13 | 21.583  | 1.667   | 61.000  | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 61.000  |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 49.000  |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 49.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 13     | 0.350    | 1.000   |



**Level: F2**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 1  | 1.583   | 1.667   | 49.000  | 0.00         | 0.00         | FFF           | 36        | W14X82     |
|    | 1.583   | 1.667   | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 2  | 1.583   | 19.833  | 49.000  | 0.00         | 0.00         | FFF           | 36        | W14X99     |
|    | 1.583   | 19.833  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 3  | 1.583   | 58.666  | 49.000  | 0.00         | 0.00         | FFF           | 36        | W12X96     |
|    | 1.583   | 58.666  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 4  | 1.583   | 76.375  | 49.000  | 0.00         | 0.00         | FFF           | 36        | W12X72     |
|    | 1.583   | 76.375  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 12 | 43.083  | 19.833  | 49.000  | 0.00         | 0.00         | FFF           | 50        | W14X176    |
|    | 43.083  | 19.833  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 13 | 43.875  | 37.167  | 49.000  | 0.00         | 0.00         | FFF           | 50        | W14X398    |
|    | 43.875  | 37.167  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 15 | 63.083  | 1.667   | 49.000  | 0.00         | 0.00         | FFF           | 36        | W14X257    |
|    | 63.083  | 1.667   | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 17 | 63.083  | 37.167  | 49.000  | 0.00         | 7.10         | FFF           | 36        | W14X82     |
|    | 63.083  | 37.167  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 19 | 77.333  | 1.667   | 49.000  | 0.00         | 0.00         | FFF           | 36        | W14X233    |
|    | 77.333  | 1.667   | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 20 | 77.333  | 12.500  | 49.000  | 0.00         | 0.00         | FFF           | 36        | W14X132    |
|    | 77.333  | 12.500  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 25 | 80.770  | 98.747  | 49.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 80.770  | 98.747  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 30 | 82.270  | 14.330  | 49.000  | 0.00         | 0.00         | FFF           | 50        | W14X500    |
|    | 82.270  | 14.330  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 31 | 82.270  | 98.247  | 49.000  | 0.00         | 0.00         | FFF           | 50        | W14X500    |
|    | 82.270  | 98.247  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 32 | 89.083  | 12.500  | 49.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 12.500  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 33 | 89.083  | 22.500  | 49.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 22.500  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 34 | 89.083  | 28.500  | 49.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 28.500  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 35 | 89.083  | 44.583  | 49.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 44.583  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 36 | 89.083  | 68.667  | 49.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 68.667  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 37 | 89.083  | 98.747  | 49.000  | 0.00         | 0.00         | FFF           | 50        | Pipe1/2Std |
|    | 89.083  | 98.747  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 49 | 113.083 | 22.500  | 49.000  | 4.05         | 4.05         | FFF           | 42        | Pipe1/2Std |
|    | 113.083 | 22.500  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 50 | 113.083 | 44.583  | 49.000  | 4.05         | 4.05         | FFF           | 42        | Pipe1/2Std |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|--------|--------|--------|--------|----|------------|
|    | 113.083 | 44.583 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 51 | 113.083 | 68.667 | 49.000 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 68.667 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 52 | 113.083 | 98.747 | 49.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 98.747 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 59 | 137.083 | 22.500 | 49.000 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 22.500 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 60 | 137.083 | 44.583 | 49.000 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 44.583 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 61 | 137.083 | 68.667 | 49.000 | 4.05   | 4.05   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 68.667 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 62 | 137.083 | 98.747 | 49.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 98.747 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 73 | 161.083 | 12.500 | 49.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 12.500 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 74 | 161.083 | 22.500 | 49.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 22.500 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 75 | 161.083 | 28.500 | 49.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 28.500 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 76 | 161.083 | 44.583 | 49.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 44.583 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 77 | 161.083 | 68.667 | 49.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 68.667 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 78 | 161.083 | 98.747 | 49.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 98.747 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 89 | 169.916 | 98.747 | 49.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 169.916 | 98.747 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 93 | 185.083 | 22.500 | 49.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 22.500 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 94 | 185.083 | 44.583 | 49.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 44.583 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 95 | 185.083 | 68.667 | 49.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 68.667 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 98 | 202.413 | 14.330 | 49.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 202.413 | 14.330 | 30.000 | 0.00   | 0.00   | FFF    |    |            |
| 99 | 202.413 | 98.247 | 49.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 202.413 | 98.247 | 30.000 | 0.00   | 0.00   | FFF    |    |            |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 86 | 63.083  | 19.000  | 49.000  | 7.87         | FFF           | 50        | W14X99  | --- |
|    | 77.333  | 22.500  | 49.000  | 1.04         | FFF           |           |         |     |
| 89 | 63.083  | 37.167  | 49.000  | 0.00         | FFF           | 50        | W14X99  | --- |
|    | 77.333  | 37.167  | 49.000  | 0.00         | FFF           |           |         |     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z      | RigEnd | Fixity | Fy | Section | T-O |
|-----|---------|--------|--------|--------|--------|----|---------|-----|
| 167 | 113.083 | 22.500 | 49.000 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 113.083 | 44.583 | 49.000 | 0.42   | FFF    |    |         |     |
| 168 | 113.083 | 22.500 | 49.000 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 22.500 | 49.000 | 0.00   | FFF    |    |         |     |
| 169 | 113.083 | 44.583 | 49.000 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 113.083 | 68.667 | 49.000 | 0.42   | FFF    |    |         |     |
| 170 | 113.083 | 44.583 | 49.000 | 0.19   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 22.500 | 49.000 | 0.19   | FFF    |    |         |     |
| 171 | 113.083 | 44.583 | 49.000 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 44.583 | 49.000 | 0.00   | FFF    |    |         |     |
| 172 | 113.083 | 44.583 | 49.000 | 0.21   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 68.667 | 49.000 | 0.21   | FFF    |    |         |     |
| 173 | 113.083 | 68.667 | 49.000 | 0.00   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 68.667 | 49.000 | 0.00   | FFF    |    |         |     |
| 202 | 137.083 | 22.500 | 49.000 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 44.583 | 49.000 | 0.42   | FFF    |    |         |     |
| 203 | 137.083 | 44.583 | 49.000 | 0.42   | FFF    | 50 | W8X15   | --- |
|     | 137.083 | 68.667 | 49.000 | 0.42   | FFF    |    |         |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 16 | 21.583  | 1.667   | 49.000  | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 49.000  |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 30.000  |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 30.000  |      |               |                |            |       |       |
| 17 | 1.583   | 1.667   | 49.000  | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 21.583  | 1.667   | 49.000  |      |               |                |            |       |       |
|    | 1.583   | 1.667   | 30.000  |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 30.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 16     | 0.350    | 1.000   |
| 17     | 0.350    | 1.000   |

**Level: Fground**

**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 1 | 1.583   | 1.667   | 30.000  | 0.00         | 0.00         | FFF           | 36        | W14X82  |
|   | 1.583   | 1.667   | 15.000  | 0.00         | 0.00         | FFF           |           |         |
| 2 | 1.583   | 19.833  | 30.000  | 0.00         | 0.00         | FFF           | 36        | W14X159 |
|   | 1.583   | 19.833  | 15.000  | 0.00         | 0.00         | FFF           |           |         |
| 3 | 1.583   | 58.666  | 30.000  | 0.00         | 0.00         | FFF           | 36        | W12X152 |



RAM Structural System

RAM Frame 15.03.00.000



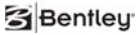
DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|--------|--------|--------|--------|----|------------|
|    | 1.583   | 58.666 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 4  | 1.583   | 76.375 | 30.000 | 0.00   | 0.00   | FFF    | 36 | W12X106    |
|    | 1.583   | 76.375 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 12 | 43.083  | 19.833 | 30.000 | 0.00   | 0.00   | FFF    | 50 | W14X176    |
|    | 43.083  | 19.833 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 13 | 43.875  | 37.167 | 30.000 | 0.00   | 0.00   | FFF    | 50 | W14X398    |
|    | 43.875  | 37.167 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 15 | 63.083  | 1.667  | 30.000 | 0.00   | 0.00   | FFF    | 36 | W14X257    |
|    | 63.083  | 1.667  | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 17 | 63.083  | 37.167 | 30.000 | 0.00   | 0.00   | FFF    | 36 | W14X82     |
|    | 63.083  | 37.167 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 18 | 77.333  | 1.667  | 30.000 | 0.00   | 0.00   | FFF    | 36 | W14X233    |
|    | 77.333  | 1.667  | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 19 | 77.333  | 12.500 | 30.000 | 0.00   | 0.00   | FFF    | 36 | W14X132    |
|    | 77.333  | 12.500 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 24 | 80.770  | 98.747 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 80.770  | 98.747 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 29 | 82.270  | 14.330 | 30.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 82.270  | 14.330 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 30 | 82.270  | 98.247 | 30.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 82.270  | 98.247 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 31 | 89.083  | 12.500 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 12.500 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 32 | 89.083  | 22.500 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 22.500 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 33 | 89.083  | 28.500 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 28.500 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 34 | 89.083  | 44.583 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 44.583 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 35 | 89.083  | 68.667 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 89.083  | 68.667 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 36 | 89.083  | 98.747 | 30.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 89.083  | 98.747 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 46 | 113.083 | 22.500 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 22.500 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 47 | 113.083 | 44.583 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 44.583 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 48 | 113.083 | 68.667 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 113.083 | 68.667 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 49 | 113.083 | 98.747 | 30.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 98.747 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 53 | 137.083 | 22.500 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 22.500 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 54 | 137.083 | 44.583 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 44.583 | 15.000 | 0.00   | 0.00   | FFF    |    |            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|--------|--------|--------|--------|----|------------|
| 55 | 137.083 | 68.667 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 68.667 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 56 | 137.083 | 98.747 | 30.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 98.747 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 62 | 161.083 | 12.500 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 12.500 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 63 | 161.083 | 22.500 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 22.500 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 64 | 161.083 | 28.500 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 28.500 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 65 | 161.083 | 44.583 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 44.583 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 66 | 161.083 | 68.667 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 68.667 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 67 | 161.083 | 98.747 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 98.747 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 78 | 169.916 | 98.747 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 169.916 | 98.747 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 83 | 185.083 | 22.500 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 22.500 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 84 | 185.083 | 44.583 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 44.583 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 85 | 185.083 | 68.667 | 30.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 68.667 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 91 | 202.413 | 14.330 | 30.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 202.413 | 14.330 | 15.000 | 0.00   | 0.00   | FFF    |    |            |
| 92 | 202.413 | 98.247 | 30.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 202.413 | 98.247 | 15.000 | 0.00   | 0.00   | FFF    |    |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 32 | 21.583  | 1.667   | 30.000  | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 37.667  | 1.667   | 30.000  |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 15.000  |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 15.000  |      |               |                |            |       |       |
| 33 | 1.583   | 1.667   | 30.000  | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 21.583  | 1.667   | 30.000  |      |               |                |            |       |       |
|    | 1.583   | 1.667   | 15.000  |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 15.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 32     | 0.350    | 1.000   |
| 33     | 0.350    | 1.000   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Level: Cellar**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 1  | 1.583   | 1.667   | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X82     |
|    | 1.583   | 1.667   | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 2  | 1.583   | 19.833  | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X159    |
|    | 1.583   | 19.833  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 3  | 1.583   | 58.666  | 15.000  | 0.00         | 0.00         | FFF           | 50        | W12X170    |
|    | 1.583   | 58.666  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 4  | 1.583   | 76.375  | 15.000  | 0.00         | 0.00         | FFF           | 50        | W12X170    |
|    | 1.583   | 76.375  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 12 | 43.083  | 19.833  | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X176    |
|    | 43.083  | 19.833  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 13 | 43.875  | 37.167  | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X398    |
|    | 43.875  | 37.167  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 15 | 63.083  | 1.667   | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X257    |
|    | 63.083  | 1.667   | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 18 | 77.333  | 1.667   | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X233    |
|    | 77.333  | 1.667   | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 19 | 77.333  | 12.500  | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X132    |
|    | 77.333  | 12.500  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 24 | 80.770  | 98.747  | 15.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 80.770  | 98.747  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 29 | 82.270  | 14.330  | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X500    |
|    | 82.270  | 14.330  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 30 | 82.270  | 98.247  | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X500    |
|    | 82.270  | 98.247  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 31 | 89.083  | 12.500  | 15.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 12.500  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 32 | 89.083  | 22.500  | 15.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 22.500  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 33 | 89.083  | 28.500  | 15.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 28.500  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 34 | 89.083  | 44.583  | 15.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 44.583  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 35 | 89.083  | 68.667  | 15.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 68.667  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 36 | 89.083  | 98.747  | 15.000  | 0.00         | 0.00         | FFF           | 50        | Pipe1/2Std |
|    | 89.083  | 98.747  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 46 | 113.083 | 22.500  | 15.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 113.083 | 22.500  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 47 | 113.083 | 44.583  | 15.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |
|    | 113.083 | 44.583  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 48 | 113.083 | 68.667  | 15.000  | 0.00         | 0.00         | FFF           | 42        | Pipe1/2Std |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|--------|--------|--------|--------|----|------------|
|    | 113.083 | 68.667 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 49 | 113.083 | 98.747 | 15.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 113.083 | 98.747 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 53 | 137.083 | 22.500 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 22.500 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 54 | 137.083 | 44.583 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 44.583 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 55 | 137.083 | 68.667 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 137.083 | 68.667 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 56 | 137.083 | 98.747 | 15.000 | 0.00   | 0.00   | FFF    | 50 | Pipe1/2Std |
|    | 137.083 | 98.747 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 62 | 161.083 | 12.500 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 12.500 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 63 | 161.083 | 22.500 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 22.500 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 64 | 161.083 | 28.500 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 28.500 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 65 | 161.083 | 44.583 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 44.583 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 66 | 161.083 | 68.667 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 68.667 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 67 | 161.083 | 98.747 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 98.747 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 78 | 169.916 | 98.747 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 169.916 | 98.747 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 83 | 185.083 | 22.500 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 22.500 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 84 | 185.083 | 44.583 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 44.583 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 85 | 185.083 | 68.667 | 15.000 | 0.00   | 0.00   | FFF    | 42 | Pipe1/2Std |
|    | 185.083 | 68.667 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 91 | 202.413 | 14.330 | 15.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 202.413 | 14.330 | 0.000  | 0.00   | 0.00   | FFF    |    |            |
| 92 | 202.413 | 98.247 | 15.000 | 0.00   | 0.00   | FFF    | 50 | W14X500    |
|    | 202.413 | 98.247 | 0.000  | 0.00   | 0.00   | FFF    |    |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 27 | 1.583   | 1.667   | 15.000  | 0.20 | 145.0         | 150.0          | 12.000     | 14.0  | 0     |
|    | 21.583  | 1.667   | 15.000  |      |               |                |            |       |       |
|    | 1.583   | 1.667   | 0.000   |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 0.000   |      |               |                |            |       |       |

**Wall Crack Factors:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 27     | 0.350    | 1.000   |

Frame #1:

Level: F17

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 37.667  | 19.833  | 241.870 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 233.170 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 233.170 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |

Frame #2:

Level: F17

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5 | 63.083  | 1.667   | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 19.000  | 241.870 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 233.170 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 233.170 |      |               |                |            |       |       |
| 7 | 63.083  | 19.000  | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 241.870 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 233.170 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 233.170 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |

Frame #3:

Level: F17

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 42.792  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 16  |
|    | 77.333  | 42.792  | 233.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Wall:**



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| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 9  | 77.333  | 1.667   | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 77.333  | 29.500  | 241.870 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 233.170 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 233.170 |      |               |                |            |       |       |
| 10 | 77.333  | 29.500  | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 77.333  | 42.792  | 241.870 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 233.170 |      |               |                |            |       |       |
|    | 77.333  | 42.792  | 233.170 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 9      | 0.500    | 1.000   |
| 10     | 0.350    | 1.000   |

**Frame #4:**

**Level: F17**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 12 | 89.083  | 36.583  | 241.870 | 12.00        | 12.00        | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 89.083  | 36.583  | 233.170 | 21.55        | 0.00         | FFF           |      |               |                |            |     |
| 13 | 89.083  | 56.670  | 241.870 | 12.00        | 12.00        | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 89.083  | 56.670  | 233.170 | 21.55        | 0.00         | FFF           |      |               |                |            |     |
| 14 | 89.083  | 68.667  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 89.083  | 68.667  | 233.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 89.083  | 36.583  | 241.870 | 18.00        | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 89.083  | 56.670  | 241.870 | 18.00        | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 13 | 89.083  | 56.670  | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 10.0  | 0     |
|    | 89.083  | 68.667  | 241.870 |      |               |                |            |       |       |
|    | 89.083  | 56.670  | 233.170 |      |               |                |            |       |       |
|    | 89.083  | 68.667  | 233.170 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 13     | 1.000    | 1.000   |

**Frame #5:**



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Level: F17**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 19 | 137.083 | 22.500  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 137.083 | 22.500  | 233.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |
| 20 | 137.083 | 36.583  | 241.870 | 12.00        | 12.00        | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 137.083 | 36.583  | 233.170 | 9.80         | 0.00         | FFF           |      |               |                |            |     |
| 21 | 137.083 | 56.670  | 241.870 | 12.00        | 12.00        | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 137.083 | 56.670  | 233.170 | 9.80         | 0.00         | FFF           |      |               |                |            |     |
| 22 | 137.083 | 68.667  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |
|    | 137.083 | 68.667  | 233.170 | 0.00         | 0.00         | FFF           |      |               |                |            |     |

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 2 | 137.083 | 36.583  | 241.870 | 18.00        | FFF           | 0.20 | 145.0         | 150.0          | 6.000      | 11  | --- |
|   | 137.083 | 56.670  | 241.870 | 18.00        | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 14 | 137.083 | 22.500  | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 10.0  | 0     |
|    | 137.083 | 36.583  | 241.870 |      |               |                |            |       |       |
|    | 137.083 | 22.500  | 233.170 |      |               |                |            |       |       |
|    | 137.083 | 36.583  | 233.170 |      |               |                |            |       |       |
| 15 | 137.083 | 56.670  | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 10.0  | 0     |
|    | 137.083 | 68.667  | 241.870 |      |               |                |            |       |       |
|    | 137.083 | 56.670  | 233.170 |      |               |                |            |       |       |
|    | 137.083 | 68.667  | 233.170 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 14     | 0.500    | 1.000   |
| 15     | 0.500    | 1.000   |

**Frame #6:**

**Level: F17**

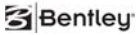
**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 16 | 185.083 | 22.500  | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 185.083 | 68.667  | 241.870 |      |               |                |            |       |       |
|    | 185.083 | 22.500  | 233.170 |      |               |                |            |       |       |



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185.083 68.667 233.170

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 16     | 0.500    | 1.000   |

**Frame #7:**

**Level: F17**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 37.667  | 1.667   | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 1.667   | 241.870 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 233.170 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 233.170 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 77.333  | 1.667   | 241.870 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 233.170 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 233.170 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |

**Frame #8:**

**Level: F17**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 37.667  | 19.833  | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 45.500  | 19.833  | 241.870 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 233.170 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 233.170 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #9:**

**Level: F17**

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 11 | 89.083  | 22.500  | 241.870 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 12.000     | 9   |



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| # | X      | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c | Sec |
|---|--------|--------|---------|--------|--------|--------|------|--------|---------|-----|-----|
|   | 89.083 | 22.500 | 233.170 | 0.00   | 0.00   | FFF    |      |        |         |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 77.333  | 29.500  | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 10.0  | 0     |
|    | 89.083  | 29.500  | 241.870 |      |               |                |            |       |       |
|    | 77.333  | 29.500  | 233.170 |      |               |                |            |       |       |
|    | 89.083  | 29.500  | 233.170 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 0.500    | 1.000   |

**Frame #10:**

**Level: F17**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 54.625  | 37.167  | 241.870 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 63.083  | 37.167  | 241.870 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 233.170 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 233.170 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |

**Frame #11:**

**Level: F16**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 233.170 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 37.667  | 19.833  | 233.170 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 224.470 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 224.470 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |

**Frame #12:**

**Level: F16**



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**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5 | 63.083  | 1.667   | 233.170 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 19.000  | 233.170 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 224.470 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 224.470 |      |               |                |            |       |       |
| 7 | 63.083  | 19.000  | 233.170 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 37.167  | 233.170 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 224.470 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 224.470 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |

**Frame #13:**

**Level: F16**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 11 | 77.333  | 42.792  | 233.170 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 42.792  | 224.470 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|---|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 4 | 77.333  | 22.500  | 233.170 | 0.00         | PPF           | 50        | W14X455 | --- |
|   | 77.333  | 42.792  | 233.170 | 0.00         | PPF           |           |         |     |
| 5 | 77.333  | 42.792  | 233.170 | 0.00         | PPF           | 50        | W14X455 | --- |
|   | 77.333  | 68.667  | 233.170 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 3 | F16   | 77.333  | 42.792  | 233.170 | PPP        | 36        | W14X176 | N   | N   |
|   | F15   | 77.333  | 32.646  | 224.470 | PPP        |           |         |     |     |

**Level: F15**

**Frame #14:**

**Level: F16**

**Steel Column:**



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| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 14 | 89.083  | 36.583  | 233.170 | 21.55        | 0.00         | FFF           | 50        | W14X283 |
|    | 89.083  | 36.583  | 224.470 | 0.00         | 0.00         | FFF           |           |         |
| 15 | 89.083  | 56.670  | 233.170 | 21.55        | 0.00         | FFF           | 50        | W14X283 |
|    | 89.083  | 56.670  | 224.470 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|---|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 6 | 89.083  | 22.500  | 233.170 | 0.00         | PPF           | 50        | W36X925 | --- |
|   | 89.083  | 36.583  | 233.170 | 8.35         | FFF           |           |         |     |
| 7 | 89.083  | 36.583  | 233.170 | 8.35         | FFF           | 50        | W36X925 | --- |
|   | 89.083  | 56.670  | 233.170 | 8.35         | FFF           |           |         |     |
| 8 | 89.083  | 56.670  | 233.170 | 8.35         | FFF           | 50        | W36X925 | --- |
|   | 89.083  | 68.667  | 233.170 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 6 | F16   | 89.083  | 36.583  | 233.170 | PPP        | 36        | W14X257 | N   | N   |
|   | F14   | 89.083  | 22.500  | 215.770 | PPP        |           |         |     |     |
| 7 | F16   | 89.083  | 36.583  | 233.170 | PPP        | 36        | W14X211 | N   | N   |
|   | F14   | 89.083  | 46.583  | 215.770 | PPP        |           |         |     |     |
| 8 | F16   | 89.083  | 56.670  | 233.170 | PPP        | 36        | W14X211 | N   | N   |
|   | F14   | 89.083  | 46.583  | 215.770 | PPP        |           |         |     |     |
| 9 | F16   | 89.083  | 56.670  | 233.170 | PPP        | 36        | W14X257 | N   | N   |
|   | F14   | 89.083  | 68.667  | 215.770 | PPP        |           |         |     |     |

Level: F14

Frame #15:

Level: F16

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 18 | 113.083 | 36.583  | 233.170 | 9.80         | 0.00         | FFF           | 50        | W14X283 |
|    | 113.083 | 36.583  | 224.470 | 0.00         | 0.00         | FFF           |           |         |
| 19 | 113.083 | 56.670  | 233.170 | 9.80         | 0.00         | FFF           | 50        | W14X283 |
|    | 113.083 | 56.670  | 224.470 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|---|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 9 | 113.083 | 22.500  | 233.170 | 0.00         | PPF           | 50        | W14X500 | --- |
|   | 113.083 | 36.583  | 233.170 | 8.35         | FFF           |           |         |     |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | RigEnd | Fixity | Fy | Section | T-O |
|----|---------|--------|---------|--------|--------|----|---------|-----|
| 10 | 113.083 | 36.583 | 233.170 | 8.35   | FFF    | 50 | W14X500 | --- |
|    | 113.083 | 56.670 | 233.170 | 8.35   | FFF    |    |         |     |
| 11 | 113.083 | 56.670 | 233.170 | 8.35   | FFF    | 50 | W14X500 | --- |
|    | 113.083 | 68.667 | 233.170 | 0.00   | PPF    |    |         |     |

**Steel Brace:**

| #  | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|----|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 13 | F16   | 113.083 | 36.583  | 233.170 | PPP        | 36        | W14X257 | N   | N   |
|    | F14   | 113.083 | 22.500  | 215.770 | PPP        |           |         |     |     |
| 14 | F16   | 113.083 | 36.583  | 233.170 | PPP        | 36        | W14X211 | N   | N   |
|    | F14   | 113.083 | 46.583  | 215.770 | PPP        |           |         |     |     |
| 15 | F16   | 113.083 | 56.670  | 233.170 | PPP        | 36        | W14X211 | N   | N   |
|    | F14   | 113.083 | 46.583  | 215.770 | PPP        |           |         |     |     |
| 16 | F16   | 113.083 | 56.670  | 233.170 | PPP        | 36        | W14X257 | N   | N   |
|    | F14   | 113.083 | 68.667  | 215.770 | PPP        |           |         |     |     |

**Level: F14**

**Frame #16:**

**Level: F16**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 22 | 137.083 | 36.583  | 233.170 | 9.80         | 0.00         | FFF           | 50        | W14X283 |
|    | 137.083 | 36.583  | 224.470 | 0.00         | 0.00         | FFF           |           |         |
| 23 | 137.083 | 56.670  | 233.170 | 9.80         | 0.00         | FFF           | 50        | W14X283 |
|    | 137.083 | 56.670  | 224.470 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 12 | 137.083 | 22.500  | 233.170 | 0.00         | PPF           | 50        | W14X500 | --- |
|    | 137.083 | 36.583  | 233.170 | 8.35         | FFF           |           |         |     |
| 13 | 137.083 | 36.583  | 233.170 | 8.35         | FFF           | 50        | W14X500 | --- |
|    | 137.083 | 56.670  | 233.170 | 8.35         | FFF           |           |         |     |
| 14 | 137.083 | 56.670  | 233.170 | 8.35         | FFF           | 50        | W14X500 | --- |
|    | 137.083 | 68.667  | 233.170 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| #  | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|----|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 19 | F16   | 137.083 | 36.583  | 233.170 | PPP        | 36        | W14X257 | N   | N   |
|    | F14   | 137.083 | 22.500  | 215.770 | PPP        |           |         |     |     |
| 20 | F16   | 137.083 | 36.583  | 233.170 | PPP        | 36        | W14X211 | N   | N   |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | Level | X       | Y      | Z       | Fix | Fy | Section | BRB | T-O |
|----|-------|---------|--------|---------|-----|----|---------|-----|-----|
|    | F14   | 137.083 | 46.583 | 215.770 | PPP |    |         |     |     |
| 21 | F16   | 137.083 | 56.670 | 233.170 | PPP | 36 | W14X211 | N   | N   |
|    | F14   | 137.083 | 46.583 | 215.770 | PPP |    |         |     |     |
| 22 | F16   | 137.083 | 56.670 | 233.170 | PPP | 36 | W14X257 | N   | N   |
|    | F14   | 137.083 | 68.667 | 215.770 | PPP |    |         |     |     |

Level: F14  
Frame #17:

Level: F16

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 26 | 161.083 | 36.583  | 233.170 | 9.80         | 0.00         | FFF           | 50        | W14X283 |
|    | 161.083 | 36.583  | 224.470 | 0.00         | 0.00         | FFF           |           |         |
| 27 | 161.083 | 56.670  | 233.170 | 9.80         | 0.00         | FFF           | 50        | W14X283 |
|    | 161.083 | 56.670  | 224.470 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 15 | 161.083 | 22.500  | 233.170 | 0.00         | PPF           | 50        | W14X500 | --- |
|    | 161.083 | 36.583  | 233.170 | 8.35         | FFF           |           |         |     |
| 16 | 161.083 | 36.583  | 233.170 | 8.35         | FFF           | 50        | W14X500 | --- |
|    | 161.083 | 56.670  | 233.170 | 8.35         | FFF           |           |         |     |
| 17 | 161.083 | 56.670  | 233.170 | 8.35         | FFF           | 50        | W14X500 | --- |
|    | 161.083 | 68.667  | 233.170 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| #  | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|----|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 25 | F16   | 161.083 | 36.583  | 233.170 | PPP        | 36        | W14X257 | N   | N   |
|    | F14   | 161.083 | 22.500  | 215.770 | PPP        |           |         |     |     |
| 26 | F16   | 161.083 | 36.583  | 233.170 | PPP        | 36        | W14X211 | N   | N   |
|    | F14   | 161.083 | 46.583  | 215.770 | PPP        |           |         |     |     |
| 27 | F16   | 161.083 | 56.670  | 233.170 | PPP        | 36        | W14X211 | N   | N   |
|    | F14   | 161.083 | 46.583  | 215.770 | PPP        |           |         |     |     |
| 28 | F16   | 161.083 | 56.670  | 233.170 | PPP        | 36        | W14X257 | N   | N   |
|    | F14   | 161.083 | 68.667  | 215.770 | PPP        |           |         |     |     |

Level: F14  
Frame #18:

Level: F16

**Steel Column:**



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 30 | 185.083 | 36.583  | 233.170 | 9.80         | 0.00         | FFF           | 50        | W14X283 |
|    | 185.083 | 36.583  | 224.470 | 0.00         | 0.00         | FFF           |           |         |
| 31 | 185.083 | 56.670  | 233.170 | 9.80         | 0.00         | FFF           | 50        | W14X283 |
|    | 185.083 | 56.670  | 224.470 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 18 | 185.083 | 22.500  | 233.170 | 0.00         | PPF           | 50        | W14X500 | --- |
|    | 185.083 | 36.583  | 233.170 | 8.35         | FFF           |           |         |     |
| 19 | 185.083 | 36.583  | 233.170 | 8.35         | FFF           | 50        | W14X500 | --- |
|    | 185.083 | 56.670  | 233.170 | 8.35         | FFF           |           |         |     |
| 20 | 185.083 | 56.670  | 233.170 | 8.35         | FFF           | 50        | W14X500 | --- |
|    | 185.083 | 68.667  | 233.170 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| #  | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|----|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 32 | F16   | 185.083 | 36.583  | 233.170 | PPP        | 36        | W14X257 | N   | N   |
|    | F14   | 185.083 | 22.500  | 215.770 | PPP        |           |         |     |     |
| 33 | F16   | 185.083 | 36.583  | 233.170 | PPP        | 36        | W14X211 | N   | N   |
|    | F14   | 185.083 | 46.583  | 215.770 | PPP        |           |         |     |     |
| 34 | F16   | 185.083 | 56.670  | 233.170 | PPP        | 36        | W14X211 | N   | N   |
|    | F14   | 185.083 | 46.583  | 215.770 | PPP        |           |         |     |     |
| 35 | F16   | 185.083 | 56.670  | 233.170 | PPP        | 36        | W14X257 | N   | N   |
|    | F14   | 185.083 | 68.667  | 215.770 | PPP        |           |         |     |     |

Level: F14

Frame #19:

Level: F16

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 22 | 206.750 | 22.500  | 233.170 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 206.750 | 68.667  | 233.170 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 224.470 |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 224.470 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 22     | 0.500    | 1.000   |

Frame #20:



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Level: F16**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 37.667  | 1.667   | 233.170 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 1.667   | 233.170 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 224.470 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 224.470 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 233.170 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 77.333  | 1.667   | 233.170 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 224.470 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 224.470 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |

**Frame #21:**

**Level: F16**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 37.667  | 19.833  | 233.170 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 45.500  | 19.833  | 233.170 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 224.470 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 224.470 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #22:**

**Level: F16**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 10 | 77.333  | 22.500  | 233.170 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 22.500  | 224.470 | 0.00         | 0.00         | FFF           |           |         |
| 13 | 89.083  | 22.500  | 233.170 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 89.083  | 22.500  | 224.470 | 0.00         | 0.00         | FFF           |           |         |
| 17 | 113.083 | 22.500  | 233.170 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 113.083 | 22.500  | 224.470 | 0.00         | 0.00         | FFF           |           |         |
| 21 | 137.083 | 22.500  | 233.170 | 0.00         | 0.00         | FFF           | 50        | W14X342 |



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| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section |
|----|---------|--------|---------|--------|--------|--------|----|---------|
|    | 137.083 | 22.500 | 224.470 | 0.00   | 0.00   | FFF    |    |         |
| 25 | 161.083 | 22.500 | 233.170 | 0.00   | 0.00   | FFF    | 50 | W14X283 |
|    | 161.083 | 22.500 | 224.470 | 0.00   | 0.00   | FFF    |    |         |
| 29 | 185.083 | 22.500 | 233.170 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 185.083 | 22.500 | 224.470 | 0.00   | 0.00   | FFF    |    |         |
| 33 | 206.750 | 22.500 | 233.170 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 206.750 | 22.500 | 224.470 | 0.00   | 0.00   | FFF    |    |         |

**Steel Brace:**

| #  | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|----|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1  | F16   | 77.333  | 22.500  | 233.170 | PPP        | 36        | W14X176 | N   | N   |
|    | F15   | 77.333  | 32.646  | 224.470 | PPP        |           |         |     |     |
| 2  | F16   | 77.333  | 22.500  | 233.170 | PPP        | 50        | W14X176 | N   | N   |
|    | F12   | 89.083  | 22.500  | 198.370 | PPP        |           |         |     |     |
| 5  | F16   | 89.083  | 22.500  | 233.170 | PPP        | 50        | W14X176 | N   | N   |
|    | F12   | 77.333  | 22.500  | 198.370 | PPP        |           |         |     |     |
| 11 | F16   | 113.083 | 22.500  | 233.170 | PPP        | 36        | W14X370 | N   | N   |
|    | F12   | 89.083  | 22.500  | 198.370 | PPP        |           |         |     |     |
| 12 | F16   | 113.083 | 22.500  | 233.170 | PPP        | 36        | W14X370 | N   | N   |
|    | F12   | 137.083 | 22.500  | 198.370 | PPP        |           |         |     |     |
| 23 | F16   | 161.083 | 22.500  | 233.170 | PPP        | 36        | W14X370 | N   | N   |
|    | F12   | 137.083 | 22.500  | 198.370 | PPP        |           |         |     |     |
| 24 | F16   | 161.083 | 22.500  | 233.170 | PPP        | 36        | W14X370 | N   | N   |
|    | F12   | 185.083 | 22.500  | 198.370 | PPP        |           |         |     |     |
| 31 | F16   | 185.083 | 22.500  | 233.170 | PPP        | 36        | W14X730 | N   | N   |
|    | F12   | 206.750 | 22.500  | 198.370 | PPP        |           |         |     |     |
| 37 | F16   | 206.750 | 22.500  | 233.170 | PPP        | 36        | W14X730 | N   | N   |
|    | F12   | 185.083 | 22.500  | 198.370 | PPP        |           |         |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 10 | 77.333  | 22.500  | 233.170 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 89.083  | 22.500  | 233.170 |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 224.470 |      |               |                |            |       |       |
|    | 89.083  | 22.500  | 224.470 |      |               |                |            |       |       |
| 12 | 89.083  | 22.500  | 233.170 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 113.083 | 22.500  | 233.170 |      |               |                |            |       |       |
|    | 89.083  | 22.500  | 224.470 |      |               |                |            |       |       |
|    | 113.083 | 22.500  | 224.470 |      |               |                |            |       |       |
| 14 | 113.083 | 22.500  | 233.170 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 137.083 | 22.500  | 233.170 |      |               |                |            |       |       |
|    | 113.083 | 22.500  | 224.470 |      |               |                |            |       |       |
|    | 137.083 | 22.500  | 224.470 |      |               |                |            |       |       |



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|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
| 16 | 137.083 | 22.500 | 233.170 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 161.083 | 22.500 | 233.170 |      |       |       |        |      |   |
|    | 137.083 | 22.500 | 224.470 |      |       |       |        |      |   |
|    | 161.083 | 22.500 | 224.470 |      |       |       |        |      |   |
| 18 | 161.083 | 22.500 | 233.170 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 185.083 | 22.500 | 233.170 |      |       |       |        |      |   |
|    | 161.083 | 22.500 | 224.470 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 224.470 |      |       |       |        |      |   |
| 20 | 185.083 | 22.500 | 233.170 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 206.750 | 22.500 | 233.170 |      |       |       |        |      |   |
|    | 185.083 | 22.500 | 224.470 |      |       |       |        |      |   |
|    | 206.750 | 22.500 | 224.470 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 10     | 1.000    | 1.000   |
| 12     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |
| 20     | 1.000    | 1.000   |

**Level: F15**

**Level: F12**

**Frame #23:**

**Level: F16**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 54.625  | 37.167  | 233.170 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 37.167  | 233.170 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 224.470 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 224.470 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |

**Frame #24:**

**Level: F16**

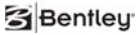
**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 12 | 77.333  | 68.667  | 233.170 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 68.667  | 224.470 | 0.00         | 0.00         | FFF           |           |         |



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| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section |
|----|---------|--------|---------|--------|--------|--------|----|---------|
| 16 | 89.083  | 68.667 | 233.170 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 89.083  | 68.667 | 224.470 | 0.00   | 0.00   | FFF    |    |         |
| 20 | 113.083 | 68.667 | 233.170 | 0.00   | 0.00   | FFF    | 50 | W14X283 |
|    | 113.083 | 68.667 | 224.470 | 0.00   | 0.00   | FFF    |    |         |
| 24 | 137.083 | 68.667 | 233.170 | 0.00   | 0.00   | FFF    | 50 | W14X342 |
|    | 137.083 | 68.667 | 224.470 | 0.00   | 0.00   | FFF    |    |         |
| 28 | 161.083 | 68.667 | 233.170 | 0.00   | 0.00   | FFF    | 50 | W14X283 |
|    | 161.083 | 68.667 | 224.470 | 0.00   | 0.00   | FFF    |    |         |
| 32 | 185.083 | 68.667 | 233.170 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 185.083 | 68.667 | 224.470 | 0.00   | 0.00   | FFF    |    |         |
| 34 | 206.750 | 68.667 | 233.170 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 206.750 | 68.667 | 224.470 | 0.00   | 0.00   | FFF    |    |         |

**Steel Brace:**

| #  | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|----|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 4  | F16   | 77.333  | 68.667  | 233.170 | PPP        | 50        | W14X176 | N   | N   |
|    | F12   | 89.083  | 68.667  | 198.370 | PPP        |           |         |     |     |
| 10 | F16   | 89.083  | 68.667  | 233.170 | PPP        | 50        | W14X176 | N   | N   |
|    | F12   | 77.333  | 68.667  | 198.370 | PPP        |           |         |     |     |
| 17 | F16   | 113.083 | 68.667  | 233.170 | PPP        | 36        | W14X370 | N   | N   |
|    | F12   | 89.083  | 68.667  | 198.370 | PPP        |           |         |     |     |
| 18 | F16   | 113.083 | 68.667  | 233.170 | PPP        | 36        | W14X370 | N   | N   |
|    | F12   | 137.083 | 68.667  | 198.370 | PPP        |           |         |     |     |
| 29 | F16   | 161.083 | 68.667  | 233.170 | PPP        | 36        | W14X370 | N   | N   |
|    | F12   | 137.083 | 68.667  | 198.370 | PPP        |           |         |     |     |
| 30 | F16   | 161.083 | 68.667  | 233.170 | PPP        | 36        | W14X370 | N   | N   |
|    | F12   | 185.083 | 68.667  | 198.370 | PPP        |           |         |     |     |
| 36 | F16   | 185.083 | 68.667  | 233.170 | PPP        | 36        | W14X730 | N   | N   |
|    | F12   | 206.750 | 68.667  | 198.370 | PPP        |           |         |     |     |
| 38 | F16   | 206.750 | 68.667  | 233.170 | PPP        | 36        | W14X730 | N   | N   |
|    | F12   | 185.083 | 68.667  | 198.370 | PPP        |           |         |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 77.333  | 68.667  | 233.170 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 89.083  | 68.667  | 233.170 |      |               |                |            |       |       |
|    | 77.333  | 68.667  | 224.470 |      |               |                |            |       |       |
|    | 89.083  | 68.667  | 224.470 |      |               |                |            |       |       |
| 13 | 89.083  | 68.667  | 233.170 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 113.083 | 68.667  | 233.170 |      |               |                |            |       |       |
|    | 89.083  | 68.667  | 224.470 |      |               |                |            |       |       |
|    | 113.083 | 68.667  | 224.470 |      |               |                |            |       |       |
| 15 | 113.083 | 68.667  | 233.170 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |



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|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 137.083 | 68.667 | 233.170 |      |       |       |        |      |   |
|    | 113.083 | 68.667 | 224.470 |      |       |       |        |      |   |
|    | 137.083 | 68.667 | 224.470 |      |       |       |        |      |   |
| 17 | 137.083 | 68.667 | 233.170 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 161.083 | 68.667 | 233.170 |      |       |       |        |      |   |
|    | 137.083 | 68.667 | 224.470 |      |       |       |        |      |   |
|    | 161.083 | 68.667 | 224.470 |      |       |       |        |      |   |
| 19 | 161.083 | 68.667 | 233.170 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 185.083 | 68.667 | 233.170 |      |       |       |        |      |   |
|    | 161.083 | 68.667 | 224.470 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 224.470 |      |       |       |        |      |   |
| 21 | 185.083 | 68.667 | 233.170 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 206.750 | 68.667 | 233.170 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 224.470 |      |       |       |        |      |   |
|    | 206.750 | 68.667 | 224.470 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 1.000    | 1.000   |
| 13     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 19     | 1.000    | 1.000   |
| 21     | 1.000    | 1.000   |

Level: F12

Frame #25:

Level: F15

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 224.470 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 37.667  | 19.833  | 224.470 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 215.770 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 215.770 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |

Frame #26:

Level: F15

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|





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|   |        |        |         |      |       |       |       |      |   |
|---|--------|--------|---------|------|-------|-------|-------|------|---|
| 5 | 63.083 | 1.667  | 224.470 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|   | 63.083 | 19.000 | 224.470 |      |       |       |       |      |   |
|   | 63.083 | 1.667  | 215.770 |      |       |       |       |      |   |
|   | 63.083 | 19.000 | 215.770 |      |       |       |       |      |   |
| 7 | 63.083 | 19.000 | 224.470 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|   | 63.083 | 37.167 | 224.470 |      |       |       |       |      |   |
|   | 63.083 | 19.000 | 215.770 |      |       |       |       |      |   |
|   | 63.083 | 37.167 | 215.770 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |

**Frame #27:**

**Level: F15**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 11 | 77.333  | 42.792  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 42.792  | 215.770 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|---|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 1 | 77.333  | 22.500  | 224.470 | 0.00         | PPF           | 50        | W14X455 | --- |
|   | 77.333  | 42.792  | 224.470 | 0.00         | PPF           |           |         |     |
| 2 | 77.333  | 42.792  | 224.470 | 0.00         | PPF           | 50        | W14X455 | --- |
|   | 77.333  | 68.667  | 224.470 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F15   | 77.333  | 32.646  | 224.470 | PPP        | 36        | W14X176 | N   | N   |
|   | F14   | 77.333  | 22.500  | 215.770 | PPP        |           |         |     |     |
| 2 | F15   | 77.333  | 32.646  | 224.470 | PPP        | 36        | W14X176 | N   | N   |
|   | F14   | 77.333  | 42.792  | 215.770 | PPP        |           |         |     |     |

**Level: F14**

**Frame #28:**

**Level: F15**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 22 | 206.750 | 22.500  | 224.470 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |



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|         |        |         |
|---------|--------|---------|
| 206.750 | 68.667 | 224.470 |
| 206.750 | 22.500 | 215.770 |
| 206.750 | 68.667 | 215.770 |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 22     | 0.500    | 1.000   |

**Frame #29:**

**Level: F15**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 37.667  | 1.667   | 224.470 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 1.667   | 224.470 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 215.770 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 215.770 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 224.470 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 77.333  | 1.667   | 224.470 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 215.770 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 215.770 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |

**Frame #30:**

**Level: F15**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 37.667  | 19.833  | 224.470 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 45.500  | 19.833  | 224.470 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 215.770 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 215.770 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #31:**

**Level: F15**

**Steel Column:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 10 | 77.333  | 22.500  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 22.500  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 13 | 89.083  | 22.500  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 89.083  | 22.500  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 17 | 113.083 | 22.500  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 113.083 | 22.500  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 21 | 137.083 | 22.500  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X342 |
|    | 137.083 | 22.500  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 25 | 161.083 | 22.500  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 161.083 | 22.500  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 29 | 185.083 | 22.500  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 185.083 | 22.500  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 33 | 206.750 | 22.500  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 206.750 | 22.500  | 215.770 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 10 | 77.333  | 22.500  | 224.470 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 89.083  | 22.500  | 224.470 |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 89.083  | 22.500  | 215.770 |      |               |                |            |       |       |
| 12 | 89.083  | 22.500  | 224.470 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 113.083 | 22.500  | 224.470 |      |               |                |            |       |       |
|    | 89.083  | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 113.083 | 22.500  | 215.770 |      |               |                |            |       |       |
| 14 | 113.083 | 22.500  | 224.470 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 137.083 | 22.500  | 224.470 |      |               |                |            |       |       |
|    | 113.083 | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 137.083 | 22.500  | 215.770 |      |               |                |            |       |       |
| 16 | 137.083 | 22.500  | 224.470 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 161.083 | 22.500  | 224.470 |      |               |                |            |       |       |
|    | 137.083 | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 161.083 | 22.500  | 215.770 |      |               |                |            |       |       |
| 18 | 161.083 | 22.500  | 224.470 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 185.083 | 22.500  | 224.470 |      |               |                |            |       |       |
|    | 161.083 | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 185.083 | 22.500  | 215.770 |      |               |                |            |       |       |
| 20 | 185.083 | 22.500  | 224.470 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 206.750 | 22.500  | 224.470 |      |               |                |            |       |       |
|    | 185.083 | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 215.770 |      |               |                |            |       |       |

**Wall Crack Factors:**



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 10     | 1.000    | 1.000   |
| 12     | 1.000    | 1.000   |
| 14     | 1.000    | 1.000   |
| 16     | 1.000    | 1.000   |
| 18     | 1.000    | 1.000   |
| 20     | 1.000    | 1.000   |

**Frame #32:**

**Level: F15**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 54.625  | 37.167  | 224.470 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 37.167  | 224.470 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 215.770 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 215.770 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |

**Frame #33:**

**Level: F15**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 12 | 77.333  | 68.667  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 68.667  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 16 | 89.083  | 68.667  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 89.083  | 68.667  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 20 | 113.083 | 68.667  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 113.083 | 68.667  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 24 | 137.083 | 68.667  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X342 |
|    | 137.083 | 68.667  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 28 | 161.083 | 68.667  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 161.083 | 68.667  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 32 | 185.083 | 68.667  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 185.083 | 68.667  | 215.770 | 0.00         | 0.00         | FFF           |           |         |
| 34 | 206.750 | 68.667  | 224.470 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 206.750 | 68.667  | 215.770 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
| 11 | 77.333  | 68.667 | 224.470 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 89.083  | 68.667 | 224.470 |      |       |       |        |      |   |
|    | 77.333  | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 89.083  | 68.667 | 215.770 |      |       |       |        |      |   |
| 13 | 89.083  | 68.667 | 224.470 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 113.083 | 68.667 | 224.470 |      |       |       |        |      |   |
|    | 89.083  | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 113.083 | 68.667 | 215.770 |      |       |       |        |      |   |
| 15 | 113.083 | 68.667 | 224.470 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 137.083 | 68.667 | 224.470 |      |       |       |        |      |   |
|    | 113.083 | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 137.083 | 68.667 | 215.770 |      |       |       |        |      |   |
| 17 | 137.083 | 68.667 | 224.470 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 161.083 | 68.667 | 224.470 |      |       |       |        |      |   |
|    | 137.083 | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 161.083 | 68.667 | 215.770 |      |       |       |        |      |   |
| 19 | 161.083 | 68.667 | 224.470 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 185.083 | 68.667 | 224.470 |      |       |       |        |      |   |
|    | 161.083 | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 215.770 |      |       |       |        |      |   |
| 21 | 185.083 | 68.667 | 224.470 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 206.750 | 68.667 | 224.470 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 206.750 | 68.667 | 215.770 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 1.000    | 1.000   |
| 13     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 19     | 1.000    | 1.000   |
| 21     | 1.000    | 1.000   |

**Frame #34:**

**Level: F14**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 37.667  | 1.667   | 215.770 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 37.667  | 19.833  | 215.770 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 207.070 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 207.070 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
|--------|----------|---------|



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

1 0.500 1.000

**Frame #35:**

**Level: F14**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5 | 63.083  | 1.667   | 215.770 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 19.000  | 215.770 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 207.070 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 207.070 |      |               |                |            |       |       |
| 7 | 63.083  | 19.000  | 215.770 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 37.167  | 215.770 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 207.070 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 207.070 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |
| 7      | 0.500    | 1.000   |

**Frame #36:**

**Level: F14**

**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 5 | 42.083  | 74.024  | 215.770 | 3.94         | 0.00         | FFF           | 50        | W14X99  |
|   | 42.083  | 74.024  | 207.070 | 0.00         | 0.00         | FFF           |           |         |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F14   | 42.083  | 56.670  | 215.770 | PPP        | 50        | W14X159 | N   | N   |
|   | F13   | 42.083  | 64.654  | 207.070 | PPP        |           |         |     |     |
| 2 | F14   | 42.083  | 68.667  | 215.770 | PPP        | 50        | W14X159 | N   | N   |
|   | F13   | 42.083  | 64.654  | 207.070 | PPP        |           |         |     |     |
| 3 | F14   | 42.083  | 68.667  | 215.770 | PPP        | 50        | W14X159 | N   | N   |
|   | F13   | 42.083  | 74.024  | 207.070 | PPP        |           |         |     |     |

**Level: F13**

**Frame #37:**

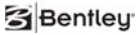
**Level: F14**

**Steel Column:**



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 7 | 65.083  | 74.024  | 215.770 | 3.94         | 0.00         | FFF           | 50        | W14X99  |
|   | 65.083  | 74.024  | 207.070 | 10.45        | 0.00         | FFF           |           |         |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 4 | F14   | 65.083  | 56.667  | 215.770 | PPP        | 50        | W14X159 | N   | N   |
|   | F13   | 65.083  | 64.654  | 207.070 | PPP        |           |         |     |     |
| 5 | F14   | 65.083  | 68.667  | 215.770 | PPP        | 50        | W14X159 | N   | N   |
|   | F13   | 65.083  | 64.654  | 207.070 | PPP        |           |         |     |     |
| 6 | F14   | 65.083  | 68.667  | 215.770 | PPP        | 50        | W14X159 | N   | N   |
|   | F13   | 65.083  | 74.024  | 207.070 | PPP        |           |         |     |     |

**Level: F13**

**Frame #38:**

**Level: F14**

**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 9 | 77.333  | 42.792  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|   | 77.333  | 42.792  | 207.070 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|---|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 3 | 77.333  | 22.500  | 215.770 | 0.00         | PPF           | 50        | W14X455 | --- |
|   | 77.333  | 42.792  | 215.770 | 0.00         | PPF           |           |         |     |
| 4 | 77.333  | 42.792  | 215.770 | 0.00         | PPF           | 50        | W14X455 | --- |
|   | 77.333  | 68.667  | 215.770 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 8 | F14   | 77.333  | 42.792  | 215.770 | PPP        | 36        | W14X176 | N   | N   |
|   | F13   | 77.333  | 32.646  | 207.070 | PPP        |           |         |     |     |

**Level: F13**

**Frame #39:**

**Level: F14**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 12 | 89.083  | 44.583  | 215.770 | 9.80         | 0.00         | FFF           | 50        | W12X120 |



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| # | X      | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section |
|---|--------|--------|---------|--------|--------|--------|----|---------|
|   | 89.083 | 44.583 | 207.070 | 0.00   | 0.00   | FFF    |    |         |

**Steel Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|---|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 5 | 89.083  | 22.500  | 215.770 | 0.00         | PPF           | 50        | W14X500 | --- |
|   | 89.083  | 44.583  | 215.770 | 6.55         | FFF           |           |         |     |
| 6 | 89.083  | 44.583  | 215.770 | 6.55         | FFF           | 50        | W14X500 | --- |
|   | 89.083  | 68.667  | 215.770 | 0.00         | PPF           |           |         |     |

**Frame #40:**

**Level: F14**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 15 | 113.083 | 44.583  | 215.770 | 9.80         | 0.00         | FFF           | 50        | W12X120 |
|    | 113.083 | 44.583  | 207.070 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|---|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 7 | 113.083 | 22.500  | 215.770 | 0.00         | PPF           | 50        | W14X500 | --- |
|   | 113.083 | 44.583  | 215.770 | 6.55         | FFF           |           |         |     |
| 8 | 113.083 | 44.583  | 215.770 | 6.55         | FFF           | 50        | W14X500 | --- |
|   | 113.083 | 68.667  | 215.770 | 0.00         | PPF           |           |         |     |

**Frame #41:**

**Level: F14**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 18 | 137.083 | 44.583  | 215.770 | 9.80         | 0.00         | FFF           | 50        | W12X120 |
|    | 137.083 | 44.583  | 207.070 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 9  | 137.083 | 22.500  | 215.770 | 0.00         | PPF           | 50        | W14X500 | --- |
|    | 137.083 | 44.583  | 215.770 | 6.55         | FFF           |           |         |     |
| 10 | 137.083 | 44.583  | 215.770 | 6.55         | FFF           | 50        | W14X500 | --- |
|    | 137.083 | 68.667  | 215.770 | 0.00         | PPF           |           |         |     |

**Frame #42:**

**Level: F14**





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 21 | 161.083 | 44.583  | 215.770 | 9.80         | 0.00         | FFF           | 50        | W12X120 |
|    | 161.083 | 44.583  | 207.070 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 11 | 161.083 | 22.500  | 215.770 | 0.00         | PPF           | 50        | W14X500 | --- |
|    | 161.083 | 44.583  | 215.770 | 6.55         | FFF           |           |         |     |
| 12 | 161.083 | 44.583  | 215.770 | 6.55         | FFF           | 50        | W14X500 | --- |
|    | 161.083 | 68.667  | 215.770 | 0.00         | PPF           |           |         |     |

**Frame #43:**

**Level: F14**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 24 | 185.083 | 44.583  | 215.770 | 9.80         | 0.00         | FFF           | 50        | W12X120 |
|    | 185.083 | 44.583  | 207.070 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 13 | 185.083 | 22.500  | 215.770 | 0.00         | PPF           | 50        | W14X500 | --- |
|    | 185.083 | 44.583  | 215.770 | 6.55         | FFF           |           |         |     |
| 14 | 185.083 | 44.583  | 215.770 | 6.55         | FFF           | 50        | W14X500 | --- |
|    | 185.083 | 68.667  | 215.770 | 0.00         | PPF           |           |         |     |

**Frame #44:**

**Level: F14**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 22 | 206.750 | 22.500  | 215.770 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 206.750 | 68.667  | 215.770 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 207.070 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 22     | 1.000    | 1.000   |

**Frame #45:**



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Level: F14**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 37.667  | 1.667   | 215.770 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 1.667   | 215.770 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 207.070 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 207.070 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 215.770 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 77.333  | 1.667   | 215.770 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 207.070 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 207.070 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |

**Frame #46:**

**Level: F14**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 37.667  | 19.833  | 215.770 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 45.500  | 19.833  | 215.770 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 207.070 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 207.070 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #47:**

**Level: F14**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 8  | 77.333  | 22.500  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 22.500  | 207.070 | 0.00         | 0.00         | FFF           |           |         |
| 11 | 89.083  | 22.500  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 89.083  | 22.500  | 207.070 | 0.00         | 0.00         | FFF           |           |         |
| 14 | 113.083 | 22.500  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 113.083 | 22.500  | 207.070 | 0.00         | 0.00         | FFF           |           |         |
| 17 | 137.083 | 22.500  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X342 |



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| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section |
|----|---------|--------|---------|--------|--------|--------|----|---------|
|    | 137.083 | 22.500 | 207.070 | 0.00   | 0.00   | FFF    |    |         |
| 20 | 161.083 | 22.500 | 215.770 | 0.00   | 0.00   | FFF    | 50 | W14X283 |
|    | 161.083 | 22.500 | 207.070 | 0.00   | 0.00   | FFF    |    |         |
| 23 | 185.083 | 22.500 | 215.770 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 185.083 | 22.500 | 207.070 | 0.00   | 0.00   | FFF    |    |         |
| 26 | 206.750 | 22.500 | 215.770 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 206.750 | 22.500 | 207.070 | 0.00   | 0.00   | FFF    |    |         |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 7 | F14   | 77.333  | 22.500  | 215.770 | PPP        | 36        | W14X176 | N   | N   |
|   | F13   | 77.333  | 32.646  | 207.070 | PPP        |           |         |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 10 | 77.333  | 22.500  | 215.770 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 89.083  | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 89.083  | 22.500  | 207.070 |      |               |                |            |       |       |
| 12 | 89.083  | 22.500  | 215.770 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 113.083 | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 89.083  | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 113.083 | 22.500  | 207.070 |      |               |                |            |       |       |
| 14 | 113.083 | 22.500  | 215.770 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 137.083 | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 113.083 | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 137.083 | 22.500  | 207.070 |      |               |                |            |       |       |
| 16 | 137.083 | 22.500  | 215.770 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 161.083 | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 137.083 | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 161.083 | 22.500  | 207.070 |      |               |                |            |       |       |
| 18 | 161.083 | 22.500  | 215.770 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 185.083 | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 161.083 | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 185.083 | 22.500  | 207.070 |      |               |                |            |       |       |
| 20 | 185.083 | 22.500  | 215.770 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 206.750 | 22.500  | 215.770 |      |               |                |            |       |       |
|    | 185.083 | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 207.070 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 10     | 1.000    | 1.000   |



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|    |       |       |
|----|-------|-------|
| 12 | 1.000 | 1.000 |
| 14 | 1.000 | 1.000 |
| 16 | 1.000 | 1.000 |
| 18 | 1.000 | 1.000 |
| 20 | 1.000 | 1.000 |

Level: F13

Frame #48:

Level: F14

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 54.625  | 37.167  | 215.770 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 37.167  | 215.770 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 207.070 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 207.070 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |

Frame #49:

Level: F14

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 10 | 77.333  | 68.667  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 68.667  | 207.070 | 0.00         | 0.00         | FFF           |           |         |
| 13 | 89.083  | 68.667  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 89.083  | 68.667  | 207.070 | 0.00         | 0.00         | FFF           |           |         |
| 16 | 113.083 | 68.667  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 113.083 | 68.667  | 207.070 | 0.00         | 0.00         | FFF           |           |         |
| 19 | 137.083 | 68.667  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X342 |
|    | 137.083 | 68.667  | 207.070 | 0.00         | 0.00         | FFF           |           |         |
| 22 | 161.083 | 68.667  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 161.083 | 68.667  | 207.070 | 0.00         | 0.00         | FFF           |           |         |
| 25 | 185.083 | 68.667  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 185.083 | 68.667  | 207.070 | 0.00         | 0.00         | FFF           |           |         |
| 27 | 206.750 | 68.667  | 215.770 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 206.750 | 68.667  | 207.070 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 77.333  | 68.667  | 215.770 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |



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|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 89.083  | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 77.333  | 68.667 | 207.070 |      |       |       |        |      |   |
|    | 89.083  | 68.667 | 207.070 |      |       |       |        |      |   |
| 13 | 89.083  | 68.667 | 215.770 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 113.083 | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 89.083  | 68.667 | 207.070 |      |       |       |        |      |   |
|    | 113.083 | 68.667 | 207.070 |      |       |       |        |      |   |
| 15 | 113.083 | 68.667 | 215.770 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 137.083 | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 113.083 | 68.667 | 207.070 |      |       |       |        |      |   |
|    | 137.083 | 68.667 | 207.070 |      |       |       |        |      |   |
| 17 | 137.083 | 68.667 | 215.770 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 161.083 | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 137.083 | 68.667 | 207.070 |      |       |       |        |      |   |
|    | 161.083 | 68.667 | 207.070 |      |       |       |        |      |   |
| 19 | 161.083 | 68.667 | 215.770 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 185.083 | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 161.083 | 68.667 | 207.070 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 207.070 |      |       |       |        |      |   |
| 21 | 185.083 | 68.667 | 215.770 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 206.750 | 68.667 | 215.770 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 207.070 |      |       |       |        |      |   |
|    | 206.750 | 68.667 | 207.070 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 1.000    | 1.000   |
| 13     | 1.000    | 1.000   |
| 15     | 1.000    | 1.000   |
| 17     | 1.000    | 1.000   |
| 19     | 1.000    | 1.000   |
| 21     | 1.000    | 1.000   |

**Frame #50:**

**Level: F13**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 37.667  | 1.667   | 207.070 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 37.667  | 19.833  | 207.070 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 198.370 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 198.370 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |



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**Frame #51:**

**Level: F13**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 12 | 63.083  | 1.667   | 207.070 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 207.070 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 198.370 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 198.370 |      |               |                |            |       |       |
| 14 | 63.083  | 19.000  | 207.070 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 207.070 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 198.370 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 198.370 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 12     | 0.500    | 1.000   |
| 14     | 0.500    | 1.000   |

**Frame #52:**

**Level: F13**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 11 | 77.333  | 42.792  | 207.070 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 42.792  | 198.370 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|---|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 7 | 77.333  | 22.500  | 207.070 | 0.00         | PPF           | 50        | W14X455 | --- |
|   | 77.333  | 42.792  | 207.070 | 0.00         | PPF           |           |         |     |
| 8 | 77.333  | 42.792  | 207.070 | 0.00         | PPF           | 50        | W14X455 | --- |
|   | 77.333  | 68.667  | 207.070 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F13   | 77.333  | 32.646  | 207.070 | PPP        | 36        | W14X176 | N   | N   |
|   | F12   | 77.333  | 22.500  | 198.370 | PPP        |           |         |     |     |
| 2 | F13   | 77.333  | 32.646  | 207.070 | PPP        | 36        | W14X176 | N   | N   |
|   | F12   | 77.333  | 42.792  | 198.370 | PPP        |           |         |     |     |

**Level: F12**

**Frame #53:**



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**Level: F13**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 32 | 206.750 | 22.500  | 207.070 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 206.750 | 68.667  | 207.070 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 198.370 |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 198.370 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 32     | 1.000    | 1.000   |

**Frame #54:**

**Level: F13**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 207.070 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 34.163  | 74.024  | 207.070 |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 198.370 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 198.370 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.350    | 1.000   |

**Frame #55:**

**Level: F13**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 17 | 74.093  | 64.654  | 207.070 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 74.093  | 74.024  | 207.070 |      |               |                |            |       |       |
|    | 74.093  | 64.654  | 198.370 |      |               |                |            |       |       |
|    | 74.093  | 74.024  | 198.370 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 17     | 0.350    | 1.000   |

**Frame #56:**

**Level: F13**

**Concrete Wall:**



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| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5  | 37.667  | 1.667   | 207.070 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 1.667   | 207.070 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 198.370 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 198.370 |      |               |                |            |       |       |
| 13 | 63.083  | 1.667   | 207.070 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 1.667   | 207.070 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 198.370 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 198.370 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |
| 13     | 0.500    | 1.000   |

**Frame #57:**

**Level: F13**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 6 | 37.667  | 19.833  | 207.070 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 45.500  | 19.833  | 207.070 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 198.370 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 198.370 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 6      | 0.500    | 1.000   |

**Frame #58:**

**Level: F13**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 28 | 206.750 | 22.500  | 207.070 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 206.750 | 22.500  | 198.370 | 0.00         | 11.20        | FFF           |           |         |

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 10 | 77.333  | 22.500  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 4   |
|    | 77.333  | 22.500  | 198.370 | 11.20        | 0.00         | FFF           |      |               |                |            |     |
| 13 | 89.083  | 22.500  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 1   |
|    | 89.083  | 22.500  | 198.370 | 0.00         | 11.20        | FFF           |      |               |                |            |     |





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| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Pois | UnitWt | UW Self | f'c   | Sec |
|----|---------|--------|---------|--------|--------|--------|------|--------|---------|-------|-----|
| 16 | 113.083 | 22.500 | 207.070 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 1   |
|    | 113.083 | 22.500 | 198.370 | 0.00   | 11.20  | FFF    |      |        |         |       |     |
| 19 | 137.083 | 22.500 | 207.070 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 1   |
|    | 137.083 | 22.500 | 198.370 | 0.00   | 11.20  | FFF    |      |        |         |       |     |
| 22 | 161.083 | 22.500 | 207.070 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 1   |
|    | 161.083 | 22.500 | 198.370 | 0.00   | 11.20  | FFF    |      |        |         |       |     |
| 25 | 185.083 | 22.500 | 207.070 | 0.00   | 0.00   | FFF    | 0.20 | 145.0  | 150.0   | 8.000 | 1   |
|    | 185.083 | 22.500 | 198.370 | 0.00   | 11.20  | FFF    |      |        |         |       |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 20 | 77.333  | 22.500  | 207.070 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 89.083  | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 198.370 |      |               |                |            |       |       |
|    | 89.083  | 22.500  | 198.370 |      |               |                |            |       |       |
| 22 | 89.083  | 22.500  | 207.070 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 113.083 | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 89.083  | 22.500  | 198.370 |      |               |                |            |       |       |
|    | 113.083 | 22.500  | 198.370 |      |               |                |            |       |       |
| 24 | 113.083 | 22.500  | 207.070 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 137.083 | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 113.083 | 22.500  | 198.370 |      |               |                |            |       |       |
|    | 137.083 | 22.500  | 198.370 |      |               |                |            |       |       |
| 26 | 137.083 | 22.500  | 207.070 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 161.083 | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 137.083 | 22.500  | 198.370 |      |               |                |            |       |       |
|    | 161.083 | 22.500  | 198.370 |      |               |                |            |       |       |
| 28 | 161.083 | 22.500  | 207.070 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 185.083 | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 161.083 | 22.500  | 198.370 |      |               |                |            |       |       |
|    | 185.083 | 22.500  | 198.370 |      |               |                |            |       |       |
| 30 | 185.083 | 22.500  | 207.070 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 206.750 | 22.500  | 207.070 |      |               |                |            |       |       |
|    | 185.083 | 22.500  | 198.370 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 198.370 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 20     | 1.000    | 1.000   |
| 22     | 1.000    | 1.000   |
| 24     | 1.000    | 1.000   |
| 26     | 1.000    | 1.000   |
| 28     | 1.000    | 1.000   |
| 30     | 1.000    | 1.000   |



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**Frame #59:**

**Level: F13**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 10 | 54.625  | 37.167  | 207.070 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 207.070 |      |               |                |            |       |       |
|    | 54.625  | 37.167  | 198.370 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 198.370 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 10     | 0.500    | 1.000   |

**Frame #60:**

**Level: F13**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 29 | 206.750 | 68.667  | 207.070 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 206.750 | 68.667  | 198.370 | 0.00         | 11.20        | FFF           |           |         |

**Concrete Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec |
|----|---------|---------|---------|--------------|--------------|---------------|------|---------------|----------------|------------|-----|
| 12 | 77.333  | 68.667  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 1   |
|    | 77.333  | 68.667  | 198.370 | 0.00         | 11.20        | FFF           |      |               |                |            |     |
| 15 | 89.083  | 68.667  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 1   |
|    | 89.083  | 68.667  | 198.370 | 0.00         | 11.20        | FFF           |      |               |                |            |     |
| 18 | 113.083 | 68.667  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 1   |
|    | 113.083 | 68.667  | 198.370 | 0.00         | 11.20        | FFF           |      |               |                |            |     |
| 21 | 137.083 | 68.667  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 1   |
|    | 137.083 | 68.667  | 198.370 | 0.00         | 11.20        | FFF           |      |               |                |            |     |
| 24 | 161.083 | 68.667  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 1   |
|    | 161.083 | 68.667  | 198.370 | 0.00         | 11.20        | FFF           |      |               |                |            |     |
| 27 | 185.083 | 68.667  | 207.070 | 0.00         | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 8.000      | 1   |
|    | 185.083 | 68.667  | 198.370 | 0.00         | 11.20        | FFF           |      |               |                |            |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 21 | 77.333  | 68.667  | 207.070 | 0.20 | 145.0         | 150.0          | 10.000     | 24.0  | 0     |
|    | 89.083  | 68.667  | 207.070 |      |               |                |            |       |       |
|    | 77.333  | 68.667  | 198.370 |      |               |                |            |       |       |



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|    |         |        |         |      |       |       |        |      |   |
|----|---------|--------|---------|------|-------|-------|--------|------|---|
|    | 89.083  | 68.667 | 198.370 |      |       |       |        |      |   |
| 23 | 89.083  | 68.667 | 207.070 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 113.083 | 68.667 | 207.070 |      |       |       |        |      |   |
|    | 89.083  | 68.667 | 198.370 |      |       |       |        |      |   |
|    | 113.083 | 68.667 | 198.370 |      |       |       |        |      |   |
| 25 | 113.083 | 68.667 | 207.070 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 137.083 | 68.667 | 207.070 |      |       |       |        |      |   |
|    | 113.083 | 68.667 | 198.370 |      |       |       |        |      |   |
|    | 137.083 | 68.667 | 198.370 |      |       |       |        |      |   |
| 27 | 137.083 | 68.667 | 207.070 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 161.083 | 68.667 | 207.070 |      |       |       |        |      |   |
|    | 137.083 | 68.667 | 198.370 |      |       |       |        |      |   |
|    | 161.083 | 68.667 | 198.370 |      |       |       |        |      |   |
| 29 | 161.083 | 68.667 | 207.070 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 185.083 | 68.667 | 207.070 |      |       |       |        |      |   |
|    | 161.083 | 68.667 | 198.370 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 198.370 |      |       |       |        |      |   |
| 31 | 185.083 | 68.667 | 207.070 | 0.20 | 145.0 | 150.0 | 10.000 | 24.0 | 0 |
|    | 206.750 | 68.667 | 207.070 |      |       |       |        |      |   |
|    | 185.083 | 68.667 | 198.370 |      |       |       |        |      |   |
|    | 206.750 | 68.667 | 198.370 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 21     | 1.000    | 1.000   |
| 23     | 1.000    | 1.000   |
| 25     | 1.000    | 1.000   |
| 27     | 1.000    | 1.000   |
| 29     | 1.000    | 1.000   |
| 31     | 1.000    | 1.000   |

**Frame #61:**

**Level: F13**

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 37.163  | 64.654  | 207.070 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 40.663  | 64.654  | 207.070 | 0.00         | FFF           |      |               |                |            |     |     |
| 3 | 46.863  | 64.654  | 207.070 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 50.363  | 64.654  | 207.070 | 0.00         | FFF           |      |               |                |            |     |     |
| 4 | 56.863  | 64.654  | 207.070 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 60.363  | 64.654  | 207.070 | 0.00         | FFF           |      |               |                |            |     |     |
| 6 | 66.563  | 64.654  | 207.070 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 70.063  | 64.654  | 207.070 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**



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| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2  | 34.163  | 64.654  | 207.070 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 37.163  | 64.654  | 207.070 |      |               |                |            |       |       |
|    | 34.163  | 64.654  | 198.370 |      |               |                |            |       |       |
|    | 37.163  | 64.654  | 198.370 |      |               |                |            |       |       |
| 7  | 40.663  | 64.654  | 207.070 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 46.863  | 64.654  | 207.070 |      |               |                |            |       |       |
|    | 40.663  | 64.654  | 198.370 |      |               |                |            |       |       |
|    | 46.863  | 64.654  | 198.370 |      |               |                |            |       |       |
| 9  | 50.363  | 64.654  | 207.070 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 56.863  | 64.654  | 207.070 |      |               |                |            |       |       |
|    | 50.363  | 64.654  | 198.370 |      |               |                |            |       |       |
|    | 56.863  | 64.654  | 198.370 |      |               |                |            |       |       |
| 11 | 60.363  | 64.654  | 207.070 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 66.563  | 64.654  | 207.070 |      |               |                |            |       |       |
|    | 60.363  | 64.654  | 198.370 |      |               |                |            |       |       |
|    | 66.563  | 64.654  | 198.370 |      |               |                |            |       |       |
| 16 | 70.063  | 64.654  | 207.070 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 74.093  | 64.654  | 207.070 |      |               |                |            |       |       |
|    | 70.063  | 64.654  | 198.370 |      |               |                |            |       |       |
|    | 74.093  | 64.654  | 198.370 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.350    | 1.000   |
| 7      | 0.350    | 1.000   |
| 9      | 0.350    | 1.000   |
| 11     | 0.350    | 1.000   |
| 16     | 0.350    | 1.000   |

**Frame #62:**

**Level: F13**

**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 6 | 42.083  | 74.024  | 207.070 | 0.00         | 0.00         | FFF           | 50        | W14X99  |
|   | 42.083  | 74.024  | 198.370 | 0.00         | 0.00         | FFF           |           |         |
| 9 | 65.083  | 74.024  | 207.070 | 10.45        | 0.00         | FFF           | 50        | W14X99  |
|   | 65.083  | 74.024  | 198.370 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 34.163  | 74.024  | 207.070 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 42.083  | 74.024  | 207.070 |      |               |                |            |       |       |



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|    |        |        |         |      |       |       |        |      |   |
|----|--------|--------|---------|------|-------|-------|--------|------|---|
|    | 34.163 | 74.024 | 198.370 |      |       |       |        |      |   |
|    | 42.083 | 74.024 | 198.370 |      |       |       |        |      |   |
| 8  | 42.083 | 74.024 | 207.070 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 65.083 | 74.024 | 207.070 |      |       |       |        |      |   |
|    | 42.083 | 74.024 | 198.370 |      |       |       |        |      |   |
|    | 65.083 | 74.024 | 198.370 |      |       |       |        |      |   |
| 15 | 65.083 | 74.024 | 207.070 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 74.093 | 74.024 | 207.070 |      |       |       |        |      |   |
|    | 65.083 | 74.024 | 198.370 |      |       |       |        |      |   |
|    | 74.093 | 74.024 | 198.370 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.350    | 1.000   |
| 8      | 0.350    | 1.000   |
| 15     | 0.350    | 1.000   |

**Frame #63:**

**Level: F12**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 37.667  | 1.667   | 198.370 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 37.667  | 19.833  | 198.370 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 189.670 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 189.670 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |

**Frame #64:**

**Level: F12**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 63.083  | 1.667   | 198.370 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 198.370 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 189.670 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 189.670 |      |               |                |            |       |       |
| 13 | 63.083  | 19.000  | 198.370 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 198.370 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 189.670 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 189.670 |      |               |                |            |       |       |

**Wall Crack Factors:**



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| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 0.500    | 1.000   |
| 13     | 0.500    | 1.000   |

**Frame #65:**

**Level: F12**

**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 9 | 77.333  | 42.792  | 198.370 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|   | 77.333  | 42.792  | 189.670 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 7  | 77.333  | 22.500  | 198.370 | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 42.792  | 198.370 | 0.00         | PPF           |           |         |     |
| 10 | 77.333  | 42.792  | 198.370 | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 68.667  | 198.370 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level   | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|---------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 2 | F12     | 77.333  | 42.792  | 198.370 | PPP        | 36        | W14X176 | N   | N   |
|   | F11demo | 77.333  | 32.646  | 189.670 | PPP        |           |         |     |     |

**Level: F11demo**

**Frame #66:**

**Level: F12**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 18 | 206.750 | 22.500  | 198.370 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 206.750 | 68.667  | 198.370 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 189.670 |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 189.670 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 18     | 1.000    | 1.000   |

**Frame #67:**

**Level: F12**

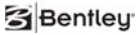
**Concrete Wall:**

| # | X | Y | Z | Pois | UnitWt | UW Self | f'c | Thick | Group |
|---|---|---|---|------|--------|---------|-----|-------|-------|
|---|---|---|---|------|--------|---------|-----|-------|-------|



RAM Structural System

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|   | ft     | ft     | ft      |      | pcf   | pcf   | ksi    |      |   |
|---|--------|--------|---------|------|-------|-------|--------|------|---|
| 1 | 34.163 | 64.654 | 198.370 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|   | 34.163 | 74.024 | 198.370 |      |       |       |        |      |   |
|   | 34.163 | 64.654 | 189.670 |      |       |       |        |      |   |
|   | 34.163 | 74.024 | 189.670 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |

**Frame #68:**

**Level: F12**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 15 | 74.093  | 64.654  | 198.370 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 74.093  | 74.024  | 198.370 |      |               |                |            |       |       |
|    | 74.093  | 64.654  | 189.670 |      |               |                |            |       |       |
|    | 74.093  | 74.024  | 189.670 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 15     | 0.500    | 1.000   |

**Frame #69:**

**Level: F12**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5  | 37.667  | 1.667   | 198.370 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 1.667   | 198.370 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 189.670 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 189.670 |      |               |                |            |       |       |
| 12 | 63.083  | 1.667   | 198.370 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 1.667   | 198.370 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 189.670 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 189.670 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |
| 12     | 0.500    | 1.000   |

**Frame #70:**

**Level: F12**



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**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 6 | 37.667  | 19.833  | 198.370 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 45.500  | 19.833  | 198.370 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 189.670 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 189.670 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 6      | 0.500    | 1.000   |

**Frame #71:**

**Level: F12**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 8  | 77.333  | 22.500  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W14X730 |
|    | 77.333  | 22.500  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 11 | 89.083  | 22.500  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W12X120 |
|    | 89.083  | 22.500  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 14 | 113.083 | 22.500  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W12X120 |
|    | 113.083 | 22.500  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 17 | 137.083 | 22.500  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W12X120 |
|    | 137.083 | 22.500  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 20 | 161.083 | 22.500  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W12X120 |
|    | 161.083 | 22.500  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 23 | 185.083 | 22.500  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W12X120 |
|    | 185.083 | 22.500  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 26 | 206.750 | 22.500  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W14X730 |
|    | 206.750 | 22.500  | 189.670 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 8  | 77.333  | 22.500  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |
|    | 89.083  | 22.500  | 198.370 | 0.00         | FFF           |           |         |     |
| 16 | 89.083  | 22.500  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |
|    | 113.083 | 22.500  | 198.370 | 0.00         | FFF           |           |         |     |
| 24 | 113.083 | 22.500  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |
|    | 137.083 | 22.500  | 198.370 | 0.00         | FFF           |           |         |     |
| 32 | 137.083 | 22.500  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |
|    | 161.083 | 22.500  | 198.370 | 0.00         | FFF           |           |         |     |
| 40 | 161.083 | 22.500  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |
|    | 185.083 | 22.500  | 198.370 | 0.00         | FFF           |           |         |     |
| 53 | 185.083 | 22.500  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |





RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | X       | Y      | Z       | RigEnd | Fixity | Fy | Section | T-O |
|---|---------|--------|---------|--------|--------|----|---------|-----|
|   | 206.750 | 22.500 | 198.370 | 0.00   | FFF    |    |         |     |

**Steel Brace:**

| # | Level   | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|---------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F12     | 77.333  | 22.500  | 198.370 | PPP        | 36        | W14X176 | N   | N   |
|   | F11demo | 77.333  | 32.646  | 189.670 | PPP        |           |         |     |     |

**Level: F11demo**

**Frame #72:**

**Level: F12**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 9 | 54.625  | 37.167  | 198.370 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 37.167  | 198.370 |      |               |                |            |       |       |
|   | 54.625  | 37.167  | 189.670 |      |               |                |            |       |       |
|   | 63.083  | 37.167  | 189.670 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 9      | 0.500    | 1.000   |

**Frame #73:**

**Level: F12**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 10 | 77.333  | 68.667  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W14X730 |
|    | 77.333  | 68.667  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 13 | 89.083  | 68.667  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W12X120 |
|    | 89.083  | 68.667  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 16 | 113.083 | 68.667  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W12X120 |
|    | 113.083 | 68.667  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 19 | 137.083 | 68.667  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W12X120 |
|    | 137.083 | 68.667  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 22 | 161.083 | 68.667  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W12X120 |
|    | 161.083 | 68.667  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 25 | 185.083 | 68.667  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W12X120 |
|    | 185.083 | 68.667  | 189.670 | 0.00         | 0.00         | FFF           |           |         |
| 27 | 206.750 | 68.667  | 198.370 | 0.00         | 11.20        | FFF           | 50        | W14X730 |
|    | 206.750 | 68.667  | 189.670 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**



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| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 14 | 77.333  | 68.667  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |
|    | 89.083  | 68.667  | 198.370 | 0.00         | FFF           |           |         |     |
| 22 | 89.083  | 68.667  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |
|    | 113.083 | 68.667  | 198.370 | 0.00         | FFF           |           |         |     |
| 30 | 113.083 | 68.667  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |
|    | 137.083 | 68.667  | 198.370 | 0.00         | FFF           |           |         |     |
| 38 | 137.083 | 68.667  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |
|    | 161.083 | 68.667  | 198.370 | 0.00         | FFF           |           |         |     |
| 46 | 161.083 | 68.667  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |
|    | 185.083 | 68.667  | 198.370 | 0.00         | FFF           |           |         |     |
| 55 | 185.083 | 68.667  | 198.370 | 0.00         | FFF           | 50        | W14X730 | --- |
|    | 206.750 | 68.667  | 198.370 | 0.00         | FFF           |           |         |     |

Frame #74:

Level: F12

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 37.163  | 64.654  | 198.370 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 40.663  | 64.654  | 198.370 | 0.00         | FFF           |      |               |                |            |     |     |
| 3 | 46.863  | 64.654  | 198.370 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 50.363  | 64.654  | 198.370 | 0.00         | FFF           |      |               |                |            |     |     |
| 5 | 56.863  | 64.654  | 198.370 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 60.363  | 64.654  | 198.370 | 0.00         | FFF           |      |               |                |            |     |     |
| 6 | 66.563  | 64.654  | 198.370 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 70.063  | 64.654  | 198.370 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2  | 34.163  | 64.654  | 198.370 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 37.163  | 64.654  | 198.370 |      |               |                |            |       |       |
|    | 34.163  | 64.654  | 189.670 |      |               |                |            |       |       |
|    | 37.163  | 64.654  | 189.670 |      |               |                |            |       |       |
| 7  | 40.663  | 64.654  | 198.370 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 46.863  | 64.654  | 198.370 |      |               |                |            |       |       |
|    | 40.663  | 64.654  | 189.670 |      |               |                |            |       |       |
|    | 46.863  | 64.654  | 189.670 |      |               |                |            |       |       |
| 8  | 50.363  | 64.654  | 198.370 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 56.863  | 64.654  | 198.370 |      |               |                |            |       |       |
|    | 50.363  | 64.654  | 189.670 |      |               |                |            |       |       |
|    | 56.863  | 64.654  | 189.670 |      |               |                |            |       |       |
| 10 | 60.363  | 64.654  | 198.370 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 66.563  | 64.654  | 198.370 |      |               |                |            |       |       |



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|    |        |        |         |      |       |       |        |      |   |
|----|--------|--------|---------|------|-------|-------|--------|------|---|
|    | 60.363 | 64.654 | 189.670 |      |       |       |        |      |   |
|    | 66.563 | 64.654 | 189.670 |      |       |       |        |      |   |
| 14 | 70.063 | 64.654 | 198.370 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 74.093 | 64.654 | 198.370 |      |       |       |        |      |   |
|    | 70.063 | 64.654 | 189.670 |      |       |       |        |      |   |
|    | 74.093 | 64.654 | 189.670 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.350    | 1.000   |
| 7      | 0.350    | 1.000   |
| 8      | 0.350    | 1.000   |
| 10     | 0.350    | 1.000   |
| 14     | 0.350    | 1.000   |

**Frame #75:**

**Level: F12**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 34.163  | 74.024  | 198.370 | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|   | 74.093  | 74.024  | 198.370 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 189.670 |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 189.670 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #76:**

**Level: F11**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 37.667  | 1.667   | 180.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 37.667  | 19.833  | 180.970 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 172.260 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 172.260 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |

**Frame #77:**

**Level: F11**



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**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 63.083  | 1.667   | 180.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 180.970 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 172.260 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 172.260 |      |               |                |            |       |       |
| 13 | 63.083  | 19.000  | 180.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 37.167  | 180.970 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 172.260 |      |               |                |            |       |       |
|    | 63.083  | 37.167  | 172.260 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 0.500    | 1.000   |
| 13     | 0.500    | 1.000   |

**Frame #78:**

**Level: F11**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 8  | 77.333  | 22.500  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 22.500  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 9  | 77.333  | 42.792  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 42.792  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 10 | 77.333  | 68.667  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 68.667  | 172.260 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 9  | 77.333  | 22.500  | 180.970 | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 42.792  | 180.970 | 0.00         | PPF           |           |         |     |
| 12 | 77.333  | 42.792  | 180.970 | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 68.667  | 180.970 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F11   | 77.333  | 22.500  | 180.970 | PPP        | 36        | W14X176 | N   | N   |
|   | F10   | 77.333  | 42.792  | 163.550 | PPP        |           |         |     |     |
| 2 | F11   | 77.333  | 42.792  | 180.970 | PPP        | 36        | W14X176 | N   | N   |
|   | F10   | 77.333  | 22.500  | 163.550 | PPP        |           |         |     |     |



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**Level: F10**

**Frame #79:**

**Level: F11**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 26 | 206.750 | 22.500  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 206.750 | 22.500  | 172.260 | 0.00         | 0.00         | FFF           |           |         |
| 27 | 206.750 | 68.667  | 180.970 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 206.750 | 68.667  | 172.260 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 18 | 206.750 | 22.500  | 180.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 206.750 | 68.667  | 180.970 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 172.260 |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 172.260 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 18     | 1.000    | 1.000   |

**Frame #80:**

**Level: F11**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 180.970 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 34.163  | 74.024  | 180.970 |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 172.260 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 172.260 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |

**Frame #81:**

**Level: F11**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 15 | 74.093  | 64.654  | 180.970 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 74.093  | 74.024  | 180.970 |      |               |                |            |       |       |



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|        |        |         |
|--------|--------|---------|
| 74.093 | 64.654 | 172.260 |
| 74.093 | 74.024 | 172.260 |

**Wall Crack Factors:**

|               |                 |                |
|---------------|-----------------|----------------|
| <b>Wall #</b> | <b>Membrane</b> | <b>Bending</b> |
| 15            | 0.500           | 1.000          |

**Frame #82:**

**Level: F11**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5  | 37.667  | 1.667   | 180.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 1.667   | 180.970 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 172.260 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 172.260 |      |               |                |            |       |       |
| 12 | 63.083  | 1.667   | 180.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 77.333  | 1.667   | 180.970 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 172.260 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 172.260 |      |               |                |            |       |       |

**Wall Crack Factors:**

|               |                 |                |
|---------------|-----------------|----------------|
| <b>Wall #</b> | <b>Membrane</b> | <b>Bending</b> |
| 5             | 0.500           | 1.000          |
| 12            | 0.500           | 1.000          |

**Frame #83:**

**Level: F11**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 6 | 37.667  | 19.833  | 180.970 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 45.500  | 19.833  | 180.970 |      |               |                |            |       |       |
|   | 37.667  | 19.833  | 172.260 |      |               |                |            |       |       |
|   | 45.500  | 19.833  | 172.260 |      |               |                |            |       |       |

**Wall Crack Factors:**

|               |                 |                |
|---------------|-----------------|----------------|
| <b>Wall #</b> | <b>Membrane</b> | <b>Bending</b> |
| 6             | 0.500           | 1.000          |

**Frame #84:**

**Level: F11**

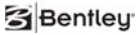
**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|



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|   |        |        |         |      |       |       |       |      |   |
|---|--------|--------|---------|------|-------|-------|-------|------|---|
| 9 | 54.625 | 37.167 | 180.970 | 0.20 | 145.0 | 150.0 | 8.000 | 12.0 | 0 |
|   | 63.083 | 37.167 | 180.970 |      |       |       |       |      |   |
|   | 54.625 | 37.167 | 172.260 |      |       |       |       |      |   |
|   | 63.083 | 37.167 | 172.260 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 9      | 0.500    | 1.000   |

**Frame #85:**

**Level: F11**

**Concrete Beam / Horiz Brace:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|---|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 1 | 37.163  | 64.654  | 180.970 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 40.663  | 64.654  | 180.970 | 0.00         | FFF           |      |               |                |            |     |     |
| 3 | 46.863  | 64.654  | 180.970 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 50.363  | 64.654  | 180.970 | 0.00         | FFF           |      |               |                |            |     |     |
| 5 | 56.863  | 64.654  | 180.970 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 60.363  | 64.654  | 180.970 | 0.00         | FFF           |      |               |                |            |     |     |
| 6 | 66.563  | 64.654  | 180.970 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|   | 70.063  | 64.654  | 180.970 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2  | 34.163  | 64.654  | 180.970 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 37.163  | 64.654  | 180.970 |      |               |                |            |       |       |
|    | 34.163  | 64.654  | 172.260 |      |               |                |            |       |       |
|    | 37.163  | 64.654  | 172.260 |      |               |                |            |       |       |
| 7  | 40.663  | 64.654  | 180.970 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 46.863  | 64.654  | 180.970 |      |               |                |            |       |       |
|    | 40.663  | 64.654  | 172.260 |      |               |                |            |       |       |
|    | 46.863  | 64.654  | 172.260 |      |               |                |            |       |       |
| 8  | 50.363  | 64.654  | 180.970 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 56.863  | 64.654  | 180.970 |      |               |                |            |       |       |
|    | 50.363  | 64.654  | 172.260 |      |               |                |            |       |       |
|    | 56.863  | 64.654  | 172.260 |      |               |                |            |       |       |
| 10 | 60.363  | 64.654  | 180.970 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 66.563  | 64.654  | 180.970 |      |               |                |            |       |       |
|    | 60.363  | 64.654  | 172.260 |      |               |                |            |       |       |
|    | 66.563  | 64.654  | 172.260 |      |               |                |            |       |       |
| 14 | 70.063  | 64.654  | 180.970 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 74.093  | 64.654  | 180.970 |      |               |                |            |       |       |
|    | 70.063  | 64.654  | 172.260 |      |               |                |            |       |       |
|    | 74.093  | 64.654  | 172.260 |      |               |                |            |       |       |



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**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.350    | 1.000   |
| 7      | 0.350    | 1.000   |
| 8      | 0.350    | 1.000   |
| 10     | 0.350    | 1.000   |
| 14     | 0.350    | 1.000   |

**Frame #86:**

**Level: F11**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 34.163  | 74.024  | 180.970 | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|   | 74.093  | 74.024  | 180.970 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 172.260 |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 172.260 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #88:**

**Level: F10**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 63.083  | 1.667   | 163.550 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 163.550 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 147.550 |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 147.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 0.500    | 1.000   |

**Frame #89:**

**Level: F10**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 14 | 77.333  | 22.500  | 163.550 | 0.00         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 22.500  | 147.550 | 9.50         | 0.00         | FFF           |           |            |
| 15 | 77.333  | 42.792  | 163.550 | 0.00         | 0.00         | FFF           | 50        | W14X730    |
|    | 77.333  | 42.792  | 147.550 | 0.00         | 0.00         | FFF           |           |            |





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| #  | X      | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section    |
|----|--------|--------|---------|--------|--------|--------|----|------------|
| 16 | 77.333 | 68.667 | 163.550 | 0.00   | 0.00   | FFF    | 36 | 000000S1S2 |
|    | 77.333 | 68.667 | 147.550 | 0.00   | 0.00   | FFF    |    |            |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 47 | 77.333  | 22.500  | 163.550 | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 42.792  | 163.550 | 0.00         | PPF           |           |         |     |
| 50 | 77.333  | 42.792  | 163.550 | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 68.667  | 163.550 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F10   | 77.333  | 22.500  | 163.550 | PPP        | 36        | W14X176 | N   | N   |
|   | F9    | 77.333  | 42.792  | 147.550 | PPP        |           |         |     |     |
| 2 | F10   | 77.333  | 42.792  | 163.550 | PPP        | 36        | W14X176 | N   | N   |
|   | F9    | 77.333  | 22.500  | 147.550 | PPP        |           |         |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick<br>in | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------------|-------|
| 16 | 77.333  | 1.667   | 163.550 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0        | 0     |
|    | 77.333  | 12.500  | 163.550 |      |               |                |            |             |       |
|    | 77.333  | 1.667   | 147.550 |      |               |                |            |             |       |
|    | 77.333  | 12.500  | 147.550 |      |               |                |            |             |       |
| 17 | 77.333  | 12.500  | 163.550 | 0.20 | 145.0         | 150.0          | 8.000      | 25.0        | 0     |
|    | 77.333  | 22.500  | 163.550 |      |               |                |            |             |       |
|    | 77.333  | 12.500  | 147.550 |      |               |                |            |             |       |
|    | 77.333  | 22.500  | 147.550 |      |               |                |            |             |       |

**Wall Openings:**

| Wall # | Opening # | Reference Corner | X<br>ft | Y<br>ft | Width<br>in | Height<br>in |
|--------|-----------|------------------|---------|---------|-------------|--------------|
| 17     | 1         | Lower Right      | 3.170   | 0.000   | 39.960      | 90.000       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 16     | 0.500    | 1.000   |
| 17     | 0.500    | 1.000   |

**Level: F9**

**Frame #90:**

**Level: F10**

**Steel Column:**



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 32 | 206.750 | 22.500  | 163.550 | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 22.500  | 147.550 | 0.00         | 0.00         | FFF           |           |            |
| 33 | 206.750 | 68.667  | 163.550 | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 68.667  | 147.550 | 0.00         | 0.00         | FFF           |           |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 18 | 206.750 | 22.500  | 163.550 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|    | 206.750 | 68.667  | 163.550 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 147.550 |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 147.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 18     | 1.000    | 1.000   |

**Frame #91:**

**Level: F10**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 15 | 74.093  | 64.654  | 163.550 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 74.093  | 74.024  | 163.550 |      |               |                |            |       |       |
|    | 74.093  | 64.654  | 147.550 |      |               |                |            |       |       |
|    | 74.093  | 74.024  | 147.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 15     | 0.500    | 1.000   |

**Frame #92:**

**Level: F10**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 163.550 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 34.163  | 74.024  | 163.550 |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 147.550 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 147.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
|        |          |         |



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1 0.500 1.000

**Frame #93:**

**Level: F10**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5  | 37.667  | 1.667   | 163.550 | 0.20 | 145.0         | 150.0          | 8.000      | 14.0  | 0     |
|    | 63.083  | 1.667   | 163.550 |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 147.550 |      |               |                |            |       |       |
| 12 | 63.083  | 1.667   | 163.550 | 0.20 | 145.0         | 150.0          | 8.000      | 14.0  | 0     |
|    | 77.333  | 1.667   | 163.550 |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 147.550 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 147.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |
| 12     | 0.500    | 1.000   |

**Frame #96:**

**Level: F10**

**Concrete Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|----|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 16 | 37.163  | 64.654  | 163.550 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 40.663  | 64.654  | 163.550 | 0.00         | FFF           |      |               |                |            |     |     |
| 30 | 46.863  | 64.654  | 163.550 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 50.363  | 64.654  | 163.550 | 0.00         | FFF           |      |               |                |            |     |     |
| 35 | 56.863  | 64.654  | 163.550 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 60.363  | 64.654  | 163.550 | 0.00         | FFF           |      |               |                |            |     |     |
| 41 | 66.563  | 64.654  | 163.550 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 70.063  | 64.654  | 163.550 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 34.163  | 64.654  | 163.550 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 37.163  | 64.654  | 163.550 |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 147.550 |      |               |                |            |       |       |
|   | 37.163  | 64.654  | 147.550 |      |               |                |            |       |       |
| 7 | 40.663  | 64.654  | 163.550 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 46.863  | 64.654  | 163.550 |      |               |                |            |       |       |
|   | 40.663  | 64.654  | 147.550 |      |               |                |            |       |       |



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|    |        |        |         |      |       |       |        |      |   |
|----|--------|--------|---------|------|-------|-------|--------|------|---|
|    | 46.863 | 64.654 | 147.550 |      |       |       |        |      |   |
| 8  | 50.363 | 64.654 | 163.550 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 56.863 | 64.654 | 163.550 |      |       |       |        |      |   |
|    | 50.363 | 64.654 | 147.550 |      |       |       |        |      |   |
|    | 56.863 | 64.654 | 147.550 |      |       |       |        |      |   |
| 10 | 60.363 | 64.654 | 163.550 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 66.563 | 64.654 | 163.550 |      |       |       |        |      |   |
|    | 60.363 | 64.654 | 147.550 |      |       |       |        |      |   |
|    | 66.563 | 64.654 | 147.550 |      |       |       |        |      |   |
| 14 | 70.063 | 64.654 | 163.550 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 74.093 | 64.654 | 163.550 |      |       |       |        |      |   |
|    | 70.063 | 64.654 | 147.550 |      |       |       |        |      |   |
|    | 74.093 | 64.654 | 147.550 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.350    | 1.000   |
| 7      | 0.350    | 1.000   |
| 8      | 0.350    | 1.000   |
| 10     | 0.350    | 1.000   |
| 14     | 0.350    | 1.000   |

**Frame #97:**

**Level: F10**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 34.163  | 74.024  | 163.550 | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|   | 74.093  | 74.024  | 163.550 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 147.550 |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 147.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #98:**

**Level: F9**

**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 6 | 21.583  | 1.667   | 147.550 | 0.00         | 8.00         | FFF           | 36        | W14X233 |
|   | 21.583  | 1.667   | 132.550 | 0.00         | 0.00         | FFF           |           |         |
| 7 | 21.583  | 3.608   | 147.550 | 8.00         | 0.00         | FFF           | 50        | W14X342 |
|   | 21.583  | 3.608   | 132.550 | 0.00         | 0.00         | FFF           |           |         |



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| #  | X      | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section |
|----|--------|--------|---------|--------|--------|--------|----|---------|
| 8  | 21.583 | 19.833 | 147.550 | 0.00   | 0.00   | FFF    | 36 | W14X500 |
|    | 21.583 | 19.833 | 132.550 | 0.00   | 7.60   | FFF    |    |         |
| 9  | 21.583 | 39.631 | 147.550 | 0.00   | 7.60   | FFF    | 50 | W14X132 |
|    | 21.583 | 39.631 | 132.550 | 0.00   | 7.60   | FFF    |    |         |
| 10 | 21.583 | 65.487 | 147.550 | 7.60   | 0.00   | FFF    | 50 | W14X342 |
|    | 21.583 | 65.487 | 132.550 | 7.60   | 0.00   | FFF    |    |         |
| 11 | 21.583 | 83.292 | 147.550 | 0.00   | 0.00   | FFF    | 42 | W14X132 |
|    | 21.583 | 83.292 | 132.550 | 0.00   | 0.00   | FFF    |    |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 27 | 21.583  | 1.667   | 147.550 | 0.00         | FFF           | 36        | W14X233 | --- |
|    | 21.583  | 3.608   | 147.550 | 8.75         | FFF           |           |         |     |
| 29 | 21.583  | 3.608   | 147.550 | 0.00         | PPF           | 36        | W16X26  | --- |
|    | 21.583  | 19.833  | 147.550 | 0.00         | PPF           |           |         |     |
| 30 | 21.583  | 19.833  | 147.550 | 0.00         | PPF           | 36        | W14X176 | --- |
|    | 21.583  | 39.631  | 147.550 | 0.00         | FFF           |           |         |     |
| 32 | 21.583  | 39.631  | 147.550 | 0.00         | FFF           | 50        | W14X176 | --- |
|    | 21.583  | 65.487  | 147.550 | 8.75         | FFF           |           |         |     |
| 35 | 21.583  | 65.487  | 147.550 | 8.75         | FFF           | 50        | W14X176 | --- |
|    | 21.583  | 83.292  | 147.550 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F9    | 21.583  | 3.608   | 147.550 | PPP        | 50        | W14X500 | N   | N   |
|   | F8    | 21.583  | 11.468  | 132.550 | PPP        |           |         |     |     |
| 3 | F9    | 21.583  | 19.833  | 147.550 | PPP        | 50        | W14X132 | N   | N   |
|   | F8    | 21.583  | 29.732  | 132.550 | PPP        |           |         |     |     |
| 4 | F9    | 21.583  | 39.631  | 147.550 | PPP        | 50        | W14X132 | N   | N   |
|   | F8    | 21.583  | 29.732  | 132.550 | PPP        |           |         |     |     |
| 5 | F9    | 21.583  | 39.631  | 147.550 | PPP        | 50        | W14X132 | N   | N   |
|   | F8    | 21.583  | 52.559  | 132.550 | PPP        |           |         |     |     |
| 6 | F9    | 21.583  | 65.487  | 147.550 | PPP        | 50        | W14X132 | N   | N   |
|   | F8    | 21.583  | 52.559  | 132.550 | PPP        |           |         |     |     |
| 8 | F9    | 21.583  | 83.292  | 147.550 | PPP        | 50        | W14X500 | N   | N   |
|   | F8    | 21.583  | 75.387  | 132.550 | PPP        |           |         |     |     |

**Level: F8**

**Frame #99:**

**Level: F9**

**Steel Column:**



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 19 | 63.083  | 19.000  | 147.550 | 0.00         | 0.00         | FFF           | 36        | W14X61  |
|    | 63.083  | 19.000  | 132.550 | 0.00         | 0.00         | FFF           |           |         |
| 20 | 63.083  | 37.167  | 147.550 | 0.00         | 0.00         | FFF           | 36        | W14X61  |
|    | 63.083  | 37.167  | 132.550 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 54 | 63.083  | 19.000  | 147.550 | 0.00         | PPF           | 36        | W40X655 | --- |
|    | 63.083  | 37.167  | 147.550 | 0.00         | PPF           |           |         |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5 | 63.083  | 1.667   | 147.550 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 63.083  | 19.000  | 147.550 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 132.550 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 132.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |

**Frame #100:**

**Level: F9**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 23 | 77.333  | 22.500  | 147.550 | 9.50         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 22.500  | 132.550 | 2.97         | 1.08         | FFF           |           |            |
| 24 | 77.333  | 42.792  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W14X730    |
|    | 77.333  | 42.792  | 132.550 | 0.00         | 0.00         | FFF           |           |            |
| 25 | 77.333  | 68.667  | 147.550 | 0.00         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 68.667  | 132.550 | 0.00         | 0.00         | FFF           |           |            |

**Steel Beam / Horiz Brace:**

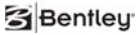
| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 62 | 77.333  | 22.500  | 147.550 | 18.25        | FFF           | 50        | W14X455 | --- |
|    | 77.333  | 42.792  | 147.550 | 0.00         | PPF           |           |         |     |
| 66 | 77.333  | 42.792  | 147.550 | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 68.667  | 147.550 | 0.00         | PPF           |           |         |     |

**Steel Brace:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|----|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 11 | F9    | 77.333  | 22.500  | 147.550 | PPP        | 50        | W14X455 | N   | N   |
|    | F8    | 77.333  | 42.792  | 132.550 | PPP        |           |         |     |     |
| 12 | F9    | 77.333  | 68.667  | 147.550 | PPP        | 50        | W14X455 | N   | N   |
|    | F8    | 77.333  | 42.792  | 132.550 | PPP        |           |         |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 8 | 77.333  | 1.667   | 147.550 | 0.20 | 145.0         | 150.0          | 8.000      | 12.0  | 0     |
|   | 77.333  | 12.500  | 147.550 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 132.550 |      |               |                |            |       |       |
|   | 77.333  | 12.500  | 132.550 |      |               |                |            |       |       |
| 9 | 77.333  | 12.500  | 147.550 | 0.20 | 145.0         | 150.0          | 8.000      | 25.0  | 0     |
|   | 77.333  | 22.500  | 147.550 |      |               |                |            |       |       |
|   | 77.333  | 12.500  | 132.550 |      |               |                |            |       |       |
|   | 77.333  | 22.500  | 132.550 |      |               |                |            |       |       |

**Wall Openings:**

| Wall # | Opening # | Reference Corner | X<br>ft | Y<br>ft | Width<br>in | Height<br>in |
|--------|-----------|------------------|---------|---------|-------------|--------------|
| 9      | 1         | Lower Right      | 4.000   | 0.000   | 54.000      | 90.000       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 8      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |

Level: F8

Frame #101:

Level: F9

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 29 | 89.083  | 12.500  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W14X90  |
|    | 89.083  | 12.500  | 132.550 | 4.05         | 3.78         | FFF           |           |         |
| 30 | 89.083  | 22.500  | 147.550 | 8.35         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 22.500  | 132.550 | 4.05         | 1.66         | FFF           |           |         |
| 31 | 89.083  | 28.500  | 147.550 | 8.35         | 0.00         | FFF           | 50        | W14X283 |
|    | 89.083  | 28.500  | 132.550 | 4.50         | 0.00         | FFF           |           |         |
| 32 | 89.083  | 44.583  | 147.550 | 8.35         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 44.583  | 132.550 | 8.35         | 0.00         | FFF           |           |         |
| 33 | 89.083  | 68.667  | 147.550 | 8.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 89.083  | 68.667  | 132.550 | 8.35         | 0.00         | FFF           |           |         |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 75 | 89.083  | 12.500  | 147.550 | 0.00         | PPF           | 50        | W14X283 | --- |
|    | 89.083  | 22.500  | 147.550 | 6.55         | FFF           |           |         |     |
| 78 | 89.083  | 22.500  | 147.550 | 6.55         | FFF           | 50        | W14X283 | --- |
|    | 89.083  | 28.500  | 147.550 | 8.35         | FFF           |           |         |     |
| 81 | 89.083  | 28.500  | 147.550 | 8.35         | FFF           | 50        | W14X283 | --- |
|    | 89.083  | 44.583  | 147.550 | 6.55         | FFF           |           |         |     |
| 83 | 89.083  | 44.583  | 147.550 | 6.55         | FFF           | 50        | W14X233 | --- |
|    | 89.083  | 68.667  | 147.550 | 6.55         | FFF           |           |         |     |
| 88 | 89.083  | 68.667  | 147.550 | 6.55         | FFF           | 50        | W14X233 | --- |
|    | 89.083  | 98.747  | 147.550 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| #  | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|----|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 13 | F9    | 89.083  | 22.500  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 89.083  | 12.500  | 132.550 | PPP        |           |         |     |     |
| 14 | F9    | 89.083  | 28.500  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 89.083  | 44.583  | 132.550 | PPP        |           |         |     |     |
| 15 | F9    | 89.083  | 68.667  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 89.083  | 44.583  | 132.550 | PPP        |           |         |     |     |
| 16 | F9    | 89.083  | 68.667  | 147.550 | PPP        | 50        | W14X120 | N   | N   |
|    | F8    | 89.083  | 98.747  | 132.550 | PPP        |           |         |     |     |

**Level: F8**

**Frame #102:**

**Level: F9**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 43 | 161.083 | 12.500  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W14X90  |
|    | 161.083 | 12.500  | 132.550 | 4.05         | 3.46         | FFF           |           |         |
| 44 | 161.083 | 22.500  | 147.550 | 8.35         | 0.00         | FFF           | 50        | W12X120 |
|    | 161.083 | 22.500  | 132.550 | 4.05         | 4.05         | FFF           |           |         |
| 45 | 161.083 | 28.500  | 147.550 | 8.35         | 0.00         | FFF           | 50        | W14X283 |
|    | 161.083 | 28.500  | 132.550 | 4.50         | 0.00         | FFF           |           |         |
| 46 | 161.083 | 44.583  | 147.550 | 8.35         | 0.00         | FFF           | 50        | W12X120 |
|    | 161.083 | 44.583  | 132.550 | 8.35         | 4.05         | FFF           |           |         |
| 47 | 161.083 | 68.667  | 147.550 | 8.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 161.083 | 68.667  | 132.550 | 8.35         | 4.05         | FFF           |           |         |

**Steel Beam / Horiz Brace:**





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 128 | 161.083 | 12.500  | 147.550 | 0.00         | PPF           | 50        | W14X283 | --- |
|     | 161.083 | 22.500  | 147.550 | 6.55         | FFF           |           |         |     |
| 131 | 161.083 | 22.500  | 147.550 | 6.55         | FFF           | 50        | W14X283 | --- |
|     | 161.083 | 28.500  | 147.550 | 8.35         | FFF           |           |         |     |
| 134 | 161.083 | 28.500  | 147.550 | 8.35         | FFF           | 50        | W14X283 | --- |
|     | 161.083 | 44.583  | 147.550 | 6.55         | FFF           |           |         |     |
| 137 | 161.083 | 44.583  | 147.550 | 6.55         | FFF           | 50        | W14X233 | --- |
|     | 161.083 | 68.667  | 147.550 | 6.55         | FFF           |           |         |     |
| 141 | 161.083 | 68.667  | 147.550 | 6.55         | FFF           | 50        | W14X233 | --- |
|     | 161.083 | 98.747  | 147.550 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| #  | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|----|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 21 | F9    | 161.083 | 22.500  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 161.083 | 12.500  | 132.550 | PPP        |           |         |     |     |
| 22 | F9    | 161.083 | 28.500  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 161.083 | 44.583  | 132.550 | PPP        |           |         |     |     |
| 23 | F9    | 161.083 | 68.667  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 161.083 | 44.583  | 132.550 | PPP        |           |         |     |     |
| 24 | F9    | 161.083 | 68.667  | 147.550 | PPP        | 50        | W14X120 | N   | N   |
|    | F8    | 161.083 | 98.747  | 132.550 | PPP        |           |         |     |     |

**Level: F8**

**Frame #103:**

**Level: F9**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 53 | 206.750 | 22.500  | 147.550 | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 22.500  | 132.550 | 0.00         | 0.00         | FFF           |           |            |
| 54 | 206.750 | 68.667  | 147.550 | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 68.667  | 132.550 | 0.00         | 0.00         | FFF           |           |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 10 | 206.750 | 22.500  | 147.550 | 0.20 | 145.0         | 150.0          | 8.000      | 18.0  | 0     |
|    | 206.750 | 68.667  | 147.550 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 132.550 |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 132.550 |      |               |                |            |       |       |

**Wall Crack Factors:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 10     | 1.000    | 1.000   |

**Frame #104:**

**Level: F9**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 14 | 37.667  | 1.667   | 147.550 | 7.15         | 0.00         | FFF           | 36        | W14X109 |
|    | 37.667  | 1.667   | 132.550 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 37.667  | 1.667   | 147.550 | 0.20 | 145.0         | 150.0          | 8.000      | 14.0  | 0     |
|   | 63.083  | 1.667   | 147.550 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 132.550 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 132.550 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 147.550 | 0.20 | 145.0         | 150.0          | 8.000      | 14.0  | 0     |
|   | 77.333  | 1.667   | 147.550 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 132.550 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 132.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |

**Frame #105:**

**Level: F9**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 34.163  | 64.654  | 147.550 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 64.654  | 147.550 |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 132.550 |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 132.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.350    | 1.000   |

**Frame #106:**

**Level: F9**

**Concrete Wall:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 34.163  | 74.024  | 147.550 | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|   | 74.093  | 74.024  | 147.550 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 132.550 |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 132.550 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #107:**

**Level: F9**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 28 | 80.770  | 98.747  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 80.770  | 98.747  | 132.550 | 0.00         | 0.00         | FFF           |           |         |
| 34 | 89.083  | 98.747  | 147.550 | 0.00         | 7.10         | FFF           | 50        | W14X90  |
|    | 89.083  | 98.747  | 132.550 | 0.00         | 7.00         | FFF           |           |         |
| 38 | 113.083 | 98.747  | 147.550 | 0.00         | 7.10         | FFF           | 50        | W12X120 |
|    | 113.083 | 98.747  | 132.550 | 0.00         | 7.00         | FFF           |           |         |
| 42 | 137.083 | 98.747  | 147.550 | 0.00         | 7.10         | FFF           | 50        | W12X120 |
|    | 137.083 | 98.747  | 132.550 | 0.00         | 7.00         | FFF           |           |         |
| 48 | 161.083 | 98.747  | 147.550 | 0.00         | 7.10         | FFF           | 50        | W12X120 |
|    | 161.083 | 98.747  | 132.550 | 0.00         | 7.00         | FFF           |           |         |
| 49 | 169.916 | 98.747  | 147.550 | 0.00         | 0.00         | FFF           | 50        | W12X120 |
|    | 169.916 | 98.747  | 132.550 | 3.73         | 0.82         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 74  | 80.770  | 98.747  | 147.550 | 0.00         | PPF           | 50        | W14X99  | --- |
|     | 89.083  | 98.747  | 147.550 | 0.00         | FFF           |           |         |     |
| 91  | 89.083  | 98.747  | 147.550 | 0.00         | FFF           | 50        | W14X99  | --- |
|     | 113.083 | 98.747  | 147.550 | 0.00         | FFF           |           |         |     |
| 108 | 113.083 | 98.747  | 147.550 | 0.00         | FFF           | 50        | W14X99  | --- |
|     | 137.083 | 98.747  | 147.550 | 0.00         | FFF           |           |         |     |
| 125 | 137.083 | 98.747  | 147.550 | 0.00         | FFF           | 50        | W14X99  | --- |
|     | 161.083 | 98.747  | 147.550 | 0.00         | FFF           |           |         |     |
| 144 | 161.083 | 98.747  | 147.550 | 0.00         | FFF           | 50        | W14X99  | --- |
|     | 169.916 | 98.747  | 147.550 | 0.00         | PPF           |           |         |     |

**Steel Brace:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|----|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 17 | F9    | 89.083  | 98.747  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 80.770  | 98.747  | 132.550 | PPP        |           |         |     |     |
| 18 | F9    | 89.083  | 98.747  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 113.083 | 98.747  | 132.550 | PPP        |           |         |     |     |
| 19 | F9    | 113.083 | 98.747  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 137.083 | 98.747  | 132.550 | PPP        |           |         |     |     |
| 20 | F9    | 137.083 | 98.747  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 113.083 | 98.747  | 132.550 | PPP        |           |         |     |     |
| 25 | F9    | 161.083 | 98.747  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 137.083 | 98.747  | 132.550 | PPP        |           |         |     |     |
| 26 | F9    | 161.083 | 98.747  | 147.550 | PPP        | 50        | W14X90  | N   | N   |
|    | F8    | 169.916 | 98.747  | 132.550 | PPP        |           |         |     |     |

Level: F8

Frame #108:

Level: F9

Concrete Wall:

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 147.550 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 34.163  | 74.024  | 147.550 |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 132.550 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 132.550 |      |               |                |            |       |       |

Wall Crack Factors:

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |

Frame #109:

Level: F9

Concrete Wall:

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 7 | 74.093  | 64.654  | 147.550 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 74.024  | 147.550 |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 132.550 |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 132.550 |      |               |                |            |       |       |

Wall Crack Factors:

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 7      | 0.350    | 1.000   |

Frame #110:



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Level: F8**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 7  | 21.583  | 3.608   | 132.550 | 0.00         | 0.00         | FFF           | 50        | W14X342 |
|    | 21.583  | 3.608   | 120.390 | 0.00         | 0.00         | FFF           |           |         |
| 8  | 21.583  | 19.833  | 132.550 | 0.00         | 7.60         | FFF           | 36        | W14X500 |
|    | 21.583  | 19.833  | 120.390 | 0.00         | 0.00         | FFF           |           |         |
| 9  | 21.583  | 65.487  | 132.550 | 7.60         | 0.00         | FFF           | 50        | W14X426 |
|    | 21.583  | 65.487  | 120.390 | 0.00         | 0.00         | FFF           |           |         |
| 10 | 21.583  | 83.292  | 132.550 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 21.583  | 83.292  | 120.390 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 28 | 21.583  | 3.608   | 132.550 | 0.00         | PPF           | 50        | W14X176 | --- |
|    | 21.583  | 19.833  | 132.550 | 0.00         | FFF           |           |         |     |
| 29 | 21.583  | 19.833  | 132.550 | 0.00         | FFF           | 50        | W14X176 | --- |
|    | 21.583  | 65.487  | 132.550 | 9.35         | FFF           |           |         |     |
| 34 | 21.583  | 65.487  | 132.550 | 9.35         | FFF           | 50        | W14X176 | --- |
|    | 21.583  | 83.292  | 132.550 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F8    | 21.583  | 11.468  | 132.550 | PPP        | 50        | W14X500 | N   | N   |
|   | F7    | 21.583  | 17.958  | 120.390 | PPP        |           |         |     |     |
| 2 | F8    | 21.583  | 75.387  | 132.550 | PPP        | 50        | W14X500 | N   | N   |
|   | F7    | 21.583  | 68.942  | 120.390 | PPP        |           |         |     |     |

**Level: F7**

**Frame #111:**

**Level: F8**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 17 | 63.083  | 19.000  | 132.550 | 0.00         | 0.00         | FFF           | 36        | W14X61  |
|    | 63.083  | 19.000  | 120.390 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5 | 63.083  | 1.667   | 132.550 | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |



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|        |        |         |
|--------|--------|---------|
| 63.083 | 19.000 | 132.550 |
| 63.083 | 1.667  | 120.390 |
| 63.083 | 19.000 | 120.390 |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |

**Frame #112:**

**Level: F8**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 20 | 77.333  | 12.500  | 132.550 | 3.57         | 0.49         | FFF           | 36        | W14X82     |
|    | 77.333  | 12.500  | 120.390 | 0.00         | 0.00         | FFF           |           |            |
| 21 | 77.333  | 22.500  | 132.550 | 2.97         | 1.08         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 22.500  | 120.390 | 0.84         | 4.05         | FFF           |           |            |
| 22 | 77.333  | 42.792  | 132.550 | 0.00         | 0.00         | FFF           | 50        | W14X730    |
|    | 77.333  | 42.792  | 120.390 | 2.42         | 3.96         | FFF           |           |            |
| 23 | 77.333  | 68.667  | 132.550 | 0.00         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 68.667  | 120.390 | 0.00         | 4.05         | FFF           |           |            |

**Steel Beam / Horiz Brace:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 116 | 77.333  | 22.500  | 132.550 | 0.00         | PPF           | 50        | W14X455 | --- |
|     | 77.333  | 42.792  | 132.550 | 0.00         | PPF           |           |         |     |
| 119 | 77.333  | 42.792  | 132.550 | 0.00         | PPF           | 50        | W14X455 | --- |
|     | 77.333  | 68.667  | 132.550 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 3 | F8    | 77.333  | 42.792  | 132.550 | PPP        | 50        | W14X455 | N   | N   |
|   | F6    | 77.333  | 22.500  | 108.230 | PPP        |           |         |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 8 | 77.333  | 1.667   | 132.550 | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|   | 77.333  | 12.500  | 132.550 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 120.390 |      |               |                |            |       |       |
|   | 77.333  | 12.500  | 120.390 |      |               |                |            |       |       |
| 9 | 77.333  | 12.500  | 132.550 | 0.20 | 145.0         | 150.0          | 6.000      | 25.0  | 0     |
|   | 77.333  | 22.500  | 132.550 |      |               |                |            |       |       |
|   | 77.333  | 12.500  | 120.390 |      |               |                |            |       |       |



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77.333 22.500 120.390

**Wall Openings:**

| Wall # | Opening # | Reference Corner | X<br>ft | Y<br>ft | Width<br>in | Height<br>in |
|--------|-----------|------------------|---------|---------|-------------|--------------|
| 9      | 1         | Lower Right      | 4.000   | 0.000   | 54.000      | 90.000       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 8      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |

**Level: F6**

**Frame #113:**

**Level: F8**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 29 | 89.083  | 22.500  | 132.550 | 1.66         | 4.05         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 22.500  | 120.390 | 4.05         | 4.05         | FFF           |           |            |
| 30 | 89.083  | 28.500  | 132.550 | 0.00         | 4.50         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 28.500  | 120.390 | 3.22         | 4.05         | FFF           |           |            |
| 31 | 89.083  | 44.583  | 132.550 | 8.35         | 0.00         | FFF           | 50        | Pipe1/2Std |
|    | 89.083  | 44.583  | 120.390 | 4.05         | 4.05         | FFF           |           |            |
| 32 | 89.083  | 68.667  | 132.550 | 0.00         | 8.35         | FFF           | 42        | Pipe1/2Std |
|    | 89.083  | 68.667  | 120.390 | 4.05         | 4.05         | FFF           |           |            |

**Steel Beam / Horiz Brace:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 127 | 89.083  | 22.500  | 132.550 | 0.00         | PPF           | 50        | W8X67   | --- |
|     | 89.083  | 28.500  | 132.550 | 0.00         | FFF           |           |         |     |
| 129 | 89.083  | 28.500  | 132.550 | 0.00         | FFF           | 50        | W8X67   | --- |
|     | 89.083  | 44.583  | 132.550 | 0.42         | FFF           |           |         |     |
| 130 | 89.083  | 44.583  | 132.550 | 0.42         | FFF           | 50        | W14X283 | --- |
|     | 89.083  | 68.667  | 132.550 | 0.00         | FFF           |           |         |     |
| 131 | 89.083  | 68.667  | 132.550 | 0.00         | FFF           | 50        | W14X283 | --- |
|     | 89.083  | 98.747  | 132.550 | 0.00         | PPF           |           |         |     |

**Frame #114:**

**Level: F8**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 43 | 161.083 | 22.500  | 132.550 | 4.05         | 4.05         | FFF           | 42        | Pipe1/2Std |



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| #  | X       | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section    |
|----|---------|--------|---------|--------|--------|--------|----|------------|
|    | 161.083 | 22.500 | 120.390 | 4.05   | 4.05   | FFF    |    |            |
| 44 | 161.083 | 28.500 | 132.550 | 0.00   | 4.50   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 28.500 | 120.390 | 3.82   | 4.05   | FFF    |    |            |
| 45 | 161.083 | 44.583 | 132.550 | 8.35   | 4.05   | FFF    | 50 | Pipe1/2Std |
|    | 161.083 | 44.583 | 120.390 | 4.05   | 4.05   | FFF    |    |            |
| 46 | 161.083 | 68.667 | 132.550 | 4.05   | 8.35   | FFF    | 42 | Pipe1/2Std |
|    | 161.083 | 68.667 | 120.390 | 4.05   | 4.05   | FFF    |    |            |

**Steel Beam / Horiz Brace:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 140 | 161.083 | 22.500  | 132.550 | 0.00         | PPF           | 50        | W8X67   | --- |
|     | 161.083 | 28.500  | 132.550 | 0.00         | FFF           |           |         |     |
| 143 | 161.083 | 28.500  | 132.550 | 0.00         | FFF           | 50        | W8X67   | --- |
|     | 161.083 | 44.583  | 132.550 | 0.42         | FFF           |           |         |     |
| 144 | 161.083 | 44.583  | 132.550 | 0.42         | FFF           | 50        | W14X283 | --- |
|     | 161.083 | 68.667  | 132.550 | 0.00         | FFF           |           |         |     |
| 146 | 161.083 | 68.667  | 132.550 | 0.00         | FFF           | 50        | W14X283 | --- |
|     | 161.083 | 98.747  | 132.550 | 0.00         | PPF           |           |         |     |

**Frame #115:**

**Level: F8**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 52 | 206.750 | 22.500  | 132.550 | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 22.500  | 120.390 | 0.00         | 0.00         | FFF           |           |            |
| 53 | 206.750 | 68.667  | 132.550 | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 68.667  | 120.390 | 0.00         | 0.00         | FFF           |           |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 10 | 206.750 | 22.500  | 132.550 | 0.20 | 145.0         | 150.0          | 6.000      | 18.0  | 0     |
|    | 206.750 | 68.667  | 132.550 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 120.390 |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 120.390 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 10     | 1.000    | 1.000   |

**Frame #116:**

**Level: F8**

**Steel Column:**





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| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 6  | 21.583  | 1.667   | 132.550 | 0.00         | 0.00         | FFF           | 36        | W14X233 |
|    | 21.583  | 1.667   | 120.390 | 0.00         | 0.00         | FFF           |           |         |
| 12 | 37.667  | 1.667   | 132.550 | 0.00         | 0.00         | FFF           | 36        | W14X109 |
|    | 37.667  | 1.667   | 120.390 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 37.667  | 1.667   | 132.550 | 0.20 | 145.0         | 150.0          | 6.000      | 18.0  | 0     |
|   | 63.083  | 1.667   | 132.550 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 120.390 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 120.390 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 132.550 | 0.20 | 145.0         | 150.0          | 6.000      | 18.0  | 0     |
|   | 77.333  | 1.667   | 132.550 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 120.390 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 120.390 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |

**Frame #117:**

**Level: F8**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 14 | 43.875  | 37.167  | 132.550 | 0.00         | 0.00         | FFF           | 50        | W14X311 |
|    | 43.875  | 37.167  | 120.390 | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 33 | 21.583  | 37.167  | 132.550 | 0.00         | PPF           | 50        | W18X175 | --- |
|    | 43.875  | 37.167  | 132.550 | 0.00         | PPF           |           |         |     |

**Frame #118:**

**Level: F8**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 34.163  | 64.654  | 132.550 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 64.654  | 132.550 |      |               |                |            |       |       |



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|        |        |         |
|--------|--------|---------|
| 34.163 | 64.654 | 120.390 |
| 74.093 | 64.654 | 120.390 |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.500    | 1.000   |

**Frame #119:**

**Level: F8**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 34.163  | 74.024  | 132.550 | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|   | 74.093  | 74.024  | 132.550 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 120.390 |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 120.390 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #120:**

**Level: F8**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 26 | 80.770  | 98.747  | 132.550 | 0.00         | 0.00         | FFF           | 50        | Pipe1/2Std |
|    | 80.770  | 98.747  | 120.390 | 3.77         | 4.05         | FFF           |           |            |
| 33 | 89.083  | 98.747  | 132.550 | 0.00         | 7.00         | FFF           | 50        | Pipe1/2Std |
|    | 89.083  | 98.747  | 120.390 | 4.05         | 4.05         | FFF           |           |            |
| 37 | 113.083 | 98.747  | 132.550 | 0.00         | 7.00         | FFF           | 50        | Pipe1/2Std |
|    | 113.083 | 98.747  | 120.390 | 4.05         | 4.05         | FFF           |           |            |
| 41 | 137.083 | 98.747  | 132.550 | 0.00         | 7.00         | FFF           | 50        | Pipe1/2Std |
|    | 137.083 | 98.747  | 120.390 | 4.05         | 4.05         | FFF           |           |            |
| 47 | 161.083 | 98.747  | 132.550 | 0.00         | 7.00         | FFF           | 50        | Pipe1/2Std |
|    | 161.083 | 98.747  | 120.390 | 4.05         | 4.05         | FFF           |           |            |
| 48 | 169.916 | 98.747  | 132.550 | 3.73         | 0.82         | FFF           | 50        | Pipe1/2Std |
|    | 169.916 | 98.747  | 120.390 | 3.73         | 4.05         | FFF           |           |            |

**Steel Beam / Horiz Brace:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 123 | 80.770  | 98.747  | 132.550 | 0.00         | PPF           | 50        | W8X10   | --- |
|     | 89.083  | 98.747  | 132.550 | 0.00         | FFF           |           |         |     |
| 132 | 89.083  | 98.747  | 132.550 | 0.00         | FFF           | 50        | W14X90  | --- |



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| #   | X       | Y      | Z       | RigEnd | Fixity | Fy | Section | T-O |
|-----|---------|--------|---------|--------|--------|----|---------|-----|
|     | 113.083 | 98.747 | 132.550 | 0.00   | FFF    |    |         |     |
| 134 | 113.083 | 98.747 | 132.550 | 0.00   | FFF    | 50 | W14X90  | --- |
|     | 137.083 | 98.747 | 132.550 | 0.00   | FFF    |    |         |     |
| 137 | 137.083 | 98.747 | 132.550 | 0.00   | FFF    | 50 | W14X90  | --- |
|     | 161.083 | 98.747 | 132.550 | 0.00   | FFF    |    |         |     |
| 150 | 161.083 | 98.747 | 132.550 | 0.00   | FFF    | 50 | W14X90  | --- |
|     | 169.916 | 98.747 | 132.550 | 0.00   | PPF    |    |         |     |

**Frame #121:**

**Level: F8**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 132.550 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 34.163  | 74.024  | 132.550 |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 120.390 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 120.390 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |

**Frame #122:**

**Level: F8**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 7 | 74.093  | 64.654  | 132.550 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 74.024  | 132.550 |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 120.390 |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 120.390 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 7      | 0.500    | 1.000   |

**Frame #123:**

**Level: F7**

**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 6 | 21.583  | 1.667   | 120.390 | 0.00         | 0.00         | FFF           | 36        | W14X233 |
|   | 21.583  | 1.667   | 108.230 | 0.00         | 0.00         | FFF           |           |         |
| 7 | 21.583  | 3.608   | 120.390 | 0.00         | 0.00         | FFF           | 50        | W14X342 |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X      | Y      | Z       | RigMaj | RigMin | Fixity | Fy | Section |
|----|--------|--------|---------|--------|--------|--------|----|---------|
|    | 21.583 | 3.608  | 108.230 | 0.00   | 0.00   | FFF    |    |         |
| 8  | 21.583 | 19.833 | 120.390 | 0.00   | 0.00   | FFF    | 36 | W14X500 |
|    | 21.583 | 19.833 | 108.230 | 0.00   | 0.00   | FFF    |    |         |
| 9  | 21.583 | 65.487 | 120.390 | 0.00   | 0.00   | FFF    | 50 | W14X605 |
|    | 21.583 | 65.487 | 108.230 | 0.00   | 0.00   | FFF    |    |         |
| 10 | 21.583 | 83.292 | 120.390 | 0.00   | 0.00   | FFF    | 50 | W14X730 |
|    | 21.583 | 83.292 | 108.230 | 0.00   | 0.00   | FFF    |    |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 29 | 21.583  | 3.608   | 120.390 | 0.00         | PPF           | 50        | W24X62  | --- |
|    | 21.583  | 19.833  | 120.390 | 0.00         | PPF           |           |         |     |
| 30 | 21.583  | 19.833  | 120.390 | 0.00         | PPF           | 50        | W30X90  | --- |
|    | 21.583  | 65.487  | 120.390 | 0.00         | PPF           |           |         |     |
| 36 | 21.583  | 65.487  | 120.390 | 0.00         | PPF           | 50        | W24X62  | --- |
|    | 21.583  | 83.292  | 120.390 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F7    | 21.583  | 17.958  | 120.390 | PPP        | 50        | W14X500 | N   | N   |
|   | F6    | 21.583  | 24.417  | 108.230 | PPP        |           |         |     |     |
| 2 | F7    | 21.583  | 68.942  | 120.390 | PPP        | 50        | W14X500 | N   | N   |
|   | F6    | 21.583  | 62.483  | 108.230 | PPP        |           |         |     |     |

**Level: F6**

**Frame #124:**

**Level: F7**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 21 | 77.333  | 22.500  | 120.390 | 0.84         | 4.05         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 22.500  | 108.230 | 0.00         | 0.00         | FFF           |           |            |
| 22 | 77.333  | 42.792  | 120.390 | 2.42         | 3.96         | FFF           | 50        | W14X730    |
|    | 77.333  | 42.792  | 108.230 | 0.00         | 0.00         | FFF           |           |            |
| 23 | 77.333  | 68.667  | 120.390 | 0.00         | 4.05         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 68.667  | 108.230 | 0.00         | 0.00         | FFF           |           |            |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 90 | 77.333  | 22.500  | 120.390 | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 42.792  | 120.390 | 0.00         | PPF           |           |         |     |



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| #  | X      | Y      | Z       | RigEnd | Fixity | Fy | Section | T-O |
|----|--------|--------|---------|--------|--------|----|---------|-----|
| 93 | 77.333 | 42.792 | 120.390 | 0.00   | PPF    | 50 | W14X455 | --- |
|    | 77.333 | 68.667 | 120.390 | 0.00   | PPF    |    |         |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 8 | 77.333  | 1.667   | 120.390 | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|   | 77.333  | 12.500  | 120.390 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 108.230 |      |               |                |            |       |       |
|   | 77.333  | 12.500  | 108.230 |      |               |                |            |       |       |
| 9 | 77.333  | 12.500  | 120.390 | 0.20 | 145.0         | 150.0          | 6.000      | 25.0  | 0     |
|   | 77.333  | 22.500  | 120.390 |      |               |                |            |       |       |
|   | 77.333  | 12.500  | 108.230 |      |               |                |            |       |       |
|   | 77.333  | 22.500  | 108.230 |      |               |                |            |       |       |

**Wall Openings:**

| Wall # | Opening # | Reference Corner | X<br>ft | Y<br>ft | Width<br>in | Height<br>in |
|--------|-----------|------------------|---------|---------|-------------|--------------|
| 9      | 1         | Lower Right      | 4.000   | 0.000   | 54.000      | 90.000       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 8      | 0.500    | 1.000   |
| 9      | 0.500    | 1.000   |

**Frame #125:**

**Level: F7**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 12 | 37.667  | 1.667   | 120.390 | 0.00         | 0.00         | FFF           | 36        | W14X109 |
|    | 37.667  | 1.667   | 108.230 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 37.667  | 1.667   | 120.390 | 0.20 | 145.0         | 150.0          | 6.000      | 14.0  | 0     |
|   | 63.083  | 1.667   | 120.390 |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 108.230 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 108.230 |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 120.390 | 0.20 | 145.0         | 150.0          | 6.000      | 14.0  | 0     |
|   | 77.333  | 1.667   | 120.390 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 108.230 |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 108.230 |      |               |                |            |       |       |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |

**Frame #126:**

**Level: F7**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 17 | 63.083  | 19.000  | 120.390 | 0.00         | 0.00         | FFF           | 36        | W14X90  |
|    | 63.083  | 19.000  | 108.230 | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5 | 63.083  | 1.667   | 120.390 | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|   | 63.083  | 19.000  | 120.390 |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 108.230 |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 108.230 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |

**Frame #127:**

**Level: F7**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 53 | 206.750 | 22.500  | 120.390 | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 22.500  | 108.230 | 0.00         | 0.00         | FFF           |           |            |
| 54 | 206.750 | 68.667  | 120.390 | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 68.667  | 108.230 | 0.00         | 0.00         | FFF           |           |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 10 | 206.750 | 22.500  | 120.390 | 0.20 | 145.0         | 150.0          | 6.000      | 18.0  | 0     |
|    | 206.750 | 68.667  | 120.390 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 108.230 |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 108.230 |      |               |                |            |       |       |

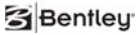
**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
|--------|----------|---------|



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

10 1.000 1.000

**Frame #128:**

**Level: F7**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 34.163  | 64.654  | 120.390 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 64.654  | 120.390 |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 108.230 |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 108.230 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.350    | 1.000   |

**Frame #129:**

**Level: F7**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 34.163  | 74.024  | 120.390 | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|   | 74.093  | 74.024  | 120.390 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 108.230 |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 108.230 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #130:**

**Level: F7**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 120.390 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 34.163  | 74.024  | 120.390 |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 108.230 |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 108.230 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |

**Frame #131:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Level: F7**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 7 | 74.093  | 64.654  | 120.390 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 74.024  | 120.390 |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 108.230 |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 108.230 |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 7      | 0.500    | 1.000   |

**Frame #132:**

**Level: F6**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 6  | 21.583  | 1.667   | 108.230 | 0.00         | 0.00         | FFF           | 36        | W14X233 |
|    | 21.583  | 1.667   | 93.020  | 0.00         | 0.00         | FFF           |           |         |
| 7  | 21.583  | 3.608   | 108.230 | 0.00         | 0.00         | FFF           | 50        | W14X342 |
|    | 21.583  | 3.608   | 93.020  | 0.00         | 0.00         | FFF           |           |         |
| 8  | 21.583  | 19.833  | 108.230 | 0.00         | 0.00         | FFF           | 36        | W14X500 |
|    | 21.583  | 19.833  | 93.020  | 0.00         | 0.00         | FFF           |           |         |
| 9  | 21.583  | 65.487  | 108.230 | 0.00         | 0.00         | FFF           | 50        | W14X426 |
|    | 21.583  | 65.487  | 93.020  | 0.00         | 0.00         | FFF           |           |         |
| 10 | 21.583  | 83.292  | 108.230 | 0.00         | 0.00         | FFF           | 50        | W14X730 |
|    | 21.583  | 83.292  | 93.020  | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 29 | 21.583  | 3.608   | 108.230 | 0.00         | PPF           | 50        | W24X62  | --- |
|    | 21.583  | 19.833  | 108.230 | 0.00         | PPF           |           |         |     |
| 30 | 21.583  | 19.833  | 108.230 | 0.00         | PPF           | 50        | W30X90  | --- |
|    | 21.583  | 65.487  | 108.230 | 0.00         | PPF           |           |         |     |
| 35 | 21.583  | 65.487  | 108.230 | 0.00         | PPF           | 50        | W24X62  | --- |
|    | 21.583  | 83.292  | 108.230 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F6    | 21.583  | 24.417  | 108.230 | PPP        | 50        | W14X500 | N   | N   |
|   | F5    | 21.583  | 34.553  | 93.020  | PPP        |           |         |     |     |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | Level | X      | Y      | Z       | Fix | Fy | Section | BRB | T-O |
|---|-------|--------|--------|---------|-----|----|---------|-----|-----|
| 2 | F6    | 21.583 | 62.483 | 108.230 | PPP | 50 | W14X500 | N   | N   |
|   | F5    | 21.583 | 52.347 | 93.020  | PPP |    |         |     |     |

Level: F5

Frame #133:

Level: F6

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 22 | 77.333  | 22.500  | 108.230 | 0.00         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 22.500  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 23 | 77.333  | 42.792  | 108.230 | 0.00         | 0.00         | FFF           | 50        | W14X730    |
|    | 77.333  | 42.792  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 24 | 77.333  | 68.667  | 108.230 | 0.00         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 68.667  | 93.020  | 0.00         | 0.00         | FFF           |           |            |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 94 | 77.333  | 22.500  | 108.230 | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 42.792  | 108.230 | 0.00         | PPF           |           |         |     |
| 95 | 77.333  | 42.792  | 108.230 | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 68.667  | 108.230 | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 3 | F6    | 77.333  | 22.500  | 108.230 | PPP        | 50        | W14X455 | N   | N   |
|   | F5    | 77.333  | 42.792  | 93.020  | PPP        |           |         |     |     |
| 4 | F6    | 77.333  | 68.667  | 108.230 | PPP        | 50        | W14X455 | N   | N   |
|   | F5    | 77.333  | 42.792  | 93.020  | PPP        |           |         |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 9  | 77.333  | 1.667   | 108.230 | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|    | 77.333  | 12.500  | 108.230 |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 93.020  |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 93.020  |      |               |                |            |       |       |
| 10 | 77.333  | 12.500  | 108.230 | 0.20 | 145.0         | 150.0          | 6.000      | 25.0  | 0     |
|    | 77.333  | 22.500  | 108.230 |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 93.020  |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 93.020  |      |               |                |            |       |       |

**Wall Openings:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Wall # | Opening # | Reference Corner | X<br>ft | Y<br>ft | Width<br>in | Height<br>in |
|--------|-----------|------------------|---------|---------|-------------|--------------|
| 10     | 1         | Lower Right      | 4.600   | 0.000   | 38.040      | 90.000       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |

Level: F5

Frame #134:

Level: F6

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 54 | 206.750 | 22.500  | 108.230 | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 22.500  | 93.020  | 0.00         | 0.00         | FFF           |           |            |
| 55 | 206.750 | 68.667  | 108.230 | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 68.667  | 93.020  | 0.00         | 0.00         | FFF           |           |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 206.750 | 22.500  | 108.230 | 0.20 | 145.0         | 150.0          | 6.000      | 18.0  | 0     |
|    | 206.750 | 68.667  | 108.230 |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 93.020  |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 93.020  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 1.000    | 1.000   |

Frame #135:

Level: F6

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 18 | 63.083  | 19.000  | 108.230 | 0.00         | 0.00         | FFF           | 36        | W14X90  |
|    | 63.083  | 19.000  | 93.020  | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5 | 63.083  | 1.667   | 108.230 | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|   | 63.083  | 19.000  | 108.230 |      |               |                |            |       |       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |        |        |
|--------|--------|--------|
| 63.083 | 1.667  | 93.020 |
| 63.083 | 19.000 | 93.020 |

**Wall Crack Factors:**

|               |                 |                |
|---------------|-----------------|----------------|
| <b>Wall #</b> | <b>Membrane</b> | <b>Bending</b> |
| 5             | 0.500           | 1.000          |

**Frame #136:**

**Level: F6**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 108.230 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 34.163  | 74.024  | 108.230 |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 93.020  |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 93.020  |      |               |                |            |       |       |

**Wall Crack Factors:**

|               |                 |                |
|---------------|-----------------|----------------|
| <b>Wall #</b> | <b>Membrane</b> | <b>Bending</b> |
| 1             | 0.500           | 1.000          |

**Frame #137:**

**Level: F6**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 8 | 74.093  | 64.654  | 108.230 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 74.024  | 108.230 |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 93.020  |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 93.020  |      |               |                |            |       |       |

**Wall Crack Factors:**

|               |                 |                |
|---------------|-----------------|----------------|
| <b>Wall #</b> | <b>Membrane</b> | <b>Bending</b> |
| 8             | 0.500           | 1.000          |

**Frame #138:**

**Level: F6**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 13 | 37.667  | 1.667   | 108.230 | 0.00         | 0.00         | FFF           | 36        | W14X109 |
|    | 37.667  | 1.667   | 93.020  | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X | Y | Z | Pois | UnitWt | UW Self | f'c | Thick | Group |
|---|---|---|---|------|--------|---------|-----|-------|-------|
|---|---|---|---|------|--------|---------|-----|-------|-------|



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|   | ft     | ft    | ft      |      | pcf   | pcf   | ksi   |      |   |
|---|--------|-------|---------|------|-------|-------|-------|------|---|
| 4 | 37.667 | 1.667 | 108.230 | 0.20 | 145.0 | 150.0 | 6.000 | 18.0 | 0 |
|   | 63.083 | 1.667 | 108.230 |      |       |       |       |      |   |
|   | 37.667 | 1.667 | 93.020  |      |       |       |       |      |   |
|   | 63.083 | 1.667 | 93.020  |      |       |       |       |      |   |
| 6 | 63.083 | 1.667 | 108.230 | 0.20 | 145.0 | 150.0 | 6.000 | 18.0 | 0 |
|   | 77.333 | 1.667 | 108.230 |      |       |       |       |      |   |
|   | 63.083 | 1.667 | 93.020  |      |       |       |       |      |   |
|   | 77.333 | 1.667 | 93.020  |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |

**Frame #139:**

**Level: F6**

**Concrete Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|----|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 87 | 66.793  | 64.654  | 108.230 | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 70.293  | 64.654  | 108.230 | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 34.163  | 64.654  | 108.230 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 66.793  | 64.654  | 108.230 |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 93.020  |      |               |                |            |       |       |
|   | 66.793  | 64.654  | 93.020  |      |               |                |            |       |       |
| 7 | 70.293  | 64.654  | 108.230 | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 64.654  | 108.230 |      |               |                |            |       |       |
|   | 70.293  | 64.654  | 93.020  |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 93.020  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.350    | 1.000   |
| 7      | 0.350    | 1.000   |

**Frame #140:**

**Level: F6**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|   |        |        |         |      |       |       |        |      |   |
|---|--------|--------|---------|------|-------|-------|--------|------|---|
| 3 | 34.163 | 74.024 | 108.230 | 0.20 | 145.0 | 150.0 | 12.000 | 24.0 | 0 |
|   | 74.093 | 74.024 | 108.230 |      |       |       |        |      |   |
|   | 34.163 | 74.024 | 93.020  |      |       |       |        |      |   |
|   | 74.093 | 74.024 | 93.020  |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #141:**

**Level: F5**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 6  | 21.583  | 1.667   | 93.020  | 0.00         | 0.00         | FFF           | 36        | W14X311 |
|    | 21.583  | 1.667   | 76.980  | 0.00         | 0.00         | FFF           |           |         |
| 7  | 21.583  | 3.608   | 93.020  | 0.00         | 0.00         | FFF           | 50        | W14X342 |
|    | 21.583  | 3.608   | 76.980  | 0.00         | 0.00         | FFF           |           |         |
| 8  | 21.583  | 19.833  | 93.020  | 0.00         | 0.00         | FFF           | 36        | W14X605 |
|    | 21.583  | 19.833  | 76.980  | 0.00         | 0.00         | FFF           |           |         |
| 9  | 21.583  | 65.487  | 93.020  | 0.00         | 0.00         | FFF           | 50        | W14X605 |
|    | 21.583  | 65.487  | 76.980  | 0.00         | 0.00         | FFF           |           |         |
| 10 | 21.583  | 83.292  | 93.020  | 0.00         | 0.00         | FFF           | 42        | W14X730 |
|    | 21.583  | 83.292  | 76.980  | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 40 | 21.583  | 3.608   | 93.020  | 0.00         | PPF           | 50        | W24X62  | --- |
|    | 21.583  | 19.833  | 93.020  | 0.00         | PPF           |           |         |     |
| 41 | 21.583  | 19.833  | 93.020  | 0.00         | PPF           | 50        | W30X90  | --- |
|    | 21.583  | 65.487  | 93.020  | 0.00         | PPF           |           |         |     |
| 45 | 21.583  | 65.487  | 93.020  | 0.00         | PPF           | 36        | W24X62  | --- |
|    | 21.583  | 83.292  | 93.020  | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F5    | 21.583  | 34.553  | 93.020  | PPP        | 50        | W14X500 | N   | N   |
|   | F4    | 21.583  | 43.453  | 76.980  | PPP        |           |         |     |     |
| 2 | F5    | 21.583  | 52.347  | 93.020  | PPP        | 50        | W14X500 | N   | N   |
|   | F4    | 21.583  | 43.453  | 76.980  | PPP        |           |         |     |     |

**Level: F4**

**Frame #142:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Level: F5**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 18 | 63.083  | 19.000  | 93.020  | 0.00         | 0.00         | FFF           | 36        | W14X90  |
|    | 63.083  | 19.000  | 76.980  | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5 | 63.083  | 1.667   | 93.020  | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|   | 63.083  | 19.000  | 93.020  |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 76.980  |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 76.980  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |

**Frame #143:**

**Level: F5**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 22 | 77.333  | 22.500  | 93.020  | 0.00         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 22.500  | 76.980  | 0.00         | 0.00         | FFF           |           |            |
| 23 | 77.333  | 42.792  | 93.020  | 0.00         | 0.00         | FFF           | 50        | W14X730    |
|    | 77.333  | 39.792  | 76.980  | 0.00         | 0.00         | FFF           |           |            |
| 24 | 77.333  | 68.667  | 93.020  | 0.00         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 68.667  | 76.980  | 0.00         | 0.00         | FFF           |           |            |

**Steel Beam / Horiz Brace:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 105 | 77.333  | 22.500  | 93.020  | 0.00         | PPF           | 50        | W16X31  | --- |
|     | 77.333  | 42.792  | 93.020  | 0.00         | PPF           |           |         |     |
| 106 | 77.333  | 42.792  | 93.020  | 0.00         | PPF           | 50        | W16X31  | --- |
|     | 77.333  | 68.667  | 93.020  | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 3 | F5    | 77.333  | 42.792  | 93.020  | PPP        | 50        | W14X455 | N   | N   |
|   | F4    | 77.333  | 22.500  | 76.980  | PPP        |           |         |     |     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 9  | 77.333  | 1.667   | 93.020  | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|    | 77.333  | 12.500  | 93.020  |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 76.980  |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 76.980  |      |               |                |            |       |       |
| 10 | 77.333  | 12.500  | 93.020  | 0.20 | 145.0         | 150.0          | 6.000      | 25.0  | 0     |
|    | 77.333  | 22.500  | 93.020  |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 76.980  |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 76.980  |      |               |                |            |       |       |

**Wall Openings:**

| Wall # | Opening # | Reference Corner | X<br>ft | Y<br>ft | Width<br>in | Height<br>in |
|--------|-----------|------------------|---------|---------|-------------|--------------|
| 10     | 1         | Lower Right      | 4.500   | 0.000   | 45.960      | 90.000       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |

**Level: F4**

**Frame #144:**

**Level: F5**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 53 | 206.750 | 22.500  | 93.020  | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 22.500  | 76.980  | 0.00         | 0.00         | FFF           |           |            |
| 54 | 206.750 | 68.667  | 93.020  | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 68.667  | 76.980  | 0.00         | 0.00         | FFF           |           |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 206.750 | 22.500  | 93.020  | 0.20 | 145.0         | 150.0          | 6.000      | 18.0  | 0     |
|    | 206.750 | 68.667  | 93.020  |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 76.980  |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 76.980  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 1.000    | 1.000   |

**Frame #145:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Level: F5**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 93.020  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 34.163  | 74.024  | 93.020  |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 76.980  |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 76.980  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |

**Frame #146:**

**Level: F5**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 8 | 74.093  | 64.654  | 93.020  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 74.024  | 93.020  |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 76.980  |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 76.980  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 8      | 0.500    | 1.000   |

**Frame #147:**

**Level: F5**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 13 | 37.667  | 1.667   | 93.020  | 0.00         | 0.00         | FFF           | 36        | W14X257 |
|    | 37.667  | 1.667   | 76.980  | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 37.667  | 1.667   | 93.020  | 0.20 | 145.0         | 150.0          | 6.000      | 14.0  | 0     |
|   | 63.083  | 1.667   | 93.020  |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 76.980  |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 76.980  |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 93.020  | 0.20 | 145.0         | 150.0          | 6.000      | 14.0  | 0     |
|   | 77.333  | 1.667   | 93.020  |      |               |                |            |       |       |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

63.083 1.667 76.980  
77.333 1.667 76.980

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |

**Frame #148:**

**Level: F5**

**Concrete Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|----|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 97 | 66.793  | 64.654  | 93.020  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 70.293  | 64.654  | 93.020  | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 34.163  | 64.654  | 93.020  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 66.793  | 64.654  | 93.020  |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 76.980  |      |               |                |            |       |       |
|   | 66.793  | 64.654  | 76.980  |      |               |                |            |       |       |
| 7 | 70.293  | 64.654  | 93.020  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 64.654  | 93.020  |      |               |                |            |       |       |
|   | 70.293  | 64.654  | 76.980  |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 76.980  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.350    | 1.000   |
| 7      | 0.350    | 1.000   |

**Frame #149:**

**Level: F5**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 34.163  | 74.024  | 93.020  | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|   | 74.093  | 74.024  | 93.020  |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 76.980  |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 76.980  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
|--------|----------|---------|



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

3 0.500 1.000

**Frame #150:**

**Level: F4**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 6  | 21.583  | 1.667   | 76.980  | 0.00         | 0.00         | FFF           | 36        | W14X311 |
|    | 21.583  | 1.667   | 61.000  | 0.00         | 0.00         | FFF           |           |         |
| 7  | 21.583  | 3.608   | 76.980  | 0.00         | 0.00         | FFF           | 50        | W14X342 |
|    | 21.583  | 3.608   | 61.000  | 0.00         | 0.00         | FFF           |           |         |
| 8  | 21.583  | 19.833  | 76.980  | 0.00         | 0.00         | FFF           | 36        | W14X605 |
|    | 21.583  | 19.833  | 61.000  | 0.00         | 11.85        | FFF           |           |         |
| 9  | 21.583  | 65.487  | 76.980  | 0.00         | 0.00         | FFF           | 50        | W14X605 |
|    | 21.583  | 65.487  | 61.000  | 0.00         | 0.00         | FFF           |           |         |
| 10 | 21.583  | 83.292  | 76.980  | 0.00         | 0.00         | FFF           | 42        | W14X730 |
|    | 21.583  | 83.292  | 61.000  | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 22 | 21.583  | 3.608   | 76.980  | 0.00         | PPF           | 50        | W24X62  | --- |
|    | 21.583  | 19.833  | 76.980  | 0.00         | PPF           |           |         |     |
| 24 | 21.583  | 19.833  | 76.980  | 0.00         | PPF           | 50        | W30X90  | --- |
|    | 21.583  | 65.487  | 76.980  | 0.00         | PPF           |           |         |     |
| 29 | 21.583  | 65.487  | 76.980  | 0.00         | PPF           | 50        | W24X62  | --- |
|    | 21.583  | 83.292  | 76.980  | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F4    | 21.583  | 43.453  | 76.980  | PPP        | 50        | W14X500 | N   | N   |
|   | F3    | 21.583  | 35.483  | 61.000  | PPP        |           |         |     |     |
| 2 | F4    | 21.583  | 43.453  | 76.980  | PPP        | 50        | W14X500 | N   | N   |
|   | F3    | 21.583  | 51.427  | 61.000  | PPP        |           |         |     |     |

**Level: F3**

**Frame #151:**

**Level: F4**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 17 | 63.083  | 19.000  | 76.980  | 0.00         | 0.00         | FFF           | 36        | W14X90  |
|    | 63.083  | 19.000  | 61.000  | 11.32        | 0.68         | FFF           |           |         |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 5 | 63.083  | 1.667   | 76.980  | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|   | 63.083  | 19.000  | 76.980  |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 61.000  |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 61.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |

**Frame #152:**

**Level: F4**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 21 | 77.333  | 22.500  | 76.980  | 0.00         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 22.500  | 61.000  | 9.50         | 11.32        | FFF           |           |            |
| 22 | 77.333  | 39.792  | 76.980  | 0.00         | 0.00         | FFF           | 50        | W14X730    |
|    | 77.333  | 39.792  | 61.000  | 9.50         | 0.00         | FFF           |           |            |
| 23 | 77.333  | 68.667  | 76.980  | 0.00         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 68.667  | 61.000  | 9.50         | 0.00         | FFF           |           |            |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 82 | 77.333  | 22.500  | 76.980  | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 39.792  | 76.980  | 0.00         | PPF           |           |         |     |
| 83 | 77.333  | 39.792  | 76.980  | 0.00         | PPF           | 50        | W14X455 | --- |
|    | 77.333  | 68.667  | 76.980  | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|-------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 3 | F4    | 77.333  | 22.500  | 76.980  | PPP        | 50        | W14X455 | N   | N   |
|   | F3    | 77.333  | 39.792  | 61.000  | PPP        |           |         |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 9  | 77.333  | 1.667   | 76.980  | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|    | 77.333  | 12.500  | 76.980  |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 61.000  |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 61.000  |      |               |                |            |       |       |
| 10 | 77.333  | 12.500  | 76.980  | 0.20 | 145.0         | 150.0          | 6.000      | 25.0  | 0     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |        |        |
|--------|--------|--------|
| 77.333 | 22.500 | 76.980 |
| 77.333 | 12.500 | 61.000 |
| 77.333 | 22.500 | 61.000 |

**Wall Openings:**

| Wall # | Opening # | Reference Corner | X<br>ft | Y<br>ft | Width<br>in | Height<br>in |
|--------|-----------|------------------|---------|---------|-------------|--------------|
| 10     | 1         | Lower Right      | 4.500   | 0.000   | 45.960      | 90.000       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 9      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |

Level: F3

Frame #153:

Level: F4

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 52 | 206.750 | 22.500  | 76.980  | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 22.500  | 61.000  | 0.00         | 0.00         | FFF           |           |            |
| 53 | 206.750 | 68.667  | 76.980  | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|    | 206.750 | 68.667  | 61.000  | 0.00         | 0.00         | FFF           |           |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 206.750 | 22.500  | 76.980  | 0.20 | 145.0         | 150.0          | 6.000      | 18.0  | 0     |
|    | 206.750 | 68.667  | 76.980  |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 61.000  |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 61.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 1.000    | 1.000   |

Frame #154:

Level: F4

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 76.980  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 34.163  | 74.024  | 76.980  |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 61.000  |      |               |                |            |       |       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

34.163 74.024 61.000

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |

**Frame #155:**

**Level: F4**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 8 | 74.093  | 64.654  | 76.980  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 74.024  | 76.980  |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 61.000  |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 61.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 8      | 0.500    | 1.000   |

**Frame #156:**

**Level: F4**

**Concrete Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|----|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 73 | 66.793  | 64.654  | 76.980  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 70.293  | 64.654  | 76.980  | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 34.163  | 64.654  | 76.980  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 66.793  | 64.654  | 76.980  |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 61.000  |      |               |                |            |       |       |
|   | 66.793  | 64.654  | 61.000  |      |               |                |            |       |       |
| 7 | 70.293  | 64.654  | 76.980  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 64.654  | 76.980  |      |               |                |            |       |       |
|   | 70.293  | 64.654  | 61.000  |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 61.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.350    | 1.000   |
| 7      | 0.350    | 1.000   |

**Frame #157:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Level: F4**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 34.163  | 74.024  | 76.980  | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|   | 74.093  | 74.024  | 76.980  |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 61.000  |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 61.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #158:**

**Level: F4**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 12 | 37.667  | 1.667   | 76.980  | 0.00         | 0.00         | FFF           | 36        | W14X257 |
|    | 37.667  | 1.667   | 61.000  | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 37.667  | 1.667   | 76.980  | 0.20 | 145.0         | 150.0          | 6.000      | 14.0  | 0     |
|   | 63.083  | 1.667   | 76.980  |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 61.000  |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 61.000  |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 76.980  | 0.20 | 145.0         | 150.0          | 6.000      | 14.0  | 0     |
|   | 77.333  | 1.667   | 76.980  |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 61.000  |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 61.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |

**Frame #159:**

**Level: F3**

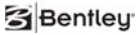
**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 5 | 21.583  | 1.667   | 61.000  | 0.00         | 0.00         | FFF           | 36        | W14X311 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | X      | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section |
|---|--------|--------|--------|--------|--------|--------|----|---------|
|   | 21.583 | 1.667  | 49.000 | 0.00   | 0.00   | FFF    |    |         |
| 6 | 21.583 | 3.608  | 61.000 | 0.00   | 0.00   | FFF    | 50 | W14X342 |
|   | 21.583 | 3.608  | 49.000 | 0.00   | 0.00   | FFF    |    |         |
| 7 | 21.583 | 19.833 | 61.000 | 0.00   | 0.00   | FFF    | 36 | W14X605 |
|   | 21.583 | 19.833 | 49.000 | 0.00   | 0.00   | FFF    |    |         |
| 8 | 21.583 | 65.487 | 61.000 | 0.00   | 0.00   | FFF    | 50 | W14X605 |
|   | 21.583 | 65.487 | 49.000 | 0.00   | 0.00   | FFF    |    |         |
| 9 | 21.583 | 83.292 | 61.000 | 0.00   | 0.00   | FFF    | 42 | W14X211 |
|   | 21.583 | 83.292 | 49.000 | 0.00   | 0.00   | FFF    |    |         |

**Steel Beam / Horiz Brace:**

| #  | X      | Y      | Z      | RigEnd | Fixity | Fy  | Section | T-O |
|----|--------|--------|--------|--------|--------|-----|---------|-----|
|    | ft     | ft     | ft     | in     | xyt    | ksi |         |     |
| 38 | 21.583 | 3.608  | 61.000 | 0.00   | PPF    | 50  | W24X62  | --- |
|    | 21.583 | 19.833 | 61.000 | 0.00   | PPF    |     |         |     |
| 40 | 21.583 | 19.833 | 61.000 | 0.00   | PPF    | 50  | W30X90  | --- |
|    | 21.583 | 65.487 | 61.000 | 0.00   | PPF    |     |         |     |
| 46 | 21.583 | 65.487 | 61.000 | 0.00   | PPF    | 50  | W24X62  | --- |
|    | 21.583 | 83.292 | 61.000 | 0.00   | PPF    |     |         |     |

**Steel Brace:**

| # | Level | X      | Y      | Z      | Fix | Fy  | Section | BRB | T-O |
|---|-------|--------|--------|--------|-----|-----|---------|-----|-----|
|   |       | ft     | ft     | ft     | xyt | ksi |         |     |     |
| 1 | F3    | 21.583 | 35.483 | 61.000 | PPP | 50  | W14X500 | N   | N   |
|   | F2    | 21.583 | 29.423 | 49.000 | PPP |     |         |     |     |
| 2 | F3    | 21.583 | 51.427 | 61.000 | PPP | 50  | W14X500 | N   | N   |
|   | F2    | 21.583 | 57.483 | 49.000 | PPP |     |         |     |     |

Level: F2

Frame #160:

Level: F3

**Steel Column:**

| #  | X      | Y      | Z      | RigMaj | RigMin | Fixity | Fy  | Section |
|----|--------|--------|--------|--------|--------|--------|-----|---------|
|    | ft     | ft     | ft     | in     | in     | xyt    | ksi |         |
| 16 | 63.083 | 19.000 | 61.000 | 11.32  | 0.68   | FFF    | 36  | W14X283 |
|    | 63.083 | 19.000 | 49.000 | 6.70   | 0.40   | FFF    |     |         |

**Concrete Wall:**

| # | X      | Y      | Z      | Pois | UnitWt | UW Self | f'c   | Thick | Group |
|---|--------|--------|--------|------|--------|---------|-------|-------|-------|
|   | ft     | ft     | ft     |      | pcf    | pcf     | ksi   |       |       |
| 5 | 63.083 | 1.667  | 61.000 | 0.20 | 145.0  | 150.0   | 6.000 | 12.0  | 0     |
|   | 63.083 | 19.000 | 61.000 |      |        |         |       |       |       |
|   | 63.083 | 1.667  | 49.000 |      |        |         |       |       |       |
|   | 63.083 | 19.000 | 49.000 |      |        |         |       |       |       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 5      | 0.500    | 1.000   |

**Frame #161:**

**Level: F3**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 21 | 77.333  | 31.146  | 61.000  | 9.50         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 31.146  | 49.000  | 9.50         | 0.00         | FFF           |           |         |
| 22 | 77.333  | 39.792  | 61.000  | 9.50         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 39.792  | 49.000  | 9.50         | 0.00         | FFF           |           |         |
| 23 | 77.333  | 49.417  | 61.000  | 9.50         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 49.417  | 49.000  | 9.50         | 0.00         | FFF           |           |         |
| 24 | 77.333  | 59.042  | 61.000  | 9.50         | 0.00         | FFF           | 50        | W14X730 |
|    | 77.333  | 59.042  | 49.000  | 9.50         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 102 | 77.333  | 22.500  | 61.000  | 18.25        | FFF           | 50        | W14X455 | --- |
|     | 77.333  | 31.146  | 61.000  | 11.20        | FFF           |           |         |     |
| 103 | 77.333  | 31.146  | 61.000  | 11.20        | FFF           | 50        | W14X455 | --- |
|     | 77.333  | 39.792  | 61.000  | 11.20        | FFF           |           |         |     |
| 104 | 77.333  | 39.792  | 61.000  | 11.20        | FFF           | 50        | W14X455 | --- |
|     | 77.333  | 49.417  | 61.000  | 11.20        | FFF           |           |         |     |
| 105 | 77.333  | 49.417  | 61.000  | 11.20        | FFF           | 50        | W14X455 | --- |
|     | 77.333  | 59.042  | 61.000  | 11.20        | FFF           |           |         |     |
| 106 | 77.333  | 59.042  | 61.000  | 11.20        | FFF           | 50        | W14X455 | --- |
|     | 77.333  | 68.667  | 61.000  | 18.25        | FFF           |           |         |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 9  | 77.333  | 1.667   | 61.000  | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|    | 77.333  | 12.500  | 61.000  |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 49.000  |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 49.000  |      |               |                |            |       |       |
| 10 | 77.333  | 12.500  | 61.000  | 0.20 | 145.0         | 150.0          | 6.000      | 25.0  | 0     |
|    | 77.333  | 22.500  | 61.000  |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 49.000  |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 49.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
|--------|----------|---------|





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|    |       |       |
|----|-------|-------|
| 9  | 0.500 | 1.000 |
| 10 | 0.500 | 1.000 |

**Frame #162:**

**Level: F3**

**Steel Column:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|-----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 105 | 206.750 | 22.500  | 61.000  | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|     | 206.750 | 22.500  | 49.000  | 0.00         | 0.00         | FFF           |           |            |
| 106 | 206.750 | 68.667  | 61.000  | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|     | 206.750 | 68.667  | 49.000  | 0.00         | 0.00         | FFF           |           |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 206.750 | 22.500  | 61.000  | 0.20 | 145.0         | 150.0          | 6.000      | 18.0  | 0     |
|    | 206.750 | 68.667  | 61.000  |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 49.000  |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 49.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 1.000    | 1.000   |

**Frame #163:**

**Level: F3**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 61.000  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 34.163  | 74.024  | 61.000  |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 49.000  |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 49.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.500    | 1.000   |

**Frame #164:**

**Level: F3**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 8 | 74.093  | 64.654  | 61.000  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |



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|        |        |        |
|--------|--------|--------|
| 74.093 | 74.024 | 61.000 |
| 74.093 | 64.654 | 49.000 |
| 74.093 | 74.024 | 49.000 |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 8      | 0.500    | 1.000   |

**Frame #165:**

**Level: F3**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 11 | 37.667  | 1.667   | 61.000  | 0.00         | 0.00         | FFF           | 36        | W14X283 |
|    | 37.667  | 1.667   | 49.000  | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 37.667  | 1.667   | 61.000  | 0.20 | 145.0         | 150.0          | 6.000      | 14.0  | 0     |
|   | 63.083  | 1.667   | 61.000  |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 49.000  |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 49.000  |      |               |                |            |       |       |
| 6 | 63.083  | 1.667   | 61.000  | 0.20 | 145.0         | 150.0          | 6.000      | 14.0  | 0     |
|   | 77.333  | 1.667   | 61.000  |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 49.000  |      |               |                |            |       |       |
|   | 77.333  | 1.667   | 49.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |
| 6      | 0.500    | 1.000   |

**Frame #166:**

**Level: F3**

**Concrete Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|----|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 91 | 66.793  | 64.654  | 61.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 70.293  | 64.654  | 61.000  | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 34.163  | 64.654  | 61.000  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |



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|   |        |        |        |      |       |       |        |      |   |
|---|--------|--------|--------|------|-------|-------|--------|------|---|
|   | 66.793 | 64.654 | 61.000 |      |       |       |        |      |   |
|   | 34.163 | 64.654 | 49.000 |      |       |       |        |      |   |
|   | 66.793 | 64.654 | 49.000 |      |       |       |        |      |   |
| 7 | 70.293 | 64.654 | 61.000 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|   | 74.093 | 64.654 | 61.000 |      |       |       |        |      |   |
|   | 70.293 | 64.654 | 49.000 |      |       |       |        |      |   |
|   | 74.093 | 64.654 | 49.000 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.350    | 1.000   |
| 7      | 0.350    | 1.000   |

**Frame #167:**

**Level: F3**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 34.163  | 74.024  | 61.000  | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|   | 74.093  | 74.024  | 61.000  |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 49.000  |      |               |                |            |       |       |
|   | 74.093  | 74.024  | 49.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.500    | 1.000   |

**Frame #168:**

**Level: F2**

**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 5 | 21.583  | 1.667   | 49.000  | 0.00         | 0.00         | FFF           | 36        | W14X311 |
|   | 21.583  | 1.667   | 30.000  | 0.00         | 0.00         | FFF           |           |         |
| 6 | 21.583  | 3.608   | 49.000  | 0.00         | 0.00         | FFF           | 50        | W14X342 |
|   | 21.583  | 3.608   | 30.000  | 0.00         | 0.00         | FFF           |           |         |
| 7 | 21.583  | 19.833  | 49.000  | 0.00         | 0.00         | FFF           | 36        | W14X605 |
|   | 21.583  | 19.833  | 30.000  | 0.00         | 0.00         | FFF           |           |         |
| 8 | 21.583  | 65.487  | 49.000  | 0.00         | 0.00         | FFF           | 50        | W14X605 |
|   | 21.583  | 65.487  | 30.000  | 0.00         | 0.00         | FFF           |           |         |
| 9 | 21.583  | 83.292  | 49.000  | 0.00         | 0.00         | FFF           | 42        | W14X730 |
|   | 21.583  | 83.292  | 30.000  | 0.00         | 11.85        | FFF           |           |         |

**Steel Beam / Horiz Brace:**



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| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 32 | 21.583  | 3.608   | 49.000  | 0.00         | PPF           | 50        | W24X62  | --- |
|    | 21.583  | 19.833  | 49.000  | 0.00         | PPF           |           |         |     |
| 33 | 21.583  | 19.833  | 49.000  | 0.00         | PPF           | 50        | W30X90  | --- |
|    | 21.583  | 65.487  | 49.000  | 0.00         | PPF           |           |         |     |
| 37 | 21.583  | 65.487  | 49.000  | 0.00         | PPF           | 50        | W24X62  | --- |
|    | 21.583  | 83.292  | 49.000  | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level   | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|---------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | F2      | 21.583  | 29.423  | 49.000  | PPP        | 50        | W14X500 | N   | N   |
|   | Fground | 21.583  | 19.833  | 30.000  | PPP        |           |         |     |     |
| 2 | F2      | 21.583  | 57.483  | 49.000  | PPP        | 50        | W14X500 | N   | N   |
|   | Fground | 21.583  | 67.492  | 30.000  | PPP        |           |         |     |     |

**Level: Fground**

**Frame #169:**

**Level: F2**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 16 | 63.083  | 19.000  | 49.000  | 6.70         | 0.40         | FFF           | 36        | W14X283 |
|    | 63.083  | 19.000  | 30.000  | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 9 | 63.083  | 1.667   | 49.000  | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|   | 63.083  | 19.000  | 49.000  |      |               |                |            |       |       |
|   | 63.083  | 1.667   | 30.000  |      |               |                |            |       |       |
|   | 63.083  | 19.000  | 30.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 9      | 0.500    | 1.000   |

**Frame #170:**

**Level: F2**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 21 | 77.333  | 22.500  | 49.000  | 9.50         | 6.70         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 22.500  | 30.000  | 9.50         | 0.00         | FFF           |           |            |



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| #  | X      | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section    |
|----|--------|--------|--------|--------|--------|--------|----|------------|
| 22 | 77.333 | 68.667 | 49.000 | 9.50   | 0.00   | FFF    | 36 | 000000S1S2 |
|    | 77.333 | 68.667 | 30.000 | 9.50   | 0.00   | FFF    |    |            |

**Steel Beam / Horiz Brace:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|-----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 100 | 77.333  | 22.500  | 49.000  | 18.25        | FFF           | 50        | W14X455 | --- |
|     | 77.333  | 68.667  | 49.000  | 18.25        | FFF           |           |         |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 13 | 77.333  | 1.667   | 49.000  | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|    | 77.333  | 12.500  | 49.000  |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 30.000  |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 30.000  |      |               |                |            |       |       |
| 14 | 77.333  | 12.500  | 49.000  | 0.20 | 145.0         | 150.0          | 6.000      | 25.0  | 0     |
|    | 77.333  | 22.500  | 49.000  |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 30.000  |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 30.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 13     | 0.500    | 1.000   |
| 14     | 0.500    | 1.000   |

Frame #171:

Level: F2

**Steel Column:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|-----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 109 | 206.750 | 22.500  | 49.000  | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|     | 206.750 | 22.500  | 30.000  | 0.00         | 0.00         | FFF           |           |            |
| 110 | 206.750 | 68.667  | 49.000  | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|     | 206.750 | 68.667  | 30.000  | 0.00         | 0.00         | FFF           |           |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 15 | 206.750 | 22.500  | 49.000  | 0.20 | 145.0         | 150.0          | 6.000      | 18.0  | 0     |
|    | 206.750 | 68.667  | 49.000  |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 30.000  |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 30.000  |      |               |                |            |       |       |

**Wall Crack Factors:**



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| Wall # | Membrane | Bending |
|--------|----------|---------|
| 15     | 1.000    | 1.000   |

Frame #172:

Level: F2

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 1 | 34.163  | 64.654  | 49.000  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 34.163  | 74.024  | 49.000  |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 30.000  |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 30.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 1      | 0.350    | 1.000   |

Frame #173:

Level: F2

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 12 | 74.093  | 64.654  | 49.000  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 74.093  | 74.024  | 49.000  |      |               |                |            |       |       |
|    | 74.093  | 64.654  | 30.000  |      |               |                |            |       |       |
|    | 74.093  | 74.024  | 30.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 12     | 0.350    | 1.000   |

Frame #174:

Level: F2

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 11 | 37.667  | 1.667   | 49.000  | 0.00         | 0.00         | FFF           | 36        | W14X283 |
|    | 37.667  | 1.667   | 30.000  | 0.00         | 0.00         | FFF           |           |         |

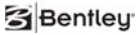
**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 4 | 37.667  | 1.667   | 49.000  | 0.20 | 145.0         | 150.0          | 6.000      | 21.0  | 0     |
|   | 63.083  | 1.667   | 49.000  |      |               |                |            |       |       |
|   | 37.667  | 1.667   | 30.000  |      |               |                |            |       |       |



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|    |        |       |        |      |       |       |       |      |   |
|----|--------|-------|--------|------|-------|-------|-------|------|---|
|    | 63.083 | 1.667 | 30.000 |      |       |       |       |      |   |
| 10 | 63.083 | 1.667 | 49.000 | 0.20 | 145.0 | 150.0 | 6.000 | 21.0 | 0 |
|    | 77.333 | 1.667 | 49.000 |      |       |       |       |      |   |
|    | 63.083 | 1.667 | 30.000 |      |       |       |       |      |   |
|    | 77.333 | 1.667 | 30.000 |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 4      | 0.500    | 1.000   |
| 10     | 0.500    | 1.000   |

**Frame #175:**

**Level: F2**

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 2 | 34.163  | 64.654  | 49.000  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|   | 74.093  | 64.654  | 49.000  |      |               |                |            |       |       |
|   | 34.163  | 64.654  | 30.000  |      |               |                |            |       |       |
|   | 74.093  | 64.654  | 30.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 2      | 0.350    | 1.000   |

**Frame #176:**

**Level: F2**

**Concrete Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|----|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 58 | 37.413  | 74.024  | 49.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 40.413  | 74.024  | 49.000  | 0.00         | FFF           |      |               |                |            |     |     |
| 69 | 47.513  | 74.024  | 49.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 50.513  | 74.024  | 49.000  | 0.00         | FFF           |      |               |                |            |     |     |
| 80 | 57.213  | 74.024  | 49.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 60.213  | 74.024  | 49.000  | 0.00         | FFF           |      |               |                |            |     |     |
| 92 | 67.013  | 74.024  | 49.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 70.013  | 74.024  | 49.000  | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 3 | 34.163  | 74.024  | 49.000  | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|   | 37.413  | 74.024  | 49.000  |      |               |                |            |       |       |
|   | 34.163  | 74.024  | 30.000  |      |               |                |            |       |       |



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|    |        |        |        |      |       |       |        |      |   |
|----|--------|--------|--------|------|-------|-------|--------|------|---|
|    | 37.413 | 74.024 | 30.000 |      |       |       |        |      |   |
| 5  | 40.413 | 74.024 | 49.000 | 0.20 | 145.0 | 150.0 | 12.000 | 24.0 | 0 |
|    | 47.513 | 74.024 | 49.000 |      |       |       |        |      |   |
|    | 40.413 | 74.024 | 30.000 |      |       |       |        |      |   |
|    | 47.513 | 74.024 | 30.000 |      |       |       |        |      |   |
| 7  | 50.513 | 74.024 | 49.000 | 0.20 | 145.0 | 150.0 | 12.000 | 24.0 | 0 |
|    | 57.213 | 74.024 | 49.000 |      |       |       |        |      |   |
|    | 50.513 | 74.024 | 30.000 |      |       |       |        |      |   |
|    | 57.213 | 74.024 | 30.000 |      |       |       |        |      |   |
| 8  | 60.213 | 74.024 | 49.000 | 0.20 | 145.0 | 150.0 | 12.000 | 24.0 | 0 |
|    | 67.013 | 74.024 | 49.000 |      |       |       |        |      |   |
|    | 60.213 | 74.024 | 30.000 |      |       |       |        |      |   |
|    | 67.013 | 74.024 | 30.000 |      |       |       |        |      |   |
| 11 | 70.013 | 74.024 | 49.000 | 0.20 | 145.0 | 150.0 | 12.000 | 24.0 | 0 |
|    | 74.093 | 74.024 | 49.000 |      |       |       |        |      |   |
|    | 70.013 | 74.024 | 30.000 |      |       |       |        |      |   |
|    | 74.093 | 74.024 | 30.000 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 3      | 0.350    | 1.000   |
| 5      | 0.350    | 1.000   |
| 7      | 0.350    | 1.000   |
| 8      | 0.350    | 1.000   |
| 11     | 0.350    | 1.000   |

**Frame #177:**

**Level: Fground**

**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 5 | 21.583  | 1.667   | 30.000  | 0.00         | 0.00         | FFF           | 36        | W14X311 |
|   | 21.583  | 1.667   | 15.000  | 0.00         | 0.00         | FFF           |           |         |
| 6 | 21.583  | 3.608   | 30.000  | 0.00         | 0.00         | FFF           | 50        | W14X342 |
|   | 21.583  | 3.608   | 15.000  | 0.00         | 0.00         | FFF           |           |         |
| 7 | 21.583  | 19.833  | 30.000  | 0.00         | 0.00         | FFF           | 36        | W14X605 |
|   | 21.583  | 19.833  | 15.000  | 0.00         | 0.00         | FFF           |           |         |
| 8 | 21.583  | 65.487  | 30.000  | 0.00         | 0.00         | FFF           | 50        | W14X605 |
|   | 21.583  | 65.487  | 15.000  | 0.00         | 0.00         | FFF           |           |         |
| 9 | 21.583  | 83.292  | 30.000  | 0.00         | 11.85        | FFF           | 42        | W14X730 |
|   | 21.583  | 83.292  | 15.000  | 0.00         | 0.00         | FFF           |           |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 26 | 21.583  | 3.608   | 30.000  | 0.00         | PPF           | 50        | W24X62  | --- |





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| #  | X      | Y      | Z      | RigEnd | Fixity | Fy | Section | T-O |
|----|--------|--------|--------|--------|--------|----|---------|-----|
|    | 21.583 | 19.833 | 30.000 | 0.00   | PPF    |    |         |     |
| 28 | 21.583 | 19.833 | 30.000 | 0.00   | PPF    | 50 | W30X90  | --- |
|    | 21.583 | 65.487 | 30.000 | 0.00   | PPF    |    |         |     |
| 31 | 21.583 | 65.487 | 30.000 | 0.00   | PPF    | 36 | W24X62  | --- |
|    | 21.583 | 86.292 | 30.000 | 0.00   | PPF    |    |         |     |

**Steel Brace:**

| # | Level   | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|---------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | Fground | 21.583  | 19.833  | 30.000  | PPP        | 50        | W14X500 | N   | N   |
|   | Cellar  | 21.583  | 11.513  | 15.000  | PPP        |           |         |     |     |
| 2 | Fground | 21.583  | 67.492  | 30.000  | PPP        | 50        | W14X500 | N   | N   |
|   | Cellar  | 21.583  | 75.392  | 15.000  | PPP        |           |         |     |     |

Level: Cellar

Frame #178:

Level: Fground

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 16 | 63.083  | 19.000  | 30.000  | 0.00         | 0.00         | FFF           | 36        | W14X283 |
|    | 63.083  | 19.000  | 15.000  | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 22 | 63.083  | 1.667   | 30.000  | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 30.000  |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 15.000  |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 15.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 22     | 0.500    | 1.000   |

Frame #180:

Level: Fground

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 20 | 77.333  | 22.500  | 30.000  | 9.50         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 22.500  | 15.000  | 11.85        | 0.00         | FFF           |           |            |
| 21 | 77.333  | 68.667  | 30.000  | 9.50         | 0.00         | FFF           | 36        | 000000S1S2 |
|    | 77.333  | 68.667  | 15.000  | 11.85        | 0.00         | FFF           |           |            |



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**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 94 | 77.333  | 22.500  | 30.000  | 18.25        | FFF           | 50        | W14X455 | --- |
|    | 77.333  | 68.667  | 30.000  | 18.25        | FFF           |           |         |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 26 | 77.333  | 1.667   | 30.000  | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|    | 77.333  | 12.500  | 30.000  |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 15.000  |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 15.000  |      |               |                |            |       |       |
| 27 | 77.333  | 12.500  | 30.000  | 0.20 | 145.0         | 150.0          | 6.000      | 25.0  | 0     |
|    | 77.333  | 22.500  | 30.000  |      |               |                |            |       |       |
|    | 77.333  | 12.500  | 15.000  |      |               |                |            |       |       |
|    | 77.333  | 22.500  | 15.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 26     | 0.500    | 1.000   |
| 27     | 0.500    | 1.000   |

**Frame #181:**

Level: Fground

**Steel Column:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|-----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 102 | 206.750 | 22.500  | 30.000  | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|     | 206.750 | 22.500  | 15.000  | 0.00         | 0.00         | FFF           |           |            |
| 103 | 206.750 | 68.667  | 30.000  | 0.00         | 0.00         | FFF           | 36        | 000000S3S4 |
|     | 206.750 | 68.667  | 15.000  | 0.00         | 0.00         | FFF           |           |            |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 29 | 206.750 | 22.500  | 30.000  | 0.20 | 145.0         | 150.0          | 6.000      | 18.0  | 0     |
|    | 206.750 | 68.667  | 30.000  |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 15.000  |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 15.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 29     | 1.000    | 1.000   |

**Frame #182:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Level: Fground**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 10 | 34.163  | 64.654  | 30.000  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 34.163  | 74.024  | 30.000  |      |               |                |            |       |       |
|    | 34.163  | 64.654  | 15.000  |      |               |                |            |       |       |
|    | 34.163  | 74.024  | 15.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 10     | 0.350    | 1.000   |

**Frame #183:**

**Level: Fground**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 25 | 74.093  | 64.654  | 30.000  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 74.093  | 74.024  | 30.000  |      |               |                |            |       |       |
|    | 74.093  | 64.654  | 15.000  |      |               |                |            |       |       |
|    | 74.093  | 74.024  | 15.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 25     | 0.350    | 1.000   |

**Frame #184:**

**Level: Fground**

**Concrete Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|----|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 47 | 37.913  | 64.654  | 30.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 40.913  | 64.654  | 30.000  | 0.00         | FFF           |      |               |                |            |     |     |
| 60 | 47.913  | 64.654  | 30.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 50.913  | 64.654  | 30.000  | 0.00         | FFF           |      |               |                |            |     |     |
| 74 | 57.613  | 64.654  | 30.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 60.613  | 64.654  | 30.000  | 0.00         | FFF           |      |               |                |            |     |     |
| 84 | 66.950  | 64.654  | 30.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 70.413  | 64.654  | 30.000  | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| # | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
|---|---------|---------|---------|------|---------------|----------------|------------|-------|-------|



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |        |        |        |      |       |       |        |      |   |
|----|--------|--------|--------|------|-------|-------|--------|------|---|
| 11 | 34.163 | 64.654 | 30.000 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 37.913 | 64.654 | 30.000 |      |       |       |        |      |   |
|    | 34.163 | 64.654 | 15.000 |      |       |       |        |      |   |
|    | 37.913 | 64.654 | 15.000 |      |       |       |        |      |   |
| 14 | 40.913 | 64.654 | 30.000 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 47.913 | 64.654 | 30.000 |      |       |       |        |      |   |
|    | 40.913 | 64.654 | 15.000 |      |       |       |        |      |   |
|    | 47.913 | 64.654 | 15.000 |      |       |       |        |      |   |
| 19 | 50.913 | 64.654 | 30.000 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 57.613 | 64.654 | 30.000 |      |       |       |        |      |   |
|    | 50.913 | 64.654 | 15.000 |      |       |       |        |      |   |
|    | 57.613 | 64.654 | 15.000 |      |       |       |        |      |   |
| 21 | 60.613 | 64.654 | 30.000 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 66.950 | 64.654 | 30.000 |      |       |       |        |      |   |
|    | 60.613 | 64.654 | 15.000 |      |       |       |        |      |   |
|    | 66.950 | 64.654 | 15.000 |      |       |       |        |      |   |
| 24 | 70.413 | 64.654 | 30.000 | 0.20 | 145.0 | 150.0 | 12.000 | 12.0 | 0 |
|    | 74.093 | 64.654 | 30.000 |      |       |       |        |      |   |
|    | 70.413 | 64.654 | 15.000 |      |       |       |        |      |   |
|    | 74.093 | 64.654 | 15.000 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 0.350    | 1.000   |
| 14     | 0.350    | 1.000   |
| 19     | 0.350    | 1.000   |
| 21     | 0.350    | 1.000   |
| 24     | 0.350    | 1.000   |

**Frame #185:**

**Level: Fground**

**Concrete Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|----|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 59 | 47.663  | 74.024  | 30.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 50.663  | 74.024  | 30.000  | 0.00         | FFF           |      |               |                |            |     |     |
| 73 | 57.363  | 74.024  | 30.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 60.363  | 74.024  | 30.000  | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 12 | 34.163  | 74.024  | 30.000  | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|    | 47.663  | 74.024  | 30.000  |      |               |                |            |       |       |
|    | 34.163  | 74.024  | 15.000  |      |               |                |            |       |       |
|    | 47.663  | 74.024  | 15.000  |      |               |                |            |       |       |



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|    |        |        |        |      |       |       |        |      |   |
|----|--------|--------|--------|------|-------|-------|--------|------|---|
| 18 | 50.663 | 74.024 | 30.000 | 0.20 | 145.0 | 150.0 | 12.000 | 24.0 | 0 |
|    | 57.363 | 74.024 | 30.000 |      |       |       |        |      |   |
|    | 50.663 | 74.024 | 15.000 |      |       |       |        |      |   |
|    | 57.363 | 74.024 | 15.000 |      |       |       |        |      |   |
| 20 | 60.363 | 74.024 | 30.000 | 0.20 | 145.0 | 150.0 | 12.000 | 24.0 | 0 |
|    | 74.093 | 74.024 | 30.000 |      |       |       |        |      |   |
|    | 60.363 | 74.024 | 15.000 |      |       |       |        |      |   |
|    | 74.093 | 74.024 | 15.000 |      |       |       |        |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 12     | 0.350    | 1.000   |
| 18     | 0.350    | 1.000   |
| 20     | 0.350    | 1.000   |

**Frame #186:**

**Level: Fground**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 11 | 37.667  | 1.667   | 30.000  | 0.00         | 0.00         | FFF           | 36        | W14X283 |
|    | 37.667  | 1.667   | 15.000  | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 13 | 37.667  | 1.667   | 30.000  | 0.20 | 145.0         | 150.0          | 6.000      | 21.0  | 0     |
|    | 63.083  | 1.667   | 30.000  |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 15.000  |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 15.000  |      |               |                |            |       |       |
| 23 | 63.083  | 1.667   | 30.000  | 0.20 | 145.0         | 150.0          | 6.000      | 21.0  | 0     |
|    | 77.333  | 1.667   | 30.000  |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 15.000  |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 15.000  |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 13     | 0.500    | 1.000   |
| 23     | 0.350    | 1.000   |

**Frame #187:**

**Level: Cellar**

**Steel Column:**

| # | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
|---|---------|---------|---------|--------------|--------------|---------------|-----------|---------|



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | X      | Y      | Z      | RigMaj | RigMin | Fixity | Fy | Section |
|---|--------|--------|--------|--------|--------|--------|----|---------|
| 6 | 21.583 | 3.608  | 15.000 | 0.00   | 0.00   | FFF    | 50 | W14X342 |
|   | 21.583 | 3.608  | 0.000  | 0.00   | 0.00   | FFF    |    |         |
| 7 | 21.583 | 19.833 | 15.000 | 0.00   | 0.00   | FFF    | 50 | W14X605 |
|   | 21.583 | 19.833 | 0.000  | 0.00   | 0.00   | FFF    |    |         |
| 8 | 21.583 | 65.487 | 15.000 | 0.00   | 0.00   | FFF    | 50 | W14X605 |
|   | 21.583 | 65.487 | 0.000  | 0.00   | 0.00   | FFF    |    |         |
| 9 | 21.583 | 83.292 | 15.000 | 0.00   | 0.00   | FFF    | 42 | W14X730 |
|   | 21.583 | 83.292 | 0.000  | 0.00   | 0.00   | FFF    |    |         |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 14 | 21.583  | 3.608   | 15.000  | 0.00         | PPF           | 50        | W24X176 | --- |
|    | 21.583  | 19.833  | 15.000  | 0.00         | PPF           |           |         |     |
| 15 | 21.583  | 19.833  | 15.000  | 0.00         | PPF           | 50        | W24X176 | --- |
|    | 21.583  | 65.487  | 15.000  | 0.00         | PPF           |           |         |     |
| 17 | 21.583  | 65.487  | 15.000  | 0.00         | PPF           | 36        | W24X176 | --- |
|    | 21.583  | 83.292  | 15.000  | 0.00         | PPF           |           |         |     |

**Steel Brace:**

| # | Level  | X<br>ft | Y<br>ft | Z<br>ft | Fix<br>xyt | Fy<br>ksi | Section | BRB | T-O |
|---|--------|---------|---------|---------|------------|-----------|---------|-----|-----|
| 1 | Cellar | 21.583  | 11.513  | 15.000  | PPP        | 50        | W14X500 | N   | N   |
|   | Base   | 21.583  | 3.608   | 0.000   | PPP        |           |         |     |     |
| 2 | Cellar | 21.583  | 75.392  | 15.000  | PPP        | 50        | W14X500 | N   | N   |
|   | Base   | 21.583  | 83.292  | 0.000   | PPP        |           |         |     |     |

**Frame #188:**

**Level: Cellar**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 20 | 77.333  | 22.500  | 15.000  | 11.85        | 0.00         | FFF           | 50        | 000000S1S2 |
|    | 77.333  | 22.500  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 21 | 77.333  | 68.667  | 15.000  | 11.85        | 0.00         | FFF           | 50        | 000000S1S2 |
|    | 77.333  | 68.667  | 0.000   | 0.00         | 0.00         | FFF           |           |            |

**Steel Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Fy<br>ksi | Section | T-O |
|----|---------|---------|---------|--------------|---------------|-----------|---------|-----|
| 61 | 77.333  | 22.500  | 15.000  | 18.25        | FFF           | 50        | W24X68  | --- |
|    | 77.333  | 68.667  | 15.000  | 18.25        | FFF           |           |         |     |

**Concrete Wall:**

| # | X | Y | Z | Pois | UnitWt | UW Self | f'c | Thick | Group |
|---|---|---|---|------|--------|---------|-----|-------|-------|
|---|---|---|---|------|--------|---------|-----|-------|-------|



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    | ft     | ft     | ft     |      | pcf   | pcf   | ksi   |      |   |
|----|--------|--------|--------|------|-------|-------|-------|------|---|
| 22 | 77.333 | 1.667  | 15.000 | 0.20 | 145.0 | 150.0 | 6.000 | 12.0 | 0 |
|    | 77.333 | 12.500 | 15.000 |      |       |       |       |      |   |
|    | 77.333 | 1.667  | 0.000  |      |       |       |       |      |   |
|    | 77.333 | 12.500 | 0.000  |      |       |       |       |      |   |
| 23 | 77.333 | 12.500 | 15.000 | 0.20 | 145.0 | 150.0 | 6.000 | 25.0 | 0 |
|    | 77.333 | 22.500 | 15.000 |      |       |       |       |      |   |
|    | 77.333 | 12.500 | 0.000  |      |       |       |       |      |   |
|    | 77.333 | 22.500 | 0.000  |      |       |       |       |      |   |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 22     | 0.500    | 1.000   |
| 23     | 0.500    | 1.000   |

**Frame #189:**

**Level: Cellar**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 16 | 63.083  | 19.000  | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X283 |
|    | 63.083  | 19.000  | 0.000   | 0.00         | 0.00         | FFF           |           |         |
| 17 | 63.083  | 37.167  | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X120 |
|    | 63.083  | 37.167  | 0.000   | 0.00         | 0.00         | FFF           |           |         |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 18 | 63.083  | 1.667   | 15.000  | 0.20 | 145.0         | 150.0          | 6.000      | 12.0  | 0     |
|    | 63.083  | 19.000  | 15.000  |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 0.000   |      |               |                |            |       |       |
|    | 63.083  | 19.000  | 0.000   |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 18     | 0.500    | 1.000   |

**Frame #190:**

**Level: Cellar**

**Steel Column:**

| #   | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section    |
|-----|---------|---------|---------|--------------|--------------|---------------|-----------|------------|
| 102 | 206.750 | 22.500  | 15.000  | 0.00         | 0.00         | FFF           | 50        | 000000S3S4 |
|     | 206.750 | 22.500  | 0.000   | 0.00         | 0.00         | FFF           |           |            |
| 103 | 206.750 | 68.667  | 15.000  | 0.00         | 0.00         | FFF           | 50        | 000000S3S4 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | X       | Y      | Z     | RigMaj | RigMin | Fixity | Fy | Section |
|---|---------|--------|-------|--------|--------|--------|----|---------|
|   | 206.750 | 68.667 | 0.000 | 0.00   | 0.00   | FFF    |    |         |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 25 | 206.750 | 22.500  | 15.000  | 0.20 | 145.0         | 150.0          | 6.000      | 18.0  | 0     |
|    | 206.750 | 68.667  | 15.000  |      |               |                |            |       |       |
|    | 206.750 | 22.500  | 0.000   |      |               |                |            |       |       |
|    | 206.750 | 68.667  | 0.000   |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 25     | 1.000    | 1.000   |

**Frame #191:**

**Level: Cellar**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 11 | 34.163  | 64.654  | 15.000  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 34.163  | 74.024  | 15.000  |      |               |                |            |       |       |
|    | 34.163  | 64.654  | 0.000   |      |               |                |            |       |       |
|    | 34.163  | 74.024  | 0.000   |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 11     | 0.350    | 1.000   |

**Frame #192:**

**Level: Cellar**

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 21 | 74.093  | 64.654  | 15.000  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 74.093  | 74.024  | 15.000  |      |               |                |            |       |       |
|    | 74.093  | 64.654  | 0.000   |      |               |                |            |       |       |
|    | 74.093  | 74.024  | 0.000   |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 21     | 0.350    | 1.000   |

**Frame #193:**

**Level: Cellar**





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 12 | 34.163  | 64.654  | 15.000  | 0.20 | 145.0         | 150.0          | 12.000     | 12.0  | 0     |
|    | 74.093  | 64.654  | 15.000  |      |               |                |            |       |       |
|    | 34.163  | 64.654  | 0.000   |      |               |                |            |       |       |
|    | 74.093  | 64.654  | 0.000   |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 12     | 0.350    | 1.000   |

**Frame #194:**

**Level: Cellar**

**Concrete Beam / Horiz Brace:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigEnd<br>in | Fixity<br>xyt | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Sec | T-O |
|----|---------|---------|---------|--------------|---------------|------|---------------|----------------|------------|-----|-----|
| 53 | 66.593  | 74.024  | 15.000  | 0.00         | FFF           | 0.20 | 145.0         | 150.0          | 10.000     | 16  | --- |
|    | 69.593  | 74.024  | 15.000  | 0.00         | FFF           |      |               |                |            |     |     |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 13 | 34.163  | 74.024  | 15.000  | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|    | 66.593  | 74.024  | 15.000  |      |               |                |            |       |       |
|    | 34.163  | 74.024  | 0.000   |      |               |                |            |       |       |
|    | 66.593  | 74.024  | 0.000   |      |               |                |            |       |       |
| 20 | 69.593  | 74.024  | 15.000  | 0.20 | 145.0         | 150.0          | 12.000     | 24.0  | 0     |
|    | 74.093  | 74.024  | 15.000  |      |               |                |            |       |       |
|    | 69.593  | 74.024  | 0.000   |      |               |                |            |       |       |
|    | 74.093  | 74.024  | 0.000   |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 13     | 0.350    | 1.000   |
| 20     | 0.350    | 1.000   |

**Frame #195:**

**Level: Cellar**

**Steel Column:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | RigMaj<br>in | RigMin<br>in | Fixity<br>xyt | Fy<br>ksi | Section |
|----|---------|---------|---------|--------------|--------------|---------------|-----------|---------|
| 5  | 21.583  | 1.667   | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X311 |
|    | 21.583  | 1.667   | 0.000   | 0.00         | 0.00         | FFF           |           |         |
| 11 | 37.667  | 1.667   | 15.000  | 0.00         | 0.00         | FFF           | 50        | W14X283 |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| # | X      | Y     | Z     | RigMaj | RigMin | Fixity | Fy | Section |
|---|--------|-------|-------|--------|--------|--------|----|---------|
|   | 37.667 | 1.667 | 0.000 | 0.00   | 0.00   | FFF    |    |         |

**Concrete Wall:**

| #  | X<br>ft | Y<br>ft | Z<br>ft | Pois | UnitWt<br>pcf | UW Self<br>pcf | f'c<br>ksi | Thick | Group |
|----|---------|---------|---------|------|---------------|----------------|------------|-------|-------|
| 8  | 21.583  | 1.667   | 15.000  | 0.20 | 145.0         | 150.0          | 6.000      | 21.0  | 0     |
|    | 37.667  | 1.667   | 15.000  |      |               |                |            |       |       |
|    | 21.583  | 1.667   | 0.000   |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 0.000   |      |               |                |            |       |       |
| 14 | 37.667  | 1.667   | 15.000  | 0.20 | 145.0         | 150.0          | 6.000      | 21.0  | 0     |
|    | 63.083  | 1.667   | 15.000  |      |               |                |            |       |       |
|    | 37.667  | 1.667   | 0.000   |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 0.000   |      |               |                |            |       |       |
| 19 | 63.083  | 1.667   | 15.000  | 0.20 | 145.0         | 150.0          | 6.000      | 21.0  | 0     |
|    | 77.333  | 1.667   | 15.000  |      |               |                |            |       |       |
|    | 63.083  | 1.667   | 0.000   |      |               |                |            |       |       |
|    | 77.333  | 1.667   | 0.000   |      |               |                |            |       |       |

**Wall Crack Factors:**

| Wall # | Membrane | Bending |
|--------|----------|---------|
| 8      | 0.350    | 1.000   |
| 14     | 0.500    | 1.000   |
| 19     | 0.350    | 1.000   |

**GRAVITY WALL AND GRAVITY COLUMN SPRING PROPERTIES**

| Node # | Kx<br>kip/ft | Ky<br>kip/ft | Kz<br>kip/ft | Krx<br>kip-ft/rad | Kry<br>kip-ft/rad | Krx<br>kip-ft/rad | Angle |
|--------|--------------|--------------|--------------|-------------------|-------------------|-------------------|-------|
| 1      | —            | —            | 293182.69    | —                 | —                 | —                 | 0.00  |
| 2      | —            | —            | 293182.69    | —                 | —                 | —                 | 0.00  |
| 3      | —            | —            | 293182.69    | —                 | —                 | —                 | 0.00  |
| 6      | —            | —            | 146591.34    | —                 | —                 | —                 | 0.00  |
| 7      | —            | —            | 293182.69    | —                 | —                 | —                 | 0.00  |
| 13     | —            | —            | 146591.34    | —                 | —                 | —                 | 0.00  |
| 20     | —            | —            | 146591.34    | —                 | —                 | —                 | 0.00  |
| 23     | —            | —            | 146591.34    | —                 | —                 | —                 | 0.00  |
| 26     | —            | —            | 146591.34    | —                 | —                 | —                 | 0.00  |
| 29     | —            | —            | 146591.34    | —                 | —                 | —                 | 0.00  |
| 32     | —            | —            | 315124.70    | —                 | —                 | —                 | 0.00  |
| 33     | —            | —            | 315124.70    | —                 | —                 | —                 | 0.00  |
| 34     | —            | —            | 315124.70    | —                 | —                 | —                 | 0.00  |
| 37     | —            | —            | 157562.35    | —                 | —                 | —                 | 0.00  |
| 38     | —            | —            | 61874.59     | —                 | —                 | —                 | 0.00  |
| 39     | —            | —            | 315124.70    | —                 | —                 | —                 | 0.00  |
| 45     | —            | —            | 157562.35    | —                 | —                 | —                 | 0.00  |
| 46     | —            | —            | 61874.59     | —                 | —                 | —                 | 0.00  |
| 53     | —            | —            | 157562.35    | —                 | —                 | —                 | 0.00  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Node # | Kx | Ky | Kz        | Krx | Kry | Krx | Angle |
|--------|----|----|-----------|-----|-----|-----|-------|
| 54     | —  | —  | 61874.59  | —   | —   | —   | 0.00  |
| 57     | —  | —  | 157562.35 | —   | —   | —   | 0.00  |
| 58     | —  | —  | 61874.59  | —   | —   | —   | 0.00  |
| 61     | —  | —  | 157562.35 | —   | —   | —   | 0.00  |
| 62     | —  | —  | 61874.59  | —   | —   | —   | 0.00  |
| 65     | —  | —  | 157562.35 | —   | —   | —   | 0.00  |
| 66     | —  | —  | 61874.59  | —   | —   | —   | 0.00  |
| 70     | —  | —  | 269861.34 | —   | —   | —   | 0.00  |
| 71     | —  | —  | 269861.34 | —   | —   | —   | 0.00  |
| 72     | —  | —  | 269861.34 | —   | —   | —   | 0.00  |
| 75     | —  | —  | 134930.67 | —   | —   | —   | 0.00  |
| 76     | —  | —  | 52987.15  | —   | —   | —   | 0.00  |
| 77     | —  | —  | 269861.34 | —   | —   | —   | 0.00  |
| 83     | —  | —  | 134930.67 | —   | —   | —   | 0.00  |
| 84     | —  | —  | 52987.15  | —   | —   | —   | 0.00  |
| 91     | —  | —  | 134930.67 | —   | —   | —   | 0.00  |
| 92     | —  | —  | 52987.15  | —   | —   | —   | 0.00  |
| 95     | —  | —  | 134930.67 | —   | —   | —   | 0.00  |
| 96     | —  | —  | 52987.15  | —   | —   | —   | 0.00  |
| 99     | —  | —  | 134930.67 | —   | —   | —   | 0.00  |
| 100    | —  | —  | 52987.15  | —   | —   | —   | 0.00  |
| 103    | —  | —  | 134930.67 | —   | —   | —   | 0.00  |
| 104    | —  | —  | 52987.15  | —   | —   | —   | 0.00  |
| 107    | —  | —  | 237477.97 | —   | —   | —   | 0.00  |
| 108    | —  | —  | 237477.97 | —   | —   | —   | 0.00  |
| 109    | —  | —  | 237477.97 | —   | —   | —   | 0.00  |
| 112    | —  | —  | 118738.99 | —   | —   | —   | 0.00  |
| 113    | —  | —  | 46628.69  | —   | —   | —   | 0.00  |
| 114    | —  | —  | 237477.97 | —   | —   | —   | 0.00  |
| 120    | —  | —  | 118738.99 | —   | —   | —   | 0.00  |
| 121    | —  | —  | 46628.69  | —   | —   | —   | 0.00  |
| 128    | —  | —  | 118738.99 | —   | —   | —   | 0.00  |
| 129    | —  | —  | 46628.69  | —   | —   | —   | 0.00  |
| 132    | —  | —  | 118738.99 | —   | —   | —   | 0.00  |
| 133    | —  | —  | 46628.69  | —   | —   | —   | 0.00  |
| 136    | —  | —  | 118738.99 | —   | —   | —   | 0.00  |
| 137    | —  | —  | 46628.69  | —   | —   | —   | 0.00  |
| 140    | —  | —  | 118738.99 | —   | —   | —   | 0.00  |
| 141    | —  | —  | 46628.69  | —   | —   | —   | 0.00  |
| 144    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 145    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 146    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 147    | —  | —  | 267981.00 | —   | —   | —   | 0.00  |
| 150    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 152    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Node # | Kx | Ky | Kz        | Krx | Kry | Krx | Angle |
|--------|----|----|-----------|-----|-----|-----|-------|
| 153    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 159    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 161    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 189    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 190    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 191    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 192    | —  | —  | 267981.00 | —   | —   | —   | 0.00  |
| 195    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 196    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 197    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 203    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 204    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 227    | —  | —  | 295664.82 | —   | —   | —   | 0.00  |
| 228    | —  | —  | 295664.82 | —   | —   | —   | 0.00  |
| 229    | —  | —  | 295664.82 | —   | —   | —   | 0.00  |
| 230    | —  | —  | 232214.61 | —   | —   | —   | 0.00  |
| 233    | —  | —  | 295664.82 | —   | —   | —   | 0.00  |
| 234    | —  | —  | 295664.82 | —   | —   | —   | 0.00  |
| 235    | —  | —  | 295664.82 | —   | —   | —   | 0.00  |
| 241    | —  | —  | 295664.82 | —   | —   | —   | 0.00  |
| 242    | —  | —  | 295664.82 | —   | —   | —   | 0.00  |
| 265    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 266    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 267    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 268    | —  | —  | 267981.00 | —   | —   | —   | 0.00  |
| 271    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 272    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 273    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 279    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 280    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 303    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 304    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 305    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 306    | —  | —  | 267981.00 | —   | —   | —   | 0.00  |
| 309    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 310    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 311    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 317    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 318    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 341    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 342    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 343    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 344    | —  | —  | 267981.00 | —   | —   | —   | 0.00  |
| 347    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 348    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Node # | Kx | Ky | Kz        | Krx | Kry | Krx | Angle |
|--------|----|----|-----------|-----|-----|-----|-------|
| 349    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 355    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 356    | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 379    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 380    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 381    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 382    | —  | —  | 299611.87 | —   | —   | —   | 0.00  |
| 385    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 386    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 387    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 393    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 394    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 417    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 418    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 419    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 420    | —  | —  | 299611.87 | —   | —   | —   | 0.00  |
| 423    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 424    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 425    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 431    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 432    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 455    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 456    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 457    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 458    | —  | —  | 299611.87 | —   | —   | —   | 0.00  |
| 461    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 462    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 463    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 469    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 470    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 493    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 494    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 495    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 496    | —  | —  | 299611.87 | —   | —   | —   | 0.00  |
| 499    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 500    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 501    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 507    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 508    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 531    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 532    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 533    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 534    | —  | —  | 299611.87 | —   | —   | —   | 0.00  |
| 537    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 538    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Node # | Kx | Ky | Kz        | Krx | Kry | Krx | Angle |
|--------|----|----|-----------|-----|-----|-----|-------|
| 539    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 545    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 546    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 569    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 570    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 571    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 572    | —  | —  | 299611.87 | —   | —   | —   | 0.00  |
| 575    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 576    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 577    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 583    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 584    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 607    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 608    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 609    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 610    | —  | —  | 299611.87 | —   | —   | —   | 0.00  |
| 613    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 614    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 615    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 621    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 622    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 645    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 646    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 647    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 648    | —  | —  | 299611.87 | —   | —   | —   | 0.00  |
| 651    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 652    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 653    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 659    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 660    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 683    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 684    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 685    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 686    | —  | —  | 299611.87 | —   | —   | —   | 0.00  |
| 689    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 690    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 691    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 697    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 698    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 721    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 722    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 723    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 724    | —  | —  | 299611.87 | —   | —   | —   | 0.00  |
| 727    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 728    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Node # | Kx | Ky | Kz        | Krx | Kry | Krx | Angle |
|--------|----|----|-----------|-----|-----|-----|-------|
| 729    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 735    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 736    | —  | —  | 381477.68 | —   | —   | —   | 0.00  |
| 759    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 760    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 761    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 762    | —  | —  | 328208.36 | —   | —   | —   | 0.00  |
| 765    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 766    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 767    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 773    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 774    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 797    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 798    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 799    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 800    | —  | —  | 328208.36 | —   | —   | —   | 0.00  |
| 803    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 804    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 805    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 811    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 812    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 835    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 836    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 837    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 838    | —  | —  | 328208.36 | —   | —   | —   | 0.00  |
| 841    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 842    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 843    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 849    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 850    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 873    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 874    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 875    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 876    | —  | —  | 328208.36 | —   | —   | —   | 0.00  |
| 879    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 880    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 881    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 887    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 888    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 911    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 912    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 913    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 914    | —  | —  | 328208.36 | —   | —   | —   | 0.00  |
| 917    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 918    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Node # | Kx | Ky | Kz        | Krx | Kry | Krx | Angle |
|--------|----|----|-----------|-----|-----|-----|-------|
| 919    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 925    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 926    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 949    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 950    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 951    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 952    | —  | —  | 328208.36 | —   | —   | —   | 0.00  |
| 955    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 956    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 957    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 963    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 964    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 987    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 988    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 989    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 990    | —  | —  | 328208.36 | —   | —   | —   | 0.00  |
| 993    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 994    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 995    | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1001   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1002   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1025   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1026   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1027   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1028   | —  | —  | 328208.36 | —   | —   | —   | 0.00  |
| 1031   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1032   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1033   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1039   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1040   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1063   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1064   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1065   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1066   | —  | —  | 328208.36 | —   | —   | —   | 0.00  |
| 1069   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1070   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1071   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1077   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1078   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1101   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1102   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1103   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1104   | —  | —  | 328208.36 | —   | —   | —   | 0.00  |
| 1107   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1108   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Node # | Kx | Ky | Kz        | Krx | Kry | Krx | Angle |
|--------|----|----|-----------|-----|-----|-----|-------|
| 1109   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1115   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1116   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1139   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1140   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1141   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1142   | —  | —  | 275786.19 | —   | —   | —   | 0.00  |
| 1145   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1146   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1147   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1153   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1154   | —  | —  | 417887.86 | —   | —   | —   | 0.00  |
| 1182   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1183   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1184   | —  | —  | 225178.49 | —   | —   | —   | 0.00  |
| 1187   | —  | —  | 464416.56 | —   | —   | —   | 0.00  |
| 1188   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1189   | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 1195   | —  | —  | 464416.56 | —   | —   | —   | 0.00  |
| 1196   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1228   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1229   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1230   | —  | —  | 225178.49 | —   | —   | —   | 0.00  |
| 1235   | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 1272   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1273   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1274   | —  | —  | 225178.49 | —   | —   | —   | 0.00  |
| 1281   | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 1329   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1330   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1331   | —  | —  | 225178.49 | —   | —   | —   | 0.00  |
| 1341   | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 1382   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1383   | —  | —  | 400440.81 | —   | —   | —   | 0.00  |
| 1384   | —  | —  | 225178.49 | —   | —   | —   | 0.00  |
| 1393   | —  | —  | 341204.01 | —   | —   | —   | 0.00  |
| 1481   | —  | —  | 399981.05 | —   | —   | —   | 0.00  |
| 1482   | —  | —  | 399981.05 | —   | —   | —   | 0.00  |
| 1483   | —  | —  | 224919.95 | —   | —   | —   | 0.00  |
| 1491   | —  | —  | 340812.26 | —   | —   | —   | 0.00  |
| 2162   | —  | —  | 75692.17  | —   | —   | —   | 0.00  |
| 2163   | —  | —  | 92436.00  | —   | —   | —   | 0.00  |
| 2164   | —  | —  | 11304.27  | —   | —   | —   | 0.00  |
| 2165   | —  | —  | 101584.15 | —   | —   | —   | 0.00  |
| 2166   | —  | —  | 85099.77  | —   | —   | —   | 0.00  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Node # | Kx | Ky | Kz        | Krx | Kry | Krx | Angle |
|--------|----|----|-----------|-----|-----|-----|-------|
| 2167   | —  | —  | 55088.02  | —   | —   | —   | 0.00  |
| 2168   | —  | —  | 55088.02  | —   | —   | —   | 0.00  |
| 2187   | —  | —  | 80339.76  | —   | —   | —   | 0.00  |
| 2188   | —  | —  | 103036.03 | —   | —   | —   | 0.00  |
| 2210   | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 2242   | —  | —  | 72382.63  | —   | —   | —   | 0.00  |
| 2243   | —  | —  | 72382.63  | —   | —   | —   | 0.00  |
| 9355   | —  | —  | 75692.17  | —   | —   | —   | 0.00  |
| 9360   | —  | —  | 75692.17  | —   | —   | —   | 0.00  |
| 9365   | —  | —  | 75692.17  | —   | —   | —   | 0.00  |
| 9373   | —  | —  | 92436.00  | —   | —   | —   | 0.00  |
| 9378   | —  | —  | 92436.00  | —   | —   | —   | 0.00  |
| 9383   | —  | —  | 92436.00  | —   | —   | —   | 0.00  |
| 9388   | —  | —  | 92436.00  | —   | —   | —   | 0.00  |
| 9393   | —  | —  | 92436.00  | —   | —   | —   | 0.00  |
| 9398   | —  | —  | 92436.00  | —   | —   | —   | 0.00  |
| 9403   | —  | —  | 92436.00  | —   | —   | —   | 0.00  |
| 9411   | —  | —  | 11304.27  | —   | —   | —   | 0.00  |
| 9419   | —  | —  | 101584.15 | —   | —   | —   | 0.00  |
| 9424   | —  | —  | 101584.15 | —   | —   | —   | 0.00  |
| 9429   | —  | —  | 101584.15 | —   | —   | —   | 0.00  |
| 9437   | —  | —  | 85099.77  | —   | —   | —   | 0.00  |
| 9450   | —  | —  | 55088.02  | —   | —   | —   | 0.00  |
| 9452   | —  | —  | 55088.02  | —   | —   | —   | 0.00  |
| 9454   | —  | —  | 55088.02  | —   | —   | —   | 0.00  |
| 9456   | —  | —  | 55088.02  | —   | —   | —   | 0.00  |
| 9462   | —  | —  | 55088.02  | —   | —   | —   | 0.00  |
| 9604   | —  | —  | 80339.76  | —   | —   | —   | 0.00  |
| 9606   | —  | —  | 80339.76  | —   | —   | —   | 0.00  |
| 9608   | —  | —  | 80339.76  | —   | —   | —   | 0.00  |
| 9624   | —  | —  | 80339.76  | —   | —   | —   | 0.00  |
| 9632   | —  | —  | 80339.76  | —   | —   | —   | 0.00  |
| 9637   | —  | —  | 103036.03 | —   | —   | —   | 0.00  |
| 9642   | —  | —  | 103036.03 | —   | —   | —   | 0.00  |
| 9647   | —  | —  | 103036.03 | —   | —   | —   | 0.00  |
| 9652   | —  | —  | 103036.03 | —   | —   | —   | 0.00  |
| 9657   | —  | —  | 103036.03 | —   | —   | —   | 0.00  |
| 9723   | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 9728   | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 9733   | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 9738   | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 9743   | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 9748   | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 9753   | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 9758   | —  | —  | 58877.72  | —   | —   | —   | 0.00  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Node # | Kx | Ky | Kz       | Krx | Kry | Krx | Angle |
|--------|----|----|----------|-----|-----|-----|-------|
| 9763   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9768   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9773   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9778   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9783   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9788   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9793   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9798   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9803   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9808   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9813   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9818   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9823   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9828   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9833   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9871   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9872   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9876   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9892   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9898   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9899   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9903   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9905   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9910   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9914   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9919   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9920   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9921   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9922   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9923   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9925   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9926   | —  | —  | 72382.63 | —   | —   | —   | 0.00  |
| 9966   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9967   | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 9979   | —  | —  | 97299.23 | —   | —   | —   | 0.00  |
| 9982   | —  | —  | 97299.23 | —   | —   | —   | 0.00  |
| 9990   | —  | —  | 30546.67 | —   | —   | —   | 0.00  |
| 10011  | —  | —  | 18772.67 | —   | —   | —   | 0.00  |
| 10034  | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 10035  | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 10078  | —  | —  | 82553.33 | —   | —   | —   | 0.00  |
| 10100  | —  | —  | 32866.67 | —   | —   | —   | 0.00  |
| 10123  | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 10126  | —  | —  | 58877.72 | —   | —   | —   | 0.00  |
| 10202  | —  | —  | 40406.67 | —   | —   | —   | 0.00  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Node # | Kx | Ky | Kz        | Krx | Kry | Krx | Angle |
|--------|----|----|-----------|-----|-----|-----|-------|
| 10205  | —  | —  | 61866.67  | —   | —   | —   | 0.00  |
| 10209  | —  | —  | 68246.67  | —   | —   | —   | 0.00  |
| 10219  | —  | —  | 25713.33  | —   | —   | —   | 0.00  |
| 10230  | —  | —  | 32866.67  | —   | —   | —   | 0.00  |
| 10234  | —  | —  | 51233.33  | —   | —   | —   | 0.00  |
| 10288  | —  | —  | 100146.67 | —   | —   | —   | 0.00  |
| 10296  | —  | —  | 82553.33  | —   | —   | —   | 0.00  |
| 10319  | —  | —  | 15756.67  | —   | —   | —   | 0.00  |
| 10340  | —  | —  | 51233.33  | —   | —   | —   | 0.00  |
| 10352  | —  | —  | 15756.67  | —   | —   | —   | 0.00  |
| 10391  | —  | —  | 15756.67  | —   | —   | —   | 0.00  |
| 10410  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 10411  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 10430  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 10431  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 10446  | —  | —  | 51233.33  | —   | —   | —   | 0.00  |
| 10477  | —  | —  | 20880.00  | —   | —   | —   | 0.00  |
| 10492  | —  | —  | 15756.67  | —   | —   | —   | 0.00  |
| 10514  | —  | —  | 34606.67  | —   | —   | —   | 0.00  |
| 10569  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 10572  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 10575  | —  | —  | 15756.67  | —   | —   | —   | 0.00  |
| 10588  | —  | —  | 30933.33  | —   | —   | —   | 0.00  |
| 10603  | —  | —  | 24360.00  | —   | —   | —   | 0.00  |
| 10631  | —  | —  | 25713.33  | —   | —   | —   | 0.00  |
| 10644  | —  | —  | 20880.00  | —   | —   | —   | 0.00  |
| 10645  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 10654  | —  | —  | 15756.67  | —   | —   | —   | 0.00  |
| 10665  | —  | —  | 25326.67  | —   | —   | —   | 0.00  |
| 10668  | —  | —  | 34026.67  | —   | —   | —   | 0.00  |
| 10672  | —  | —  | 32866.67  | —   | —   | —   | 0.00  |
| 10674  | —  | —  | 18772.67  | —   | —   | —   | 0.00  |
| 10689  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 10690  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 10762  | —  | —  | 27840.00  | —   | —   | —   | 0.00  |
| 10789  | —  | —  | 109813.33 | —   | —   | —   | 0.00  |
| 10802  | —  | —  | 109813.33 | —   | —   | —   | 0.00  |
| 10809  | —  | —  | 42146.67  | —   | —   | —   | 0.00  |
| 10818  | —  | —  | 61866.67  | —   | —   | —   | 0.00  |
| 10831  | —  | —  | 68246.67  | —   | —   | —   | 0.00  |
| 10836  | —  | —  | 97299.23  | —   | —   | —   | 0.00  |
| 10855  | —  | —  | 100146.67 | —   | —   | —   | 0.00  |
| 10858  | —  | —  | 40793.33  | —   | —   | —   | 0.00  |
| 10878  | —  | —  | 107821.24 | —   | —   | —   | 0.00  |
| 10879  | —  | —  | 107821.24 | —   | —   | —   | 0.00  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Node # | Kx | Ky | Kz        | Krx | Kry | Krx | Angle |
|--------|----|----|-----------|-----|-----|-----|-------|
| 10882  | —  | —  | 25906.67  | —   | —   | —   | 0.00  |
| 10886  | —  | —  | 49493.33  | —   | —   | —   | 0.00  |
| 10942  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 10964  | —  | —  | 20880.00  | —   | —   | —   | 0.00  |
| 10971  | —  | —  | 119866.67 | —   | —   | —   | 0.00  |
| 11016  | —  | —  | 15756.67  | —   | —   | —   | 0.00  |
| 11024  | —  | —  | 56260.00  | —   | —   | —   | 0.00  |
| 11066  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 11069  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 11075  | —  | —  | 51233.33  | —   | —   | —   | 0.00  |
| 11097  | —  | —  | 42146.67  | —   | —   | —   | 0.00  |
| 11100  | —  | —  | 40793.33  | —   | —   | —   | 0.00  |
| 11107  | —  | —  | 22233.33  | —   | —   | —   | 0.00  |
| 11123  | —  | —  | 107821.24 | —   | —   | —   | 0.00  |
| 11159  | —  | —  | 36926.67  | —   | —   | —   | 0.00  |
| 11198  | —  | —  | 55982.11  | —   | —   | —   | 0.00  |
| 11199  | —  | —  | 55982.11  | —   | —   | —   | 0.00  |
| 11223  | —  | —  | 27260.00  | —   | —   | —   | 0.00  |
| 11248  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 11250  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 11253  | —  | —  | 68246.67  | —   | —   | —   | 0.00  |
| 11257  | —  | —  | 55982.11  | —   | —   | —   | 0.00  |
| 11262  | —  | —  | 44853.33  | —   | —   | —   | 0.00  |
| 11263  | —  | —  | 107821.24 | —   | —   | —   | 0.00  |
| 11277  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 11280  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 11281  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 11282  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 11293  | —  | —  | 75013.33  | —   | —   | —   | 0.00  |
| 11309  | —  | —  | 75013.33  | —   | —   | —   | 0.00  |
| 11324  | —  | —  | 58877.72  | —   | —   | —   | 0.00  |
| 11365  | —  | —  | 55982.11  | —   | —   | —   | 0.00  |
| 11490  | —  | —  | 27902.96  | —   | —   | —   | 0.00  |
| 11810  | —  | —  | 19436.68  | —   | —   | —   | 0.00  |
| 11896  | —  | —  | 25756.58  | —   | —   | —   | 0.00  |
| 12046  | —  | —  | 25756.58  | —   | —   | —   | 0.00  |
| 12337  | —  | —  | 19436.68  | —   | —   | —   | 0.00  |
| 12438  | —  | —  | 25756.58  | —   | —   | —   | 0.00  |
| 12453  | —  | —  | 19436.68  | —   | —   | —   | 0.00  |
| 12509  | —  | —  | 19436.68  | —   | —   | —   | 0.00  |
| 12569  | —  | —  | 19436.68  | —   | —   | —   | 0.00  |

**NODES:**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X<br>ft | Y<br>ft | Z<br>ft | Fdtn | Diaphr<br>(Diaph.# - Story Name) |
|----|---------|---------|---------|------|----------------------------------|
| 1  | 21.583  | 1.667   | 512.455 | N    | 1 - F47roof                      |
| 2  | 21.583  | 21.833  | 512.455 | N    | 1 - F47roof                      |
| 3  | 21.583  | 46.000  | 512.455 | N    | 1 - F47roof                      |
| 4  | 37.667  | 1.667   | 512.455 | N    | 1 - F47roof                      |
| 5  | 37.667  | 19.833  | 512.455 | N    | 1 - F47roof                      |
| 6  | 42.083  | 56.670  | 512.455 | N    | 1 - F47roof                      |
| 7  | 43.875  | 37.167  | 512.455 | N    | 1 - F47roof                      |
| 8  | 45.500  | 19.833  | 512.455 | N    | 1 - F47roof                      |
| 9  | 54.625  | 37.167  | 512.455 | N    | 1 - F47roof                      |
| 10 | 63.083  | 1.667   | 512.455 | N    | 1 - F47roof                      |
| 11 | 63.083  | 19.000  | 512.455 | N    | 1 - F47roof                      |
| 12 | 63.083  | 37.167  | 512.455 | N    | 1 - F47roof                      |
| 13 | 65.083  | 56.667  | 512.455 | N    | 1 - F47roof                      |
| 14 | 77.333  | 1.667   | 512.455 | N    | 1 - F47roof                      |
| 15 | 77.333  | 29.500  | 512.455 | N    | 1 - F47roof                      |
| 16 | 77.333  | 42.792  | 512.455 | N    | 1 - F47roof                      |
| 17 | 89.083  | 21.583  | 512.455 | N    | 1 - F47roof                      |
| 18 | 89.083  | 29.500  | 512.455 | N    | 1 - F47roof                      |
| 19 | 89.083  | 36.583  | 512.455 | N    | 1 - F47roof                      |
| 20 | 89.083  | 56.670  | 512.455 | N    | 1 - F47roof                      |
| 21 | 113.083 | 22.500  | 512.455 | N    | 1 - F47roof                      |
| 22 | 113.083 | 36.583  | 512.455 | N    | 1 - F47roof                      |
| 23 | 113.083 | 56.583  | 512.455 | N    | 1 - F47roof                      |
| 24 | 137.083 | 21.583  | 512.455 | N    | 1 - F47roof                      |
| 25 | 137.083 | 36.583  | 512.455 | N    | 1 - F47roof                      |
| 26 | 137.083 | 56.670  | 512.455 | N    | 1 - F47roof                      |
| 27 | 161.083 | 22.500  | 512.455 | N    | 1 - F47roof                      |
| 28 | 161.083 | 36.583  | 512.455 | N    | 1 - F47roof                      |
| 29 | 161.083 | 56.670  | 512.455 | N    | 1 - F47roof                      |
| 30 | 185.083 | 22.500  | 512.455 | N    | 1 - F47roof                      |
| 31 | 185.083 | 60.167  | 512.455 | N    | 1 - F47roof                      |
| 32 | 21.583  | 1.667   | 502.330 | N    | 1 - F46MEP                       |
| 33 | 21.583  | 21.833  | 502.330 | N    | 1 - F46MEP                       |
| 34 | 21.583  | 46.000  | 502.330 | N    | 1 - F46MEP                       |
| 35 | 37.667  | 1.667   | 502.330 | N    | 1 - F46MEP                       |
| 36 | 37.667  | 19.833  | 502.330 | N    | 1 - F46MEP                       |
| 37 | 42.083  | 56.670  | 502.330 | N    | 1 - F46MEP                       |
| 38 | 42.083  | 67.250  | 502.330 | N    | 1 - F46MEP                       |
| 39 | 43.875  | 37.167  | 502.330 | N    | 1 - F46MEP                       |
| 40 | 45.500  | 19.833  | 502.330 | N    | 1 - F46MEP                       |
| 41 | 54.625  | 37.167  | 502.330 | N    | 1 - F46MEP                       |
| 42 | 63.083  | 1.667   | 502.330 | N    | 1 - F46MEP                       |
| 43 | 63.083  | 19.000  | 502.330 | N    | 1 - F46MEP                       |
| 44 | 63.083  | 37.167  | 502.330 | N    | 1 - F46MEP                       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #  | X       | Y      | Z       | Fdtn | Diaphr     |
|----|---------|--------|---------|------|------------|
| 45 | 65.083  | 56.667 | 502.330 | N    | 1 - F46MEP |
| 46 | 65.083  | 67.250 | 502.330 | N    | 1 - F46MEP |
| 47 | 77.333  | 1.667  | 502.330 | N    | 1 - F46MEP |
| 48 | 77.333  | 29.500 | 502.330 | N    | 1 - F46MEP |
| 49 | 77.333  | 42.792 | 502.330 | N    | 1 - F46MEP |
| 50 | 89.083  | 21.583 | 502.330 | N    | 1 - F46MEP |
| 51 | 89.083  | 29.500 | 502.330 | N    | 1 - F46MEP |
| 52 | 89.083  | 36.583 | 502.330 | N    | 1 - F46MEP |
| 53 | 89.083  | 56.670 | 502.330 | N    | 1 - F46MEP |
| 54 | 89.083  | 67.250 | 502.330 | N    | 1 - F46MEP |
| 55 | 113.083 | 22.500 | 502.330 | N    | 1 - F46MEP |
| 56 | 113.083 | 36.583 | 502.330 | N    | 1 - F46MEP |
| 57 | 113.083 | 56.583 | 502.330 | N    | 1 - F46MEP |
| 58 | 113.083 | 67.250 | 502.330 | N    | 1 - F46MEP |
| 59 | 137.083 | 21.583 | 502.330 | N    | 1 - F46MEP |
| 60 | 137.083 | 36.583 | 502.330 | N    | 1 - F46MEP |
| 61 | 137.083 | 56.670 | 502.330 | N    | 1 - F46MEP |
| 62 | 137.083 | 67.250 | 502.330 | N    | 1 - F46MEP |
| 63 | 161.083 | 22.500 | 502.330 | N    | 1 - F46MEP |
| 64 | 161.083 | 36.583 | 502.330 | N    | 1 - F46MEP |
| 65 | 161.083 | 56.670 | 502.330 | N    | 1 - F46MEP |
| 66 | 161.083 | 67.250 | 502.330 | N    | 1 - F46MEP |
| 67 | 185.083 | 22.500 | 502.330 | N    | 1 - F46MEP |
| 68 | 185.083 | 60.167 | 502.330 | N    | 1 - F46MEP |
| 69 | 185.083 | 63.337 | 502.330 | N    | 1 - F46MEP |
| 70 | 21.583  | 1.667  | 492.910 | N    | 1 - F45    |
| 71 | 21.583  | 21.833 | 492.910 | N    | 1 - F45    |
| 72 | 21.583  | 46.000 | 492.910 | N    | 1 - F45    |
| 73 | 37.667  | 1.667  | 492.910 | N    | 1 - F45    |
| 74 | 37.667  | 19.833 | 492.910 | N    | 1 - F45    |
| 75 | 42.083  | 56.670 | 492.910 | N    | 1 - F45    |
| 76 | 42.083  | 67.250 | 492.910 | N    | 1 - F45    |
| 77 | 43.875  | 37.167 | 492.910 | N    | 1 - F45    |
| 78 | 45.500  | 19.833 | 492.910 | N    | 1 - F45    |
| 79 | 54.625  | 37.167 | 492.910 | N    | 1 - F45    |
| 80 | 63.083  | 1.667  | 492.910 | N    | 1 - F45    |
| 81 | 63.083  | 19.000 | 492.910 | N    | 1 - F45    |
| 82 | 63.083  | 37.167 | 492.910 | N    | 1 - F45    |
| 83 | 65.083  | 56.667 | 492.910 | N    | 1 - F45    |
| 84 | 65.083  | 67.250 | 492.910 | N    | 1 - F45    |
| 85 | 77.333  | 1.667  | 492.910 | N    | 1 - F45    |
| 86 | 77.333  | 29.500 | 492.910 | N    | 1 - F45    |
| 87 | 77.333  | 42.792 | 492.910 | N    | 1 - F45    |
| 88 | 89.083  | 21.583 | 492.910 | N    | 1 - F45    |
| 89 | 89.083  | 29.500 | 492.910 | N    | 1 - F45    |



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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 90  | 89.083  | 36.583 | 492.910 | N    | 1 - F45 |
| 91  | 89.083  | 56.670 | 492.910 | N    | 1 - F45 |
| 92  | 89.083  | 67.250 | 492.910 | N    | 1 - F45 |
| 93  | 113.083 | 22.500 | 492.910 | N    | 1 - F45 |
| 94  | 113.083 | 36.583 | 492.910 | N    | 1 - F45 |
| 95  | 113.083 | 56.583 | 492.910 | N    | 1 - F45 |
| 96  | 113.083 | 67.250 | 492.910 | N    | 1 - F45 |
| 97  | 137.083 | 21.583 | 492.910 | N    | 1 - F45 |
| 98  | 137.083 | 36.583 | 492.910 | N    | 1 - F45 |
| 99  | 137.083 | 56.670 | 492.910 | N    | 1 - F45 |
| 100 | 137.083 | 67.250 | 492.910 | N    | 1 - F45 |
| 101 | 161.083 | 22.500 | 492.910 | N    | 1 - F45 |
| 102 | 161.083 | 36.583 | 492.910 | N    | 1 - F45 |
| 103 | 161.083 | 56.670 | 492.910 | N    | 1 - F45 |
| 104 | 161.083 | 67.250 | 492.910 | N    | 1 - F45 |
| 105 | 185.083 | 22.500 | 492.910 | N    | 1 - F45 |
| 106 | 185.083 | 63.337 | 492.910 | N    | 1 - F45 |
| 107 | 21.583  | 1.667  | 481.910 | N    | 1 - F44 |
| 108 | 21.583  | 21.833 | 481.910 | N    | 1 - F44 |
| 109 | 21.583  | 46.000 | 481.910 | N    | 1 - F44 |
| 110 | 37.667  | 1.667  | 481.910 | N    | 1 - F44 |
| 111 | 37.667  | 19.833 | 481.910 | N    | 1 - F44 |
| 112 | 42.083  | 56.670 | 481.910 | N    | 1 - F44 |
| 113 | 42.083  | 67.250 | 481.910 | N    | 1 - F44 |
| 114 | 43.875  | 37.167 | 481.910 | N    | 1 - F44 |
| 115 | 45.500  | 19.833 | 481.910 | N    | 1 - F44 |
| 116 | 54.625  | 37.167 | 481.910 | N    | 1 - F44 |
| 117 | 63.083  | 1.667  | 481.910 | N    | 1 - F44 |
| 118 | 63.083  | 19.000 | 481.910 | N    | 1 - F44 |
| 119 | 63.083  | 37.167 | 481.910 | N    | 1 - F44 |
| 120 | 65.083  | 56.667 | 481.910 | N    | 1 - F44 |
| 121 | 65.083  | 67.250 | 481.910 | N    | 1 - F44 |
| 122 | 77.333  | 1.667  | 481.910 | N    | 1 - F44 |
| 123 | 77.333  | 29.500 | 481.910 | N    | 1 - F44 |
| 124 | 77.333  | 42.792 | 481.910 | N    | 1 - F44 |
| 125 | 89.083  | 21.583 | 481.910 | N    | 1 - F44 |
| 126 | 89.083  | 29.500 | 481.910 | N    | 1 - F44 |
| 127 | 89.083  | 36.583 | 481.910 | N    | 1 - F44 |
| 128 | 89.083  | 56.670 | 481.910 | N    | 1 - F44 |
| 129 | 89.083  | 67.250 | 481.910 | N    | 1 - F44 |
| 130 | 113.083 | 22.500 | 481.910 | N    | 1 - F44 |
| 131 | 113.083 | 36.583 | 481.910 | N    | 1 - F44 |
| 132 | 113.083 | 56.583 | 481.910 | N    | 1 - F44 |
| 133 | 113.083 | 67.250 | 481.910 | N    | 1 - F44 |
| 134 | 137.083 | 21.583 | 481.910 | N    | 1 - F44 |





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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 135 | 137.083 | 36.583 | 481.910 | N    | 1 - F44 |
| 136 | 137.083 | 56.670 | 481.910 | N    | 1 - F44 |
| 137 | 137.083 | 67.250 | 481.910 | N    | 1 - F44 |
| 138 | 161.083 | 22.500 | 481.910 | N    | 1 - F44 |
| 139 | 161.083 | 36.583 | 481.910 | N    | 1 - F44 |
| 140 | 161.083 | 56.670 | 481.910 | N    | 1 - F44 |
| 141 | 161.083 | 67.250 | 481.910 | N    | 1 - F44 |
| 142 | 185.083 | 22.500 | 481.910 | N    | 1 - F44 |
| 143 | 185.083 | 63.337 | 481.910 | N    | 1 - F44 |
| 144 | 21.583  | 1.667  | 469.410 | N    | 1 - F43 |
| 145 | 21.583  | 21.833 | 469.410 | N    | 1 - F43 |
| 146 | 21.583  | 46.000 | 469.410 | N    | 1 - F43 |
| 147 | 24.000  | 58.666 | 469.410 | N    | 1 - F43 |
| 148 | 37.667  | 1.667  | 469.410 | N    | 1 - F43 |
| 149 | 37.667  | 19.833 | 469.410 | N    | 1 - F43 |
| 150 | 42.083  | 56.670 | 469.410 | N    | 1 - F43 |
| 151 | 42.083  | 67.250 | 469.410 | N    | None    |
| 152 | 42.083  | 68.667 | 469.410 | N    | 1 - F43 |
| 153 | 43.875  | 37.167 | 469.410 | N    | 1 - F43 |
| 154 | 45.500  | 19.833 | 469.410 | N    | 1 - F43 |
| 155 | 54.625  | 37.167 | 469.410 | N    | 1 - F43 |
| 156 | 63.083  | 1.667  | 469.410 | N    | 1 - F43 |
| 157 | 63.083  | 19.000 | 469.410 | N    | 1 - F43 |
| 158 | 63.083  | 37.167 | 469.410 | N    | 1 - F43 |
| 159 | 65.083  | 56.667 | 469.410 | N    | 1 - F43 |
| 160 | 65.083  | 67.250 | 469.410 | N    | None    |
| 161 | 65.083  | 68.667 | 469.410 | N    | 1 - F43 |
| 162 | 77.333  | 1.667  | 469.410 | N    | 1 - F43 |
| 163 | 77.333  | 29.500 | 469.410 | N    | 1 - F43 |
| 164 | 77.333  | 42.792 | 469.410 | N    | 1 - F43 |
| 165 | 89.083  | 21.583 | 469.410 | N    | 1 - F43 |
| 166 | 89.083  | 29.500 | 469.410 | N    | 1 - F43 |
| 167 | 89.083  | 36.583 | 469.410 | N    | 1 - F43 |
| 168 | 89.083  | 56.670 | 469.410 | N    | 1 - F43 |
| 169 | 89.083  | 67.250 | 469.410 | N    | None    |
| 170 | 89.083  | 69.584 | 469.410 | N    | 1 - F43 |
| 171 | 113.083 | 22.500 | 469.410 | N    | 1 - F43 |
| 172 | 113.083 | 36.583 | 469.410 | N    | 1 - F43 |
| 173 | 113.083 | 56.583 | 469.410 | N    | 1 - F43 |
| 174 | 113.083 | 67.250 | 469.410 | N    | None    |
| 175 | 113.083 | 68.667 | 469.410 | N    | 1 - F43 |
| 176 | 137.083 | 21.583 | 469.410 | N    | 1 - F43 |
| 177 | 137.083 | 36.583 | 469.410 | N    | 1 - F43 |
| 178 | 137.083 | 56.670 | 469.410 | N    | 1 - F43 |
| 179 | 137.083 | 67.250 | 469.410 | N    | None    |



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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 180 | 137.083 | 69.584 | 469.410 | N    | 1 - F43 |
| 181 | 161.083 | 22.500 | 469.410 | N    | 1 - F43 |
| 182 | 161.083 | 36.583 | 469.410 | N    | 1 - F43 |
| 183 | 161.083 | 56.670 | 469.410 | N    | 1 - F43 |
| 184 | 161.083 | 67.250 | 469.410 | N    | None    |
| 185 | 161.083 | 68.667 | 469.410 | N    | 1 - F43 |
| 186 | 185.083 | 22.500 | 469.410 | N    | 1 - F43 |
| 187 | 185.083 | 63.337 | 469.410 | N    | 1 - F43 |
| 188 | 185.083 | 68.667 | 469.410 | N    | 1 - F43 |
| 189 | 21.583  | 1.667  | 460.710 | N    | 1 - F42 |
| 190 | 21.583  | 21.833 | 460.710 | N    | 1 - F42 |
| 191 | 21.583  | 46.000 | 460.710 | N    | 1 - F42 |
| 192 | 24.000  | 58.666 | 460.710 | N    | 1 - F42 |
| 193 | 37.667  | 1.667  | 460.710 | N    | 1 - F42 |
| 194 | 37.667  | 19.833 | 460.710 | N    | 1 - F42 |
| 195 | 42.083  | 56.670 | 460.710 | N    | 1 - F42 |
| 196 | 42.083  | 68.667 | 460.710 | N    | 1 - F42 |
| 197 | 43.875  | 37.167 | 460.710 | N    | 1 - F42 |
| 198 | 45.500  | 19.833 | 460.710 | N    | 1 - F42 |
| 199 | 54.625  | 37.167 | 460.710 | N    | 1 - F42 |
| 200 | 63.083  | 1.667  | 460.710 | N    | 1 - F42 |
| 201 | 63.083  | 19.000 | 460.710 | N    | 1 - F42 |
| 202 | 63.083  | 37.167 | 460.710 | N    | 1 - F42 |
| 203 | 65.083  | 56.667 | 460.710 | N    | 1 - F42 |
| 204 | 65.083  | 68.667 | 460.710 | N    | 1 - F42 |
| 205 | 77.333  | 1.667  | 460.710 | N    | 1 - F42 |
| 206 | 77.333  | 29.500 | 460.710 | N    | 1 - F42 |
| 207 | 77.333  | 42.792 | 460.710 | N    | 1 - F42 |
| 208 | 89.083  | 21.583 | 460.710 | N    | 1 - F42 |
| 209 | 89.083  | 29.500 | 460.710 | N    | 1 - F42 |
| 210 | 89.083  | 36.583 | 460.710 | N    | 1 - F42 |
| 211 | 89.083  | 56.670 | 460.710 | N    | 1 - F42 |
| 212 | 89.083  | 69.584 | 460.710 | N    | 1 - F42 |
| 213 | 113.083 | 22.500 | 460.710 | N    | 1 - F42 |
| 214 | 113.083 | 36.583 | 460.710 | N    | 1 - F42 |
| 215 | 113.083 | 56.583 | 460.710 | N    | 1 - F42 |
| 216 | 113.083 | 68.667 | 460.710 | N    | 1 - F42 |
| 217 | 137.083 | 21.583 | 460.710 | N    | 1 - F42 |
| 218 | 137.083 | 36.583 | 460.710 | N    | 1 - F42 |
| 219 | 137.083 | 56.670 | 460.710 | N    | 1 - F42 |
| 220 | 137.083 | 69.584 | 460.710 | N    | 1 - F42 |
| 221 | 161.083 | 22.500 | 460.710 | N    | 1 - F42 |
| 222 | 161.083 | 36.583 | 460.710 | N    | 1 - F42 |
| 223 | 161.083 | 56.670 | 460.710 | N    | 1 - F42 |
| 224 | 161.083 | 68.667 | 460.710 | N    | 1 - F42 |



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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 225 | 185.083 | 22.500 | 460.710 | N    | 1 - F42 |
| 226 | 185.083 | 68.667 | 460.710 | N    | 1 - F42 |
| 227 | 21.583  | 1.667  | 452.010 | N    | 1 - F41 |
| 228 | 21.583  | 21.833 | 452.010 | N    | 1 - F41 |
| 229 | 21.583  | 46.000 | 452.010 | N    | 1 - F41 |
| 230 | 24.000  | 58.666 | 452.010 | N    | 1 - F41 |
| 231 | 37.667  | 1.667  | 452.010 | N    | 1 - F41 |
| 232 | 37.667  | 19.833 | 452.010 | N    | 1 - F41 |
| 233 | 42.083  | 56.670 | 452.010 | N    | 1 - F41 |
| 234 | 42.083  | 68.667 | 452.010 | N    | 1 - F41 |
| 235 | 43.875  | 37.167 | 452.010 | N    | 1 - F41 |
| 236 | 45.500  | 19.833 | 452.010 | N    | 1 - F41 |
| 237 | 54.625  | 37.167 | 452.010 | N    | 1 - F41 |
| 238 | 63.083  | 1.667  | 452.010 | N    | 1 - F41 |
| 239 | 63.083  | 19.000 | 452.010 | N    | 1 - F41 |
| 240 | 63.083  | 37.167 | 452.010 | N    | 1 - F41 |
| 241 | 65.083  | 56.667 | 452.010 | N    | 1 - F41 |
| 242 | 65.083  | 68.667 | 452.010 | N    | 1 - F41 |
| 243 | 77.333  | 1.667  | 452.010 | N    | 1 - F41 |
| 244 | 77.333  | 29.500 | 452.010 | N    | 1 - F41 |
| 245 | 77.333  | 42.792 | 452.010 | N    | 1 - F41 |
| 246 | 89.083  | 21.583 | 452.010 | N    | 1 - F41 |
| 247 | 89.083  | 29.500 | 452.010 | N    | 1 - F41 |
| 248 | 89.083  | 36.583 | 452.010 | N    | 1 - F41 |
| 249 | 89.083  | 56.670 | 452.010 | N    | 1 - F41 |
| 250 | 89.083  | 69.584 | 452.010 | N    | 1 - F41 |
| 251 | 113.083 | 22.500 | 452.010 | N    | 1 - F41 |
| 252 | 113.083 | 36.583 | 452.010 | N    | 1 - F41 |
| 253 | 113.083 | 56.583 | 452.010 | N    | 1 - F41 |
| 254 | 113.083 | 68.667 | 452.010 | N    | 1 - F41 |
| 255 | 137.083 | 21.583 | 452.010 | N    | 1 - F41 |
| 256 | 137.083 | 36.583 | 452.010 | N    | 1 - F41 |
| 257 | 137.083 | 56.670 | 452.010 | N    | 1 - F41 |
| 258 | 137.083 | 69.584 | 452.010 | N    | 1 - F41 |
| 259 | 161.083 | 22.500 | 452.010 | N    | 1 - F41 |
| 260 | 161.083 | 36.583 | 452.010 | N    | 1 - F41 |
| 261 | 161.083 | 56.670 | 452.010 | N    | 1 - F41 |
| 262 | 161.083 | 68.667 | 452.010 | N    | 1 - F41 |
| 263 | 185.083 | 22.500 | 452.010 | N    | 1 - F41 |
| 264 | 185.083 | 68.667 | 452.010 | N    | 1 - F41 |
| 265 | 21.583  | 1.667  | 441.970 | N    | 1 - F40 |
| 266 | 21.583  | 21.833 | 441.970 | N    | 1 - F40 |
| 267 | 21.583  | 46.000 | 441.970 | N    | 1 - F40 |
| 268 | 24.000  | 58.666 | 441.970 | N    | 1 - F40 |
| 269 | 37.667  | 1.667  | 441.970 | N    | 1 - F40 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 270 | 37.667  | 19.833 | 441.970 | N    | 1 - F40 |
| 271 | 42.083  | 56.670 | 441.970 | N    | 1 - F40 |
| 272 | 42.083  | 68.667 | 441.970 | N    | 1 - F40 |
| 273 | 43.875  | 37.167 | 441.970 | N    | 1 - F40 |
| 274 | 45.500  | 19.833 | 441.970 | N    | 1 - F40 |
| 275 | 54.625  | 37.167 | 441.970 | N    | 1 - F40 |
| 276 | 63.083  | 1.667  | 441.970 | N    | 1 - F40 |
| 277 | 63.083  | 19.000 | 441.970 | N    | 1 - F40 |
| 278 | 63.083  | 37.167 | 441.970 | N    | 1 - F40 |
| 279 | 65.083  | 56.667 | 441.970 | N    | 1 - F40 |
| 280 | 65.083  | 68.667 | 441.970 | N    | 1 - F40 |
| 281 | 77.333  | 1.667  | 441.970 | N    | 1 - F40 |
| 282 | 77.333  | 29.500 | 441.970 | N    | 1 - F40 |
| 283 | 77.333  | 42.792 | 441.970 | N    | 1 - F40 |
| 284 | 89.083  | 21.583 | 441.970 | N    | 1 - F40 |
| 285 | 89.083  | 29.500 | 441.970 | N    | 1 - F40 |
| 286 | 89.083  | 36.583 | 441.970 | N    | 1 - F40 |
| 287 | 89.083  | 56.670 | 441.970 | N    | 1 - F40 |
| 288 | 89.083  | 69.584 | 441.970 | N    | 1 - F40 |
| 289 | 113.083 | 22.500 | 441.970 | N    | 1 - F40 |
| 290 | 113.083 | 36.583 | 441.970 | N    | 1 - F40 |
| 291 | 113.083 | 56.583 | 441.970 | N    | 1 - F40 |
| 292 | 113.083 | 68.667 | 441.970 | N    | 1 - F40 |
| 293 | 137.083 | 21.583 | 441.970 | N    | 1 - F40 |
| 294 | 137.083 | 36.583 | 441.970 | N    | 1 - F40 |
| 295 | 137.083 | 56.670 | 441.970 | N    | 1 - F40 |
| 296 | 137.083 | 69.584 | 441.970 | N    | 1 - F40 |
| 297 | 161.083 | 22.500 | 441.970 | N    | 1 - F40 |
| 298 | 161.083 | 36.583 | 441.970 | N    | 1 - F40 |
| 299 | 161.083 | 56.670 | 441.970 | N    | 1 - F40 |
| 300 | 161.083 | 68.667 | 441.970 | N    | 1 - F40 |
| 301 | 185.083 | 22.500 | 441.970 | N    | 1 - F40 |
| 302 | 185.083 | 68.667 | 441.970 | N    | 1 - F40 |
| 303 | 21.583  | 1.667  | 433.270 | N    | 1 - F39 |
| 304 | 21.583  | 21.833 | 433.270 | N    | 1 - F39 |
| 305 | 21.583  | 46.000 | 433.270 | N    | 1 - F39 |
| 306 | 24.000  | 58.666 | 433.270 | N    | 1 - F39 |
| 307 | 37.667  | 1.667  | 433.270 | N    | 1 - F39 |
| 308 | 37.667  | 19.833 | 433.270 | N    | 1 - F39 |
| 309 | 42.083  | 56.670 | 433.270 | N    | 1 - F39 |
| 310 | 42.083  | 68.667 | 433.270 | N    | 1 - F39 |
| 311 | 43.875  | 37.167 | 433.270 | N    | 1 - F39 |
| 312 | 45.500  | 19.833 | 433.270 | N    | 1 - F39 |
| 313 | 54.625  | 37.167 | 433.270 | N    | 1 - F39 |
| 314 | 63.083  | 1.667  | 433.270 | N    | 1 - F39 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 315 | 63.083  | 19.000 | 433.270 | N    | 1 - F39 |
| 316 | 63.083  | 37.167 | 433.270 | N    | 1 - F39 |
| 317 | 65.083  | 56.667 | 433.270 | N    | 1 - F39 |
| 318 | 65.083  | 68.667 | 433.270 | N    | 1 - F39 |
| 319 | 77.333  | 1.667  | 433.270 | N    | 1 - F39 |
| 320 | 77.333  | 29.500 | 433.270 | N    | 1 - F39 |
| 321 | 77.333  | 42.792 | 433.270 | N    | 1 - F39 |
| 322 | 89.083  | 21.583 | 433.270 | N    | 1 - F39 |
| 323 | 89.083  | 29.500 | 433.270 | N    | 1 - F39 |
| 324 | 89.083  | 36.583 | 433.270 | N    | 1 - F39 |
| 325 | 89.083  | 56.670 | 433.270 | N    | 1 - F39 |
| 326 | 89.083  | 69.584 | 433.270 | N    | 1 - F39 |
| 327 | 113.083 | 22.500 | 433.270 | N    | 1 - F39 |
| 328 | 113.083 | 36.583 | 433.270 | N    | 1 - F39 |
| 329 | 113.083 | 56.583 | 433.270 | N    | 1 - F39 |
| 330 | 113.083 | 68.667 | 433.270 | N    | 1 - F39 |
| 331 | 137.083 | 21.583 | 433.270 | N    | 1 - F39 |
| 332 | 137.083 | 36.583 | 433.270 | N    | 1 - F39 |
| 333 | 137.083 | 56.670 | 433.270 | N    | 1 - F39 |
| 334 | 137.083 | 69.584 | 433.270 | N    | 1 - F39 |
| 335 | 161.083 | 22.500 | 433.270 | N    | 1 - F39 |
| 336 | 161.083 | 36.583 | 433.270 | N    | 1 - F39 |
| 337 | 161.083 | 56.670 | 433.270 | N    | 1 - F39 |
| 338 | 161.083 | 68.667 | 433.270 | N    | 1 - F39 |
| 339 | 185.083 | 22.500 | 433.270 | N    | 1 - F39 |
| 340 | 185.083 | 68.667 | 433.270 | N    | 1 - F39 |
| 341 | 21.583  | 1.667  | 424.570 | N    | 1 - F38 |
| 342 | 21.583  | 21.833 | 424.570 | N    | 1 - F38 |
| 343 | 21.583  | 46.000 | 424.570 | N    | 1 - F38 |
| 344 | 24.000  | 58.666 | 424.570 | N    | 1 - F38 |
| 345 | 37.667  | 1.667  | 424.570 | N    | 1 - F38 |
| 346 | 37.667  | 19.833 | 424.570 | N    | 1 - F38 |
| 347 | 42.083  | 56.670 | 424.570 | N    | 1 - F38 |
| 348 | 42.083  | 68.667 | 424.570 | N    | 1 - F38 |
| 349 | 43.875  | 37.167 | 424.570 | N    | 1 - F38 |
| 350 | 45.500  | 19.833 | 424.570 | N    | 1 - F38 |
| 351 | 54.625  | 37.167 | 424.570 | N    | 1 - F38 |
| 352 | 63.083  | 1.667  | 424.570 | N    | 1 - F38 |
| 353 | 63.083  | 19.000 | 424.570 | N    | 1 - F38 |
| 354 | 63.083  | 37.167 | 424.570 | N    | 1 - F38 |
| 355 | 65.083  | 56.667 | 424.570 | N    | 1 - F38 |
| 356 | 65.083  | 68.667 | 424.570 | N    | 1 - F38 |
| 357 | 77.333  | 1.667  | 424.570 | N    | 1 - F38 |
| 358 | 77.333  | 29.500 | 424.570 | N    | 1 - F38 |
| 359 | 77.333  | 42.792 | 424.570 | N    | 1 - F38 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 360 | 89.083  | 21.583 | 424.570 | N    | 1 - F38 |
| 361 | 89.083  | 29.500 | 424.570 | N    | 1 - F38 |
| 362 | 89.083  | 36.583 | 424.570 | N    | 1 - F38 |
| 363 | 89.083  | 56.670 | 424.570 | N    | 1 - F38 |
| 364 | 89.083  | 69.584 | 424.570 | N    | 1 - F38 |
| 365 | 113.083 | 22.500 | 424.570 | N    | 1 - F38 |
| 366 | 113.083 | 36.583 | 424.570 | N    | 1 - F38 |
| 367 | 113.083 | 56.583 | 424.570 | N    | 1 - F38 |
| 368 | 113.083 | 68.667 | 424.570 | N    | 1 - F38 |
| 369 | 137.083 | 21.583 | 424.570 | N    | 1 - F38 |
| 370 | 137.083 | 36.583 | 424.570 | N    | 1 - F38 |
| 371 | 137.083 | 56.670 | 424.570 | N    | 1 - F38 |
| 372 | 137.083 | 69.584 | 424.570 | N    | 1 - F38 |
| 373 | 161.083 | 22.500 | 424.570 | N    | 1 - F38 |
| 374 | 161.083 | 36.583 | 424.570 | N    | 1 - F38 |
| 375 | 161.083 | 56.670 | 424.570 | N    | 1 - F38 |
| 376 | 161.083 | 68.667 | 424.570 | N    | 1 - F38 |
| 377 | 185.083 | 22.500 | 424.570 | N    | 1 - F38 |
| 378 | 185.083 | 68.667 | 424.570 | N    | 1 - F38 |
| 379 | 21.583  | 1.667  | 415.870 | N    | 1 - F37 |
| 380 | 21.583  | 21.833 | 415.870 | N    | 1 - F37 |
| 381 | 21.583  | 46.000 | 415.870 | N    | 1 - F37 |
| 382 | 24.000  | 58.666 | 415.870 | N    | 1 - F37 |
| 383 | 37.667  | 1.667  | 415.870 | N    | 1 - F37 |
| 384 | 37.667  | 19.833 | 415.870 | N    | 1 - F37 |
| 385 | 42.083  | 56.670 | 415.870 | N    | 1 - F37 |
| 386 | 42.083  | 68.667 | 415.870 | N    | 1 - F37 |
| 387 | 43.875  | 37.167 | 415.870 | N    | 1 - F37 |
| 388 | 45.500  | 19.833 | 415.870 | N    | 1 - F37 |
| 389 | 54.625  | 37.167 | 415.870 | N    | 1 - F37 |
| 390 | 63.083  | 1.667  | 415.870 | N    | 1 - F37 |
| 391 | 63.083  | 19.000 | 415.870 | N    | 1 - F37 |
| 392 | 63.083  | 37.167 | 415.870 | N    | 1 - F37 |
| 393 | 65.083  | 56.667 | 415.870 | N    | 1 - F37 |
| 394 | 65.083  | 68.667 | 415.870 | N    | 1 - F37 |
| 395 | 77.333  | 1.667  | 415.870 | N    | 1 - F37 |
| 396 | 77.333  | 29.500 | 415.870 | N    | 1 - F37 |
| 397 | 77.333  | 42.792 | 415.870 | N    | 1 - F37 |
| 398 | 89.083  | 21.583 | 415.870 | N    | 1 - F37 |
| 399 | 89.083  | 29.500 | 415.870 | N    | 1 - F37 |
| 400 | 89.083  | 36.583 | 415.870 | N    | 1 - F37 |
| 401 | 89.083  | 56.670 | 415.870 | N    | 1 - F37 |
| 402 | 89.083  | 69.584 | 415.870 | N    | 1 - F37 |
| 403 | 113.083 | 22.500 | 415.870 | N    | 1 - F37 |
| 404 | 113.083 | 36.583 | 415.870 | N    | 1 - F37 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 405 | 113.083 | 56.583 | 415.870 | N    | 1 - F37 |
| 406 | 113.083 | 68.667 | 415.870 | N    | 1 - F37 |
| 407 | 137.083 | 21.583 | 415.870 | N    | 1 - F37 |
| 408 | 137.083 | 36.583 | 415.870 | N    | 1 - F37 |
| 409 | 137.083 | 56.670 | 415.870 | N    | 1 - F37 |
| 410 | 137.083 | 69.584 | 415.870 | N    | 1 - F37 |
| 411 | 161.083 | 22.500 | 415.870 | N    | 1 - F37 |
| 412 | 161.083 | 36.583 | 415.870 | N    | 1 - F37 |
| 413 | 161.083 | 56.670 | 415.870 | N    | 1 - F37 |
| 414 | 161.083 | 68.667 | 415.870 | N    | 1 - F37 |
| 415 | 185.083 | 22.500 | 415.870 | N    | 1 - F37 |
| 416 | 185.083 | 68.667 | 415.870 | N    | 1 - F37 |
| 417 | 21.583  | 1.667  | 407.170 | N    | 1 - F36 |
| 418 | 21.583  | 21.833 | 407.170 | N    | 1 - F36 |
| 419 | 21.583  | 46.000 | 407.170 | N    | 1 - F36 |
| 420 | 24.000  | 58.666 | 407.170 | N    | 1 - F36 |
| 421 | 37.667  | 1.667  | 407.170 | N    | 1 - F36 |
| 422 | 37.667  | 19.833 | 407.170 | N    | 1 - F36 |
| 423 | 42.083  | 56.670 | 407.170 | N    | 1 - F36 |
| 424 | 42.083  | 68.667 | 407.170 | N    | 1 - F36 |
| 425 | 43.875  | 37.167 | 407.170 | N    | 1 - F36 |
| 426 | 45.500  | 19.833 | 407.170 | N    | 1 - F36 |
| 427 | 54.625  | 37.167 | 407.170 | N    | 1 - F36 |
| 428 | 63.083  | 1.667  | 407.170 | N    | 1 - F36 |
| 429 | 63.083  | 19.000 | 407.170 | N    | 1 - F36 |
| 430 | 63.083  | 37.167 | 407.170 | N    | 1 - F36 |
| 431 | 65.083  | 56.667 | 407.170 | N    | 1 - F36 |
| 432 | 65.083  | 68.667 | 407.170 | N    | 1 - F36 |
| 433 | 77.333  | 1.667  | 407.170 | N    | 1 - F36 |
| 434 | 77.333  | 29.500 | 407.170 | N    | 1 - F36 |
| 435 | 77.333  | 42.792 | 407.170 | N    | 1 - F36 |
| 436 | 89.083  | 21.583 | 407.170 | N    | 1 - F36 |
| 437 | 89.083  | 29.500 | 407.170 | N    | 1 - F36 |
| 438 | 89.083  | 36.583 | 407.170 | N    | 1 - F36 |
| 439 | 89.083  | 56.670 | 407.170 | N    | 1 - F36 |
| 440 | 89.083  | 69.584 | 407.170 | N    | 1 - F36 |
| 441 | 113.083 | 22.500 | 407.170 | N    | 1 - F36 |
| 442 | 113.083 | 36.583 | 407.170 | N    | 1 - F36 |
| 443 | 113.083 | 56.583 | 407.170 | N    | 1 - F36 |
| 444 | 113.083 | 68.667 | 407.170 | N    | 1 - F36 |
| 445 | 137.083 | 21.583 | 407.170 | N    | 1 - F36 |
| 446 | 137.083 | 36.583 | 407.170 | N    | 1 - F36 |
| 447 | 137.083 | 56.670 | 407.170 | N    | 1 - F36 |
| 448 | 137.083 | 69.584 | 407.170 | N    | 1 - F36 |
| 449 | 161.083 | 22.500 | 407.170 | N    | 1 - F36 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 450 | 161.083 | 36.583 | 407.170 | N    | 1 - F36 |
| 451 | 161.083 | 56.670 | 407.170 | N    | 1 - F36 |
| 452 | 161.083 | 68.667 | 407.170 | N    | 1 - F36 |
| 453 | 185.083 | 22.500 | 407.170 | N    | 1 - F36 |
| 454 | 185.083 | 68.667 | 407.170 | N    | 1 - F36 |
| 455 | 21.583  | 1.667  | 398.470 | N    | 1 - F35 |
| 456 | 21.583  | 21.833 | 398.470 | N    | 1 - F35 |
| 457 | 21.583  | 46.000 | 398.470 | N    | 1 - F35 |
| 458 | 24.000  | 58.666 | 398.470 | N    | 1 - F35 |
| 459 | 37.667  | 1.667  | 398.470 | N    | 1 - F35 |
| 460 | 37.667  | 19.833 | 398.470 | N    | 1 - F35 |
| 461 | 42.083  | 56.670 | 398.470 | N    | 1 - F35 |
| 462 | 42.083  | 68.667 | 398.470 | N    | 1 - F35 |
| 463 | 43.875  | 37.167 | 398.470 | N    | 1 - F35 |
| 464 | 45.500  | 19.833 | 398.470 | N    | 1 - F35 |
| 465 | 54.625  | 37.167 | 398.470 | N    | 1 - F35 |
| 466 | 63.083  | 1.667  | 398.470 | N    | 1 - F35 |
| 467 | 63.083  | 19.000 | 398.470 | N    | 1 - F35 |
| 468 | 63.083  | 37.167 | 398.470 | N    | 1 - F35 |
| 469 | 65.083  | 56.667 | 398.470 | N    | 1 - F35 |
| 470 | 65.083  | 68.667 | 398.470 | N    | 1 - F35 |
| 471 | 77.333  | 1.667  | 398.470 | N    | 1 - F35 |
| 472 | 77.333  | 29.500 | 398.470 | N    | 1 - F35 |
| 473 | 77.333  | 42.792 | 398.470 | N    | 1 - F35 |
| 474 | 89.083  | 21.583 | 398.470 | N    | 1 - F35 |
| 475 | 89.083  | 29.500 | 398.470 | N    | 1 - F35 |
| 476 | 89.083  | 36.583 | 398.470 | N    | 1 - F35 |
| 477 | 89.083  | 56.670 | 398.470 | N    | 1 - F35 |
| 478 | 89.083  | 69.584 | 398.470 | N    | 1 - F35 |
| 479 | 113.083 | 22.500 | 398.470 | N    | 1 - F35 |
| 480 | 113.083 | 36.583 | 398.470 | N    | 1 - F35 |
| 481 | 113.083 | 56.583 | 398.470 | N    | 1 - F35 |
| 482 | 113.083 | 68.667 | 398.470 | N    | 1 - F35 |
| 483 | 137.083 | 21.583 | 398.470 | N    | 1 - F35 |
| 484 | 137.083 | 36.583 | 398.470 | N    | 1 - F35 |
| 485 | 137.083 | 56.670 | 398.470 | N    | 1 - F35 |
| 486 | 137.083 | 69.584 | 398.470 | N    | 1 - F35 |
| 487 | 161.083 | 22.500 | 398.470 | N    | 1 - F35 |
| 488 | 161.083 | 36.583 | 398.470 | N    | 1 - F35 |
| 489 | 161.083 | 56.670 | 398.470 | N    | 1 - F35 |
| 490 | 161.083 | 68.667 | 398.470 | N    | 1 - F35 |
| 491 | 185.083 | 22.500 | 398.470 | N    | 1 - F35 |
| 492 | 185.083 | 68.667 | 398.470 | N    | 1 - F35 |
| 493 | 21.583  | 1.667  | 389.770 | N    | 1 - F34 |
| 494 | 21.583  | 21.833 | 389.770 | N    | 1 - F34 |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 495 | 21.583  | 46.000 | 389.770 | N    | 1 - F34 |
| 496 | 24.000  | 58.666 | 389.770 | N    | 1 - F34 |
| 497 | 37.667  | 1.667  | 389.770 | N    | 1 - F34 |
| 498 | 37.667  | 19.833 | 389.770 | N    | 1 - F34 |
| 499 | 42.083  | 56.670 | 389.770 | N    | 1 - F34 |
| 500 | 42.083  | 68.667 | 389.770 | N    | 1 - F34 |
| 501 | 43.875  | 37.167 | 389.770 | N    | 1 - F34 |
| 502 | 45.500  | 19.833 | 389.770 | N    | 1 - F34 |
| 503 | 54.625  | 37.167 | 389.770 | N    | 1 - F34 |
| 504 | 63.083  | 1.667  | 389.770 | N    | 1 - F34 |
| 505 | 63.083  | 19.000 | 389.770 | N    | 1 - F34 |
| 506 | 63.083  | 37.167 | 389.770 | N    | 1 - F34 |
| 507 | 65.083  | 56.667 | 389.770 | N    | 1 - F34 |
| 508 | 65.083  | 68.667 | 389.770 | N    | 1 - F34 |
| 509 | 77.333  | 1.667  | 389.770 | N    | 1 - F34 |
| 510 | 77.333  | 29.500 | 389.770 | N    | 1 - F34 |
| 511 | 77.333  | 42.792 | 389.770 | N    | 1 - F34 |
| 512 | 89.083  | 21.583 | 389.770 | N    | 1 - F34 |
| 513 | 89.083  | 29.500 | 389.770 | N    | 1 - F34 |
| 514 | 89.083  | 36.583 | 389.770 | N    | 1 - F34 |
| 515 | 89.083  | 56.670 | 389.770 | N    | 1 - F34 |
| 516 | 89.083  | 69.584 | 389.770 | N    | 1 - F34 |
| 517 | 113.083 | 22.500 | 389.770 | N    | 1 - F34 |
| 518 | 113.083 | 36.583 | 389.770 | N    | 1 - F34 |
| 519 | 113.083 | 56.583 | 389.770 | N    | 1 - F34 |
| 520 | 113.083 | 68.667 | 389.770 | N    | 1 - F34 |
| 521 | 137.083 | 21.583 | 389.770 | N    | 1 - F34 |
| 522 | 137.083 | 36.583 | 389.770 | N    | 1 - F34 |
| 523 | 137.083 | 56.670 | 389.770 | N    | 1 - F34 |
| 524 | 137.083 | 69.584 | 389.770 | N    | 1 - F34 |
| 525 | 161.083 | 22.500 | 389.770 | N    | 1 - F34 |
| 526 | 161.083 | 36.583 | 389.770 | N    | 1 - F34 |
| 527 | 161.083 | 56.670 | 389.770 | N    | 1 - F34 |
| 528 | 161.083 | 68.667 | 389.770 | N    | 1 - F34 |
| 529 | 185.083 | 22.500 | 389.770 | N    | 1 - F34 |
| 530 | 185.083 | 68.667 | 389.770 | N    | 1 - F34 |
| 531 | 21.583  | 1.667  | 381.070 | N    | 1 - F33 |
| 532 | 21.583  | 21.833 | 381.070 | N    | 1 - F33 |
| 533 | 21.583  | 46.000 | 381.070 | N    | 1 - F33 |
| 534 | 24.000  | 58.666 | 381.070 | N    | 1 - F33 |
| 535 | 37.667  | 1.667  | 381.070 | N    | 1 - F33 |
| 536 | 37.667  | 19.833 | 381.070 | N    | 1 - F33 |
| 537 | 42.083  | 56.670 | 381.070 | N    | 1 - F33 |
| 538 | 42.083  | 68.667 | 381.070 | N    | 1 - F33 |
| 539 | 43.875  | 37.167 | 381.070 | N    | 1 - F33 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 540 | 45.500  | 19.833 | 381.070 | N    | 1 - F33 |
| 541 | 54.625  | 37.167 | 381.070 | N    | 1 - F33 |
| 542 | 63.083  | 1.667  | 381.070 | N    | 1 - F33 |
| 543 | 63.083  | 19.000 | 381.070 | N    | 1 - F33 |
| 544 | 63.083  | 37.167 | 381.070 | N    | 1 - F33 |
| 545 | 65.083  | 56.667 | 381.070 | N    | 1 - F33 |
| 546 | 65.083  | 68.667 | 381.070 | N    | 1 - F33 |
| 547 | 77.333  | 1.667  | 381.070 | N    | 1 - F33 |
| 548 | 77.333  | 29.500 | 381.070 | N    | 1 - F33 |
| 549 | 77.333  | 42.792 | 381.070 | N    | 1 - F33 |
| 550 | 89.083  | 21.583 | 381.070 | N    | 1 - F33 |
| 551 | 89.083  | 29.500 | 381.070 | N    | 1 - F33 |
| 552 | 89.083  | 36.583 | 381.070 | N    | 1 - F33 |
| 553 | 89.083  | 56.670 | 381.070 | N    | 1 - F33 |
| 554 | 89.083  | 69.584 | 381.070 | N    | 1 - F33 |
| 555 | 113.083 | 22.500 | 381.070 | N    | 1 - F33 |
| 556 | 113.083 | 36.583 | 381.070 | N    | 1 - F33 |
| 557 | 113.083 | 56.583 | 381.070 | N    | 1 - F33 |
| 558 | 113.083 | 68.667 | 381.070 | N    | 1 - F33 |
| 559 | 137.083 | 21.583 | 381.070 | N    | 1 - F33 |
| 560 | 137.083 | 36.583 | 381.070 | N    | 1 - F33 |
| 561 | 137.083 | 56.670 | 381.070 | N    | 1 - F33 |
| 562 | 137.083 | 69.584 | 381.070 | N    | 1 - F33 |
| 563 | 161.083 | 22.500 | 381.070 | N    | 1 - F33 |
| 564 | 161.083 | 36.583 | 381.070 | N    | 1 - F33 |
| 565 | 161.083 | 56.670 | 381.070 | N    | 1 - F33 |
| 566 | 161.083 | 68.667 | 381.070 | N    | 1 - F33 |
| 567 | 185.083 | 22.500 | 381.070 | N    | 1 - F33 |
| 568 | 185.083 | 68.667 | 381.070 | N    | 1 - F33 |
| 569 | 21.583  | 1.667  | 372.370 | N    | 1 - F32 |
| 570 | 21.583  | 21.833 | 372.370 | N    | 1 - F32 |
| 571 | 21.583  | 46.000 | 372.370 | N    | 1 - F32 |
| 572 | 24.000  | 58.666 | 372.370 | N    | 1 - F32 |
| 573 | 37.667  | 1.667  | 372.370 | N    | 1 - F32 |
| 574 | 37.667  | 19.833 | 372.370 | N    | 1 - F32 |
| 575 | 42.083  | 56.670 | 372.370 | N    | 1 - F32 |
| 576 | 42.083  | 68.667 | 372.370 | N    | 1 - F32 |
| 577 | 43.875  | 37.167 | 372.370 | N    | 1 - F32 |
| 578 | 45.500  | 19.833 | 372.370 | N    | 1 - F32 |
| 579 | 54.625  | 37.167 | 372.370 | N    | 1 - F32 |
| 580 | 63.083  | 1.667  | 372.370 | N    | 1 - F32 |
| 581 | 63.083  | 19.000 | 372.370 | N    | 1 - F32 |
| 582 | 63.083  | 37.167 | 372.370 | N    | 1 - F32 |
| 583 | 65.083  | 56.667 | 372.370 | N    | 1 - F32 |
| 584 | 65.083  | 68.667 | 372.370 | N    | 1 - F32 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 585 | 77.333  | 1.667  | 372.370 | N    | 1 - F32 |
| 586 | 77.333  | 29.500 | 372.370 | N    | 1 - F32 |
| 587 | 77.333  | 42.792 | 372.370 | N    | 1 - F32 |
| 588 | 89.083  | 21.583 | 372.370 | N    | 1 - F32 |
| 589 | 89.083  | 29.500 | 372.370 | N    | 1 - F32 |
| 590 | 89.083  | 36.583 | 372.370 | N    | 1 - F32 |
| 591 | 89.083  | 56.670 | 372.370 | N    | 1 - F32 |
| 592 | 89.083  | 69.584 | 372.370 | N    | 1 - F32 |
| 593 | 113.083 | 22.500 | 372.370 | N    | 1 - F32 |
| 594 | 113.083 | 36.583 | 372.370 | N    | 1 - F32 |
| 595 | 113.083 | 56.583 | 372.370 | N    | 1 - F32 |
| 596 | 113.083 | 68.667 | 372.370 | N    | 1 - F32 |
| 597 | 137.083 | 21.583 | 372.370 | N    | 1 - F32 |
| 598 | 137.083 | 36.583 | 372.370 | N    | 1 - F32 |
| 599 | 137.083 | 56.670 | 372.370 | N    | 1 - F32 |
| 600 | 137.083 | 69.584 | 372.370 | N    | 1 - F32 |
| 601 | 161.083 | 22.500 | 372.370 | N    | 1 - F32 |
| 602 | 161.083 | 36.583 | 372.370 | N    | 1 - F32 |
| 603 | 161.083 | 56.670 | 372.370 | N    | 1 - F32 |
| 604 | 161.083 | 68.667 | 372.370 | N    | 1 - F32 |
| 605 | 185.083 | 22.500 | 372.370 | N    | 1 - F32 |
| 606 | 185.083 | 68.667 | 372.370 | N    | 1 - F32 |
| 607 | 21.583  | 1.667  | 363.670 | N    | 1 - F31 |
| 608 | 21.583  | 21.833 | 363.670 | N    | 1 - F31 |
| 609 | 21.583  | 46.000 | 363.670 | N    | 1 - F31 |
| 610 | 24.000  | 58.666 | 363.670 | N    | 1 - F31 |
| 611 | 37.667  | 1.667  | 363.670 | N    | 1 - F31 |
| 612 | 37.667  | 19.833 | 363.670 | N    | 1 - F31 |
| 613 | 42.083  | 56.670 | 363.670 | N    | 1 - F31 |
| 614 | 42.083  | 68.667 | 363.670 | N    | 1 - F31 |
| 615 | 43.875  | 37.167 | 363.670 | N    | 1 - F31 |
| 616 | 45.500  | 19.833 | 363.670 | N    | 1 - F31 |
| 617 | 54.625  | 37.167 | 363.670 | N    | 1 - F31 |
| 618 | 63.083  | 1.667  | 363.670 | N    | 1 - F31 |
| 619 | 63.083  | 19.000 | 363.670 | N    | 1 - F31 |
| 620 | 63.083  | 37.167 | 363.670 | N    | 1 - F31 |
| 621 | 65.083  | 56.667 | 363.670 | N    | 1 - F31 |
| 622 | 65.083  | 68.667 | 363.670 | N    | 1 - F31 |
| 623 | 77.333  | 1.667  | 363.670 | N    | 1 - F31 |
| 624 | 77.333  | 29.500 | 363.670 | N    | 1 - F31 |
| 625 | 77.333  | 42.792 | 363.670 | N    | 1 - F31 |
| 626 | 89.083  | 21.583 | 363.670 | N    | 1 - F31 |
| 627 | 89.083  | 29.500 | 363.670 | N    | 1 - F31 |
| 628 | 89.083  | 36.583 | 363.670 | N    | 1 - F31 |
| 629 | 89.083  | 56.670 | 363.670 | N    | 1 - F31 |



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| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 630 | 89.083  | 69.584 | 363.670 | N    | 1 - F31 |
| 631 | 113.083 | 22.500 | 363.670 | N    | 1 - F31 |
| 632 | 113.083 | 36.583 | 363.670 | N    | 1 - F31 |
| 633 | 113.083 | 56.583 | 363.670 | N    | 1 - F31 |
| 634 | 113.083 | 68.667 | 363.670 | N    | 1 - F31 |
| 635 | 137.083 | 21.583 | 363.670 | N    | 1 - F31 |
| 636 | 137.083 | 36.583 | 363.670 | N    | 1 - F31 |
| 637 | 137.083 | 56.670 | 363.670 | N    | 1 - F31 |
| 638 | 137.083 | 69.584 | 363.670 | N    | 1 - F31 |
| 639 | 161.083 | 22.500 | 363.670 | N    | 1 - F31 |
| 640 | 161.083 | 36.583 | 363.670 | N    | 1 - F31 |
| 641 | 161.083 | 56.670 | 363.670 | N    | 1 - F31 |
| 642 | 161.083 | 68.667 | 363.670 | N    | 1 - F31 |
| 643 | 185.083 | 22.500 | 363.670 | N    | 1 - F31 |
| 644 | 185.083 | 68.667 | 363.670 | N    | 1 - F31 |
| 645 | 21.583  | 1.667  | 354.970 | N    | 1 - F30 |
| 646 | 21.583  | 21.833 | 354.970 | N    | 1 - F30 |
| 647 | 21.583  | 46.000 | 354.970 | N    | 1 - F30 |
| 648 | 24.000  | 58.666 | 354.970 | N    | 1 - F30 |
| 649 | 37.667  | 1.667  | 354.970 | N    | 1 - F30 |
| 650 | 37.667  | 19.833 | 354.970 | N    | 1 - F30 |
| 651 | 42.083  | 56.670 | 354.970 | N    | 1 - F30 |
| 652 | 42.083  | 68.667 | 354.970 | N    | 1 - F30 |
| 653 | 43.875  | 37.167 | 354.970 | N    | 1 - F30 |
| 654 | 45.500  | 19.833 | 354.970 | N    | 1 - F30 |
| 655 | 54.625  | 37.167 | 354.970 | N    | 1 - F30 |
| 656 | 63.083  | 1.667  | 354.970 | N    | 1 - F30 |
| 657 | 63.083  | 19.000 | 354.970 | N    | 1 - F30 |
| 658 | 63.083  | 37.167 | 354.970 | N    | 1 - F30 |
| 659 | 65.083  | 56.667 | 354.970 | N    | 1 - F30 |
| 660 | 65.083  | 68.667 | 354.970 | N    | 1 - F30 |
| 661 | 77.333  | 1.667  | 354.970 | N    | 1 - F30 |
| 662 | 77.333  | 29.500 | 354.970 | N    | 1 - F30 |
| 663 | 77.333  | 42.792 | 354.970 | N    | 1 - F30 |
| 664 | 89.083  | 21.583 | 354.970 | N    | 1 - F30 |
| 665 | 89.083  | 29.500 | 354.970 | N    | 1 - F30 |
| 666 | 89.083  | 36.583 | 354.970 | N    | 1 - F30 |
| 667 | 89.083  | 56.670 | 354.970 | N    | 1 - F30 |
| 668 | 89.083  | 69.584 | 354.970 | N    | 1 - F30 |
| 669 | 113.083 | 22.500 | 354.970 | N    | 1 - F30 |
| 670 | 113.083 | 36.583 | 354.970 | N    | 1 - F30 |
| 671 | 113.083 | 56.583 | 354.970 | N    | 1 - F30 |
| 672 | 113.083 | 68.667 | 354.970 | N    | 1 - F30 |
| 673 | 137.083 | 21.583 | 354.970 | N    | 1 - F30 |
| 674 | 137.083 | 36.583 | 354.970 | N    | 1 - F30 |



| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 675 | 137.083 | 56.670 | 354.970 | N    | 1 - F30 |
| 676 | 137.083 | 69.584 | 354.970 | N    | 1 - F30 |
| 677 | 161.083 | 22.500 | 354.970 | N    | 1 - F30 |
| 678 | 161.083 | 36.583 | 354.970 | N    | 1 - F30 |
| 679 | 161.083 | 56.670 | 354.970 | N    | 1 - F30 |
| 680 | 161.083 | 68.667 | 354.970 | N    | 1 - F30 |
| 681 | 185.083 | 22.500 | 354.970 | N    | 1 - F30 |
| 682 | 185.083 | 68.667 | 354.970 | N    | 1 - F30 |
| 683 | 21.583  | 1.667  | 346.270 | N    | 1 - F29 |
| 684 | 21.583  | 21.833 | 346.270 | N    | 1 - F29 |
| 685 | 21.583  | 46.000 | 346.270 | N    | 1 - F29 |
| 686 | 24.000  | 58.666 | 346.270 | N    | 1 - F29 |
| 687 | 37.667  | 1.667  | 346.270 | N    | 1 - F29 |
| 688 | 37.667  | 19.833 | 346.270 | N    | 1 - F29 |
| 689 | 42.083  | 56.670 | 346.270 | N    | 1 - F29 |
| 690 | 42.083  | 68.667 | 346.270 | N    | 1 - F29 |
| 691 | 43.875  | 37.167 | 346.270 | N    | 1 - F29 |
| 692 | 45.500  | 19.833 | 346.270 | N    | 1 - F29 |
| 693 | 54.625  | 37.167 | 346.270 | N    | 1 - F29 |
| 694 | 63.083  | 1.667  | 346.270 | N    | 1 - F29 |
| 695 | 63.083  | 19.000 | 346.270 | N    | 1 - F29 |
| 696 | 63.083  | 37.167 | 346.270 | N    | 1 - F29 |
| 697 | 65.083  | 56.667 | 346.270 | N    | 1 - F29 |
| 698 | 65.083  | 68.667 | 346.270 | N    | 1 - F29 |
| 699 | 77.333  | 1.667  | 346.270 | N    | 1 - F29 |
| 700 | 77.333  | 29.500 | 346.270 | N    | 1 - F29 |
| 701 | 77.333  | 42.792 | 346.270 | N    | 1 - F29 |
| 702 | 89.083  | 21.583 | 346.270 | N    | 1 - F29 |
| 703 | 89.083  | 29.500 | 346.270 | N    | 1 - F29 |
| 704 | 89.083  | 36.583 | 346.270 | N    | 1 - F29 |
| 705 | 89.083  | 56.670 | 346.270 | N    | 1 - F29 |
| 706 | 89.083  | 69.584 | 346.270 | N    | 1 - F29 |
| 707 | 113.083 | 22.500 | 346.270 | N    | 1 - F29 |
| 708 | 113.083 | 36.583 | 346.270 | N    | 1 - F29 |
| 709 | 113.083 | 56.583 | 346.270 | N    | 1 - F29 |
| 710 | 113.083 | 68.667 | 346.270 | N    | 1 - F29 |
| 711 | 137.083 | 21.583 | 346.270 | N    | 1 - F29 |
| 712 | 137.083 | 36.583 | 346.270 | N    | 1 - F29 |
| 713 | 137.083 | 56.670 | 346.270 | N    | 1 - F29 |
| 714 | 137.083 | 69.584 | 346.270 | N    | 1 - F29 |
| 715 | 161.083 | 22.500 | 346.270 | N    | 1 - F29 |
| 716 | 161.083 | 36.583 | 346.270 | N    | 1 - F29 |
| 717 | 161.083 | 56.670 | 346.270 | N    | 1 - F29 |
| 718 | 161.083 | 68.667 | 346.270 | N    | 1 - F29 |
| 719 | 185.083 | 22.500 | 346.270 | N    | 1 - F29 |



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| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 720 | 185.083 | 68.667 | 346.270 | N    | 1 - F29 |
| 721 | 21.583  | 1.667  | 337.570 | N    | 1 - F28 |
| 722 | 21.583  | 21.833 | 337.570 | N    | 1 - F28 |
| 723 | 21.583  | 46.000 | 337.570 | N    | 1 - F28 |
| 724 | 24.000  | 58.666 | 337.570 | N    | 1 - F28 |
| 725 | 37.667  | 1.667  | 337.570 | N    | 1 - F28 |
| 726 | 37.667  | 19.833 | 337.570 | N    | 1 - F28 |
| 727 | 42.083  | 56.670 | 337.570 | N    | 1 - F28 |
| 728 | 42.083  | 68.667 | 337.570 | N    | 1 - F28 |
| 729 | 43.875  | 37.167 | 337.570 | N    | 1 - F28 |
| 730 | 45.500  | 19.833 | 337.570 | N    | 1 - F28 |
| 731 | 54.625  | 37.167 | 337.570 | N    | 1 - F28 |
| 732 | 63.083  | 1.667  | 337.570 | N    | 1 - F28 |
| 733 | 63.083  | 19.000 | 337.570 | N    | 1 - F28 |
| 734 | 63.083  | 37.167 | 337.570 | N    | 1 - F28 |
| 735 | 65.083  | 56.667 | 337.570 | N    | 1 - F28 |
| 736 | 65.083  | 68.667 | 337.570 | N    | 1 - F28 |
| 737 | 77.333  | 1.667  | 337.570 | N    | 1 - F28 |
| 738 | 77.333  | 29.500 | 337.570 | N    | 1 - F28 |
| 739 | 77.333  | 42.792 | 337.570 | N    | 1 - F28 |
| 740 | 89.083  | 21.583 | 337.570 | N    | 1 - F28 |
| 741 | 89.083  | 29.500 | 337.570 | N    | 1 - F28 |
| 742 | 89.083  | 36.583 | 337.570 | N    | 1 - F28 |
| 743 | 89.083  | 56.670 | 337.570 | N    | 1 - F28 |
| 744 | 89.083  | 69.584 | 337.570 | N    | 1 - F28 |
| 745 | 113.083 | 22.500 | 337.570 | N    | 1 - F28 |
| 746 | 113.083 | 36.583 | 337.570 | N    | 1 - F28 |
| 747 | 113.083 | 56.583 | 337.570 | N    | 1 - F28 |
| 748 | 113.083 | 68.667 | 337.570 | N    | 1 - F28 |
| 749 | 137.083 | 21.583 | 337.570 | N    | 1 - F28 |
| 750 | 137.083 | 36.583 | 337.570 | N    | 1 - F28 |
| 751 | 137.083 | 56.670 | 337.570 | N    | 1 - F28 |
| 752 | 137.083 | 69.584 | 337.570 | N    | 1 - F28 |
| 753 | 161.083 | 22.500 | 337.570 | N    | 1 - F28 |
| 754 | 161.083 | 36.583 | 337.570 | N    | 1 - F28 |
| 755 | 161.083 | 56.670 | 337.570 | N    | 1 - F28 |
| 756 | 161.083 | 68.667 | 337.570 | N    | 1 - F28 |
| 757 | 185.083 | 22.500 | 337.570 | N    | 1 - F28 |
| 758 | 185.083 | 68.667 | 337.570 | N    | 1 - F28 |
| 759 | 21.583  | 1.667  | 328.870 | N    | 1 - F27 |
| 760 | 21.583  | 21.833 | 328.870 | N    | 1 - F27 |
| 761 | 21.583  | 46.000 | 328.870 | N    | 1 - F27 |
| 762 | 24.000  | 58.666 | 328.870 | N    | 1 - F27 |
| 763 | 37.667  | 1.667  | 328.870 | N    | 1 - F27 |
| 764 | 37.667  | 19.833 | 328.870 | N    | 1 - F27 |



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| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 765 | 42.083  | 56.670 | 328.870 | N    | 1 - F27 |
| 766 | 42.083  | 68.667 | 328.870 | N    | 1 - F27 |
| 767 | 43.875  | 37.167 | 328.870 | N    | 1 - F27 |
| 768 | 45.500  | 19.833 | 328.870 | N    | 1 - F27 |
| 769 | 54.625  | 37.167 | 328.870 | N    | 1 - F27 |
| 770 | 63.083  | 1.667  | 328.870 | N    | 1 - F27 |
| 771 | 63.083  | 19.000 | 328.870 | N    | 1 - F27 |
| 772 | 63.083  | 37.167 | 328.870 | N    | 1 - F27 |
| 773 | 65.083  | 56.667 | 328.870 | N    | 1 - F27 |
| 774 | 65.083  | 68.667 | 328.870 | N    | 1 - F27 |
| 775 | 77.333  | 1.667  | 328.870 | N    | 1 - F27 |
| 776 | 77.333  | 29.500 | 328.870 | N    | 1 - F27 |
| 777 | 77.333  | 42.792 | 328.870 | N    | 1 - F27 |
| 778 | 89.083  | 21.583 | 328.870 | N    | 1 - F27 |
| 779 | 89.083  | 29.500 | 328.870 | N    | 1 - F27 |
| 780 | 89.083  | 36.583 | 328.870 | N    | 1 - F27 |
| 781 | 89.083  | 56.670 | 328.870 | N    | 1 - F27 |
| 782 | 89.083  | 69.584 | 328.870 | N    | 1 - F27 |
| 783 | 113.083 | 22.500 | 328.870 | N    | 1 - F27 |
| 784 | 113.083 | 36.583 | 328.870 | N    | 1 - F27 |
| 785 | 113.083 | 56.583 | 328.870 | N    | 1 - F27 |
| 786 | 113.083 | 68.667 | 328.870 | N    | 1 - F27 |
| 787 | 137.083 | 21.583 | 328.870 | N    | 1 - F27 |
| 788 | 137.083 | 36.583 | 328.870 | N    | 1 - F27 |
| 789 | 137.083 | 56.670 | 328.870 | N    | 1 - F27 |
| 790 | 137.083 | 69.584 | 328.870 | N    | 1 - F27 |
| 791 | 161.083 | 22.500 | 328.870 | N    | 1 - F27 |
| 792 | 161.083 | 36.583 | 328.870 | N    | 1 - F27 |
| 793 | 161.083 | 56.670 | 328.870 | N    | 1 - F27 |
| 794 | 161.083 | 68.667 | 328.870 | N    | 1 - F27 |
| 795 | 185.083 | 22.500 | 328.870 | N    | 1 - F27 |
| 796 | 185.083 | 68.667 | 328.870 | N    | 1 - F27 |
| 797 | 21.583  | 1.667  | 320.170 | N    | 1 - F26 |
| 798 | 21.583  | 21.833 | 320.170 | N    | 1 - F26 |
| 799 | 21.583  | 46.000 | 320.170 | N    | 1 - F26 |
| 800 | 24.000  | 58.666 | 320.170 | N    | 1 - F26 |
| 801 | 37.667  | 1.667  | 320.170 | N    | 1 - F26 |
| 802 | 37.667  | 19.833 | 320.170 | N    | 1 - F26 |
| 803 | 42.083  | 56.670 | 320.170 | N    | 1 - F26 |
| 804 | 42.083  | 68.667 | 320.170 | N    | 1 - F26 |
| 805 | 43.875  | 37.167 | 320.170 | N    | 1 - F26 |
| 806 | 45.500  | 19.833 | 320.170 | N    | 1 - F26 |
| 807 | 54.625  | 37.167 | 320.170 | N    | 1 - F26 |
| 808 | 63.083  | 1.667  | 320.170 | N    | 1 - F26 |
| 809 | 63.083  | 19.000 | 320.170 | N    | 1 - F26 |



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| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 810 | 63.083  | 37.167 | 320.170 | N    | 1 - F26 |
| 811 | 65.083  | 56.667 | 320.170 | N    | 1 - F26 |
| 812 | 65.083  | 68.667 | 320.170 | N    | 1 - F26 |
| 813 | 77.333  | 1.667  | 320.170 | N    | 1 - F26 |
| 814 | 77.333  | 29.500 | 320.170 | N    | 1 - F26 |
| 815 | 77.333  | 42.792 | 320.170 | N    | 1 - F26 |
| 816 | 89.083  | 21.583 | 320.170 | N    | 1 - F26 |
| 817 | 89.083  | 29.500 | 320.170 | N    | 1 - F26 |
| 818 | 89.083  | 36.583 | 320.170 | N    | 1 - F26 |
| 819 | 89.083  | 56.670 | 320.170 | N    | 1 - F26 |
| 820 | 89.083  | 69.584 | 320.170 | N    | 1 - F26 |
| 821 | 113.083 | 22.500 | 320.170 | N    | 1 - F26 |
| 822 | 113.083 | 36.583 | 320.170 | N    | 1 - F26 |
| 823 | 113.083 | 56.583 | 320.170 | N    | 1 - F26 |
| 824 | 113.083 | 68.667 | 320.170 | N    | 1 - F26 |
| 825 | 137.083 | 21.583 | 320.170 | N    | 1 - F26 |
| 826 | 137.083 | 36.583 | 320.170 | N    | 1 - F26 |
| 827 | 137.083 | 56.670 | 320.170 | N    | 1 - F26 |
| 828 | 137.083 | 69.584 | 320.170 | N    | 1 - F26 |
| 829 | 161.083 | 22.500 | 320.170 | N    | 1 - F26 |
| 830 | 161.083 | 36.583 | 320.170 | N    | 1 - F26 |
| 831 | 161.083 | 56.670 | 320.170 | N    | 1 - F26 |
| 832 | 161.083 | 68.667 | 320.170 | N    | 1 - F26 |
| 833 | 185.083 | 22.500 | 320.170 | N    | 1 - F26 |
| 834 | 185.083 | 68.667 | 320.170 | N    | 1 - F26 |
| 835 | 21.583  | 1.667  | 311.470 | N    | 1 - F25 |
| 836 | 21.583  | 21.833 | 311.470 | N    | 1 - F25 |
| 837 | 21.583  | 46.000 | 311.470 | N    | 1 - F25 |
| 838 | 24.000  | 58.666 | 311.470 | N    | 1 - F25 |
| 839 | 37.667  | 1.667  | 311.470 | N    | 1 - F25 |
| 840 | 37.667  | 19.833 | 311.470 | N    | 1 - F25 |
| 841 | 42.083  | 56.670 | 311.470 | N    | 1 - F25 |
| 842 | 42.083  | 68.667 | 311.470 | N    | 1 - F25 |
| 843 | 43.875  | 37.167 | 311.470 | N    | 1 - F25 |
| 844 | 45.500  | 19.833 | 311.470 | N    | 1 - F25 |
| 845 | 54.625  | 37.167 | 311.470 | N    | 1 - F25 |
| 846 | 63.083  | 1.667  | 311.470 | N    | 1 - F25 |
| 847 | 63.083  | 19.000 | 311.470 | N    | 1 - F25 |
| 848 | 63.083  | 37.167 | 311.470 | N    | 1 - F25 |
| 849 | 65.083  | 56.667 | 311.470 | N    | 1 - F25 |
| 850 | 65.083  | 68.667 | 311.470 | N    | 1 - F25 |
| 851 | 77.333  | 1.667  | 311.470 | N    | 1 - F25 |
| 852 | 77.333  | 29.500 | 311.470 | N    | 1 - F25 |
| 853 | 77.333  | 42.792 | 311.470 | N    | 1 - F25 |
| 854 | 89.083  | 21.583 | 311.470 | N    | 1 - F25 |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 855 | 89.083  | 29.500 | 311.470 | N    | 1 - F25 |
| 856 | 89.083  | 36.583 | 311.470 | N    | 1 - F25 |
| 857 | 89.083  | 56.670 | 311.470 | N    | 1 - F25 |
| 858 | 89.083  | 69.584 | 311.470 | N    | 1 - F25 |
| 859 | 113.083 | 22.500 | 311.470 | N    | 1 - F25 |
| 860 | 113.083 | 36.583 | 311.470 | N    | 1 - F25 |
| 861 | 113.083 | 56.583 | 311.470 | N    | 1 - F25 |
| 862 | 113.083 | 68.667 | 311.470 | N    | 1 - F25 |
| 863 | 137.083 | 21.583 | 311.470 | N    | 1 - F25 |
| 864 | 137.083 | 36.583 | 311.470 | N    | 1 - F25 |
| 865 | 137.083 | 56.670 | 311.470 | N    | 1 - F25 |
| 866 | 137.083 | 69.584 | 311.470 | N    | 1 - F25 |
| 867 | 161.083 | 22.500 | 311.470 | N    | 1 - F25 |
| 868 | 161.083 | 36.583 | 311.470 | N    | 1 - F25 |
| 869 | 161.083 | 56.670 | 311.470 | N    | 1 - F25 |
| 870 | 161.083 | 68.667 | 311.470 | N    | 1 - F25 |
| 871 | 185.083 | 22.500 | 311.470 | N    | 1 - F25 |
| 872 | 185.083 | 68.667 | 311.470 | N    | 1 - F25 |
| 873 | 21.583  | 1.667  | 302.770 | N    | 1 - F24 |
| 874 | 21.583  | 21.833 | 302.770 | N    | 1 - F24 |
| 875 | 21.583  | 46.000 | 302.770 | N    | 1 - F24 |
| 876 | 24.000  | 58.666 | 302.770 | N    | 1 - F24 |
| 877 | 37.667  | 1.667  | 302.770 | N    | 1 - F24 |
| 878 | 37.667  | 19.833 | 302.770 | N    | 1 - F24 |
| 879 | 42.083  | 56.670 | 302.770 | N    | 1 - F24 |
| 880 | 42.083  | 68.667 | 302.770 | N    | 1 - F24 |
| 881 | 43.875  | 37.167 | 302.770 | N    | 1 - F24 |
| 882 | 45.500  | 19.833 | 302.770 | N    | 1 - F24 |
| 883 | 54.625  | 37.167 | 302.770 | N    | 1 - F24 |
| 884 | 63.083  | 1.667  | 302.770 | N    | 1 - F24 |
| 885 | 63.083  | 19.000 | 302.770 | N    | 1 - F24 |
| 886 | 63.083  | 37.167 | 302.770 | N    | 1 - F24 |
| 887 | 65.083  | 56.667 | 302.770 | N    | 1 - F24 |
| 888 | 65.083  | 68.667 | 302.770 | N    | 1 - F24 |
| 889 | 77.333  | 1.667  | 302.770 | N    | 1 - F24 |
| 890 | 77.333  | 29.500 | 302.770 | N    | 1 - F24 |
| 891 | 77.333  | 42.792 | 302.770 | N    | 1 - F24 |
| 892 | 89.083  | 21.583 | 302.770 | N    | 1 - F24 |
| 893 | 89.083  | 29.500 | 302.770 | N    | 1 - F24 |
| 894 | 89.083  | 36.583 | 302.770 | N    | 1 - F24 |
| 895 | 89.083  | 56.670 | 302.770 | N    | 1 - F24 |
| 896 | 89.083  | 69.584 | 302.770 | N    | 1 - F24 |
| 897 | 113.083 | 22.500 | 302.770 | N    | 1 - F24 |
| 898 | 113.083 | 36.583 | 302.770 | N    | 1 - F24 |
| 899 | 113.083 | 56.583 | 302.770 | N    | 1 - F24 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 900 | 113.083 | 68.667 | 302.770 | N    | 1 - F24 |
| 901 | 137.083 | 21.583 | 302.770 | N    | 1 - F24 |
| 902 | 137.083 | 36.583 | 302.770 | N    | 1 - F24 |
| 903 | 137.083 | 56.670 | 302.770 | N    | 1 - F24 |
| 904 | 137.083 | 69.584 | 302.770 | N    | 1 - F24 |
| 905 | 161.083 | 22.500 | 302.770 | N    | 1 - F24 |
| 906 | 161.083 | 36.583 | 302.770 | N    | 1 - F24 |
| 907 | 161.083 | 56.670 | 302.770 | N    | 1 - F24 |
| 908 | 161.083 | 68.667 | 302.770 | N    | 1 - F24 |
| 909 | 185.083 | 22.500 | 302.770 | N    | 1 - F24 |
| 910 | 185.083 | 68.667 | 302.770 | N    | 1 - F24 |
| 911 | 21.583  | 1.667  | 294.070 | N    | 1 - F23 |
| 912 | 21.583  | 21.833 | 294.070 | N    | 1 - F23 |
| 913 | 21.583  | 46.000 | 294.070 | N    | 1 - F23 |
| 914 | 24.000  | 58.666 | 294.070 | N    | 1 - F23 |
| 915 | 37.667  | 1.667  | 294.070 | N    | 1 - F23 |
| 916 | 37.667  | 19.833 | 294.070 | N    | 1 - F23 |
| 917 | 42.083  | 56.670 | 294.070 | N    | 1 - F23 |
| 918 | 42.083  | 68.667 | 294.070 | N    | 1 - F23 |
| 919 | 43.875  | 37.167 | 294.070 | N    | 1 - F23 |
| 920 | 45.500  | 19.833 | 294.070 | N    | 1 - F23 |
| 921 | 54.625  | 37.167 | 294.070 | N    | 1 - F23 |
| 922 | 63.083  | 1.667  | 294.070 | N    | 1 - F23 |
| 923 | 63.083  | 19.000 | 294.070 | N    | 1 - F23 |
| 924 | 63.083  | 37.167 | 294.070 | N    | 1 - F23 |
| 925 | 65.083  | 56.667 | 294.070 | N    | 1 - F23 |
| 926 | 65.083  | 68.667 | 294.070 | N    | 1 - F23 |
| 927 | 77.333  | 1.667  | 294.070 | N    | 1 - F23 |
| 928 | 77.333  | 29.500 | 294.070 | N    | 1 - F23 |
| 929 | 77.333  | 42.792 | 294.070 | N    | 1 - F23 |
| 930 | 89.083  | 21.583 | 294.070 | N    | 1 - F23 |
| 931 | 89.083  | 29.500 | 294.070 | N    | 1 - F23 |
| 932 | 89.083  | 36.583 | 294.070 | N    | 1 - F23 |
| 933 | 89.083  | 56.670 | 294.070 | N    | 1 - F23 |
| 934 | 89.083  | 69.584 | 294.070 | N    | 1 - F23 |
| 935 | 113.083 | 22.500 | 294.070 | N    | 1 - F23 |
| 936 | 113.083 | 36.583 | 294.070 | N    | 1 - F23 |
| 937 | 113.083 | 56.583 | 294.070 | N    | 1 - F23 |
| 938 | 113.083 | 68.667 | 294.070 | N    | 1 - F23 |
| 939 | 137.083 | 21.583 | 294.070 | N    | 1 - F23 |
| 940 | 137.083 | 36.583 | 294.070 | N    | 1 - F23 |
| 941 | 137.083 | 56.670 | 294.070 | N    | 1 - F23 |
| 942 | 137.083 | 69.584 | 294.070 | N    | 1 - F23 |
| 943 | 161.083 | 22.500 | 294.070 | N    | 1 - F23 |
| 944 | 161.083 | 36.583 | 294.070 | N    | 1 - F23 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #   | X       | Y      | Z       | Fdtn | Diaphr  |
|-----|---------|--------|---------|------|---------|
| 945 | 161.083 | 56.670 | 294.070 | N    | 1 - F23 |
| 946 | 161.083 | 68.667 | 294.070 | N    | 1 - F23 |
| 947 | 185.083 | 22.500 | 294.070 | N    | 1 - F23 |
| 948 | 185.083 | 68.667 | 294.070 | N    | 1 - F23 |
| 949 | 21.583  | 1.667  | 285.370 | N    | 1 - F22 |
| 950 | 21.583  | 21.833 | 285.370 | N    | 1 - F22 |
| 951 | 21.583  | 46.000 | 285.370 | N    | 1 - F22 |
| 952 | 24.000  | 58.666 | 285.370 | N    | 1 - F22 |
| 953 | 37.667  | 1.667  | 285.370 | N    | 1 - F22 |
| 954 | 37.667  | 19.833 | 285.370 | N    | 1 - F22 |
| 955 | 42.083  | 56.670 | 285.370 | N    | 1 - F22 |
| 956 | 42.083  | 68.667 | 285.370 | N    | 1 - F22 |
| 957 | 43.875  | 37.167 | 285.370 | N    | 1 - F22 |
| 958 | 45.500  | 19.833 | 285.370 | N    | 1 - F22 |
| 959 | 54.625  | 37.167 | 285.370 | N    | 1 - F22 |
| 960 | 63.083  | 1.667  | 285.370 | N    | 1 - F22 |
| 961 | 63.083  | 19.000 | 285.370 | N    | 1 - F22 |
| 962 | 63.083  | 37.167 | 285.370 | N    | 1 - F22 |
| 963 | 65.083  | 56.667 | 285.370 | N    | 1 - F22 |
| 964 | 65.083  | 68.667 | 285.370 | N    | 1 - F22 |
| 965 | 77.333  | 1.667  | 285.370 | N    | 1 - F22 |
| 966 | 77.333  | 29.500 | 285.370 | N    | 1 - F22 |
| 967 | 77.333  | 42.792 | 285.370 | N    | 1 - F22 |
| 968 | 89.083  | 21.583 | 285.370 | N    | 1 - F22 |
| 969 | 89.083  | 29.500 | 285.370 | N    | 1 - F22 |
| 970 | 89.083  | 36.583 | 285.370 | N    | 1 - F22 |
| 971 | 89.083  | 56.670 | 285.370 | N    | 1 - F22 |
| 972 | 89.083  | 69.584 | 285.370 | N    | 1 - F22 |
| 973 | 113.083 | 22.500 | 285.370 | N    | 1 - F22 |
| 974 | 113.083 | 36.583 | 285.370 | N    | 1 - F22 |
| 975 | 113.083 | 56.583 | 285.370 | N    | 1 - F22 |
| 976 | 113.083 | 68.667 | 285.370 | N    | 1 - F22 |
| 977 | 137.083 | 21.583 | 285.370 | N    | 1 - F22 |
| 978 | 137.083 | 36.583 | 285.370 | N    | 1 - F22 |
| 979 | 137.083 | 56.670 | 285.370 | N    | 1 - F22 |
| 980 | 137.083 | 69.584 | 285.370 | N    | 1 - F22 |
| 981 | 161.083 | 22.500 | 285.370 | N    | 1 - F22 |
| 982 | 161.083 | 36.583 | 285.370 | N    | 1 - F22 |
| 983 | 161.083 | 56.670 | 285.370 | N    | 1 - F22 |
| 984 | 161.083 | 68.667 | 285.370 | N    | 1 - F22 |
| 985 | 185.083 | 22.500 | 285.370 | N    | 1 - F22 |
| 986 | 185.083 | 68.667 | 285.370 | N    | 1 - F22 |
| 987 | 21.583  | 1.667  | 276.670 | N    | 1 - F21 |
| 988 | 21.583  | 21.833 | 276.670 | N    | 1 - F21 |
| 989 | 21.583  | 46.000 | 276.670 | N    | 1 - F21 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 990  | 24.000  | 58.666 | 276.670 | N    | 1 - F21 |
| 991  | 37.667  | 1.667  | 276.670 | N    | 1 - F21 |
| 992  | 37.667  | 19.833 | 276.670 | N    | 1 - F21 |
| 993  | 42.083  | 56.670 | 276.670 | N    | 1 - F21 |
| 994  | 42.083  | 68.667 | 276.670 | N    | 1 - F21 |
| 995  | 43.875  | 37.167 | 276.670 | N    | 1 - F21 |
| 996  | 45.500  | 19.833 | 276.670 | N    | 1 - F21 |
| 997  | 54.625  | 37.167 | 276.670 | N    | 1 - F21 |
| 998  | 63.083  | 1.667  | 276.670 | N    | 1 - F21 |
| 999  | 63.083  | 19.000 | 276.670 | N    | 1 - F21 |
| 1000 | 63.083  | 37.167 | 276.670 | N    | 1 - F21 |
| 1001 | 65.083  | 56.667 | 276.670 | N    | 1 - F21 |
| 1002 | 65.083  | 68.667 | 276.670 | N    | 1 - F21 |
| 1003 | 77.333  | 1.667  | 276.670 | N    | 1 - F21 |
| 1004 | 77.333  | 29.500 | 276.670 | N    | 1 - F21 |
| 1005 | 77.333  | 42.792 | 276.670 | N    | 1 - F21 |
| 1006 | 89.083  | 21.583 | 276.670 | N    | 1 - F21 |
| 1007 | 89.083  | 29.500 | 276.670 | N    | 1 - F21 |
| 1008 | 89.083  | 36.583 | 276.670 | N    | 1 - F21 |
| 1009 | 89.083  | 56.670 | 276.670 | N    | 1 - F21 |
| 1010 | 89.083  | 69.584 | 276.670 | N    | 1 - F21 |
| 1011 | 113.083 | 22.500 | 276.670 | N    | 1 - F21 |
| 1012 | 113.083 | 36.583 | 276.670 | N    | 1 - F21 |
| 1013 | 113.083 | 56.583 | 276.670 | N    | 1 - F21 |
| 1014 | 113.083 | 68.667 | 276.670 | N    | 1 - F21 |
| 1015 | 137.083 | 21.583 | 276.670 | N    | 1 - F21 |
| 1016 | 137.083 | 36.583 | 276.670 | N    | 1 - F21 |
| 1017 | 137.083 | 56.670 | 276.670 | N    | 1 - F21 |
| 1018 | 137.083 | 69.584 | 276.670 | N    | 1 - F21 |
| 1019 | 161.083 | 22.500 | 276.670 | N    | 1 - F21 |
| 1020 | 161.083 | 36.583 | 276.670 | N    | 1 - F21 |
| 1021 | 161.083 | 56.670 | 276.670 | N    | 1 - F21 |
| 1022 | 161.083 | 68.667 | 276.670 | N    | 1 - F21 |
| 1023 | 185.083 | 22.500 | 276.670 | N    | 1 - F21 |
| 1024 | 185.083 | 68.667 | 276.670 | N    | 1 - F21 |
| 1025 | 21.583  | 1.667  | 267.970 | N    | 1 - F20 |
| 1026 | 21.583  | 21.833 | 267.970 | N    | 1 - F20 |
| 1027 | 21.583  | 46.000 | 267.970 | N    | 1 - F20 |
| 1028 | 24.000  | 58.666 | 267.970 | N    | 1 - F20 |
| 1029 | 37.667  | 1.667  | 267.970 | N    | 1 - F20 |
| 1030 | 37.667  | 19.833 | 267.970 | N    | 1 - F20 |
| 1031 | 42.083  | 56.670 | 267.970 | N    | 1 - F20 |
| 1032 | 42.083  | 68.667 | 267.970 | N    | 1 - F20 |
| 1033 | 43.875  | 37.167 | 267.970 | N    | 1 - F20 |
| 1034 | 45.500  | 19.833 | 267.970 | N    | 1 - F20 |



RAM Structural System



DEPT OF BLDGS121191236

Job Number



ES379019834

Scan Code

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1035 | 54.625  | 37.167 | 267.970 | N    | 1 - F20 |
| 1036 | 63.083  | 1.667  | 267.970 | N    | 1 - F20 |
| 1037 | 63.083  | 19.000 | 267.970 | N    | 1 - F20 |
| 1038 | 63.083  | 37.167 | 267.970 | N    | 1 - F20 |
| 1039 | 65.083  | 56.667 | 267.970 | N    | 1 - F20 |
| 1040 | 65.083  | 68.667 | 267.970 | N    | 1 - F20 |
| 1041 | 77.333  | 1.667  | 267.970 | N    | 1 - F20 |
| 1042 | 77.333  | 29.500 | 267.970 | N    | 1 - F20 |
| 1043 | 77.333  | 42.792 | 267.970 | N    | 1 - F20 |
| 1044 | 89.083  | 21.583 | 267.970 | N    | 1 - F20 |
| 1045 | 89.083  | 29.500 | 267.970 | N    | 1 - F20 |
| 1046 | 89.083  | 36.583 | 267.970 | N    | 1 - F20 |
| 1047 | 89.083  | 56.670 | 267.970 | N    | 1 - F20 |
| 1048 | 89.083  | 69.584 | 267.970 | N    | 1 - F20 |
| 1049 | 113.083 | 22.500 | 267.970 | N    | 1 - F20 |
| 1050 | 113.083 | 36.583 | 267.970 | N    | 1 - F20 |
| 1051 | 113.083 | 56.583 | 267.970 | N    | 1 - F20 |
| 1052 | 113.083 | 68.667 | 267.970 | N    | 1 - F20 |
| 1053 | 137.083 | 21.583 | 267.970 | N    | 1 - F20 |
| 1054 | 137.083 | 36.583 | 267.970 | N    | 1 - F20 |
| 1055 | 137.083 | 56.670 | 267.970 | N    | 1 - F20 |
| 1056 | 137.083 | 69.584 | 267.970 | N    | 1 - F20 |
| 1057 | 161.083 | 22.500 | 267.970 | N    | 1 - F20 |
| 1058 | 161.083 | 36.583 | 267.970 | N    | 1 - F20 |
| 1059 | 161.083 | 56.670 | 267.970 | N    | 1 - F20 |
| 1060 | 161.083 | 68.667 | 267.970 | N    | 1 - F20 |
| 1061 | 185.083 | 22.500 | 267.970 | N    | 1 - F20 |
| 1062 | 185.083 | 68.667 | 267.970 | N    | 1 - F20 |
| 1063 | 21.583  | 1.667  | 259.270 | N    | 1 - F19 |
| 1064 | 21.583  | 21.833 | 259.270 | N    | 1 - F19 |
| 1065 | 21.583  | 46.000 | 259.270 | N    | 1 - F19 |
| 1066 | 24.000  | 58.666 | 259.270 | N    | 1 - F19 |
| 1067 | 37.667  | 1.667  | 259.270 | N    | 1 - F19 |
| 1068 | 37.667  | 19.833 | 259.270 | N    | 1 - F19 |
| 1069 | 42.083  | 56.670 | 259.270 | N    | 1 - F19 |
| 1070 | 42.083  | 68.667 | 259.270 | N    | 1 - F19 |
| 1071 | 43.875  | 37.167 | 259.270 | N    | 1 - F19 |
| 1072 | 45.500  | 19.833 | 259.270 | N    | 1 - F19 |
| 1073 | 54.625  | 37.167 | 259.270 | N    | 1 - F19 |
| 1074 | 63.083  | 1.667  | 259.270 | N    | 1 - F19 |
| 1075 | 63.083  | 19.000 | 259.270 | N    | 1 - F19 |
| 1076 | 63.083  | 37.167 | 259.270 | N    | 1 - F19 |
| 1077 | 65.083  | 56.667 | 259.270 | N    | 1 - F19 |
| 1078 | 65.083  | 68.667 | 259.270 | N    | 1 - F19 |
| 1079 | 77.333  | 1.667  | 259.270 | N    | 1 - F19 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1080 | 77.333  | 29.500 | 259.270 | N    | 1 - F19 |
| 1081 | 77.333  | 42.792 | 259.270 | N    | 1 - F19 |
| 1082 | 89.083  | 21.583 | 259.270 | N    | 1 - F19 |
| 1083 | 89.083  | 29.500 | 259.270 | N    | 1 - F19 |
| 1084 | 89.083  | 36.583 | 259.270 | N    | 1 - F19 |
| 1085 | 89.083  | 56.670 | 259.270 | N    | 1 - F19 |
| 1086 | 89.083  | 69.584 | 259.270 | N    | 1 - F19 |
| 1087 | 113.083 | 22.500 | 259.270 | N    | 1 - F19 |
| 1088 | 113.083 | 36.583 | 259.270 | N    | 1 - F19 |
| 1089 | 113.083 | 56.583 | 259.270 | N    | 1 - F19 |
| 1090 | 113.083 | 68.667 | 259.270 | N    | 1 - F19 |
| 1091 | 137.083 | 21.583 | 259.270 | N    | 1 - F19 |
| 1092 | 137.083 | 36.583 | 259.270 | N    | 1 - F19 |
| 1093 | 137.083 | 56.670 | 259.270 | N    | 1 - F19 |
| 1094 | 137.083 | 69.584 | 259.270 | N    | 1 - F19 |
| 1095 | 161.083 | 22.500 | 259.270 | N    | 1 - F19 |
| 1096 | 161.083 | 36.583 | 259.270 | N    | 1 - F19 |
| 1097 | 161.083 | 56.670 | 259.270 | N    | 1 - F19 |
| 1098 | 161.083 | 68.667 | 259.270 | N    | 1 - F19 |
| 1099 | 185.083 | 22.500 | 259.270 | N    | 1 - F19 |
| 1100 | 185.083 | 68.667 | 259.270 | N    | 1 - F19 |
| 1101 | 21.583  | 1.667  | 250.570 | N    | 1 - F18 |
| 1102 | 21.583  | 21.833 | 250.570 | N    | 1 - F18 |
| 1103 | 21.583  | 46.000 | 250.570 | N    | 1 - F18 |
| 1104 | 24.000  | 58.666 | 250.570 | N    | 1 - F18 |
| 1105 | 37.667  | 1.667  | 250.570 | N    | 1 - F18 |
| 1106 | 37.667  | 19.833 | 250.570 | N    | 1 - F18 |
| 1107 | 42.083  | 56.670 | 250.570 | N    | 1 - F18 |
| 1108 | 42.083  | 68.667 | 250.570 | N    | 1 - F18 |
| 1109 | 43.875  | 37.167 | 250.570 | N    | 1 - F18 |
| 1110 | 45.500  | 19.833 | 250.570 | N    | 1 - F18 |
| 1111 | 54.625  | 37.167 | 250.570 | N    | 1 - F18 |
| 1112 | 63.083  | 1.667  | 250.570 | N    | 1 - F18 |
| 1113 | 63.083  | 19.000 | 250.570 | N    | 1 - F18 |
| 1114 | 63.083  | 37.167 | 250.570 | N    | 1 - F18 |
| 1115 | 65.083  | 56.667 | 250.570 | N    | 1 - F18 |
| 1116 | 65.083  | 68.667 | 250.570 | N    | 1 - F18 |
| 1117 | 77.333  | 1.667  | 250.570 | N    | 1 - F18 |
| 1118 | 77.333  | 29.500 | 250.570 | N    | 1 - F18 |
| 1119 | 77.333  | 42.792 | 250.570 | N    | 1 - F18 |
| 1120 | 89.083  | 21.583 | 250.570 | N    | 1 - F18 |
| 1121 | 89.083  | 29.500 | 250.570 | N    | 1 - F18 |
| 1122 | 89.083  | 36.583 | 250.570 | N    | 1 - F18 |
| 1123 | 89.083  | 56.670 | 250.570 | N    | 1 - F18 |
| 1124 | 89.083  | 69.584 | 250.570 | N    | 1 - F18 |



RAM Structural System



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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1125 | 113.083 | 22.500 | 250.570 | N    | 1 - F18 |
| 1126 | 113.083 | 36.583 | 250.570 | N    | 1 - F18 |
| 1127 | 113.083 | 56.583 | 250.570 | N    | 1 - F18 |
| 1128 | 113.083 | 68.667 | 250.570 | N    | 1 - F18 |
| 1129 | 137.083 | 21.583 | 250.570 | N    | 1 - F18 |
| 1130 | 137.083 | 36.583 | 250.570 | N    | 1 - F18 |
| 1131 | 137.083 | 56.670 | 250.570 | N    | 1 - F18 |
| 1132 | 137.083 | 69.584 | 250.570 | N    | 1 - F18 |
| 1133 | 161.083 | 22.500 | 250.570 | N    | 1 - F18 |
| 1134 | 161.083 | 36.583 | 250.570 | N    | 1 - F18 |
| 1135 | 161.083 | 56.670 | 250.570 | N    | 1 - F18 |
| 1136 | 161.083 | 68.667 | 250.570 | N    | 1 - F18 |
| 1137 | 185.083 | 22.500 | 250.570 | N    | 1 - F18 |
| 1138 | 185.083 | 68.667 | 250.570 | N    | 1 - F18 |
| 1139 | 21.583  | 1.667  | 241.870 | N    | 1 - F17 |
| 1140 | 21.583  | 21.833 | 241.870 | N    | 1 - F17 |
| 1141 | 21.583  | 46.000 | 241.870 | N    | 1 - F17 |
| 1142 | 24.000  | 58.666 | 241.870 | N    | 1 - F17 |
| 1143 | 37.667  | 1.667  | 241.870 | N    | 1 - F17 |
| 1144 | 37.667  | 19.833 | 241.870 | N    | 1 - F17 |
| 1145 | 42.083  | 56.670 | 241.870 | N    | 1 - F17 |
| 1146 | 42.083  | 68.667 | 241.870 | N    | 1 - F17 |
| 1147 | 43.875  | 37.167 | 241.870 | N    | 1 - F17 |
| 1148 | 45.500  | 19.833 | 241.870 | N    | 1 - F17 |
| 1149 | 54.625  | 37.167 | 241.870 | N    | 1 - F17 |
| 1150 | 63.083  | 1.667  | 241.870 | N    | 1 - F17 |
| 1151 | 63.083  | 19.000 | 241.870 | N    | 1 - F17 |
| 1152 | 63.083  | 37.167 | 241.870 | N    | 1 - F17 |
| 1153 | 65.083  | 56.667 | 241.870 | N    | 1 - F17 |
| 1154 | 65.083  | 68.667 | 241.870 | N    | 1 - F17 |
| 1155 | 77.333  | 1.667  | 241.870 | N    | 1 - F17 |
| 1156 | 77.333  | 29.500 | 241.870 | N    | 1 - F17 |
| 1157 | 77.333  | 42.792 | 241.870 | N    | 1 - F17 |
| 1158 | 89.083  | 21.583 | 241.870 | N    | 1 - F17 |
| 1159 | 89.083  | 22.500 | 241.870 | N    | 1 - F17 |
| 1160 | 89.083  | 29.500 | 241.870 | N    | 1 - F17 |
| 1161 | 89.083  | 36.583 | 241.870 | N    | 1 - F17 |
| 1162 | 89.083  | 56.670 | 241.870 | N    | 1 - F17 |
| 1163 | 89.083  | 68.667 | 241.870 | N    | 1 - F17 |
| 1164 | 89.083  | 69.584 | 241.870 | N    | 1 - F17 |
| 1165 | 113.083 | 22.500 | 241.870 | N    | 1 - F17 |
| 1166 | 113.083 | 36.583 | 241.870 | N    | 1 - F17 |
| 1167 | 113.083 | 56.583 | 241.870 | N    | 1 - F17 |
| 1168 | 113.083 | 68.667 | 241.870 | N    | 1 - F17 |
| 1169 | 137.083 | 21.583 | 241.870 | N    | 1 - F17 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1170 | 137.083 | 22.500 | 241.870 | N    | 1 - F17 |
| 1171 | 137.083 | 36.583 | 241.870 | N    | 1 - F17 |
| 1172 | 137.083 | 56.670 | 241.870 | N    | 1 - F17 |
| 1173 | 137.083 | 68.667 | 241.870 | N    | 1 - F17 |
| 1174 | 137.083 | 69.584 | 241.870 | N    | 1 - F17 |
| 1175 | 161.083 | 22.500 | 241.870 | N    | 1 - F17 |
| 1176 | 161.083 | 36.583 | 241.870 | N    | 1 - F17 |
| 1177 | 161.083 | 56.670 | 241.870 | N    | 1 - F17 |
| 1178 | 161.083 | 68.667 | 241.870 | N    | 1 - F17 |
| 1179 | 185.083 | 22.500 | 241.870 | N    | 1 - F17 |
| 1180 | 185.083 | 68.667 | 241.870 | N    | 1 - F17 |
| 1181 | 21.583  | 1.667  | 233.170 | N    | 1 - F16 |
| 1182 | 21.583  | 21.833 | 233.170 | N    | 1 - F16 |
| 1183 | 21.583  | 46.000 | 233.170 | N    | 1 - F16 |
| 1184 | 24.000  | 58.666 | 233.170 | N    | 1 - F16 |
| 1185 | 37.667  | 1.667  | 233.170 | N    | 1 - F16 |
| 1186 | 37.667  | 19.833 | 233.170 | N    | 1 - F16 |
| 1187 | 42.083  | 56.670 | 233.170 | N    | 1 - F16 |
| 1188 | 42.083  | 68.667 | 233.170 | N    | 1 - F16 |
| 1189 | 43.875  | 37.167 | 233.170 | N    | 1 - F16 |
| 1190 | 45.500  | 19.833 | 233.170 | N    | 1 - F16 |
| 1191 | 54.625  | 37.167 | 233.170 | N    | 1 - F16 |
| 1192 | 63.083  | 1.667  | 233.170 | N    | 1 - F16 |
| 1193 | 63.083  | 19.000 | 233.170 | N    | 1 - F16 |
| 1194 | 63.083  | 37.167 | 233.170 | N    | 1 - F16 |
| 1195 | 65.083  | 56.667 | 233.170 | N    | 1 - F16 |
| 1196 | 65.083  | 68.667 | 233.170 | N    | 1 - F16 |
| 1197 | 77.333  | 1.667  | 233.170 | N    | 1 - F16 |
| 1198 | 77.333  | 12.500 | 233.170 | N    | 1 - F16 |
| 1199 | 77.333  | 22.500 | 233.170 | N    | 1 - F16 |
| 1200 | 77.333  | 29.500 | 233.170 | N    | 1 - F16 |
| 1201 | 77.333  | 42.792 | 233.170 | N    | 1 - F16 |
| 1202 | 77.333  | 68.667 | 233.170 | N    | 1 - F16 |
| 1203 | 89.083  | 22.500 | 233.170 | N    | 1 - F16 |
| 1204 | 89.083  | 29.500 | 233.170 | N    | 1 - F16 |
| 1205 | 89.083  | 36.583 | 233.170 | N    | 1 - F16 |
| 1206 | 89.083  | 56.670 | 233.170 | N    | 1 - F16 |
| 1207 | 89.083  | 68.667 | 233.170 | N    | 1 - F16 |
| 1208 | 113.083 | 22.500 | 233.170 | N    | 1 - F16 |
| 1209 | 113.083 | 36.583 | 233.170 | N    | 1 - F16 |
| 1210 | 113.083 | 56.583 | 233.170 | N    | None    |
| 1211 | 113.083 | 56.670 | 233.170 | N    | 1 - F16 |
| 1212 | 113.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 1213 | 137.083 | 22.500 | 233.170 | N    | 1 - F16 |
| 1214 | 137.083 | 36.583 | 233.170 | N    | 1 - F16 |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1215 | 137.083 | 56.670 | 233.170 | N    | 1 - F16 |
| 1216 | 137.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 1217 | 161.083 | 22.500 | 233.170 | N    | 1 - F16 |
| 1218 | 161.083 | 36.583 | 233.170 | N    | 1 - F16 |
| 1219 | 161.083 | 56.670 | 233.170 | N    | 1 - F16 |
| 1220 | 161.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 1221 | 185.083 | 22.500 | 233.170 | N    | 1 - F16 |
| 1222 | 185.083 | 36.583 | 233.170 | N    | 1 - F16 |
| 1223 | 185.083 | 56.670 | 233.170 | N    | 1 - F16 |
| 1224 | 185.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 1225 | 206.750 | 22.500 | 233.170 | N    | 1 - F16 |
| 1226 | 206.750 | 68.667 | 233.170 | N    | 1 - F16 |
| 1227 | 21.583  | 1.667  | 224.470 | N    | 1 - F15 |
| 1228 | 21.583  | 21.833 | 224.470 | N    | 1 - F15 |
| 1229 | 21.583  | 46.000 | 224.470 | N    | 1 - F15 |
| 1230 | 24.000  | 58.666 | 224.470 | N    | 1 - F15 |
| 1231 | 37.667  | 1.667  | 224.470 | N    | 1 - F15 |
| 1232 | 37.667  | 19.833 | 224.470 | N    | 1 - F15 |
| 1233 | 42.083  | 56.670 | 224.470 | N    | 1 - F15 |
| 1234 | 42.083  | 68.667 | 224.470 | N    | 1 - F15 |
| 1235 | 43.875  | 37.167 | 224.470 | N    | 1 - F15 |
| 1236 | 45.500  | 19.833 | 224.470 | N    | 1 - F15 |
| 1237 | 54.625  | 37.167 | 224.470 | N    | 1 - F15 |
| 1238 | 63.083  | 1.667  | 224.470 | N    | 1 - F15 |
| 1239 | 63.083  | 19.000 | 224.470 | N    | 1 - F15 |
| 1240 | 63.083  | 37.167 | 224.470 | N    | 1 - F15 |
| 1241 | 65.083  | 56.667 | 224.470 | N    | 1 - F15 |
| 1242 | 65.083  | 68.667 | 224.470 | N    | 1 - F15 |
| 1243 | 77.333  | 1.667  | 224.470 | N    | 1 - F15 |
| 1244 | 77.333  | 12.500 | 224.470 | N    | 1 - F15 |
| 1245 | 77.333  | 22.500 | 224.470 | N    | 1 - F15 |
| 1246 | 77.333  | 32.646 | 224.470 | N    | None    |
| 1247 | 77.333  | 42.792 | 224.470 | N    | 1 - F15 |
| 1248 | 77.333  | 68.667 | 224.470 | N    | 1 - F15 |
| 1249 | 89.083  | 22.500 | 224.470 | N    | 1 - F15 |
| 1250 | 89.083  | 36.583 | 224.470 | N    | 1 - F15 |
| 1251 | 89.083  | 56.670 | 224.470 | N    | 1 - F15 |
| 1252 | 89.083  | 68.667 | 224.470 | N    | 1 - F15 |
| 1253 | 113.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 1254 | 113.083 | 36.583 | 224.470 | N    | 1 - F15 |
| 1255 | 113.083 | 56.670 | 224.470 | N    | 1 - F15 |
| 1256 | 113.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 1257 | 137.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 1258 | 137.083 | 36.583 | 224.470 | N    | 1 - F15 |
| 1259 | 137.083 | 56.670 | 224.470 | N    | 1 - F15 |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1260 | 137.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 1261 | 161.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 1262 | 161.083 | 36.583 | 224.470 | N    | 1 - F15 |
| 1263 | 161.083 | 56.670 | 224.470 | N    | 1 - F15 |
| 1264 | 161.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 1265 | 185.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 1266 | 185.083 | 36.583 | 224.470 | N    | 1 - F15 |
| 1267 | 185.083 | 56.670 | 224.470 | N    | 1 - F15 |
| 1268 | 185.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 1269 | 206.750 | 22.500 | 224.470 | N    | 1 - F15 |
| 1270 | 206.750 | 68.667 | 224.470 | N    | 1 - F15 |
| 1271 | 21.583  | 1.667  | 215.770 | N    | 1 - F14 |
| 1272 | 21.583  | 21.833 | 215.770 | N    | 1 - F14 |
| 1273 | 21.583  | 46.000 | 215.770 | N    | 1 - F14 |
| 1274 | 24.000  | 58.666 | 215.770 | N    | 1 - F14 |
| 1275 | 37.667  | 1.667  | 215.770 | N    | 1 - F14 |
| 1276 | 37.667  | 19.833 | 215.770 | N    | 1 - F14 |
| 1277 | 42.083  | 56.670 | 215.770 | N    | None    |
| 1278 | 42.083  | 64.654 | 215.770 | N    | 1 - F14 |
| 1279 | 42.083  | 68.667 | 215.770 | N    | None    |
| 1280 | 42.083  | 74.024 | 215.770 | N    | None    |
| 1281 | 43.875  | 37.167 | 215.770 | N    | 1 - F14 |
| 1282 | 45.500  | 19.833 | 215.770 | N    | 1 - F14 |
| 1283 | 54.625  | 37.167 | 215.770 | N    | 1 - F14 |
| 1284 | 63.083  | 1.667  | 215.770 | N    | 1 - F14 |
| 1285 | 63.083  | 19.000 | 215.770 | N    | 1 - F14 |
| 1286 | 63.083  | 37.167 | 215.770 | N    | 1 - F14 |
| 1287 | 65.083  | 56.667 | 215.770 | N    | None    |
| 1288 | 65.083  | 64.654 | 215.770 | N    | 1 - F14 |
| 1289 | 65.083  | 68.667 | 215.770 | N    | None    |
| 1290 | 65.083  | 74.024 | 215.770 | N    | None    |
| 1291 | 77.333  | 1.667  | 215.770 | N    | 1 - F14 |
| 1292 | 77.333  | 12.500 | 215.770 | N    | 1 - F14 |
| 1293 | 77.333  | 22.500 | 215.770 | N    | 1 - F14 |
| 1294 | 77.333  | 42.792 | 215.770 | N    | 1 - F14 |
| 1295 | 77.333  | 68.667 | 215.770 | N    | 1 - F14 |
| 1296 | 89.083  | 22.500 | 215.770 | N    | 1 - F14 |
| 1297 | 89.083  | 36.583 | 215.770 | N    | None    |
| 1298 | 89.083  | 44.583 | 215.770 | N    | 1 - F14 |
| 1299 | 89.083  | 46.583 | 215.770 | N    | None    |
| 1300 | 89.083  | 56.670 | 215.770 | N    | None    |
| 1301 | 89.083  | 68.667 | 215.770 | N    | 1 - F14 |
| 1302 | 113.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 1303 | 113.083 | 36.583 | 215.770 | N    | None    |
| 1304 | 113.083 | 44.583 | 215.770 | N    | 1 - F14 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1305 | 113.083 | 46.583 | 215.770 | N    | None    |
| 1306 | 113.083 | 56.670 | 215.770 | N    | None    |
| 1307 | 113.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 1308 | 137.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 1309 | 137.083 | 36.583 | 215.770 | N    | None    |
| 1310 | 137.083 | 44.583 | 215.770 | N    | 1 - F14 |
| 1311 | 137.083 | 46.583 | 215.770 | N    | None    |
| 1312 | 137.083 | 56.670 | 215.770 | N    | None    |
| 1313 | 137.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 1314 | 161.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 1315 | 161.083 | 36.583 | 215.770 | N    | None    |
| 1316 | 161.083 | 44.583 | 215.770 | N    | 1 - F14 |
| 1317 | 161.083 | 46.583 | 215.770 | N    | None    |
| 1318 | 161.083 | 56.670 | 215.770 | N    | None    |
| 1319 | 161.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 1320 | 185.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 1321 | 185.083 | 36.583 | 215.770 | N    | None    |
| 1322 | 185.083 | 44.583 | 215.770 | N    | 1 - F14 |
| 1323 | 185.083 | 46.583 | 215.770 | N    | None    |
| 1324 | 185.083 | 56.670 | 215.770 | N    | None    |
| 1325 | 185.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 1326 | 206.750 | 22.500 | 215.770 | N    | 1 - F14 |
| 1327 | 206.750 | 68.667 | 215.770 | N    | 1 - F14 |
| 1328 | 21.583  | 1.667  | 207.070 | N    | 1 - F13 |
| 1329 | 21.583  | 21.833 | 207.070 | N    | 1 - F13 |
| 1330 | 21.583  | 46.000 | 207.070 | N    | 1 - F13 |
| 1331 | 24.000  | 58.666 | 207.070 | N    | 1 - F13 |
| 1332 | 34.163  | 64.654 | 207.070 | N    | 1 - F13 |
| 1333 | 34.163  | 74.024 | 207.070 | N    | 1 - F13 |
| 1334 | 37.163  | 64.654 | 207.070 | N    | 1 - F13 |
| 1335 | 37.667  | 1.667  | 207.070 | N    | 1 - F13 |
| 1336 | 37.667  | 19.833 | 207.070 | N    | 1 - F13 |
| 1337 | 40.663  | 64.654 | 207.070 | N    | 1 - F13 |
| 1338 | 42.083  | 56.670 | 207.070 | N    | 1 - F13 |
| 1339 | 42.083  | 64.654 | 207.070 | N    | None    |
| 1340 | 42.083  | 74.024 | 207.070 | N    | 1 - F13 |
| 1341 | 43.875  | 37.167 | 207.070 | N    | 1 - F13 |
| 1342 | 45.500  | 19.833 | 207.070 | N    | 1 - F13 |
| 1343 | 46.863  | 64.654 | 207.070 | N    | 1 - F13 |
| 1344 | 50.363  | 64.654 | 207.070 | N    | 1 - F13 |
| 1345 | 54.625  | 37.167 | 207.070 | N    | 1 - F13 |
| 1346 | 56.863  | 64.654 | 207.070 | N    | 1 - F13 |
| 1347 | 60.363  | 64.654 | 207.070 | N    | 1 - F13 |
| 1348 | 63.083  | 1.667  | 207.070 | N    | 1 - F13 |
| 1349 | 63.083  | 19.000 | 207.070 | N    | 1 - F13 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1350 | 63.083  | 37.167 | 207.070 | N    | 1 - F13 |
| 1351 | 65.083  | 56.667 | 207.070 | N    | 1 - F13 |
| 1352 | 65.083  | 64.654 | 207.070 | N    | None    |
| 1353 | 65.083  | 74.024 | 207.070 | N    | 1 - F13 |
| 1354 | 66.563  | 64.654 | 207.070 | N    | 1 - F13 |
| 1355 | 70.063  | 64.654 | 207.070 | N    | 1 - F13 |
| 1356 | 74.093  | 64.654 | 207.070 | N    | 1 - F13 |
| 1357 | 74.093  | 74.024 | 207.070 | N    | 1 - F13 |
| 1358 | 77.333  | 1.667  | 207.070 | N    | 1 - F13 |
| 1359 | 77.333  | 12.500 | 207.070 | N    | 1 - F13 |
| 1360 | 77.333  | 22.500 | 207.070 | N    | 1 - F13 |
| 1361 | 77.333  | 32.646 | 207.070 | N    | None    |
| 1362 | 77.333  | 42.792 | 207.070 | N    | 1 - F13 |
| 1363 | 77.333  | 68.667 | 207.070 | N    | 1 - F13 |
| 1364 | 89.083  | 22.500 | 207.070 | N    | 1 - F13 |
| 1365 | 89.083  | 44.583 | 207.070 | N    | 1 - F13 |
| 1366 | 89.083  | 68.667 | 207.070 | N    | 1 - F13 |
| 1367 | 113.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 1368 | 113.083 | 44.583 | 207.070 | N    | 1 - F13 |
| 1369 | 113.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 1370 | 137.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 1371 | 137.083 | 44.583 | 207.070 | N    | 1 - F13 |
| 1372 | 137.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 1373 | 161.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 1374 | 161.083 | 44.583 | 207.070 | N    | 1 - F13 |
| 1375 | 161.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 1376 | 185.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 1377 | 185.083 | 44.583 | 207.070 | N    | 1 - F13 |
| 1378 | 185.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 1379 | 206.750 | 22.500 | 207.070 | N    | None    |
| 1380 | 206.750 | 68.667 | 207.070 | N    | None    |
| 1381 | 21.583  | 1.667  | 198.370 | N    | 1 - F12 |
| 1382 | 21.583  | 21.833 | 198.370 | N    | 1 - F12 |
| 1383 | 21.583  | 46.000 | 198.370 | N    | 1 - F12 |
| 1384 | 24.000  | 58.666 | 198.370 | N    | 1 - F12 |
| 1385 | 34.163  | 64.654 | 198.370 | N    | 1 - F12 |
| 1386 | 34.163  | 74.024 | 198.370 | N    | 1 - F12 |
| 1387 | 37.163  | 64.654 | 198.370 | N    | 1 - F12 |
| 1388 | 37.667  | 1.667  | 198.370 | N    | 1 - F12 |
| 1389 | 37.667  | 19.833 | 198.370 | N    | 1 - F12 |
| 1390 | 40.663  | 64.654 | 198.370 | N    | 1 - F12 |
| 1391 | 42.083  | 56.670 | 198.370 | N    | 1 - F12 |
| 1392 | 42.083  | 74.024 | 198.370 | N    | None    |
| 1393 | 43.875  | 37.167 | 198.370 | N    | 1 - F12 |
| 1394 | 45.500  | 19.833 | 198.370 | N    | 1 - F12 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1395 | 46.863  | 64.654 | 198.370 | N    | 1 - F12 |
| 1396 | 50.363  | 64.654 | 198.370 | N    | 1 - F12 |
| 1397 | 54.625  | 37.167 | 198.370 | N    | 1 - F12 |
| 1398 | 56.863  | 64.654 | 198.370 | N    | 1 - F12 |
| 1399 | 60.363  | 64.654 | 198.370 | N    | 1 - F12 |
| 1400 | 63.083  | 1.667  | 198.370 | N    | 1 - F12 |
| 1401 | 63.083  | 19.000 | 198.370 | N    | 1 - F12 |
| 1402 | 63.083  | 37.167 | 198.370 | N    | 1 - F12 |
| 1403 | 65.083  | 56.667 | 198.370 | N    | 1 - F12 |
| 1404 | 65.083  | 74.024 | 198.370 | N    | None    |
| 1405 | 66.563  | 64.654 | 198.370 | N    | 1 - F12 |
| 1406 | 70.063  | 64.654 | 198.370 | N    | 1 - F12 |
| 1407 | 74.093  | 64.654 | 198.370 | N    | 1 - F12 |
| 1408 | 74.093  | 74.024 | 198.370 | N    | 1 - F12 |
| 1409 | 77.333  | 1.667  | 198.370 | N    | 1 - F12 |
| 1410 | 77.333  | 12.500 | 198.370 | N    | 1 - F12 |
| 1411 | 77.333  | 22.500 | 198.370 | N    | 1 - F12 |
| 1412 | 77.333  | 42.792 | 198.370 | N    | 1 - F12 |
| 1413 | 77.333  | 68.667 | 198.370 | N    | 1 - F12 |
| 1414 | 89.083  | 22.500 | 198.370 | N    | 1 - F12 |
| 1415 | 89.083  | 44.583 | 198.370 | N    | 1 - F12 |
| 1416 | 89.083  | 68.667 | 198.370 | N    | 1 - F12 |
| 1417 | 113.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 1418 | 113.083 | 44.583 | 198.370 | N    | 1 - F12 |
| 1419 | 113.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 1420 | 137.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 1421 | 137.083 | 44.583 | 198.370 | N    | 1 - F12 |
| 1422 | 137.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 1423 | 161.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 1424 | 161.083 | 44.583 | 198.370 | N    | 1 - F12 |
| 1425 | 161.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 1426 | 185.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 1427 | 185.083 | 44.583 | 198.370 | N    | 1 - F12 |
| 1428 | 185.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 1429 | 206.750 | 22.500 | 198.370 | N    | 1 - F12 |
| 1430 | 206.750 | 68.667 | 198.370 | N    | 1 - F12 |
| 1431 | 21.583  | 1.667  | 189.670 | N    | None    |
| 1432 | 21.583  | 21.833 | 189.670 | N    | None    |
| 1433 | 21.583  | 46.000 | 189.670 | N    | None    |
| 1434 | 24.000  | 58.666 | 189.670 | N    | None    |
| 1435 | 34.163  | 64.654 | 189.670 | N    | None    |
| 1436 | 34.163  | 74.024 | 189.670 | N    | None    |
| 1437 | 37.163  | 64.654 | 189.670 | N    | None    |
| 1438 | 37.667  | 1.667  | 189.670 | N    | None    |
| 1439 | 37.667  | 19.833 | 189.670 | N    | None    |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

ES691066429 Scan Code

RAM Frame 15.03.00.000

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1440 | 40.663  | 64.654 | 189.670 | N    | None    |
| 1441 | 42.083  | 56.670 | 189.670 | N    | None    |
| 1442 | 43.875  | 37.167 | 189.670 | N    | None    |
| 1443 | 45.500  | 19.833 | 189.670 | N    | None    |
| 1444 | 46.863  | 64.654 | 189.670 | N    | None    |
| 1445 | 50.363  | 64.654 | 189.670 | N    | None    |
| 1446 | 54.625  | 37.167 | 189.670 | N    | None    |
| 1447 | 56.863  | 64.654 | 189.670 | N    | None    |
| 1448 | 60.363  | 64.654 | 189.670 | N    | None    |
| 1449 | 63.083  | 1.667  | 189.670 | N    | None    |
| 1450 | 63.083  | 19.000 | 189.670 | N    | None    |
| 1451 | 63.083  | 37.167 | 189.670 | N    | None    |
| 1452 | 65.083  | 56.667 | 189.670 | N    | None    |
| 1453 | 66.563  | 64.654 | 189.670 | N    | None    |
| 1454 | 70.063  | 64.654 | 189.670 | N    | None    |
| 1455 | 74.093  | 64.654 | 189.670 | N    | None    |
| 1456 | 74.093  | 74.024 | 189.670 | N    | None    |
| 1457 | 77.333  | 1.667  | 189.670 | N    | None    |
| 1458 | 77.333  | 12.500 | 189.670 | N    | None    |
| 1459 | 77.333  | 22.500 | 189.670 | N    | None    |
| 1460 | 77.333  | 32.646 | 189.670 | N    | None    |
| 1461 | 77.333  | 42.792 | 189.670 | N    | None    |
| 1462 | 77.333  | 68.667 | 189.670 | N    | None    |
| 1463 | 89.083  | 22.500 | 189.670 | N    | None    |
| 1464 | 89.083  | 44.583 | 189.670 | N    | None    |
| 1465 | 89.083  | 68.667 | 189.670 | N    | None    |
| 1466 | 113.083 | 22.500 | 189.670 | N    | None    |
| 1467 | 113.083 | 44.583 | 189.670 | N    | None    |
| 1468 | 113.083 | 68.667 | 189.670 | N    | None    |
| 1469 | 137.083 | 22.500 | 189.670 | N    | None    |
| 1470 | 137.083 | 44.583 | 189.670 | N    | None    |
| 1471 | 137.083 | 68.667 | 189.670 | N    | None    |
| 1472 | 161.083 | 22.500 | 189.670 | N    | None    |
| 1473 | 161.083 | 44.583 | 189.670 | N    | None    |
| 1474 | 161.083 | 68.667 | 189.670 | N    | None    |
| 1475 | 185.083 | 22.500 | 189.670 | N    | None    |
| 1476 | 185.083 | 44.583 | 189.670 | N    | None    |
| 1477 | 185.083 | 68.667 | 189.670 | N    | None    |
| 1478 | 206.750 | 22.500 | 189.670 | N    | None    |
| 1479 | 206.750 | 68.667 | 189.670 | N    | None    |
| 1480 | 21.583  | 1.667  | 180.970 | N    | 1 - F11 |
| 1481 | 21.583  | 21.833 | 180.970 | N    | 1 - F11 |
| 1482 | 21.583  | 46.000 | 180.970 | N    | 1 - F11 |
| 1483 | 24.000  | 58.666 | 180.970 | N    | 1 - F11 |
| 1484 | 34.163  | 64.654 | 180.970 | N    | 1 - F11 |



RAM Structural System



DEPT OF BLDGS121191236

Job Number



ES511519436

Scan Code

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1485 | 34.163  | 74.024 | 180.970 | N    | 1 - F11 |
| 1486 | 37.163  | 64.654 | 180.970 | N    | 1 - F11 |
| 1487 | 37.667  | 1.667  | 180.970 | N    | 1 - F11 |
| 1488 | 37.667  | 19.833 | 180.970 | N    | 1 - F11 |
| 1489 | 40.663  | 64.654 | 180.970 | N    | 1 - F11 |
| 1490 | 42.083  | 56.670 | 180.970 | N    | 1 - F11 |
| 1491 | 43.875  | 37.167 | 180.970 | N    | 1 - F11 |
| 1492 | 45.500  | 19.833 | 180.970 | N    | 1 - F11 |
| 1493 | 46.863  | 64.654 | 180.970 | N    | 1 - F11 |
| 1494 | 50.363  | 64.654 | 180.970 | N    | 1 - F11 |
| 1495 | 54.625  | 37.167 | 180.970 | N    | 1 - F11 |
| 1496 | 56.863  | 64.654 | 180.970 | N    | 1 - F11 |
| 1497 | 60.363  | 64.654 | 180.970 | N    | 1 - F11 |
| 1498 | 63.083  | 1.667  | 180.970 | N    | 1 - F11 |
| 1499 | 63.083  | 19.000 | 180.970 | N    | 1 - F11 |
| 1500 | 63.083  | 37.167 | 180.970 | N    | 1 - F11 |
| 1501 | 65.083  | 56.667 | 180.970 | N    | 1 - F11 |
| 1502 | 66.563  | 64.654 | 180.970 | N    | 1 - F11 |
| 1503 | 70.063  | 64.654 | 180.970 | N    | 1 - F11 |
| 1504 | 74.093  | 64.654 | 180.970 | N    | 1 - F11 |
| 1505 | 74.093  | 74.024 | 180.970 | N    | 1 - F11 |
| 1506 | 77.333  | 1.667  | 180.970 | N    | 1 - F11 |
| 1507 | 77.333  | 12.500 | 180.970 | N    | 1 - F11 |
| 1508 | 77.333  | 22.500 | 180.970 | N    | 1 - F11 |
| 1509 | 77.333  | 42.792 | 180.970 | N    | 1 - F11 |
| 1510 | 77.333  | 68.667 | 180.970 | N    | 1 - F11 |
| 1511 | 89.083  | 22.500 | 180.970 | N    | 1 - F11 |
| 1512 | 89.083  | 44.583 | 180.970 | N    | 1 - F11 |
| 1513 | 89.083  | 68.667 | 180.970 | N    | 1 - F11 |
| 1514 | 113.083 | 22.500 | 180.970 | N    | 1 - F11 |
| 1515 | 113.083 | 44.583 | 180.970 | N    | 1 - F11 |
| 1516 | 113.083 | 68.667 | 180.970 | N    | 1 - F11 |
| 1517 | 137.083 | 22.500 | 180.970 | N    | 1 - F11 |
| 1518 | 137.083 | 44.583 | 180.970 | N    | 1 - F11 |
| 1519 | 137.083 | 68.667 | 180.970 | N    | 1 - F11 |
| 1520 | 161.083 | 22.500 | 180.970 | N    | 1 - F11 |
| 1521 | 161.083 | 44.583 | 180.970 | N    | 1 - F11 |
| 1522 | 161.083 | 68.667 | 180.970 | N    | 1 - F11 |
| 1523 | 185.083 | 22.500 | 180.970 | N    | 1 - F11 |
| 1524 | 185.083 | 44.583 | 180.970 | N    | 1 - F11 |
| 1525 | 185.083 | 68.667 | 180.970 | N    | 1 - F11 |
| 1526 | 206.750 | 22.500 | 180.970 | N    | 1 - F11 |
| 1527 | 206.750 | 68.667 | 180.970 | N    | 1 - F11 |
| 1528 | 21.583  | 1.667  | 172.260 | N    | None    |
| 1529 | 21.583  | 21.833 | 172.260 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1530 | 21.583  | 46.000 | 172.260 | N    | None    |
| 1531 | 24.000  | 58.666 | 172.260 | N    | None    |
| 1532 | 34.163  | 64.654 | 172.260 | N    | None    |
| 1533 | 34.163  | 74.024 | 172.260 | N    | None    |
| 1534 | 37.163  | 64.654 | 172.260 | N    | None    |
| 1535 | 37.667  | 1.667  | 172.260 | N    | None    |
| 1536 | 37.667  | 19.833 | 172.260 | N    | None    |
| 1537 | 40.663  | 64.654 | 172.260 | N    | None    |
| 1538 | 43.875  | 37.167 | 172.260 | N    | None    |
| 1539 | 45.500  | 19.833 | 172.260 | N    | None    |
| 1540 | 46.863  | 64.654 | 172.260 | N    | None    |
| 1541 | 50.363  | 64.654 | 172.260 | N    | None    |
| 1542 | 54.625  | 37.167 | 172.260 | N    | None    |
| 1543 | 56.863  | 64.654 | 172.260 | N    | None    |
| 1544 | 60.363  | 64.654 | 172.260 | N    | None    |
| 1545 | 63.083  | 1.667  | 172.260 | N    | None    |
| 1546 | 63.083  | 19.000 | 172.260 | N    | None    |
| 1547 | 63.083  | 37.167 | 172.260 | N    | None    |
| 1548 | 66.563  | 64.654 | 172.260 | N    | None    |
| 1549 | 70.063  | 64.654 | 172.260 | N    | None    |
| 1550 | 74.093  | 64.654 | 172.260 | N    | None    |
| 1551 | 74.093  | 74.024 | 172.260 | N    | None    |
| 1552 | 77.333  | 1.667  | 172.260 | N    | None    |
| 1553 | 77.333  | 12.500 | 172.260 | N    | None    |
| 1554 | 77.333  | 22.500 | 172.260 | N    | None    |
| 1555 | 77.333  | 42.792 | 172.260 | N    | None    |
| 1556 | 77.333  | 68.667 | 172.260 | N    | None    |
| 1557 | 89.083  | 22.500 | 172.260 | N    | None    |
| 1558 | 89.083  | 44.583 | 172.260 | N    | None    |
| 1559 | 89.083  | 68.667 | 172.260 | N    | None    |
| 1560 | 113.083 | 22.500 | 172.260 | N    | None    |
| 1561 | 113.083 | 44.583 | 172.260 | N    | None    |
| 1562 | 113.083 | 68.667 | 172.260 | N    | None    |
| 1563 | 137.083 | 22.500 | 172.260 | N    | None    |
| 1564 | 137.083 | 44.583 | 172.260 | N    | None    |
| 1565 | 137.083 | 68.667 | 172.260 | N    | None    |
| 1566 | 161.083 | 22.500 | 172.260 | N    | None    |
| 1567 | 161.083 | 44.583 | 172.260 | N    | None    |
| 1568 | 161.083 | 68.667 | 172.260 | N    | None    |
| 1569 | 185.083 | 22.500 | 172.260 | N    | None    |
| 1570 | 185.083 | 44.583 | 172.260 | N    | None    |
| 1571 | 185.083 | 68.667 | 172.260 | N    | None    |
| 1572 | 206.750 | 22.500 | 172.260 | N    | None    |
| 1573 | 206.750 | 68.667 | 172.260 | N    | None    |
| 1574 | 21.583  | 1.667  | 163.550 | N    | 1 - F10 |





RAM Structural System  
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RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1575 | 21.583  | 21.833 | 163.550 | N    | 1 - F10 |
| 1576 | 21.583  | 46.000 | 163.550 | N    | 1 - F10 |
| 1577 | 24.000  | 58.666 | 163.550 | N    | 1 - F10 |
| 1578 | 34.163  | 64.654 | 163.550 | N    | 1 - F10 |
| 1579 | 34.163  | 74.024 | 163.550 | N    | 1 - F10 |
| 1580 | 37.163  | 64.654 | 163.550 | N    | 1 - F10 |
| 1581 | 37.667  | 1.667  | 163.550 | N    | 1 - F10 |
| 1582 | 37.667  | 19.833 | 163.550 | N    | 1 - F10 |
| 1583 | 40.663  | 64.654 | 163.550 | N    | 1 - F10 |
| 1584 | 43.875  | 37.167 | 163.550 | N    | 1 - F10 |
| 1585 | 45.500  | 19.833 | 163.550 | N    | 1 - F10 |
| 1586 | 46.863  | 64.654 | 163.550 | N    | 1 - F10 |
| 1587 | 50.363  | 64.654 | 163.550 | N    | 1 - F10 |
| 1588 | 54.625  | 1.667  | 163.550 | N    | 1 - F10 |
| 1589 | 54.625  | 19.833 | 163.550 | N    | 1 - F10 |
| 1590 | 54.625  | 37.167 | 163.550 | N    | 1 - F10 |
| 1591 | 56.863  | 64.654 | 163.550 | N    | 1 - F10 |
| 1592 | 60.363  | 64.654 | 163.550 | N    | 1 - F10 |
| 1593 | 63.083  | 1.667  | 163.550 | N    | 1 - F10 |
| 1594 | 63.083  | 19.000 | 163.550 | N    | 1 - F10 |
| 1595 | 63.083  | 37.167 | 163.550 | N    | 1 - F10 |
| 1596 | 66.563  | 64.654 | 163.550 | N    | 1 - F10 |
| 1597 | 70.063  | 64.654 | 163.550 | N    | 1 - F10 |
| 1598 | 74.093  | 64.654 | 163.550 | N    | 1 - F10 |
| 1599 | 74.093  | 74.024 | 163.550 | N    | 1 - F10 |
| 1600 | 77.333  | 1.667  | 163.550 | N    | 1 - F10 |
| 1601 | 77.333  | 12.500 | 163.550 | N    | 1 - F10 |
| 1602 | 77.333  | 22.500 | 163.550 | N    | 1 - F10 |
| 1603 | 77.333  | 42.792 | 163.550 | N    | 1 - F10 |
| 1604 | 77.333  | 68.667 | 163.550 | N    | 1 - F10 |
| 1605 | 89.083  | 22.500 | 163.550 | N    | 1 - F10 |
| 1606 | 89.083  | 44.583 | 163.550 | N    | 1 - F10 |
| 1607 | 89.083  | 68.667 | 163.550 | N    | 1 - F10 |
| 1608 | 113.083 | 22.500 | 163.550 | N    | 1 - F10 |
| 1609 | 113.083 | 44.583 | 163.550 | N    | 1 - F10 |
| 1610 | 113.083 | 68.667 | 163.550 | N    | 1 - F10 |
| 1611 | 137.083 | 22.500 | 163.550 | N    | 1 - F10 |
| 1612 | 137.083 | 44.583 | 163.550 | N    | 1 - F10 |
| 1613 | 137.083 | 68.667 | 163.550 | N    | 1 - F10 |
| 1614 | 161.083 | 22.500 | 163.550 | N    | 1 - F10 |
| 1615 | 161.083 | 44.583 | 163.550 | N    | 1 - F10 |
| 1616 | 161.083 | 68.667 | 163.550 | N    | 1 - F10 |
| 1617 | 185.083 | 22.500 | 163.550 | N    | 1 - F10 |
| 1618 | 185.083 | 44.583 | 163.550 | N    | 1 - F10 |
| 1619 | 185.083 | 68.667 | 163.550 | N    | 1 - F10 |



RAM Structural System  
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RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1620 | 206.750 | 22.500 | 163.550 | N    | 1 - F10 |
| 1621 | 206.750 | 68.667 | 163.550 | N    | 1 - F10 |
| 1622 | 21.583  | 1.667  | 147.550 | N    | 1 - F9  |
| 1623 | 21.583  | 3.608  | 147.550 | N    | 1 - F9  |
| 1624 | 21.583  | 19.833 | 147.550 | N    | 1 - F9  |
| 1625 | 21.583  | 21.833 | 147.550 | N    | None    |
| 1626 | 21.583  | 39.631 | 147.550 | N    | 1 - F9  |
| 1627 | 21.583  | 46.000 | 147.550 | N    | None    |
| 1628 | 21.583  | 65.487 | 147.550 | N    | 1 - F9  |
| 1629 | 21.583  | 83.292 | 147.550 | N    | 1 - F9  |
| 1630 | 24.000  | 58.666 | 147.550 | N    | 1 - F9  |
| 1631 | 32.729  | 38.399 | 147.550 | N    | None    |
| 1632 | 34.163  | 64.654 | 147.550 | N    | 1 - F9  |
| 1633 | 34.163  | 74.024 | 147.550 | N    | 1 - F9  |
| 1634 | 37.163  | 64.654 | 147.550 | N    | 1 - F9  |
| 1635 | 37.667  | 1.667  | 147.550 | N    | 1 - F9  |
| 1636 | 37.667  | 19.833 | 147.550 | N    | None    |
| 1637 | 40.663  | 64.654 | 147.550 | N    | 1 - F9  |
| 1638 | 43.083  | 19.833 | 147.550 | N    | 1 - F9  |
| 1639 | 43.875  | 37.167 | 147.550 | N    | 1 - F9  |
| 1640 | 46.863  | 64.654 | 147.550 | N    | 1 - F9  |
| 1641 | 50.363  | 64.654 | 147.550 | N    | 1 - F9  |
| 1642 | 54.625  | 37.167 | 147.550 | N    | None    |
| 1643 | 56.863  | 64.654 | 147.550 | N    | 1 - F9  |
| 1644 | 60.363  | 64.654 | 147.550 | N    | 1 - F9  |
| 1645 | 63.083  | 1.667  | 147.550 | N    | 1 - F9  |
| 1646 | 63.083  | 19.000 | 147.550 | N    | 1 - F9  |
| 1647 | 63.083  | 19.833 | 147.550 | N    | 1 - F9  |
| 1648 | 63.083  | 37.167 | 147.550 | N    | 1 - F9  |
| 1649 | 66.563  | 64.654 | 147.550 | N    | 1 - F9  |
| 1650 | 70.063  | 64.654 | 147.550 | N    | 1 - F9  |
| 1651 | 74.093  | 64.654 | 147.550 | N    | 1 - F9  |
| 1652 | 74.093  | 74.024 | 147.550 | N    | 1 - F9  |
| 1653 | 77.333  | 1.667  | 147.550 | N    | 1 - F9  |
| 1654 | 77.333  | 12.500 | 147.550 | N    | 1 - F9  |
| 1655 | 77.333  | 22.500 | 147.550 | N    | 1 - F9  |
| 1656 | 77.333  | 42.792 | 147.550 | N    | 1 - F9  |
| 1657 | 77.333  | 68.667 | 147.550 | N    | 1 - F9  |
| 1658 | 80.770  | 98.747 | 147.550 | N    | 1 - F9  |
| 1659 | 89.083  | 12.500 | 147.550 | N    | 1 - F9  |
| 1660 | 89.083  | 22.500 | 147.550 | N    | 1 - F9  |
| 1661 | 89.083  | 28.500 | 147.550 | N    | 1 - F9  |
| 1662 | 89.083  | 44.583 | 147.550 | N    | 1 - F9  |
| 1663 | 89.083  | 68.667 | 147.550 | N    | 1 - F9  |
| 1664 | 89.083  | 98.747 | 147.550 | N    | 1 - F9  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 1665 | 113.083 | 22.500 | 147.550 | N    | 1 - F9 |
| 1666 | 113.083 | 44.583 | 147.550 | N    | 1 - F9 |
| 1667 | 113.083 | 68.667 | 147.550 | N    | 1 - F9 |
| 1668 | 113.083 | 98.747 | 147.550 | N    | 1 - F9 |
| 1669 | 137.083 | 22.500 | 147.550 | N    | 1 - F9 |
| 1670 | 137.083 | 44.583 | 147.550 | N    | 1 - F9 |
| 1671 | 137.083 | 68.667 | 147.550 | N    | 1 - F9 |
| 1672 | 137.083 | 98.747 | 147.550 | N    | 1 - F9 |
| 1673 | 161.083 | 12.500 | 147.550 | N    | 1 - F9 |
| 1674 | 161.083 | 22.500 | 147.550 | N    | 1 - F9 |
| 1675 | 161.083 | 28.500 | 147.550 | N    | 1 - F9 |
| 1676 | 161.083 | 44.583 | 147.550 | N    | 1 - F9 |
| 1677 | 161.083 | 68.667 | 147.550 | N    | 1 - F9 |
| 1678 | 161.083 | 98.747 | 147.550 | N    | 1 - F9 |
| 1679 | 169.916 | 98.747 | 147.550 | N    | 1 - F9 |
| 1680 | 185.083 | 22.500 | 147.550 | N    | 1 - F9 |
| 1681 | 185.083 | 44.583 | 147.550 | N    | 1 - F9 |
| 1682 | 185.083 | 68.667 | 147.550 | N    | 1 - F9 |
| 1683 | 206.750 | 22.500 | 147.550 | N    | 1 - F9 |
| 1684 | 206.750 | 68.667 | 147.550 | N    | 1 - F9 |
| 1685 | 21.583  | 1.667  | 132.550 | N    | 1 - F8 |
| 1686 | 21.583  | 3.608  | 132.550 | N    | 1 - F8 |
| 1687 | 21.583  | 11.468 | 132.550 | N    | None   |
| 1688 | 21.583  | 19.833 | 132.550 | N    | 1 - F8 |
| 1689 | 21.583  | 29.732 | 132.550 | N    | None   |
| 1690 | 21.583  | 37.167 | 132.550 | N    | 1 - F8 |
| 1691 | 21.583  | 39.631 | 132.550 | N    | None   |
| 1692 | 21.583  | 43.108 | 132.550 | N    | None   |
| 1693 | 21.583  | 52.559 | 132.550 | N    | None   |
| 1694 | 21.583  | 58.666 | 132.550 | N    | None   |
| 1695 | 21.583  | 65.487 | 132.550 | N    | 1 - F8 |
| 1696 | 21.583  | 75.387 | 132.550 | N    | None   |
| 1697 | 21.583  | 83.292 | 132.550 | N    | 1 - F8 |
| 1698 | 34.163  | 64.654 | 132.550 | N    | 1 - F8 |
| 1699 | 34.163  | 65.487 | 132.550 | N    | 1 - F8 |
| 1700 | 34.163  | 74.024 | 132.550 | N    | 1 - F8 |
| 1701 | 37.667  | 1.667  | 132.550 | N    | 1 - F8 |
| 1702 | 43.083  | 19.833 | 132.550 | N    | 1 - F8 |
| 1703 | 43.875  | 37.167 | 132.550 | N    | 1 - F8 |
| 1704 | 63.083  | 1.667  | 132.550 | N    | 1 - F8 |
| 1705 | 63.083  | 19.000 | 132.550 | N    | 1 - F8 |
| 1706 | 63.083  | 37.167 | 132.550 | N    | 1 - F8 |
| 1707 | 74.093  | 64.654 | 132.550 | N    | 1 - F8 |
| 1708 | 74.093  | 74.024 | 132.550 | N    | 1 - F8 |
| 1709 | 77.333  | 1.667  | 132.550 | N    | 1 - F8 |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 1710 | 77.333  | 12.500 | 132.550 | N    | 1 - F8 |
| 1711 | 77.333  | 22.500 | 132.550 | N    | 1 - F8 |
| 1712 | 77.333  | 42.792 | 132.550 | N    | 1 - F8 |
| 1713 | 77.333  | 68.667 | 132.550 | N    | 1 - F8 |
| 1714 | 80.770  | 98.747 | 132.550 | N    | 1 - F8 |
| 1715 | 82.270  | 14.330 | 132.550 | N    | 1 - F8 |
| 1716 | 89.083  | 12.500 | 132.550 | N    | 1 - F8 |
| 1717 | 89.083  | 22.500 | 132.550 | N    | 1 - F8 |
| 1718 | 89.083  | 28.500 | 132.550 | N    | 1 - F8 |
| 1719 | 89.083  | 44.583 | 132.550 | N    | 1 - F8 |
| 1720 | 89.083  | 68.667 | 132.550 | N    | 1 - F8 |
| 1721 | 89.083  | 98.747 | 132.550 | N    | 1 - F8 |
| 1722 | 113.083 | 22.500 | 132.550 | N    | 1 - F8 |
| 1723 | 113.083 | 44.583 | 132.550 | N    | 1 - F8 |
| 1724 | 113.083 | 68.667 | 132.550 | N    | 1 - F8 |
| 1725 | 113.083 | 98.747 | 132.550 | N    | 1 - F8 |
| 1726 | 137.083 | 22.500 | 132.550 | N    | 1 - F8 |
| 1727 | 137.083 | 44.583 | 132.550 | N    | 1 - F8 |
| 1728 | 137.083 | 68.667 | 132.550 | N    | 1 - F8 |
| 1729 | 137.083 | 98.747 | 132.550 | N    | 1 - F8 |
| 1730 | 161.083 | 12.500 | 132.550 | N    | 1 - F8 |
| 1731 | 161.083 | 22.500 | 132.550 | N    | 1 - F8 |
| 1732 | 161.083 | 28.500 | 132.550 | N    | 1 - F8 |
| 1733 | 161.083 | 44.583 | 132.550 | N    | 1 - F8 |
| 1734 | 161.083 | 68.667 | 132.550 | N    | 1 - F8 |
| 1735 | 161.083 | 98.747 | 132.550 | N    | 1 - F8 |
| 1736 | 169.916 | 98.747 | 132.550 | N    | 1 - F8 |
| 1737 | 185.083 | 22.500 | 132.550 | N    | None   |
| 1738 | 185.083 | 44.583 | 132.550 | N    | None   |
| 1739 | 185.083 | 68.667 | 132.550 | N    | None   |
| 1740 | 206.750 | 22.500 | 132.550 | N    | None   |
| 1741 | 206.750 | 68.667 | 132.550 | N    | None   |
| 1742 | 21.583  | 1.667  | 120.390 | N    | 1 - F7 |
| 1743 | 21.583  | 3.608  | 120.390 | N    | 1 - F7 |
| 1744 | 21.583  | 17.958 | 120.390 | N    | None   |
| 1745 | 21.583  | 19.833 | 120.390 | N    | 1 - F7 |
| 1746 | 21.583  | 65.487 | 120.390 | N    | 1 - F7 |
| 1747 | 21.583  | 68.942 | 120.390 | N    | None   |
| 1748 | 21.583  | 83.292 | 120.390 | N    | 1 - F7 |
| 1749 | 34.163  | 64.654 | 120.390 | N    | 1 - F7 |
| 1750 | 34.163  | 74.024 | 120.390 | N    | 1 - F7 |
| 1751 | 37.667  | 1.667  | 120.390 | N    | 1 - F7 |
| 1752 | 43.083  | 19.833 | 120.390 | N    | 1 - F7 |
| 1753 | 43.875  | 37.167 | 120.390 | N    | 1 - F7 |
| 1754 | 63.083  | 1.667  | 120.390 | N    | 1 - F7 |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y       | Z       | Fdtn | Diaphr |
|------|---------|---------|---------|------|--------|
| 1755 | 63.083  | 19.000  | 120.390 | N    | 1 - F7 |
| 1756 | 63.083  | 37.167  | 120.390 | N    | 1 - F7 |
| 1757 | 74.093  | 64.654  | 120.390 | N    | 1 - F7 |
| 1758 | 74.093  | 74.024  | 120.390 | N    | 1 - F7 |
| 1759 | 77.333  | 1.667   | 120.390 | N    | 1 - F7 |
| 1760 | 77.333  | 12.500  | 120.390 | N    | 1 - F7 |
| 1761 | 77.333  | 22.500  | 120.390 | N    | 1 - F7 |
| 1762 | 77.333  | 42.792  | 120.390 | N    | 1 - F7 |
| 1763 | 77.333  | 68.667  | 120.390 | N    | 1 - F7 |
| 1764 | 77.333  | 102.459 | 120.390 | N    | 1 - F7 |
| 1765 | 80.770  | 98.747  | 120.390 | N    | 1 - F7 |
| 1766 | 82.270  | 14.330  | 120.390 | Y    | --     |
| 1767 | 89.083  | 12.500  | 120.390 | N    | None   |
| 1768 | 89.083  | 22.500  | 120.390 | N    | None   |
| 1769 | 89.083  | 28.500  | 120.390 | N    | None   |
| 1770 | 89.083  | 44.583  | 120.390 | N    | None   |
| 1771 | 89.083  | 68.667  | 120.390 | N    | None   |
| 1772 | 89.083  | 98.747  | 120.390 | N    | None   |
| 1773 | 113.083 | 22.500  | 120.390 | N    | None   |
| 1774 | 113.083 | 44.583  | 120.390 | N    | None   |
| 1775 | 113.083 | 68.667  | 120.390 | N    | None   |
| 1776 | 113.083 | 98.747  | 120.390 | N    | None   |
| 1777 | 137.083 | 22.500  | 120.390 | N    | None   |
| 1778 | 137.083 | 44.583  | 120.390 | N    | None   |
| 1779 | 137.083 | 68.667  | 120.390 | N    | None   |
| 1780 | 137.083 | 98.747  | 120.390 | N    | None   |
| 1781 | 161.083 | 12.500  | 120.390 | N    | None   |
| 1782 | 161.083 | 22.500  | 120.390 | N    | None   |
| 1783 | 161.083 | 28.500  | 120.390 | N    | None   |
| 1784 | 161.083 | 44.583  | 120.390 | N    | None   |
| 1785 | 161.083 | 68.667  | 120.390 | N    | None   |
| 1786 | 161.083 | 98.747  | 120.390 | N    | None   |
| 1787 | 169.916 | 98.747  | 120.390 | N    | None   |
| 1788 | 185.083 | 22.500  | 120.390 | N    | None   |
| 1789 | 185.083 | 44.583  | 120.390 | N    | None   |
| 1790 | 185.083 | 68.667  | 120.390 | N    | None   |
| 1791 | 206.750 | 22.500  | 120.390 | N    | None   |
| 1792 | 206.750 | 68.667  | 120.390 | N    | None   |
| 1793 | 21.583  | 1.667   | 108.230 | N    | 1 - F6 |
| 1794 | 21.583  | 3.608   | 108.230 | N    | 1 - F6 |
| 1795 | 21.583  | 19.833  | 108.230 | N    | 1 - F6 |
| 1796 | 21.583  | 24.417  | 108.230 | N    | None   |
| 1797 | 21.583  | 62.483  | 108.230 | N    | None   |
| 1798 | 21.583  | 65.487  | 108.230 | N    | 1 - F6 |
| 1799 | 21.583  | 83.292  | 108.230 | N    | 1 - F6 |



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| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 1800 | 34.163  | 64.654 | 108.230 | N    | 1 - F6 |
| 1801 | 34.163  | 74.024 | 108.230 | N    | 1 - F6 |
| 1802 | 37.667  | 1.667  | 108.230 | N    | 1 - F6 |
| 1803 | 43.083  | 19.833 | 108.230 | N    | 1 - F6 |
| 1804 | 43.875  | 37.167 | 108.230 | N    | 1 - F6 |
| 1805 | 63.083  | 1.667  | 108.230 | N    | 1 - F6 |
| 1806 | 63.083  | 19.000 | 108.230 | N    | 1 - F6 |
| 1807 | 63.083  | 37.167 | 108.230 | N    | 1 - F6 |
| 1808 | 66.793  | 64.654 | 108.230 | N    | 1 - F6 |
| 1809 | 70.293  | 64.654 | 108.230 | N    | 1 - F6 |
| 1810 | 74.093  | 64.654 | 108.230 | N    | 1 - F6 |
| 1811 | 74.093  | 74.024 | 108.230 | N    | 1 - F6 |
| 1812 | 77.333  | 1.667  | 108.230 | N    | 1 - F6 |
| 1813 | 77.333  | 12.500 | 108.230 | N    | 1 - F6 |
| 1814 | 77.333  | 22.500 | 108.230 | N    | 1 - F6 |
| 1815 | 77.333  | 42.792 | 108.230 | N    | 1 - F6 |
| 1816 | 77.333  | 68.667 | 108.230 | N    | 1 - F6 |
| 1817 | 80.770  | 98.747 | 108.230 | N    | 1 - F6 |
| 1818 | 89.083  | 12.500 | 108.230 | N    | None   |
| 1819 | 89.083  | 22.500 | 108.230 | N    | None   |
| 1820 | 89.083  | 28.500 | 108.230 | N    | None   |
| 1821 | 89.083  | 44.583 | 108.230 | N    | None   |
| 1822 | 89.083  | 68.667 | 108.230 | N    | None   |
| 1823 | 89.083  | 98.747 | 108.230 | N    | None   |
| 1824 | 113.083 | 22.500 | 108.230 | N    | None   |
| 1825 | 113.083 | 44.583 | 108.230 | N    | None   |
| 1826 | 113.083 | 68.667 | 108.230 | N    | None   |
| 1827 | 113.083 | 98.747 | 108.230 | N    | None   |
| 1828 | 137.083 | 22.500 | 108.230 | N    | None   |
| 1829 | 137.083 | 44.583 | 108.230 | N    | None   |
| 1830 | 137.083 | 68.667 | 108.230 | N    | None   |
| 1831 | 137.083 | 98.747 | 108.230 | N    | None   |
| 1832 | 161.083 | 12.500 | 108.230 | N    | None   |
| 1833 | 161.083 | 22.500 | 108.230 | N    | None   |
| 1834 | 161.083 | 28.500 | 108.230 | N    | None   |
| 1835 | 161.083 | 44.583 | 108.230 | N    | None   |
| 1836 | 161.083 | 68.667 | 108.230 | N    | None   |
| 1837 | 161.083 | 98.747 | 108.230 | N    | None   |
| 1838 | 169.916 | 98.747 | 108.230 | N    | None   |
| 1839 | 185.083 | 22.500 | 108.230 | N    | None   |
| 1840 | 185.083 | 44.583 | 108.230 | N    | None   |
| 1841 | 185.083 | 68.667 | 108.230 | N    | None   |
| 1842 | 206.750 | 22.500 | 108.230 | N    | None   |
| 1843 | 206.750 | 68.667 | 108.230 | N    | None   |
| 1844 | 1.583   | 1.667  | 93.020  | N    | 1 - F5 |



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| #    | X       | Y      | Z      | Fdtn | Diaphr |
|------|---------|--------|--------|------|--------|
| 1845 | 1.583   | 19.833 | 93.020 | N    | 1 - F5 |
| 1846 | 1.583   | 58.666 | 93.020 | N    | 1 - F5 |
| 1847 | 1.583   | 76.375 | 93.020 | N    | 1 - F5 |
| 1848 | 21.583  | 1.667  | 93.020 | N    | 1 - F5 |
| 1849 | 21.583  | 3.608  | 93.020 | N    | 1 - F5 |
| 1850 | 21.583  | 19.833 | 93.020 | N    | 1 - F5 |
| 1851 | 21.583  | 34.553 | 93.020 | N    | None   |
| 1852 | 21.583  | 52.347 | 93.020 | N    | None   |
| 1853 | 21.583  | 65.487 | 93.020 | N    | 1 - F5 |
| 1854 | 21.583  | 83.292 | 93.020 | N    | 1 - F5 |
| 1855 | 34.163  | 64.654 | 93.020 | N    | 1 - F5 |
| 1856 | 34.163  | 74.024 | 93.020 | N    | 1 - F5 |
| 1857 | 37.667  | 1.667  | 93.020 | N    | 1 - F5 |
| 1858 | 43.083  | 19.833 | 93.020 | N    | 1 - F5 |
| 1859 | 43.875  | 37.167 | 93.020 | N    | 1 - F5 |
| 1860 | 63.083  | 1.667  | 93.020 | N    | 1 - F5 |
| 1861 | 63.083  | 19.000 | 93.020 | N    | 1 - F5 |
| 1862 | 63.083  | 37.167 | 93.020 | N    | 1 - F5 |
| 1863 | 66.793  | 64.654 | 93.020 | N    | 1 - F5 |
| 1864 | 70.293  | 64.654 | 93.020 | N    | 1 - F5 |
| 1865 | 74.093  | 64.654 | 93.020 | N    | 1 - F5 |
| 1866 | 74.093  | 74.024 | 93.020 | N    | 1 - F5 |
| 1867 | 77.333  | 1.667  | 93.020 | N    | 1 - F5 |
| 1868 | 77.333  | 12.500 | 93.020 | N    | 1 - F5 |
| 1869 | 77.333  | 22.500 | 93.020 | N    | 1 - F5 |
| 1870 | 77.333  | 42.792 | 93.020 | N    | 1 - F5 |
| 1871 | 77.333  | 68.667 | 93.020 | N    | 1 - F5 |
| 1872 | 80.770  | 98.747 | 93.020 | N    | 1 - F5 |
| 1873 | 89.083  | 12.500 | 93.020 | N    | None   |
| 1874 | 89.083  | 22.500 | 93.020 | N    | None   |
| 1875 | 89.083  | 28.500 | 93.020 | N    | None   |
| 1876 | 89.083  | 44.583 | 93.020 | N    | None   |
| 1877 | 89.083  | 68.667 | 93.020 | N    | None   |
| 1878 | 89.083  | 98.747 | 93.020 | N    | None   |
| 1879 | 113.083 | 22.500 | 93.020 | N    | None   |
| 1880 | 113.083 | 44.583 | 93.020 | N    | None   |
| 1881 | 113.083 | 68.667 | 93.020 | N    | None   |
| 1882 | 113.083 | 98.747 | 93.020 | N    | None   |
| 1883 | 137.083 | 22.500 | 93.020 | N    | None   |
| 1884 | 137.083 | 44.583 | 93.020 | N    | None   |
| 1885 | 137.083 | 68.667 | 93.020 | N    | None   |
| 1886 | 137.083 | 98.747 | 93.020 | N    | None   |
| 1887 | 161.083 | 12.500 | 93.020 | N    | None   |
| 1888 | 161.083 | 22.500 | 93.020 | N    | None   |
| 1889 | 161.083 | 28.500 | 93.020 | N    | None   |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr |
|------|---------|--------|--------|------|--------|
| 1890 | 161.083 | 44.583 | 93.020 | N    | None   |
| 1891 | 161.083 | 68.667 | 93.020 | N    | None   |
| 1892 | 161.083 | 98.747 | 93.020 | N    | None   |
| 1893 | 169.916 | 98.747 | 93.020 | N    | None   |
| 1894 | 185.083 | 22.500 | 93.020 | N    | None   |
| 1895 | 185.083 | 44.583 | 93.020 | N    | None   |
| 1896 | 185.083 | 68.667 | 93.020 | N    | None   |
| 1897 | 206.750 | 22.500 | 93.020 | N    | None   |
| 1898 | 206.750 | 68.667 | 93.020 | N    | None   |
| 1899 | 1.583   | 1.667  | 76.980 | N    | 1 - F4 |
| 1900 | 1.583   | 19.833 | 76.980 | N    | 1 - F4 |
| 1901 | 1.583   | 58.666 | 76.980 | N    | 1 - F4 |
| 1902 | 1.583   | 76.375 | 76.980 | N    | 1 - F4 |
| 1903 | 21.583  | 1.667  | 76.980 | N    | 1 - F4 |
| 1904 | 21.583  | 3.608  | 76.980 | N    | 1 - F4 |
| 1905 | 21.583  | 19.833 | 76.980 | N    | 1 - F4 |
| 1906 | 21.583  | 43.453 | 76.980 | N    | None   |
| 1907 | 21.583  | 65.487 | 76.980 | N    | 1 - F4 |
| 1908 | 21.583  | 83.292 | 76.980 | N    | 1 - F4 |
| 1909 | 34.163  | 64.654 | 76.980 | N    | 1 - F4 |
| 1910 | 34.163  | 74.024 | 76.980 | N    | 1 - F4 |
| 1911 | 37.667  | 1.667  | 76.980 | N    | 1 - F4 |
| 1912 | 43.083  | 19.833 | 76.980 | N    | 1 - F4 |
| 1913 | 43.875  | 37.167 | 76.980 | N    | 1 - F4 |
| 1914 | 63.083  | 1.667  | 76.980 | N    | 1 - F4 |
| 1915 | 63.083  | 19.000 | 76.980 | N    | 1 - F4 |
| 1916 | 63.083  | 37.167 | 76.980 | N    | 1 - F4 |
| 1917 | 66.793  | 64.654 | 76.980 | N    | 1 - F4 |
| 1918 | 70.293  | 64.654 | 76.980 | N    | 1 - F4 |
| 1919 | 74.093  | 64.654 | 76.980 | N    | 1 - F4 |
| 1920 | 74.093  | 74.024 | 76.980 | N    | 1 - F4 |
| 1921 | 77.333  | 1.667  | 76.980 | N    | 1 - F4 |
| 1922 | 77.333  | 12.500 | 76.980 | N    | 1 - F4 |
| 1923 | 77.333  | 22.500 | 76.980 | N    | 1 - F4 |
| 1924 | 77.333  | 39.792 | 76.980 | N    | 1 - F4 |
| 1925 | 77.333  | 68.667 | 76.980 | N    | 1 - F4 |
| 1926 | 80.770  | 98.747 | 76.980 | N    | 1 - F4 |
| 1927 | 89.083  | 12.500 | 76.980 | N    | None   |
| 1928 | 89.083  | 22.500 | 76.980 | N    | None   |
| 1929 | 89.083  | 28.500 | 76.980 | N    | None   |
| 1930 | 89.083  | 44.583 | 76.980 | N    | None   |
| 1931 | 89.083  | 68.667 | 76.980 | N    | None   |
| 1932 | 89.083  | 98.747 | 76.980 | N    | None   |
| 1933 | 113.083 | 22.500 | 76.980 | N    | None   |
| 1934 | 113.083 | 44.583 | 76.980 | N    | None   |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr |
|------|---------|--------|--------|------|--------|
| 1935 | 113.083 | 68.667 | 76.980 | N    | None   |
| 1936 | 113.083 | 98.747 | 76.980 | N    | None   |
| 1937 | 137.083 | 22.500 | 76.980 | N    | None   |
| 1938 | 137.083 | 44.583 | 76.980 | N    | None   |
| 1939 | 137.083 | 68.667 | 76.980 | N    | None   |
| 1940 | 137.083 | 98.747 | 76.980 | N    | None   |
| 1941 | 161.083 | 12.500 | 76.980 | N    | None   |
| 1942 | 161.083 | 22.500 | 76.980 | N    | None   |
| 1943 | 161.083 | 28.500 | 76.980 | N    | None   |
| 1944 | 161.083 | 44.583 | 76.980 | N    | None   |
| 1945 | 161.083 | 68.667 | 76.980 | N    | None   |
| 1946 | 161.083 | 98.747 | 76.980 | N    | None   |
| 1947 | 169.916 | 98.747 | 76.980 | N    | None   |
| 1948 | 185.083 | 22.500 | 76.980 | N    | None   |
| 1949 | 185.083 | 44.583 | 76.980 | N    | None   |
| 1950 | 185.083 | 68.667 | 76.980 | N    | None   |
| 1951 | 206.750 | 22.500 | 76.980 | N    | None   |
| 1952 | 206.750 | 68.667 | 76.980 | N    | None   |
| 1953 | 1.583   | 1.667  | 61.000 | N    | 1 - F3 |
| 1954 | 1.583   | 19.833 | 61.000 | N    | 1 - F3 |
| 1955 | 1.583   | 58.666 | 61.000 | N    | 1 - F3 |
| 1956 | 1.583   | 76.375 | 61.000 | N    | 1 - F3 |
| 1957 | 21.583  | 1.667  | 61.000 | N    | 1 - F3 |
| 1958 | 21.583  | 3.608  | 61.000 | N    | 1 - F3 |
| 1959 | 21.583  | 19.833 | 61.000 | N    | 1 - F3 |
| 1960 | 21.583  | 35.483 | 61.000 | N    | None   |
| 1961 | 21.583  | 51.427 | 61.000 | N    | None   |
| 1962 | 21.583  | 65.487 | 61.000 | N    | 1 - F3 |
| 1963 | 21.583  | 83.292 | 61.000 | N    | 1 - F3 |
| 1964 | 34.163  | 64.654 | 61.000 | N    | 1 - F3 |
| 1965 | 34.163  | 74.024 | 61.000 | N    | 1 - F3 |
| 1966 | 37.667  | 1.667  | 61.000 | N    | 1 - F3 |
| 1967 | 43.083  | 19.833 | 61.000 | N    | 1 - F3 |
| 1968 | 43.875  | 37.167 | 61.000 | N    | 1 - F3 |
| 1969 | 63.083  | 1.667  | 61.000 | N    | 1 - F3 |
| 1970 | 63.083  | 19.000 | 61.000 | N    | 1 - F3 |
| 1971 | 63.083  | 37.167 | 61.000 | N    | 1 - F3 |
| 1972 | 66.793  | 64.654 | 61.000 | N    | 1 - F3 |
| 1973 | 70.293  | 64.654 | 61.000 | N    | 1 - F3 |
| 1974 | 74.093  | 64.654 | 61.000 | N    | 1 - F3 |
| 1975 | 74.093  | 74.024 | 61.000 | N    | 1 - F3 |
| 1976 | 77.333  | 1.667  | 61.000 | N    | 1 - F3 |
| 1977 | 77.333  | 12.500 | 61.000 | N    | 1 - F3 |
| 1978 | 77.333  | 22.500 | 61.000 | N    | 1 - F3 |
| 1979 | 77.333  | 31.146 | 61.000 | N    | 1 - F3 |



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| #    | X       | Y      | Z      | Fdtn | Diaphr |
|------|---------|--------|--------|------|--------|
| 1980 | 77.333  | 39.792 | 61.000 | N    | 1 - F3 |
| 1981 | 77.333  | 49.417 | 61.000 | N    | 1 - F3 |
| 1982 | 77.333  | 59.042 | 61.000 | N    | 1 - F3 |
| 1983 | 77.333  | 68.667 | 61.000 | N    | 1 - F3 |
| 1984 | 80.770  | 98.747 | 61.000 | N    | 1 - F3 |
| 1985 | 82.270  | 14.330 | 61.000 | N    | 1 - F3 |
| 1986 | 82.270  | 98.247 | 61.000 | N    | 1 - F3 |
| 1987 | 89.083  | 12.500 | 61.000 | N    | 1 - F3 |
| 1988 | 89.083  | 22.500 | 61.000 | N    | 1 - F3 |
| 1989 | 89.083  | 28.500 | 61.000 | N    | 1 - F3 |
| 1990 | 89.083  | 44.583 | 61.000 | N    | 1 - F3 |
| 1991 | 89.083  | 68.667 | 61.000 | N    | 1 - F3 |
| 1992 | 89.083  | 98.747 | 61.000 | N    | 1 - F3 |
| 1993 | 113.083 | 22.500 | 61.000 | N    | 1 - F3 |
| 1994 | 113.083 | 44.583 | 61.000 | N    | 1 - F3 |
| 1995 | 113.083 | 68.667 | 61.000 | N    | 1 - F3 |
| 1996 | 113.083 | 98.747 | 61.000 | N    | 1 - F3 |
| 1997 | 137.083 | 22.500 | 61.000 | N    | 1 - F3 |
| 1998 | 137.083 | 44.583 | 61.000 | N    | 1 - F3 |
| 1999 | 137.083 | 68.667 | 61.000 | N    | 1 - F3 |
| 2000 | 137.083 | 98.747 | 61.000 | N    | 1 - F3 |
| 2001 | 161.083 | 12.500 | 61.000 | N    | 1 - F3 |
| 2002 | 161.083 | 22.500 | 61.000 | N    | 1 - F3 |
| 2003 | 161.083 | 28.500 | 61.000 | N    | 1 - F3 |
| 2004 | 161.083 | 44.583 | 61.000 | N    | 1 - F3 |
| 2005 | 161.083 | 68.667 | 61.000 | N    | 1 - F3 |
| 2006 | 161.083 | 98.747 | 61.000 | N    | 1 - F3 |
| 2007 | 169.916 | 98.747 | 61.000 | N    | 1 - F3 |
| 2008 | 185.083 | 22.500 | 61.000 | N    | 1 - F3 |
| 2009 | 185.083 | 44.583 | 61.000 | N    | 1 - F3 |
| 2010 | 185.083 | 68.667 | 61.000 | N    | 1 - F3 |
| 2011 | 202.413 | 14.330 | 61.000 | N    | 1 - F3 |
| 2012 | 202.413 | 98.247 | 61.000 | N    | 1 - F3 |
| 2013 | 206.750 | 22.500 | 61.000 | N    | None   |
| 2014 | 206.750 | 68.667 | 61.000 | N    | None   |
| 2015 | 1.583   | 1.667  | 49.000 | N    | 1 - F2 |
| 2016 | 1.583   | 19.833 | 49.000 | N    | 1 - F2 |
| 2017 | 1.583   | 58.666 | 49.000 | N    | None   |
| 2018 | 1.583   | 76.375 | 49.000 | N    | 1 - F2 |
| 2019 | 21.583  | 1.667  | 49.000 | N    | 1 - F2 |
| 2020 | 21.583  | 3.608  | 49.000 | N    | None   |
| 2021 | 21.583  | 19.833 | 49.000 | N    | 1 - F2 |
| 2022 | 21.583  | 29.423 | 49.000 | N    | None   |
| 2023 | 21.583  | 57.483 | 49.000 | N    | None   |
| 2024 | 21.583  | 65.487 | 49.000 | N    | 1 - F2 |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr |
|------|---------|--------|--------|------|--------|
| 2025 | 21.583  | 83.292 | 49.000 | N    | 1 - F2 |
| 2026 | 34.163  | 64.654 | 49.000 | N    | 1 - F2 |
| 2027 | 34.163  | 74.024 | 49.000 | N    | 1 - F2 |
| 2028 | 37.413  | 74.024 | 49.000 | N    | 1 - F2 |
| 2029 | 37.667  | 1.667  | 49.000 | N    | 1 - F2 |
| 2030 | 40.413  | 74.024 | 49.000 | N    | 1 - F2 |
| 2031 | 43.083  | 19.833 | 49.000 | N    | 1 - F2 |
| 2032 | 43.875  | 37.167 | 49.000 | N    | 1 - F2 |
| 2033 | 47.513  | 74.024 | 49.000 | N    | 1 - F2 |
| 2034 | 50.513  | 74.024 | 49.000 | N    | 1 - F2 |
| 2035 | 57.213  | 74.024 | 49.000 | N    | 1 - F2 |
| 2036 | 60.213  | 74.024 | 49.000 | N    | 1 - F2 |
| 2037 | 63.083  | 1.667  | 49.000 | N    | 1 - F2 |
| 2038 | 63.083  | 19.000 | 49.000 | N    | 1 - F2 |
| 2039 | 63.083  | 37.167 | 49.000 | N    | 1 - F2 |
| 2040 | 66.793  | 64.654 | 49.000 | N    | 1 - F2 |
| 2041 | 67.013  | 74.024 | 49.000 | N    | 1 - F2 |
| 2042 | 70.013  | 74.024 | 49.000 | N    | 1 - F2 |
| 2043 | 70.293  | 64.654 | 49.000 | N    | 1 - F2 |
| 2044 | 74.093  | 64.654 | 49.000 | N    | 1 - F2 |
| 2045 | 74.093  | 74.024 | 49.000 | N    | 1 - F2 |
| 2046 | 77.333  | 1.667  | 49.000 | N    | 1 - F2 |
| 2047 | 77.333  | 12.500 | 49.000 | N    | 1 - F2 |
| 2048 | 77.333  | 22.500 | 49.000 | N    | 1 - F2 |
| 2049 | 77.333  | 31.146 | 49.000 | N    | None   |
| 2050 | 77.333  | 37.167 | 49.000 | N    | 1 - F2 |
| 2051 | 77.333  | 39.792 | 49.000 | N    | None   |
| 2052 | 77.333  | 49.417 | 49.000 | N    | None   |
| 2053 | 77.333  | 59.042 | 49.000 | N    | None   |
| 2054 | 77.333  | 68.667 | 49.000 | N    | 1 - F2 |
| 2055 | 80.770  | 98.747 | 49.000 | N    | 1 - F2 |
| 2056 | 82.270  | 14.330 | 49.000 | N    | 1 - F2 |
| 2057 | 82.270  | 98.247 | 49.000 | N    | 1 - F2 |
| 2058 | 89.083  | 12.500 | 49.000 | N    | 1 - F2 |
| 2059 | 89.083  | 22.500 | 49.000 | N    | 1 - F2 |
| 2060 | 89.083  | 28.500 | 49.000 | N    | 1 - F2 |
| 2061 | 89.083  | 44.583 | 49.000 | N    | 1 - F2 |
| 2062 | 89.083  | 68.667 | 49.000 | N    | 1 - F2 |
| 2063 | 89.083  | 98.747 | 49.000 | N    | 1 - F2 |
| 2064 | 113.083 | 22.500 | 49.000 | N    | None   |
| 2065 | 113.083 | 44.583 | 49.000 | N    | None   |
| 2066 | 113.083 | 68.667 | 49.000 | N    | None   |
| 2067 | 113.083 | 98.747 | 49.000 | N    | None   |
| 2068 | 137.083 | 22.500 | 49.000 | N    | None   |
| 2069 | 137.083 | 44.583 | 49.000 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr      |
|------|---------|--------|--------|------|-------------|
| 2070 | 137.083 | 68.667 | 49.000 | N    | None        |
| 2071 | 137.083 | 98.747 | 49.000 | N    | None        |
| 2072 | 161.083 | 12.500 | 49.000 | N    | 1 - F2      |
| 2073 | 161.083 | 22.500 | 49.000 | N    | None        |
| 2074 | 161.083 | 28.500 | 49.000 | N    | 1 - F2      |
| 2075 | 161.083 | 44.583 | 49.000 | N    | None        |
| 2076 | 161.083 | 68.667 | 49.000 | N    | None        |
| 2077 | 161.083 | 98.747 | 49.000 | N    | None        |
| 2078 | 169.916 | 98.747 | 49.000 | N    | 1 - F2      |
| 2079 | 185.083 | 22.500 | 49.000 | N    | 1 - F2      |
| 2080 | 185.083 | 44.583 | 49.000 | N    | 1 - F2      |
| 2081 | 185.083 | 68.667 | 49.000 | N    | 1 - F2      |
| 2082 | 202.413 | 14.330 | 49.000 | N    | None        |
| 2083 | 202.413 | 98.247 | 49.000 | N    | 1 - F2      |
| 2084 | 206.750 | 22.500 | 49.000 | N    | 1 - F2      |
| 2085 | 206.750 | 68.667 | 49.000 | N    | 1 - F2      |
| 2086 | 1.583   | 1.667  | 30.000 | N    | 1 - Fground |
| 2087 | 1.583   | 19.833 | 30.000 | N    | 1 - Fground |
| 2088 | 1.583   | 58.666 | 30.000 | N    | 1 - Fground |
| 2089 | 1.583   | 76.375 | 30.000 | N    | 1 - Fground |
| 2090 | 21.583  | 1.667  | 30.000 | N    | 1 - Fground |
| 2091 | 21.583  | 3.608  | 30.000 | N    | 1 - Fground |
| 2092 | 21.583  | 19.833 | 30.000 | N    | 1 - Fground |
| 2093 | 21.583  | 65.487 | 30.000 | N    | 1 - Fground |
| 2094 | 21.583  | 67.492 | 30.000 | N    | None        |
| 2095 | 21.583  | 83.292 | 30.000 | N    | 1 - Fground |
| 2096 | 21.583  | 86.292 | 30.000 | N    | 1 - Fground |
| 2097 | 34.163  | 64.654 | 30.000 | N    | 1 - Fground |
| 2098 | 34.163  | 74.024 | 30.000 | N    | 1 - Fground |
| 2099 | 37.413  | 74.024 | 30.000 | N    | 1 - Fground |
| 2100 | 37.667  | 1.667  | 30.000 | N    | 1 - Fground |
| 2101 | 37.913  | 64.654 | 30.000 | N    | 1 - Fground |
| 2102 | 40.413  | 74.024 | 30.000 | N    | 1 - Fground |
| 2103 | 40.913  | 64.654 | 30.000 | N    | 1 - Fground |
| 2104 | 43.083  | 19.833 | 30.000 | N    | 1 - Fground |
| 2105 | 43.875  | 37.167 | 30.000 | N    | 1 - Fground |
| 2106 | 47.513  | 74.024 | 30.000 | N    | 1 - Fground |
| 2107 | 47.663  | 74.024 | 30.000 | N    | 1 - Fground |
| 2108 | 47.913  | 64.654 | 30.000 | N    | 1 - Fground |
| 2109 | 50.513  | 74.024 | 30.000 | N    | 1 - Fground |
| 2110 | 50.663  | 74.024 | 30.000 | N    | 1 - Fground |
| 2111 | 50.913  | 64.654 | 30.000 | N    | 1 - Fground |
| 2112 | 57.213  | 74.024 | 30.000 | N    | 1 - Fground |
| 2113 | 57.363  | 74.024 | 30.000 | N    | 1 - Fground |
| 2114 | 57.613  | 64.654 | 30.000 | N    | 1 - Fground |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr      |
|------|---------|--------|--------|------|-------------|
| 2115 | 60.213  | 74.024 | 30.000 | N    | 1 - Fground |
| 2116 | 60.363  | 74.024 | 30.000 | N    | 1 - Fground |
| 2117 | 60.613  | 64.654 | 30.000 | N    | 1 - Fground |
| 2118 | 63.083  | 1.667  | 30.000 | N    | 1 - Fground |
| 2119 | 63.083  | 19.000 | 30.000 | N    | 1 - Fground |
| 2120 | 63.083  | 37.167 | 30.000 | N    | 1 - Fground |
| 2121 | 66.950  | 64.654 | 30.000 | N    | 1 - Fground |
| 2122 | 67.013  | 74.024 | 30.000 | N    | 1 - Fground |
| 2123 | 70.013  | 74.024 | 30.000 | N    | 1 - Fground |
| 2124 | 70.413  | 64.654 | 30.000 | N    | 1 - Fground |
| 2125 | 74.093  | 64.654 | 30.000 | N    | 1 - Fground |
| 2126 | 74.093  | 74.024 | 30.000 | N    | 1 - Fground |
| 2127 | 77.333  | 1.667  | 30.000 | N    | 1 - Fground |
| 2128 | 77.333  | 12.500 | 30.000 | N    | 1 - Fground |
| 2129 | 77.333  | 22.500 | 30.000 | N    | 1 - Fground |
| 2130 | 77.333  | 68.667 | 30.000 | N    | 1 - Fground |
| 2131 | 80.770  | 98.747 | 30.000 | N    | 1 - Fground |
| 2132 | 82.270  | 14.330 | 30.000 | N    | 1 - Fground |
| 2133 | 82.270  | 98.247 | 30.000 | N    | 1 - Fground |
| 2134 | 89.083  | 12.500 | 30.000 | N    | 1 - Fground |
| 2135 | 89.083  | 22.500 | 30.000 | N    | 1 - Fground |
| 2136 | 89.083  | 28.500 | 30.000 | N    | 1 - Fground |
| 2137 | 89.083  | 44.583 | 30.000 | N    | 1 - Fground |
| 2138 | 89.083  | 68.667 | 30.000 | N    | None        |
| 2139 | 89.083  | 98.747 | 30.000 | N    | 1 - Fground |
| 2140 | 113.083 | 22.500 | 30.000 | N    | 1 - Fground |
| 2141 | 113.083 | 44.583 | 30.000 | N    | 1 - Fground |
| 2142 | 113.083 | 68.667 | 30.000 | N    | 1 - Fground |
| 2143 | 113.083 | 98.747 | 30.000 | N    | 1 - Fground |
| 2144 | 137.083 | 22.500 | 30.000 | N    | 1 - Fground |
| 2145 | 137.083 | 44.583 | 30.000 | N    | 1 - Fground |
| 2146 | 137.083 | 68.667 | 30.000 | N    | 1 - Fground |
| 2147 | 137.083 | 98.747 | 30.000 | N    | 1 - Fground |
| 2148 | 161.083 | 12.500 | 30.000 | N    | 1 - Fground |
| 2149 | 161.083 | 22.500 | 30.000 | N    | None        |
| 2150 | 161.083 | 28.500 | 30.000 | N    | None        |
| 2151 | 161.083 | 44.583 | 30.000 | N    | 1 - Fground |
| 2152 | 161.083 | 68.667 | 30.000 | N    | 1 - Fground |
| 2153 | 161.083 | 98.747 | 30.000 | N    | 1 - Fground |
| 2154 | 169.916 | 98.747 | 30.000 | N    | 1 - Fground |
| 2155 | 185.083 | 22.500 | 30.000 | N    | 1 - Fground |
| 2156 | 185.083 | 44.583 | 30.000 | N    | 1 - Fground |
| 2157 | 185.083 | 68.667 | 30.000 | N    | 1 - Fground |
| 2158 | 202.413 | 14.330 | 30.000 | N    | None        |
| 2159 | 202.413 | 98.247 | 30.000 | N    | 1 - Fground |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y       | Z      | Fdtn | Diaphr      |
|------|---------|---------|--------|------|-------------|
| 2160 | 206.750 | 22.500  | 30.000 | N    | 1 - Fground |
| 2161 | 206.750 | 68.667  | 30.000 | N    | 1 - Fground |
| 2162 | -13.500 | 2.167   | 15.000 | N    | 1 - Cellar  |
| 2163 | -13.500 | 19.833  | 15.000 | N    | 1 - Cellar  |
| 2164 | -13.500 | 58.666  | 15.000 | N    | 1 - Cellar  |
| 2165 | -11.917 | 58.666  | 15.000 | N    | 1 - Cellar  |
| 2166 | -11.917 | 82.375  | 15.000 | N    | 1 - Cellar  |
| 2167 | 0.000   | 82.375  | 15.000 | N    | 1 - Cellar  |
| 2168 | 0.000   | 100.375 | 15.000 | N    | 1 - Cellar  |
| 2169 | 1.583   | 1.667   | 15.000 | N    | 1 - Cellar  |
| 2170 | 1.583   | 19.833  | 15.000 | N    | 1 - Cellar  |
| 2171 | 1.583   | 58.666  | 15.000 | N    | 1 - Cellar  |
| 2172 | 1.583   | 76.375  | 15.000 | N    | 1 - Cellar  |
| 2173 | 21.583  | 1.667   | 15.000 | N    | 1 - Cellar  |
| 2174 | 21.583  | 3.608   | 15.000 | N    | 1 - Cellar  |
| 2175 | 21.583  | 11.513  | 15.000 | N    | None        |
| 2176 | 21.583  | 19.833  | 15.000 | N    | 1 - Cellar  |
| 2177 | 21.583  | 65.487  | 15.000 | N    | 1 - Cellar  |
| 2178 | 21.583  | 75.392  | 15.000 | N    | None        |
| 2179 | 21.583  | 83.292  | 15.000 | N    | 1 - Cellar  |
| 2180 | 34.163  | 64.654  | 15.000 | N    | 1 - Cellar  |
| 2181 | 34.163  | 74.024  | 15.000 | N    | 1 - Cellar  |
| 2182 | 37.667  | 1.667   | 15.000 | N    | 1 - Cellar  |
| 2183 | 37.913  | 64.654  | 15.000 | N    | 1 - Cellar  |
| 2184 | 40.913  | 64.654  | 15.000 | N    | 1 - Cellar  |
| 2185 | 43.083  | 19.833  | 15.000 | N    | 1 - Cellar  |
| 2186 | 43.875  | 37.167  | 15.000 | N    | 1 - Cellar  |
| 2187 | 45.500  | 87.957  | 15.000 | N    | 1 - Cellar  |
| 2188 | 45.500  | 114.208 | 15.000 | N    | 1 - Cellar  |
| 2189 | 47.663  | 74.024  | 15.000 | N    | 1 - Cellar  |
| 2190 | 47.913  | 64.654  | 15.000 | N    | 1 - Cellar  |
| 2191 | 50.663  | 74.024  | 15.000 | N    | 1 - Cellar  |
| 2192 | 50.913  | 64.654  | 15.000 | N    | 1 - Cellar  |
| 2193 | 57.363  | 74.024  | 15.000 | N    | 1 - Cellar  |
| 2194 | 57.613  | 64.654  | 15.000 | N    | 1 - Cellar  |
| 2195 | 60.363  | 74.024  | 15.000 | N    | 1 - Cellar  |
| 2196 | 60.613  | 64.654  | 15.000 | N    | 1 - Cellar  |
| 2197 | 63.083  | 1.667   | 15.000 | N    | 1 - Cellar  |
| 2198 | 63.083  | 19.000  | 15.000 | N    | 1 - Cellar  |
| 2199 | 63.083  | 37.167  | 15.000 | N    | 1 - Cellar  |
| 2200 | 66.593  | 74.024  | 15.000 | N    | 1 - Cellar  |
| 2201 | 66.950  | 64.654  | 15.000 | N    | 1 - Cellar  |
| 2202 | 69.593  | 74.024  | 15.000 | N    | 1 - Cellar  |
| 2203 | 70.413  | 64.654  | 15.000 | N    | 1 - Cellar  |
| 2204 | 74.093  | 64.654  | 15.000 | N    | 1 - Cellar  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y       | Z      | Fdtn | Diaphr     |
|------|---------|---------|--------|------|------------|
| 2205 | 74.093  | 74.024  | 15.000 | N    | 1 - Cellar |
| 2206 | 77.333  | 1.667   | 15.000 | N    | 1 - Cellar |
| 2207 | 77.333  | 12.500  | 15.000 | N    | 1 - Cellar |
| 2208 | 77.333  | 22.500  | 15.000 | N    | 1 - Cellar |
| 2209 | 77.333  | 68.667  | 15.000 | N    | 1 - Cellar |
| 2210 | 79.167  | 114.208 | 15.000 | N    | 1 - Cellar |
| 2211 | 80.770  | 98.747  | 15.000 | N    | 1 - Cellar |
| 2212 | 82.270  | 14.330  | 15.000 | N    | 1 - Cellar |
| 2213 | 82.270  | 98.247  | 15.000 | N    | 1 - Cellar |
| 2214 | 89.083  | 12.500  | 15.000 | N    | 1 - Cellar |
| 2215 | 89.083  | 22.500  | 15.000 | N    | 1 - Cellar |
| 2216 | 89.083  | 28.500  | 15.000 | N    | 1 - Cellar |
| 2217 | 89.083  | 44.583  | 15.000 | N    | 1 - Cellar |
| 2218 | 89.083  | 68.667  | 15.000 | N    | None       |
| 2219 | 89.083  | 98.747  | 15.000 | N    | 1 - Cellar |
| 2220 | 113.083 | 22.500  | 15.000 | N    | 1 - Cellar |
| 2221 | 113.083 | 44.583  | 15.000 | N    | 1 - Cellar |
| 2222 | 113.083 | 68.667  | 15.000 | N    | 1 - Cellar |
| 2223 | 113.083 | 98.747  | 15.000 | N    | 1 - Cellar |
| 2224 | 137.083 | 22.500  | 15.000 | N    | 1 - Cellar |
| 2225 | 137.083 | 44.583  | 15.000 | N    | 1 - Cellar |
| 2226 | 137.083 | 68.667  | 15.000 | N    | 1 - Cellar |
| 2227 | 137.083 | 98.747  | 15.000 | N    | 1 - Cellar |
| 2228 | 161.083 | 12.500  | 15.000 | N    | 1 - Cellar |
| 2229 | 161.083 | 22.500  | 15.000 | N    | 1 - Cellar |
| 2230 | 161.083 | 28.500  | 15.000 | N    | 1 - Cellar |
| 2231 | 161.083 | 44.583  | 15.000 | N    | 1 - Cellar |
| 2232 | 161.083 | 68.667  | 15.000 | N    | 1 - Cellar |
| 2233 | 161.083 | 98.747  | 15.000 | N    | 1 - Cellar |
| 2234 | 169.916 | 98.747  | 15.000 | N    | 1 - Cellar |
| 2235 | 185.083 | 22.500  | 15.000 | N    | 1 - Cellar |
| 2236 | 185.083 | 44.583  | 15.000 | N    | 1 - Cellar |
| 2237 | 185.083 | 68.667  | 15.000 | N    | 1 - Cellar |
| 2238 | 202.413 | 14.330  | 15.000 | N    | None       |
| 2239 | 202.413 | 98.247  | 15.000 | N    | 1 - Cellar |
| 2240 | 206.750 | 22.500  | 15.000 | N    | 1 - Cellar |
| 2241 | 206.750 | 68.667  | 15.000 | N    | 1 - Cellar |
| 2242 | 216.583 | 22.500  | 15.000 | N    | 1 - Cellar |
| 2243 | 216.583 | 114.208 | 15.000 | N    | 1 - Cellar |
| 2244 | -13.500 | 2.167   | 0.000  | Y    | --         |
| 2245 | -13.500 | 19.833  | 0.000  | Y    | --         |
| 2246 | -13.500 | 58.666  | 0.000  | Y    | --         |
| 2247 | -11.917 | 58.666  | 0.000  | Y    | --         |
| 2248 | -11.917 | 82.375  | 0.000  | Y    | --         |
| 2249 | 0.000   | 82.375  | 0.000  | Y    | --         |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y       | Z     | Fdtn | Diaphr |
|------|---------|---------|-------|------|--------|
| 2250 | 0.000   | 100.375 | 0.000 | Y    | --     |
| 2251 | 1.583   | 1.667   | 0.000 | Y    | --     |
| 2252 | 1.583   | 19.833  | 0.000 | Y    | --     |
| 2253 | 1.583   | 58.666  | 0.000 | Y    | --     |
| 2254 | 1.583   | 76.375  | 0.000 | Y    | --     |
| 2255 | 21.583  | 1.667   | 0.000 | Y    | --     |
| 2256 | 21.583  | 3.608   | 0.000 | Y    | --     |
| 2257 | 21.583  | 19.833  | 0.000 | Y    | --     |
| 2258 | 21.583  | 65.487  | 0.000 | Y    | --     |
| 2259 | 21.583  | 83.292  | 0.000 | Y    | --     |
| 2260 | 34.163  | 64.654  | 0.000 | Y    | --     |
| 2261 | 34.163  | 74.024  | 0.000 | Y    | --     |
| 2262 | 37.667  | 1.667   | 0.000 | Y    | --     |
| 2263 | 43.083  | 19.833  | 0.000 | Y    | --     |
| 2264 | 43.875  | 37.167  | 0.000 | Y    | --     |
| 2265 | 45.500  | 87.957  | 0.000 | Y    | --     |
| 2266 | 45.500  | 114.208 | 0.000 | Y    | --     |
| 2267 | 63.083  | 1.667   | 0.000 | Y    | --     |
| 2268 | 63.083  | 19.000  | 0.000 | Y    | --     |
| 2269 | 63.083  | 37.167  | 0.000 | Y    | --     |
| 2270 | 66.593  | 74.024  | 0.000 | Y    | --     |
| 2271 | 69.593  | 74.024  | 0.000 | Y    | --     |
| 2272 | 74.093  | 64.654  | 0.000 | Y    | --     |
| 2273 | 74.093  | 74.024  | 0.000 | Y    | --     |
| 2274 | 77.333  | 1.667   | 0.000 | Y    | --     |
| 2275 | 77.333  | 12.500  | 0.000 | Y    | --     |
| 2276 | 77.333  | 22.500  | 0.000 | Y    | --     |
| 2277 | 77.333  | 68.667  | 0.000 | Y    | --     |
| 2278 | 79.167  | 114.208 | 0.000 | Y    | --     |
| 2279 | 80.770  | 98.747  | 0.000 | Y    | --     |
| 2280 | 82.270  | 14.330  | 0.000 | Y    | --     |
| 2281 | 82.270  | 98.247  | 0.000 | Y    | --     |
| 2282 | 89.083  | 12.500  | 0.000 | Y    | --     |
| 2283 | 89.083  | 22.500  | 0.000 | Y    | --     |
| 2284 | 89.083  | 28.500  | 0.000 | Y    | --     |
| 2285 | 89.083  | 44.583  | 0.000 | Y    | --     |
| 2286 | 89.083  | 68.667  | 0.000 | Y    | --     |
| 2287 | 89.083  | 98.747  | 0.000 | Y    | --     |
| 2288 | 113.083 | 22.500  | 0.000 | Y    | --     |
| 2289 | 113.083 | 44.583  | 0.000 | Y    | --     |
| 2290 | 113.083 | 68.667  | 0.000 | Y    | --     |
| 2291 | 113.083 | 98.747  | 0.000 | Y    | --     |
| 2292 | 137.083 | 22.500  | 0.000 | Y    | --     |
| 2293 | 137.083 | 44.583  | 0.000 | Y    | --     |
| 2294 | 137.083 | 68.667  | 0.000 | Y    | --     |





RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y       | Z       | Fdtn | Diaphr      |
|------|---------|---------|---------|------|-------------|
| 2295 | 137.083 | 98.747  | 0.000   | Y    | --          |
| 2296 | 161.083 | 12.500  | 0.000   | Y    | --          |
| 2297 | 161.083 | 22.500  | 0.000   | Y    | --          |
| 2298 | 161.083 | 28.500  | 0.000   | Y    | --          |
| 2299 | 161.083 | 44.583  | 0.000   | Y    | --          |
| 2300 | 161.083 | 68.667  | 0.000   | Y    | --          |
| 2301 | 161.083 | 98.747  | 0.000   | Y    | --          |
| 2302 | 169.916 | 98.747  | 0.000   | Y    | --          |
| 2303 | 185.083 | 22.500  | 0.000   | Y    | --          |
| 2304 | 185.083 | 44.583  | 0.000   | Y    | --          |
| 2305 | 185.083 | 68.667  | 0.000   | Y    | --          |
| 2306 | 202.413 | 14.330  | 0.000   | Y    | --          |
| 2307 | 202.413 | 98.247  | 0.000   | Y    | --          |
| 2308 | 206.750 | 22.500  | 0.000   | Y    | --          |
| 2309 | 206.750 | 68.667  | 0.000   | Y    | --          |
| 2310 | 216.583 | 22.500  | 0.000   | Y    | --          |
| 2311 | 216.583 | 114.208 | 0.000   | Y    | --          |
| 2312 | 37.667  | 1.667   | 507.392 | N    | None        |
| 2313 | 37.667  | 6.209   | 507.392 | N    | None        |
| 2314 | 37.667  | 6.209   | 502.330 | N    | 1 - F46MEP  |
| 2315 | 37.667  | 6.209   | 512.455 | N    | 1 - F47roof |
| 2316 | 37.667  | 10.750  | 507.392 | N    | None        |
| 2317 | 37.667  | 10.750  | 502.330 | N    | 1 - F46MEP  |
| 2318 | 37.667  | 10.750  | 512.455 | N    | 1 - F47roof |
| 2319 | 37.667  | 15.292  | 507.392 | N    | None        |
| 2320 | 37.667  | 15.292  | 502.330 | N    | 1 - F46MEP  |
| 2321 | 37.667  | 15.292  | 512.455 | N    | 1 - F47roof |
| 2322 | 37.667  | 19.833  | 507.392 | N    | None        |
| 2323 | 41.903  | 1.667   | 507.392 | N    | None        |
| 2324 | 41.903  | 1.667   | 502.330 | N    | 1 - F46MEP  |
| 2325 | 41.903  | 1.667   | 512.455 | N    | 1 - F47roof |
| 2326 | 46.139  | 1.667   | 507.392 | N    | None        |
| 2327 | 46.139  | 1.667   | 502.330 | N    | 1 - F46MEP  |
| 2328 | 46.139  | 1.667   | 512.455 | N    | 1 - F47roof |
| 2329 | 50.375  | 1.667   | 507.392 | N    | None        |
| 2330 | 50.375  | 1.667   | 502.330 | N    | 1 - F46MEP  |
| 2331 | 50.375  | 1.667   | 512.455 | N    | 1 - F47roof |
| 2332 | 54.611  | 1.667   | 507.392 | N    | None        |
| 2333 | 54.611  | 1.667   | 502.330 | N    | 1 - F46MEP  |
| 2334 | 54.611  | 1.667   | 512.455 | N    | 1 - F47roof |
| 2335 | 58.847  | 1.667   | 507.392 | N    | None        |
| 2336 | 58.847  | 1.667   | 502.330 | N    | 1 - F46MEP  |
| 2337 | 58.847  | 1.667   | 512.455 | N    | 1 - F47roof |
| 2338 | 63.083  | 1.667   | 507.392 | N    | None        |
| 2339 | 41.584  | 19.833  | 507.392 | N    | None        |



| #    | X      | Y      | Z       | Fdtn | Diaphr      |
|------|--------|--------|---------|------|-------------|
| 2340 | 41.584 | 19.833 | 502.330 | N    | 1 - F46MEP  |
| 2341 | 41.584 | 19.833 | 512.455 | N    | 1 - F47roof |
| 2342 | 45.500 | 19.833 | 507.392 | N    | None        |
| 2343 | 54.625 | 37.167 | 507.392 | N    | None        |
| 2344 | 58.854 | 37.167 | 507.392 | N    | None        |
| 2345 | 58.854 | 37.167 | 502.330 | N    | 1 - F46MEP  |
| 2346 | 58.854 | 37.167 | 512.455 | N    | 1 - F47roof |
| 2347 | 63.083 | 37.167 | 507.392 | N    | None        |
| 2348 | 63.083 | 6.000  | 507.392 | N    | None        |
| 2349 | 63.083 | 6.000  | 502.330 | N    | 1 - F46MEP  |
| 2350 | 63.083 | 6.000  | 512.455 | N    | 1 - F47roof |
| 2351 | 63.083 | 10.334 | 507.392 | N    | None        |
| 2352 | 63.083 | 10.334 | 502.330 | N    | 1 - F46MEP  |
| 2353 | 63.083 | 10.334 | 512.455 | N    | 1 - F47roof |
| 2354 | 63.083 | 14.667 | 507.392 | N    | None        |
| 2355 | 63.083 | 14.667 | 502.330 | N    | 1 - F46MEP  |
| 2356 | 63.083 | 14.667 | 512.455 | N    | 1 - F47roof |
| 2357 | 63.083 | 19.000 | 507.392 | N    | None        |
| 2358 | 66.646 | 1.667  | 507.392 | N    | None        |
| 2359 | 66.646 | 1.667  | 502.330 | N    | 1 - F46MEP  |
| 2360 | 66.646 | 1.667  | 512.455 | N    | 1 - F47roof |
| 2361 | 70.208 | 1.667  | 507.392 | N    | None        |
| 2362 | 70.208 | 1.667  | 502.330 | N    | 1 - F46MEP  |
| 2363 | 70.208 | 1.667  | 512.455 | N    | 1 - F47roof |
| 2364 | 73.771 | 1.667  | 507.392 | N    | None        |
| 2365 | 73.771 | 1.667  | 502.330 | N    | 1 - F46MEP  |
| 2366 | 73.771 | 1.667  | 512.455 | N    | 1 - F47roof |
| 2367 | 77.333 | 1.667  | 507.392 | N    | None        |
| 2368 | 63.083 | 23.542 | 507.392 | N    | None        |
| 2369 | 63.083 | 23.542 | 502.330 | N    | 1 - F46MEP  |
| 2370 | 63.083 | 23.542 | 512.455 | N    | 1 - F47roof |
| 2371 | 63.083 | 28.083 | 507.392 | N    | None        |
| 2372 | 63.083 | 28.083 | 502.330 | N    | 1 - F46MEP  |
| 2373 | 63.083 | 28.083 | 512.455 | N    | 1 - F47roof |
| 2374 | 63.083 | 32.625 | 507.392 | N    | None        |
| 2375 | 63.083 | 32.625 | 502.330 | N    | 1 - F46MEP  |
| 2376 | 63.083 | 32.625 | 512.455 | N    | 1 - F47roof |
| 2377 | 77.333 | 6.306  | 507.392 | N    | None        |
| 2378 | 77.333 | 6.306  | 502.330 | N    | 1 - F46MEP  |
| 2379 | 77.333 | 6.306  | 512.455 | N    | 1 - F47roof |
| 2380 | 77.333 | 10.945 | 507.392 | N    | None        |
| 2381 | 77.333 | 10.945 | 502.330 | N    | 1 - F46MEP  |
| 2382 | 77.333 | 10.945 | 512.455 | N    | 1 - F47roof |
| 2383 | 77.333 | 15.584 | 507.392 | N    | None        |
| 2384 | 77.333 | 15.584 | 502.330 | N    | 1 - F46MEP  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr      |
|------|---------|--------|---------|------|-------------|
| 2385 | 77.333  | 15.584 | 512.455 | N    | 1 - F47roof |
| 2386 | 77.333  | 20.222 | 507.392 | N    | None        |
| 2387 | 77.333  | 20.222 | 502.330 | N    | 1 - F46MEP  |
| 2388 | 77.333  | 20.222 | 512.455 | N    | 1 - F47roof |
| 2389 | 77.333  | 24.861 | 507.392 | N    | None        |
| 2390 | 77.333  | 24.861 | 502.330 | N    | 1 - F46MEP  |
| 2391 | 77.333  | 24.861 | 512.455 | N    | 1 - F47roof |
| 2392 | 77.333  | 29.500 | 507.392 | N    | None        |
| 2393 | 77.333  | 32.823 | 507.392 | N    | None        |
| 2394 | 77.333  | 32.823 | 502.330 | N    | 1 - F46MEP  |
| 2395 | 77.333  | 32.823 | 512.455 | N    | 1 - F47roof |
| 2396 | 77.333  | 36.146 | 507.392 | N    | None        |
| 2397 | 77.333  | 36.146 | 502.330 | N    | 1 - F46MEP  |
| 2398 | 77.333  | 36.146 | 512.455 | N    | 1 - F47roof |
| 2399 | 77.333  | 39.469 | 507.392 | N    | None        |
| 2400 | 77.333  | 39.469 | 502.330 | N    | 1 - F46MEP  |
| 2401 | 77.333  | 39.469 | 512.455 | N    | 1 - F47roof |
| 2402 | 77.333  | 42.792 | 507.392 | N    | None        |
| 2403 | 83.208  | 29.500 | 507.392 | N    | None        |
| 2404 | 83.208  | 29.500 | 502.330 | N    | 1 - F46MEP  |
| 2405 | 83.208  | 29.500 | 512.455 | N    | 1 - F47roof |
| 2406 | 89.083  | 29.500 | 507.392 | N    | None        |
| 2407 | 137.083 | 21.583 | 507.392 | N    | None        |
| 2408 | 137.083 | 25.333 | 507.392 | N    | None        |
| 2409 | 137.083 | 25.333 | 502.330 | N    | 1 - F46MEP  |
| 2410 | 137.083 | 25.333 | 512.455 | N    | 1 - F47roof |
| 2411 | 137.083 | 29.083 | 507.392 | N    | None        |
| 2412 | 137.083 | 29.083 | 502.330 | N    | 1 - F46MEP  |
| 2413 | 137.083 | 29.083 | 512.455 | N    | 1 - F47roof |
| 2414 | 137.083 | 32.833 | 507.392 | N    | None        |
| 2415 | 137.083 | 32.833 | 502.330 | N    | 1 - F46MEP  |
| 2416 | 137.083 | 32.833 | 512.455 | N    | 1 - F47roof |
| 2417 | 137.083 | 36.583 | 507.392 | N    | None        |
| 2418 | 185.083 | 22.500 | 507.392 | N    | None        |
| 2419 | 185.083 | 27.208 | 507.392 | N    | None        |
| 2420 | 185.083 | 27.208 | 502.330 | N    | 1 - F46MEP  |
| 2421 | 185.083 | 27.208 | 512.455 | N    | 1 - F47roof |
| 2422 | 185.083 | 31.917 | 507.392 | N    | None        |
| 2423 | 185.083 | 31.917 | 502.330 | N    | 1 - F46MEP  |
| 2424 | 185.083 | 31.917 | 512.455 | N    | 1 - F47roof |
| 2425 | 185.083 | 36.625 | 507.392 | N    | None        |
| 2426 | 185.083 | 36.625 | 502.330 | N    | 1 - F46MEP  |
| 2427 | 185.083 | 36.625 | 512.455 | N    | 1 - F47roof |
| 2428 | 185.083 | 41.334 | 507.392 | N    | None        |
| 2429 | 185.083 | 41.334 | 502.330 | N    | 1 - F46MEP  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr      |
|------|---------|--------|---------|------|-------------|
| 2430 | 185.083 | 41.334 | 512.455 | N    | 1 - F47roof |
| 2431 | 185.083 | 46.042 | 507.392 | N    | None        |
| 2432 | 185.083 | 46.042 | 502.330 | N    | 1 - F46MEP  |
| 2433 | 185.083 | 46.042 | 512.455 | N    | 1 - F47roof |
| 2434 | 185.083 | 50.750 | 507.392 | N    | None        |
| 2435 | 185.083 | 50.750 | 502.330 | N    | 1 - F46MEP  |
| 2436 | 185.083 | 50.750 | 512.455 | N    | 1 - F47roof |
| 2437 | 185.083 | 55.459 | 507.392 | N    | None        |
| 2438 | 185.083 | 55.459 | 502.330 | N    | 1 - F46MEP  |
| 2439 | 185.083 | 55.459 | 512.455 | N    | 1 - F47roof |
| 2440 | 185.083 | 60.167 | 507.392 | N    | None        |
| 2441 | 89.083  | 21.583 | 507.392 | N    | None        |
| 2442 | 89.083  | 25.542 | 507.392 | N    | None        |
| 2443 | 89.083  | 25.542 | 502.330 | N    | 1 - F46MEP  |
| 2444 | 89.083  | 25.542 | 512.455 | N    | 1 - F47roof |
| 2445 | 89.083  | 33.042 | 507.392 | N    | None        |
| 2446 | 89.083  | 33.042 | 502.330 | N    | 1 - F46MEP  |
| 2447 | 89.083  | 33.042 | 512.455 | N    | 1 - F47roof |
| 2448 | 89.083  | 36.583 | 507.392 | N    | None        |
| 2449 | 37.667  | 1.667  | 497.620 | N    | None        |
| 2450 | 37.667  | 6.209  | 497.620 | N    | None        |
| 2451 | 37.667  | 6.209  | 492.910 | N    | 1 - F45     |
| 2452 | 37.667  | 10.750 | 497.620 | N    | None        |
| 2453 | 37.667  | 10.750 | 492.910 | N    | 1 - F45     |
| 2454 | 37.667  | 15.292 | 497.620 | N    | None        |
| 2455 | 37.667  | 15.292 | 492.910 | N    | 1 - F45     |
| 2456 | 37.667  | 19.833 | 497.620 | N    | None        |
| 2457 | 41.903  | 1.667  | 497.620 | N    | None        |
| 2458 | 41.903  | 1.667  | 492.910 | N    | 1 - F45     |
| 2459 | 46.139  | 1.667  | 497.620 | N    | None        |
| 2460 | 46.139  | 1.667  | 492.910 | N    | 1 - F45     |
| 2461 | 50.375  | 1.667  | 497.620 | N    | None        |
| 2462 | 50.375  | 1.667  | 492.910 | N    | 1 - F45     |
| 2463 | 54.611  | 1.667  | 497.620 | N    | None        |
| 2464 | 54.611  | 1.667  | 492.910 | N    | 1 - F45     |
| 2465 | 58.847  | 1.667  | 497.620 | N    | None        |
| 2466 | 58.847  | 1.667  | 492.910 | N    | 1 - F45     |
| 2467 | 63.083  | 1.667  | 497.620 | N    | None        |
| 2468 | 41.584  | 19.833 | 497.620 | N    | None        |
| 2469 | 41.584  | 19.833 | 492.910 | N    | 1 - F45     |
| 2470 | 45.500  | 19.833 | 497.620 | N    | None        |
| 2471 | 54.625  | 37.167 | 497.620 | N    | None        |
| 2472 | 58.854  | 37.167 | 497.620 | N    | None        |
| 2473 | 58.854  | 37.167 | 492.910 | N    | 1 - F45     |
| 2474 | 63.083  | 37.167 | 497.620 | N    | None        |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 2475 | 63.083  | 6.000  | 497.620 | N    | None    |
| 2476 | 63.083  | 6.000  | 492.910 | N    | 1 - F45 |
| 2477 | 63.083  | 10.334 | 497.620 | N    | None    |
| 2478 | 63.083  | 10.334 | 492.910 | N    | 1 - F45 |
| 2479 | 63.083  | 14.667 | 497.620 | N    | None    |
| 2480 | 63.083  | 14.667 | 492.910 | N    | 1 - F45 |
| 2481 | 63.083  | 19.000 | 497.620 | N    | None    |
| 2482 | 66.646  | 1.667  | 497.620 | N    | None    |
| 2483 | 66.646  | 1.667  | 492.910 | N    | 1 - F45 |
| 2484 | 70.208  | 1.667  | 497.620 | N    | None    |
| 2485 | 70.208  | 1.667  | 492.910 | N    | 1 - F45 |
| 2486 | 73.771  | 1.667  | 497.620 | N    | None    |
| 2487 | 73.771  | 1.667  | 492.910 | N    | 1 - F45 |
| 2488 | 77.333  | 1.667  | 497.620 | N    | None    |
| 2489 | 63.083  | 23.542 | 497.620 | N    | None    |
| 2490 | 63.083  | 23.542 | 492.910 | N    | 1 - F45 |
| 2491 | 63.083  | 28.083 | 497.620 | N    | None    |
| 2492 | 63.083  | 28.083 | 492.910 | N    | 1 - F45 |
| 2493 | 63.083  | 32.625 | 497.620 | N    | None    |
| 2494 | 63.083  | 32.625 | 492.910 | N    | 1 - F45 |
| 2495 | 77.333  | 6.306  | 497.620 | N    | None    |
| 2496 | 77.333  | 6.306  | 492.910 | N    | 1 - F45 |
| 2497 | 77.333  | 10.945 | 497.620 | N    | None    |
| 2498 | 77.333  | 10.945 | 492.910 | N    | 1 - F45 |
| 2499 | 77.333  | 15.584 | 497.620 | N    | None    |
| 2500 | 77.333  | 15.584 | 492.910 | N    | 1 - F45 |
| 2501 | 77.333  | 20.222 | 497.620 | N    | None    |
| 2502 | 77.333  | 20.222 | 492.910 | N    | 1 - F45 |
| 2503 | 77.333  | 24.861 | 497.620 | N    | None    |
| 2504 | 77.333  | 24.861 | 492.910 | N    | 1 - F45 |
| 2505 | 77.333  | 29.500 | 497.620 | N    | None    |
| 2506 | 77.333  | 32.823 | 497.620 | N    | None    |
| 2507 | 77.333  | 32.823 | 492.910 | N    | 1 - F45 |
| 2508 | 77.333  | 36.146 | 497.620 | N    | None    |
| 2509 | 77.333  | 36.146 | 492.910 | N    | 1 - F45 |
| 2510 | 77.333  | 39.469 | 497.620 | N    | None    |
| 2511 | 77.333  | 39.469 | 492.910 | N    | 1 - F45 |
| 2512 | 77.333  | 42.792 | 497.620 | N    | None    |
| 2513 | 83.208  | 29.500 | 497.620 | N    | None    |
| 2514 | 83.208  | 29.500 | 492.910 | N    | 1 - F45 |
| 2515 | 89.083  | 29.500 | 497.620 | N    | None    |
| 2516 | 137.083 | 21.583 | 497.620 | N    | None    |
| 2517 | 137.083 | 25.333 | 497.620 | N    | None    |
| 2518 | 137.083 | 25.333 | 492.910 | N    | 1 - F45 |
| 2519 | 137.083 | 29.083 | 497.620 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr     |
|------|---------|--------|---------|------|------------|
| 2520 | 137.083 | 29.083 | 492.910 | N    | 1 - F45    |
| 2521 | 137.083 | 32.833 | 497.620 | N    | None       |
| 2522 | 137.083 | 32.833 | 492.910 | N    | 1 - F45    |
| 2523 | 137.083 | 36.583 | 497.620 | N    | None       |
| 2524 | 185.083 | 27.605 | 492.910 | N    | 1 - F45    |
| 2525 | 185.083 | 32.709 | 492.910 | N    | 1 - F45    |
| 2526 | 185.083 | 27.405 | 497.644 | N    | None       |
| 2527 | 185.083 | 32.305 | 497.715 | N    | None       |
| 2528 | 185.083 | 47.078 | 497.433 | N    | None       |
| 2529 | 185.083 | 42.158 | 497.487 | N    | None       |
| 2530 | 185.083 | 37.814 | 492.910 | N    | 1 - F45    |
| 2531 | 185.083 | 42.919 | 492.910 | N    | 1 - F45    |
| 2532 | 185.083 | 37.239 | 497.550 | N    | None       |
| 2533 | 185.083 | 58.232 | 492.910 | N    | 1 - F45    |
| 2534 | 185.083 | 56.359 | 497.033 | N    | None       |
| 2535 | 185.083 | 59.621 | 497.381 | N    | None       |
| 2536 | 185.083 | 61.752 | 502.330 | N    | 1 - F46MEP |
| 2537 | 185.083 | 61.722 | 499.127 | N    | None       |
| 2538 | 185.083 | 22.500 | 497.620 | N    | None       |
| 2539 | 185.083 | 48.023 | 492.910 | N    | 1 - F45    |
| 2540 | 185.083 | 53.128 | 492.910 | N    | 1 - F45    |
| 2541 | 185.083 | 51.874 | 497.359 | N    | None       |
| 2542 | 185.083 | 63.337 | 497.620 | N    | None       |
| 2543 | 89.083  | 21.583 | 497.620 | N    | None       |
| 2544 | 89.083  | 25.542 | 497.620 | N    | None       |
| 2545 | 89.083  | 25.542 | 492.910 | N    | 1 - F45    |
| 2546 | 89.083  | 33.042 | 497.620 | N    | None       |
| 2547 | 89.083  | 33.042 | 492.910 | N    | 1 - F45    |
| 2548 | 89.083  | 36.583 | 497.620 | N    | None       |
| 2549 | 37.667  | 1.667  | 487.410 | N    | None       |
| 2550 | 37.667  | 6.209  | 487.410 | N    | None       |
| 2551 | 37.667  | 6.209  | 481.910 | N    | 1 - F44    |
| 2552 | 37.667  | 10.750 | 487.410 | N    | None       |
| 2553 | 37.667  | 10.750 | 481.910 | N    | 1 - F44    |
| 2554 | 37.667  | 15.292 | 487.410 | N    | None       |
| 2555 | 37.667  | 15.292 | 481.910 | N    | 1 - F44    |
| 2556 | 37.667  | 19.833 | 487.410 | N    | None       |
| 2557 | 41.903  | 1.667  | 487.410 | N    | None       |
| 2558 | 41.903  | 1.667  | 481.910 | N    | 1 - F44    |
| 2559 | 46.139  | 1.667  | 487.410 | N    | None       |
| 2560 | 46.139  | 1.667  | 481.910 | N    | 1 - F44    |
| 2561 | 50.375  | 1.667  | 487.410 | N    | None       |
| 2562 | 50.375  | 1.667  | 481.910 | N    | 1 - F44    |
| 2563 | 54.611  | 1.667  | 487.410 | N    | None       |
| 2564 | 54.611  | 1.667  | 481.910 | N    | 1 - F44    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 2565 | 58.847 | 1.667  | 487.410 | N    | None    |
| 2566 | 58.847 | 1.667  | 481.910 | N    | 1 - F44 |
| 2567 | 63.083 | 1.667  | 487.410 | N    | None    |
| 2568 | 41.584 | 19.833 | 487.410 | N    | None    |
| 2569 | 41.584 | 19.833 | 481.910 | N    | 1 - F44 |
| 2570 | 45.500 | 19.833 | 487.410 | N    | None    |
| 2571 | 54.625 | 37.167 | 487.410 | N    | None    |
| 2572 | 58.854 | 37.167 | 487.410 | N    | None    |
| 2573 | 58.854 | 37.167 | 481.910 | N    | 1 - F44 |
| 2574 | 63.083 | 37.167 | 487.410 | N    | None    |
| 2575 | 63.083 | 6.000  | 487.410 | N    | None    |
| 2576 | 63.083 | 6.000  | 481.910 | N    | 1 - F44 |
| 2577 | 63.083 | 10.334 | 487.410 | N    | None    |
| 2578 | 63.083 | 10.334 | 481.910 | N    | 1 - F44 |
| 2579 | 63.083 | 14.667 | 487.410 | N    | None    |
| 2580 | 63.083 | 14.667 | 481.910 | N    | 1 - F44 |
| 2581 | 63.083 | 19.000 | 487.410 | N    | None    |
| 2582 | 66.646 | 1.667  | 487.410 | N    | None    |
| 2583 | 66.646 | 1.667  | 481.910 | N    | 1 - F44 |
| 2584 | 70.208 | 1.667  | 487.410 | N    | None    |
| 2585 | 70.208 | 1.667  | 481.910 | N    | 1 - F44 |
| 2586 | 73.771 | 1.667  | 487.410 | N    | None    |
| 2587 | 73.771 | 1.667  | 481.910 | N    | 1 - F44 |
| 2588 | 77.333 | 1.667  | 487.410 | N    | None    |
| 2589 | 63.083 | 23.542 | 487.410 | N    | None    |
| 2590 | 63.083 | 23.542 | 481.910 | N    | 1 - F44 |
| 2591 | 63.083 | 28.083 | 487.410 | N    | None    |
| 2592 | 63.083 | 28.083 | 481.910 | N    | 1 - F44 |
| 2593 | 63.083 | 32.625 | 487.410 | N    | None    |
| 2594 | 63.083 | 32.625 | 481.910 | N    | 1 - F44 |
| 2595 | 77.333 | 6.306  | 487.410 | N    | None    |
| 2596 | 77.333 | 6.306  | 481.910 | N    | 1 - F44 |
| 2597 | 77.333 | 10.945 | 487.410 | N    | None    |
| 2598 | 77.333 | 10.945 | 481.910 | N    | 1 - F44 |
| 2599 | 77.333 | 15.584 | 487.410 | N    | None    |
| 2600 | 77.333 | 15.584 | 481.910 | N    | 1 - F44 |
| 2601 | 77.333 | 20.222 | 487.410 | N    | None    |
| 2602 | 77.333 | 20.222 | 481.910 | N    | 1 - F44 |
| 2603 | 77.333 | 24.861 | 487.410 | N    | None    |
| 2604 | 77.333 | 24.861 | 481.910 | N    | 1 - F44 |
| 2605 | 77.333 | 29.500 | 487.410 | N    | None    |
| 2606 | 77.333 | 42.792 | 487.410 | N    | None    |
| 2607 | 77.333 | 39.469 | 487.410 | N    | None    |
| 2608 | 77.333 | 39.469 | 481.910 | N    | 1 - F44 |
| 2609 | 77.333 | 36.146 | 487.410 | N    | None    |



RAM Structural System



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ES163840447 Scan Code

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 2610 | 77.333  | 36.146 | 481.910 | N    | 1 - F44 |
| 2611 | 77.333  | 32.823 | 487.410 | N    | None    |
| 2612 | 77.333  | 32.823 | 481.910 | N    | 1 - F44 |
| 2613 | 83.208  | 29.500 | 487.410 | N    | None    |
| 2614 | 83.208  | 29.500 | 481.910 | N    | 1 - F44 |
| 2615 | 89.083  | 29.500 | 487.410 | N    | None    |
| 2616 | 137.083 | 21.583 | 487.410 | N    | None    |
| 2617 | 137.083 | 25.333 | 487.410 | N    | None    |
| 2618 | 137.083 | 25.333 | 481.910 | N    | 1 - F44 |
| 2619 | 137.083 | 29.083 | 487.410 | N    | None    |
| 2620 | 137.083 | 29.083 | 481.910 | N    | 1 - F44 |
| 2621 | 137.083 | 32.833 | 487.410 | N    | None    |
| 2622 | 137.083 | 32.833 | 481.910 | N    | 1 - F44 |
| 2623 | 137.083 | 36.583 | 487.410 | N    | None    |
| 2624 | 185.083 | 22.500 | 487.410 | N    | None    |
| 2625 | 185.083 | 27.605 | 487.410 | N    | None    |
| 2626 | 185.083 | 27.605 | 481.910 | N    | 1 - F44 |
| 2627 | 185.083 | 32.709 | 487.410 | N    | None    |
| 2628 | 185.083 | 32.709 | 481.910 | N    | 1 - F44 |
| 2629 | 185.083 | 37.814 | 487.410 | N    | None    |
| 2630 | 185.083 | 37.814 | 481.910 | N    | 1 - F44 |
| 2631 | 185.083 | 42.919 | 487.410 | N    | None    |
| 2632 | 185.083 | 42.919 | 481.910 | N    | 1 - F44 |
| 2633 | 185.083 | 48.023 | 487.410 | N    | None    |
| 2634 | 185.083 | 48.023 | 481.910 | N    | 1 - F44 |
| 2635 | 185.083 | 53.128 | 487.410 | N    | None    |
| 2636 | 185.083 | 53.128 | 481.910 | N    | 1 - F44 |
| 2637 | 185.083 | 58.232 | 487.410 | N    | None    |
| 2638 | 185.083 | 58.232 | 481.910 | N    | 1 - F44 |
| 2639 | 185.083 | 63.337 | 487.410 | N    | None    |
| 2640 | 89.083  | 33.042 | 487.410 | N    | None    |
| 2641 | 89.083  | 33.042 | 481.910 | N    | 1 - F44 |
| 2642 | 89.083  | 36.583 | 487.410 | N    | None    |
| 2643 | 89.083  | 21.583 | 487.410 | N    | None    |
| 2644 | 89.083  | 25.542 | 487.410 | N    | None    |
| 2645 | 89.083  | 25.542 | 481.910 | N    | 1 - F44 |
| 2646 | 37.667  | 1.667  | 472.535 | N    | None    |
| 2647 | 37.667  | 6.209  | 472.535 | N    | None    |
| 2648 | 37.667  | 6.209  | 469.410 | N    | 1 - F43 |
| 2649 | 37.667  | 1.667  | 475.660 | N    | None    |
| 2650 | 37.667  | 6.209  | 475.660 | N    | None    |
| 2651 | 37.667  | 1.667  | 478.785 | N    | None    |
| 2652 | 37.667  | 6.209  | 478.785 | N    | None    |
| 2653 | 37.667  | 10.750 | 472.535 | N    | None    |
| 2654 | 37.667  | 10.750 | 469.410 | N    | 1 - F43 |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 2655 | 37.667 | 10.750 | 475.660 | N    | None    |
| 2656 | 37.667 | 10.750 | 478.785 | N    | None    |
| 2657 | 37.667 | 15.292 | 472.535 | N    | None    |
| 2658 | 37.667 | 15.292 | 469.410 | N    | 1 - F43 |
| 2659 | 37.667 | 15.292 | 475.660 | N    | None    |
| 2660 | 37.667 | 15.292 | 478.785 | N    | None    |
| 2661 | 37.667 | 19.833 | 472.535 | N    | None    |
| 2662 | 37.667 | 19.833 | 475.660 | N    | None    |
| 2663 | 37.667 | 19.833 | 478.785 | N    | None    |
| 2664 | 41.903 | 1.667  | 472.535 | N    | None    |
| 2665 | 41.903 | 1.667  | 469.410 | N    | 1 - F43 |
| 2666 | 41.903 | 1.667  | 475.660 | N    | None    |
| 2667 | 41.903 | 1.667  | 478.785 | N    | None    |
| 2668 | 46.139 | 1.667  | 472.535 | N    | None    |
| 2669 | 46.139 | 1.667  | 469.410 | N    | 1 - F43 |
| 2670 | 46.139 | 1.667  | 475.660 | N    | None    |
| 2671 | 46.139 | 1.667  | 478.785 | N    | None    |
| 2672 | 50.375 | 1.667  | 472.535 | N    | None    |
| 2673 | 50.375 | 1.667  | 469.410 | N    | 1 - F43 |
| 2674 | 50.375 | 1.667  | 475.660 | N    | None    |
| 2675 | 50.375 | 1.667  | 478.785 | N    | None    |
| 2676 | 54.611 | 1.667  | 472.535 | N    | None    |
| 2677 | 54.611 | 1.667  | 469.410 | N    | 1 - F43 |
| 2678 | 54.611 | 1.667  | 475.660 | N    | None    |
| 2679 | 54.611 | 1.667  | 478.785 | N    | None    |
| 2680 | 58.847 | 1.667  | 472.535 | N    | None    |
| 2681 | 58.847 | 1.667  | 469.410 | N    | 1 - F43 |
| 2682 | 58.847 | 1.667  | 475.660 | N    | None    |
| 2683 | 58.847 | 1.667  | 478.785 | N    | None    |
| 2684 | 63.083 | 1.667  | 472.535 | N    | None    |
| 2685 | 63.083 | 1.667  | 475.660 | N    | None    |
| 2686 | 63.083 | 1.667  | 478.785 | N    | None    |
| 2687 | 41.584 | 19.833 | 472.535 | N    | None    |
| 2688 | 41.584 | 19.833 | 469.410 | N    | 1 - F43 |
| 2689 | 41.584 | 19.833 | 475.660 | N    | None    |
| 2690 | 41.584 | 19.833 | 478.785 | N    | None    |
| 2691 | 45.500 | 19.833 | 472.535 | N    | None    |
| 2692 | 45.500 | 19.833 | 475.660 | N    | None    |
| 2693 | 45.500 | 19.833 | 478.785 | N    | None    |
| 2694 | 54.625 | 37.167 | 472.535 | N    | None    |
| 2695 | 58.854 | 37.167 | 472.535 | N    | None    |
| 2696 | 58.854 | 37.167 | 469.410 | N    | 1 - F43 |
| 2697 | 54.625 | 37.167 | 475.660 | N    | None    |
| 2698 | 58.854 | 37.167 | 475.660 | N    | None    |
| 2699 | 54.625 | 37.167 | 478.785 | N    | None    |



RAM Structural System  
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RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 2700 | 58.854 | 37.167 | 478.785 | N    | None    |
| 2701 | 63.083 | 37.167 | 472.535 | N    | None    |
| 2702 | 63.083 | 37.167 | 475.660 | N    | None    |
| 2703 | 63.083 | 37.167 | 478.785 | N    | None    |
| 2704 | 63.083 | 6.000  | 472.535 | N    | None    |
| 2705 | 63.083 | 6.000  | 469.410 | N    | 1 - F43 |
| 2706 | 63.083 | 6.000  | 475.660 | N    | None    |
| 2707 | 63.083 | 6.000  | 478.785 | N    | None    |
| 2708 | 63.083 | 10.334 | 472.535 | N    | None    |
| 2709 | 63.083 | 10.334 | 469.410 | N    | 1 - F43 |
| 2710 | 63.083 | 10.334 | 475.660 | N    | None    |
| 2711 | 63.083 | 10.334 | 478.785 | N    | None    |
| 2712 | 63.083 | 14.667 | 472.535 | N    | None    |
| 2713 | 63.083 | 14.667 | 469.410 | N    | 1 - F43 |
| 2714 | 63.083 | 14.667 | 475.660 | N    | None    |
| 2715 | 63.083 | 14.667 | 478.785 | N    | None    |
| 2716 | 63.083 | 19.000 | 472.535 | N    | None    |
| 2717 | 63.083 | 19.000 | 475.660 | N    | None    |
| 2718 | 63.083 | 19.000 | 478.785 | N    | None    |
| 2719 | 66.646 | 1.667  | 472.535 | N    | None    |
| 2720 | 66.646 | 1.667  | 469.410 | N    | 1 - F43 |
| 2721 | 66.646 | 1.667  | 475.660 | N    | None    |
| 2722 | 66.646 | 1.667  | 478.785 | N    | None    |
| 2723 | 70.208 | 1.667  | 472.535 | N    | None    |
| 2724 | 70.208 | 1.667  | 469.410 | N    | 1 - F43 |
| 2725 | 70.208 | 1.667  | 475.660 | N    | None    |
| 2726 | 70.208 | 1.667  | 478.785 | N    | None    |
| 2727 | 73.771 | 1.667  | 472.535 | N    | None    |
| 2728 | 73.771 | 1.667  | 469.410 | N    | 1 - F43 |
| 2729 | 73.771 | 1.667  | 475.660 | N    | None    |
| 2730 | 73.771 | 1.667  | 478.785 | N    | None    |
| 2731 | 77.333 | 1.667  | 472.535 | N    | None    |
| 2732 | 77.333 | 1.667  | 475.660 | N    | None    |
| 2733 | 77.333 | 1.667  | 478.785 | N    | None    |
| 2734 | 63.083 | 23.542 | 472.535 | N    | None    |
| 2735 | 63.083 | 23.542 | 469.410 | N    | 1 - F43 |
| 2736 | 63.083 | 23.542 | 475.660 | N    | None    |
| 2737 | 63.083 | 23.542 | 478.785 | N    | None    |
| 2738 | 63.083 | 28.083 | 472.535 | N    | None    |
| 2739 | 63.083 | 28.083 | 469.410 | N    | 1 - F43 |
| 2740 | 63.083 | 28.083 | 475.660 | N    | None    |
| 2741 | 63.083 | 28.083 | 478.785 | N    | None    |
| 2742 | 63.083 | 32.625 | 472.535 | N    | None    |
| 2743 | 63.083 | 32.625 | 469.410 | N    | 1 - F43 |
| 2744 | 63.083 | 32.625 | 475.660 | N    | None    |



RAM Structural System



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| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 2745 | 63.083 | 32.625 | 478.785 | N    | None    |
| 2746 | 77.333 | 6.306  | 472.535 | N    | None    |
| 2747 | 77.333 | 6.306  | 469.410 | N    | 1 - F43 |
| 2748 | 77.333 | 6.306  | 475.660 | N    | None    |
| 2749 | 77.333 | 6.306  | 478.785 | N    | None    |
| 2750 | 77.333 | 10.945 | 472.535 | N    | None    |
| 2751 | 77.333 | 10.945 | 469.410 | N    | 1 - F43 |
| 2752 | 77.333 | 10.945 | 475.660 | N    | None    |
| 2753 | 77.333 | 10.945 | 478.785 | N    | None    |
| 2754 | 77.333 | 15.584 | 472.535 | N    | None    |
| 2755 | 77.333 | 15.584 | 469.410 | N    | 1 - F43 |
| 2756 | 77.333 | 15.584 | 475.660 | N    | None    |
| 2757 | 77.333 | 15.584 | 478.785 | N    | None    |
| 2758 | 77.333 | 20.222 | 472.535 | N    | None    |
| 2759 | 77.333 | 20.222 | 469.410 | N    | 1 - F43 |
| 2760 | 77.333 | 20.222 | 475.660 | N    | None    |
| 2761 | 77.333 | 20.222 | 478.785 | N    | None    |
| 2762 | 77.333 | 24.861 | 472.535 | N    | None    |
| 2763 | 77.333 | 24.861 | 469.410 | N    | 1 - F43 |
| 2764 | 77.333 | 24.861 | 475.660 | N    | None    |
| 2765 | 77.333 | 24.861 | 478.785 | N    | None    |
| 2766 | 77.333 | 29.500 | 472.535 | N    | None    |
| 2767 | 77.333 | 29.500 | 475.660 | N    | None    |
| 2768 | 77.333 | 29.500 | 478.785 | N    | None    |
| 2769 | 77.333 | 32.823 | 472.535 | N    | None    |
| 2770 | 77.333 | 32.823 | 469.410 | N    | 1 - F43 |
| 2771 | 77.333 | 32.823 | 475.660 | N    | None    |
| 2772 | 77.333 | 32.823 | 478.785 | N    | None    |
| 2773 | 77.333 | 36.146 | 472.535 | N    | None    |
| 2774 | 77.333 | 36.146 | 469.410 | N    | 1 - F43 |
| 2775 | 77.333 | 36.146 | 475.660 | N    | None    |
| 2776 | 77.333 | 36.146 | 478.785 | N    | None    |
| 2777 | 77.333 | 39.469 | 472.535 | N    | None    |
| 2778 | 77.333 | 39.469 | 469.410 | N    | 1 - F43 |
| 2779 | 77.333 | 39.469 | 475.660 | N    | None    |
| 2780 | 77.333 | 39.469 | 478.785 | N    | None    |
| 2781 | 77.333 | 42.792 | 472.535 | N    | None    |
| 2782 | 77.333 | 42.792 | 475.660 | N    | None    |
| 2783 | 77.333 | 42.792 | 478.785 | N    | None    |
| 2784 | 83.208 | 29.500 | 472.535 | N    | None    |
| 2785 | 83.208 | 29.500 | 469.410 | N    | 1 - F43 |
| 2786 | 83.208 | 29.500 | 475.660 | N    | None    |
| 2787 | 83.208 | 29.500 | 478.785 | N    | None    |
| 2788 | 89.083 | 29.500 | 472.535 | N    | None    |
| 2789 | 89.083 | 29.500 | 475.660 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 2790 | 89.083  | 29.500 | 478.785 | N    | None    |
| 2791 | 137.083 | 21.583 | 472.535 | N    | None    |
| 2792 | 137.083 | 25.333 | 472.535 | N    | None    |
| 2793 | 137.083 | 25.333 | 469.410 | N    | 1 - F43 |
| 2794 | 137.083 | 21.583 | 475.660 | N    | None    |
| 2795 | 137.083 | 25.333 | 475.660 | N    | None    |
| 2796 | 137.083 | 21.583 | 478.785 | N    | None    |
| 2797 | 137.083 | 25.333 | 478.785 | N    | None    |
| 2798 | 137.083 | 29.083 | 472.535 | N    | None    |
| 2799 | 137.083 | 29.083 | 469.410 | N    | 1 - F43 |
| 2800 | 137.083 | 29.083 | 475.660 | N    | None    |
| 2801 | 137.083 | 29.083 | 478.785 | N    | None    |
| 2802 | 137.083 | 32.833 | 472.535 | N    | None    |
| 2803 | 137.083 | 32.833 | 469.410 | N    | 1 - F43 |
| 2804 | 137.083 | 32.833 | 475.660 | N    | None    |
| 2805 | 137.083 | 32.833 | 478.785 | N    | None    |
| 2806 | 137.083 | 36.583 | 472.535 | N    | None    |
| 2807 | 137.083 | 36.583 | 475.660 | N    | None    |
| 2808 | 137.083 | 36.583 | 478.785 | N    | None    |
| 2809 | 185.083 | 22.500 | 472.535 | N    | None    |
| 2810 | 185.083 | 27.605 | 472.535 | N    | None    |
| 2811 | 185.083 | 27.605 | 469.410 | N    | 1 - F43 |
| 2812 | 185.083 | 22.500 | 475.660 | N    | None    |
| 2813 | 185.083 | 27.605 | 475.660 | N    | None    |
| 2814 | 185.083 | 22.500 | 478.785 | N    | None    |
| 2815 | 185.083 | 27.605 | 478.785 | N    | None    |
| 2816 | 185.083 | 32.709 | 472.535 | N    | None    |
| 2817 | 185.083 | 32.709 | 469.410 | N    | 1 - F43 |
| 2818 | 185.083 | 32.709 | 475.660 | N    | None    |
| 2819 | 185.083 | 32.709 | 478.785 | N    | None    |
| 2820 | 185.083 | 37.814 | 472.535 | N    | None    |
| 2821 | 185.083 | 37.814 | 469.410 | N    | 1 - F43 |
| 2822 | 185.083 | 37.814 | 475.660 | N    | None    |
| 2823 | 185.083 | 37.814 | 478.785 | N    | None    |
| 2824 | 185.083 | 42.918 | 472.535 | N    | None    |
| 2825 | 185.083 | 42.919 | 469.410 | N    | 1 - F43 |
| 2826 | 185.083 | 42.919 | 475.660 | N    | None    |
| 2827 | 185.083 | 42.918 | 478.785 | N    | None    |
| 2828 | 185.083 | 48.023 | 472.535 | N    | None    |
| 2829 | 185.083 | 48.023 | 469.410 | N    | 1 - F43 |
| 2830 | 185.083 | 48.023 | 475.660 | N    | None    |
| 2831 | 185.083 | 48.023 | 478.785 | N    | None    |
| 2832 | 185.083 | 53.128 | 472.535 | N    | None    |
| 2833 | 185.083 | 53.128 | 469.410 | N    | 1 - F43 |
| 2834 | 185.083 | 53.128 | 475.660 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 2835 | 185.083 | 53.128 | 478.785 | N    | None    |
| 2836 | 185.083 | 58.232 | 472.535 | N    | None    |
| 2837 | 185.083 | 58.232 | 469.410 | N    | 1 - F43 |
| 2838 | 185.083 | 58.232 | 475.660 | N    | None    |
| 2839 | 185.083 | 58.232 | 478.785 | N    | None    |
| 2840 | 185.083 | 63.337 | 472.535 | N    | None    |
| 2841 | 185.083 | 63.337 | 475.660 | N    | None    |
| 2842 | 185.083 | 63.337 | 478.785 | N    | None    |
| 2843 | 89.083  | 33.042 | 472.535 | N    | None    |
| 2844 | 89.083  | 33.042 | 469.410 | N    | 1 - F43 |
| 2845 | 89.083  | 33.042 | 475.660 | N    | None    |
| 2846 | 89.083  | 33.042 | 478.785 | N    | None    |
| 2847 | 89.083  | 36.583 | 472.535 | N    | None    |
| 2848 | 89.083  | 36.583 | 475.660 | N    | None    |
| 2849 | 89.083  | 36.583 | 478.785 | N    | None    |
| 2850 | 89.083  | 21.583 | 472.535 | N    | None    |
| 2851 | 89.083  | 25.542 | 472.535 | N    | None    |
| 2852 | 89.083  | 25.542 | 469.410 | N    | 1 - F43 |
| 2853 | 89.083  | 21.583 | 475.660 | N    | None    |
| 2854 | 89.083  | 25.542 | 475.660 | N    | None    |
| 2855 | 89.083  | 21.583 | 478.785 | N    | None    |
| 2856 | 89.083  | 25.542 | 478.785 | N    | None    |
| 2857 | 37.667  | 1.667  | 465.060 | N    | None    |
| 2858 | 37.667  | 6.209  | 465.060 | N    | None    |
| 2859 | 37.667  | 6.209  | 460.710 | N    | 1 - F42 |
| 2860 | 37.667  | 10.750 | 465.060 | N    | None    |
| 2861 | 37.667  | 10.750 | 460.710 | N    | 1 - F42 |
| 2862 | 37.667  | 15.292 | 465.060 | N    | None    |
| 2863 | 37.667  | 15.292 | 460.710 | N    | 1 - F42 |
| 2864 | 37.667  | 19.833 | 465.060 | N    | None    |
| 2865 | 41.903  | 1.667  | 465.060 | N    | None    |
| 2866 | 41.903  | 1.667  | 460.710 | N    | 1 - F42 |
| 2867 | 46.139  | 1.667  | 465.060 | N    | None    |
| 2868 | 46.139  | 1.667  | 460.710 | N    | 1 - F42 |
| 2869 | 50.375  | 1.667  | 465.060 | N    | None    |
| 2870 | 50.375  | 1.667  | 460.710 | N    | 1 - F42 |
| 2871 | 54.611  | 1.667  | 465.060 | N    | None    |
| 2872 | 54.611  | 1.667  | 460.710 | N    | 1 - F42 |
| 2873 | 58.847  | 1.667  | 465.060 | N    | None    |
| 2874 | 58.847  | 1.667  | 460.710 | N    | 1 - F42 |
| 2875 | 63.083  | 1.667  | 465.060 | N    | None    |
| 2876 | 41.584  | 19.833 | 465.060 | N    | None    |
| 2877 | 41.584  | 19.833 | 460.710 | N    | 1 - F42 |
| 2878 | 45.500  | 19.833 | 465.060 | N    | None    |
| 2879 | 54.625  | 37.167 | 465.060 | N    | None    |



RAM Structural System  
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RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 2880 | 58.854 | 37.167 | 465.060 | N    | None    |
| 2881 | 58.854 | 37.167 | 460.710 | N    | 1 - F42 |
| 2882 | 63.083 | 37.167 | 465.060 | N    | None    |
| 2883 | 63.083 | 6.000  | 465.060 | N    | None    |
| 2884 | 63.083 | 6.000  | 460.710 | N    | 1 - F42 |
| 2885 | 63.083 | 10.334 | 465.060 | N    | None    |
| 2886 | 63.083 | 10.334 | 460.710 | N    | 1 - F42 |
| 2887 | 63.083 | 14.667 | 465.060 | N    | None    |
| 2888 | 63.083 | 14.667 | 460.710 | N    | 1 - F42 |
| 2889 | 63.083 | 19.000 | 465.060 | N    | None    |
| 2890 | 66.646 | 1.667  | 465.060 | N    | None    |
| 2891 | 66.646 | 1.667  | 460.710 | N    | 1 - F42 |
| 2892 | 70.208 | 1.667  | 465.060 | N    | None    |
| 2893 | 70.208 | 1.667  | 460.710 | N    | 1 - F42 |
| 2894 | 73.771 | 1.667  | 465.060 | N    | None    |
| 2895 | 73.771 | 1.667  | 460.710 | N    | 1 - F42 |
| 2896 | 77.333 | 1.667  | 465.060 | N    | None    |
| 2897 | 63.083 | 23.542 | 465.060 | N    | None    |
| 2898 | 63.083 | 23.542 | 460.710 | N    | 1 - F42 |
| 2899 | 63.083 | 28.083 | 465.060 | N    | None    |
| 2900 | 63.083 | 28.083 | 460.710 | N    | 1 - F42 |
| 2901 | 63.083 | 32.625 | 465.060 | N    | None    |
| 2902 | 63.083 | 32.625 | 460.710 | N    | 1 - F42 |
| 2903 | 77.333 | 6.306  | 465.060 | N    | None    |
| 2904 | 77.333 | 6.306  | 460.710 | N    | 1 - F42 |
| 2905 | 77.333 | 10.945 | 465.060 | N    | None    |
| 2906 | 77.333 | 10.945 | 460.710 | N    | 1 - F42 |
| 2907 | 77.333 | 15.584 | 465.060 | N    | None    |
| 2908 | 77.333 | 15.584 | 460.710 | N    | 1 - F42 |
| 2909 | 77.333 | 20.222 | 465.060 | N    | None    |
| 2910 | 77.333 | 20.222 | 460.710 | N    | 1 - F42 |
| 2911 | 77.333 | 24.861 | 465.060 | N    | None    |
| 2912 | 77.333 | 24.861 | 460.710 | N    | 1 - F42 |
| 2913 | 77.333 | 29.500 | 465.060 | N    | None    |
| 2914 | 77.333 | 39.469 | 460.710 | N    | 1 - F42 |
| 2915 | 77.333 | 39.469 | 465.060 | N    | None    |
| 2916 | 77.333 | 42.792 | 465.060 | N    | None    |
| 2917 | 77.333 | 36.146 | 460.710 | N    | 1 - F42 |
| 2918 | 77.333 | 36.146 | 465.060 | N    | None    |
| 2919 | 77.333 | 32.823 | 460.710 | N    | 1 - F42 |
| 2920 | 77.333 | 32.823 | 465.060 | N    | None    |
| 2921 | 83.208 | 29.500 | 465.060 | N    | None    |
| 2922 | 83.208 | 29.500 | 460.710 | N    | 1 - F42 |
| 2923 | 89.083 | 29.500 | 465.060 | N    | None    |
| 2924 | 89.083 | 65.189 | 465.060 | N    | None    |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 2925 | 89.083  | 60.929 | 465.060 | N    | None    |
| 2926 | 89.083  | 61.960 | 469.410 | N    | 1 - F43 |
| 2927 | 89.083  | 69.584 | 465.060 | N    | None    |
| 2928 | 89.083  | 67.386 | 465.060 | N    | None    |
| 2929 | 89.083  | 68.417 | 469.410 | N    | 1 - F43 |
| 2930 | 89.083  | 56.670 | 465.060 | N    | None    |
| 2931 | 89.083  | 59.899 | 460.710 | N    | 1 - F42 |
| 2932 | 89.083  | 63.127 | 460.710 | N    | 1 - F42 |
| 2933 | 89.083  | 66.355 | 460.710 | N    | 1 - F42 |
| 2934 | 137.083 | 21.583 | 465.060 | N    | None    |
| 2935 | 137.083 | 25.333 | 465.060 | N    | None    |
| 2936 | 137.083 | 25.333 | 460.710 | N    | 1 - F42 |
| 2937 | 137.083 | 29.083 | 465.060 | N    | None    |
| 2938 | 137.083 | 29.083 | 460.710 | N    | 1 - F42 |
| 2939 | 137.083 | 32.833 | 465.060 | N    | None    |
| 2940 | 137.083 | 32.833 | 460.710 | N    | 1 - F42 |
| 2941 | 137.083 | 36.583 | 465.060 | N    | None    |
| 2942 | 137.083 | 65.189 | 465.060 | N    | None    |
| 2943 | 137.083 | 60.929 | 465.060 | N    | None    |
| 2944 | 137.083 | 61.960 | 469.410 | N    | 1 - F43 |
| 2945 | 137.083 | 69.584 | 465.060 | N    | None    |
| 2946 | 137.083 | 67.386 | 465.060 | N    | None    |
| 2947 | 137.083 | 68.417 | 469.410 | N    | 1 - F43 |
| 2948 | 137.083 | 56.670 | 465.060 | N    | None    |
| 2949 | 137.083 | 59.899 | 460.710 | N    | 1 - F42 |
| 2950 | 137.083 | 63.127 | 460.710 | N    | 1 - F42 |
| 2951 | 137.083 | 66.355 | 460.710 | N    | 1 - F42 |
| 2952 | 185.083 | 28.271 | 460.710 | N    | 1 - F42 |
| 2953 | 185.083 | 34.042 | 460.710 | N    | 1 - F42 |
| 2954 | 185.083 | 27.933 | 465.093 | N    | None    |
| 2955 | 185.083 | 33.355 | 465.193 | N    | None    |
| 2956 | 185.083 | 49.818 | 464.833 | N    | None    |
| 2957 | 185.083 | 44.343 | 464.893 | N    | None    |
| 2958 | 185.083 | 39.813 | 460.710 | N    | 1 - F42 |
| 2959 | 185.083 | 45.584 | 460.710 | N    | 1 - F42 |
| 2960 | 185.083 | 38.875 | 464.961 | N    | None    |
| 2961 | 185.083 | 64.925 | 464.455 | N    | None    |
| 2962 | 185.083 | 60.789 | 464.478 | N    | None    |
| 2963 | 185.083 | 68.667 | 465.060 | N    | None    |
| 2964 | 185.083 | 66.670 | 466.465 | N    | None    |
| 2965 | 185.083 | 66.002 | 469.410 | N    | 1 - F43 |
| 2966 | 185.083 | 22.500 | 465.060 | N    | None    |
| 2967 | 185.083 | 51.354 | 460.710 | N    | 1 - F42 |
| 2968 | 185.083 | 57.125 | 460.710 | N    | 1 - F42 |
| 2969 | 185.083 | 55.365 | 464.667 | N    | None    |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 2970 | 185.083 | 62.896 | 460.710 | N    | 1 - F42 |
| 2971 | 89.083  | 33.042 | 465.060 | N    | None    |
| 2972 | 89.083  | 33.042 | 460.710 | N    | 1 - F42 |
| 2973 | 89.083  | 36.583 | 465.060 | N    | None    |
| 2974 | 89.083  | 21.583 | 465.060 | N    | None    |
| 2975 | 89.083  | 25.542 | 465.060 | N    | None    |
| 2976 | 89.083  | 25.542 | 460.710 | N    | 1 - F42 |
| 2977 | 37.667  | 1.667  | 456.360 | N    | None    |
| 2978 | 37.667  | 6.209  | 456.360 | N    | None    |
| 2979 | 37.667  | 6.209  | 452.010 | N    | 1 - F41 |
| 2980 | 37.667  | 10.750 | 456.360 | N    | None    |
| 2981 | 37.667  | 10.750 | 452.010 | N    | 1 - F41 |
| 2982 | 37.667  | 15.292 | 456.360 | N    | None    |
| 2983 | 37.667  | 15.292 | 452.010 | N    | 1 - F41 |
| 2984 | 37.667  | 19.833 | 456.360 | N    | None    |
| 2985 | 41.903  | 1.667  | 456.360 | N    | None    |
| 2986 | 41.903  | 1.667  | 452.010 | N    | 1 - F41 |
| 2987 | 46.139  | 1.667  | 456.360 | N    | None    |
| 2988 | 46.139  | 1.667  | 452.010 | N    | 1 - F41 |
| 2989 | 50.375  | 1.667  | 456.360 | N    | None    |
| 2990 | 50.375  | 1.667  | 452.010 | N    | 1 - F41 |
| 2991 | 54.611  | 1.667  | 456.360 | N    | None    |
| 2992 | 54.611  | 1.667  | 452.010 | N    | 1 - F41 |
| 2993 | 58.847  | 1.667  | 456.360 | N    | None    |
| 2994 | 58.847  | 1.667  | 452.010 | N    | 1 - F41 |
| 2995 | 63.083  | 1.667  | 456.360 | N    | None    |
| 2996 | 41.584  | 19.833 | 456.360 | N    | None    |
| 2997 | 41.584  | 19.833 | 452.010 | N    | 1 - F41 |
| 2998 | 45.500  | 19.833 | 456.360 | N    | None    |
| 2999 | 54.625  | 37.167 | 456.360 | N    | None    |
| 3000 | 58.854  | 37.167 | 456.360 | N    | None    |
| 3001 | 58.854  | 37.167 | 452.010 | N    | 1 - F41 |
| 3002 | 63.083  | 37.167 | 456.360 | N    | None    |
| 3003 | 63.083  | 6.000  | 456.360 | N    | None    |
| 3004 | 63.083  | 6.000  | 452.010 | N    | 1 - F41 |
| 3005 | 63.083  | 10.334 | 456.360 | N    | None    |
| 3006 | 63.083  | 10.334 | 452.010 | N    | 1 - F41 |
| 3007 | 63.083  | 14.667 | 456.360 | N    | None    |
| 3008 | 63.083  | 14.667 | 452.010 | N    | 1 - F41 |
| 3009 | 63.083  | 19.000 | 456.360 | N    | None    |
| 3010 | 66.646  | 1.667  | 456.360 | N    | None    |
| 3011 | 66.646  | 1.667  | 452.010 | N    | 1 - F41 |
| 3012 | 70.208  | 1.667  | 456.360 | N    | None    |
| 3013 | 70.208  | 1.667  | 452.010 | N    | 1 - F41 |
| 3014 | 73.771  | 1.667  | 456.360 | N    | None    |





RAM Structural System



DEPT OF BLDGS121191236

Job Number



ES714372054

Scan Code

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3015 | 73.771  | 1.667  | 452.010 | N    | 1 - F41 |
| 3016 | 77.333  | 1.667  | 456.360 | N    | None    |
| 3017 | 63.083  | 23.542 | 456.360 | N    | None    |
| 3018 | 63.083  | 23.542 | 452.010 | N    | 1 - F41 |
| 3019 | 63.083  | 28.083 | 456.360 | N    | None    |
| 3020 | 63.083  | 28.083 | 452.010 | N    | 1 - F41 |
| 3021 | 63.083  | 32.625 | 456.360 | N    | None    |
| 3022 | 63.083  | 32.625 | 452.010 | N    | 1 - F41 |
| 3023 | 77.333  | 6.306  | 456.360 | N    | None    |
| 3024 | 77.333  | 6.306  | 452.010 | N    | 1 - F41 |
| 3025 | 77.333  | 10.945 | 456.360 | N    | None    |
| 3026 | 77.333  | 10.945 | 452.010 | N    | 1 - F41 |
| 3027 | 77.333  | 15.584 | 456.360 | N    | None    |
| 3028 | 77.333  | 15.584 | 452.010 | N    | 1 - F41 |
| 3029 | 77.333  | 20.222 | 456.360 | N    | None    |
| 3030 | 77.333  | 20.222 | 452.010 | N    | 1 - F41 |
| 3031 | 77.333  | 24.861 | 456.360 | N    | None    |
| 3032 | 77.333  | 24.861 | 452.010 | N    | 1 - F41 |
| 3033 | 77.333  | 29.500 | 456.360 | N    | None    |
| 3034 | 77.333  | 39.469 | 452.010 | N    | 1 - F41 |
| 3035 | 77.333  | 39.469 | 456.360 | N    | None    |
| 3036 | 77.333  | 42.792 | 456.360 | N    | None    |
| 3037 | 77.333  | 36.146 | 452.010 | N    | 1 - F41 |
| 3038 | 77.333  | 36.146 | 456.360 | N    | None    |
| 3039 | 77.333  | 32.823 | 452.010 | N    | 1 - F41 |
| 3040 | 77.333  | 32.823 | 456.360 | N    | None    |
| 3041 | 83.208  | 29.500 | 456.360 | N    | None    |
| 3042 | 83.208  | 29.500 | 452.010 | N    | 1 - F41 |
| 3043 | 89.083  | 29.500 | 456.360 | N    | None    |
| 3044 | 89.083  | 56.670 | 456.360 | N    | None    |
| 3045 | 89.083  | 59.899 | 456.360 | N    | None    |
| 3046 | 89.083  | 59.899 | 452.010 | N    | 1 - F41 |
| 3047 | 89.083  | 63.127 | 456.360 | N    | None    |
| 3048 | 89.083  | 63.127 | 452.010 | N    | 1 - F41 |
| 3049 | 89.083  | 66.355 | 456.360 | N    | None    |
| 3050 | 89.083  | 66.355 | 452.010 | N    | 1 - F41 |
| 3051 | 89.083  | 69.584 | 456.360 | N    | None    |
| 3052 | 137.083 | 21.583 | 456.360 | N    | None    |
| 3053 | 137.083 | 25.333 | 456.360 | N    | None    |
| 3054 | 137.083 | 25.333 | 452.010 | N    | 1 - F41 |
| 3055 | 137.083 | 29.083 | 456.360 | N    | None    |
| 3056 | 137.083 | 29.083 | 452.010 | N    | 1 - F41 |
| 3057 | 137.083 | 32.833 | 456.360 | N    | None    |
| 3058 | 137.083 | 32.833 | 452.010 | N    | 1 - F41 |
| 3059 | 137.083 | 36.583 | 456.360 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3060 | 137.083 | 56.670 | 456.360 | N    | None    |
| 3061 | 137.083 | 59.899 | 456.360 | N    | None    |
| 3062 | 137.083 | 59.899 | 452.010 | N    | 1 - F41 |
| 3063 | 137.083 | 63.127 | 456.360 | N    | None    |
| 3064 | 137.083 | 63.127 | 452.010 | N    | 1 - F41 |
| 3065 | 137.083 | 66.355 | 456.360 | N    | None    |
| 3066 | 137.083 | 66.355 | 452.010 | N    | 1 - F41 |
| 3067 | 137.083 | 69.584 | 456.360 | N    | None    |
| 3068 | 185.083 | 22.500 | 456.360 | N    | None    |
| 3069 | 185.083 | 28.271 | 456.360 | N    | None    |
| 3070 | 185.083 | 28.271 | 452.010 | N    | 1 - F41 |
| 3071 | 185.083 | 34.042 | 456.360 | N    | None    |
| 3072 | 185.083 | 34.042 | 452.010 | N    | 1 - F41 |
| 3073 | 185.083 | 39.813 | 456.360 | N    | None    |
| 3074 | 185.083 | 39.813 | 452.010 | N    | 1 - F41 |
| 3075 | 185.083 | 45.584 | 456.360 | N    | None    |
| 3076 | 185.083 | 45.584 | 452.010 | N    | 1 - F41 |
| 3077 | 185.083 | 51.354 | 456.360 | N    | None    |
| 3078 | 185.083 | 51.354 | 452.010 | N    | 1 - F41 |
| 3079 | 185.083 | 57.125 | 456.360 | N    | None    |
| 3080 | 185.083 | 57.125 | 452.010 | N    | 1 - F41 |
| 3081 | 185.083 | 62.896 | 456.360 | N    | None    |
| 3082 | 185.083 | 62.896 | 452.010 | N    | 1 - F41 |
| 3083 | 185.083 | 68.667 | 456.360 | N    | None    |
| 3084 | 89.083  | 33.042 | 456.360 | N    | None    |
| 3085 | 89.083  | 33.042 | 452.010 | N    | 1 - F41 |
| 3086 | 89.083  | 36.583 | 456.360 | N    | None    |
| 3087 | 89.083  | 21.583 | 456.360 | N    | None    |
| 3088 | 89.083  | 25.542 | 456.360 | N    | None    |
| 3089 | 89.083  | 25.542 | 452.010 | N    | 1 - F41 |
| 3090 | 37.667  | 1.667  | 446.990 | N    | None    |
| 3091 | 37.667  | 6.209  | 446.990 | N    | None    |
| 3092 | 37.667  | 6.209  | 441.970 | N    | 1 - F40 |
| 3093 | 37.667  | 10.750 | 446.990 | N    | None    |
| 3094 | 37.667  | 10.750 | 441.970 | N    | 1 - F40 |
| 3095 | 37.667  | 15.292 | 446.990 | N    | None    |
| 3096 | 37.667  | 15.292 | 441.970 | N    | 1 - F40 |
| 3097 | 37.667  | 19.833 | 446.990 | N    | None    |
| 3098 | 41.903  | 1.667  | 446.990 | N    | None    |
| 3099 | 41.903  | 1.667  | 441.970 | N    | 1 - F40 |
| 3100 | 46.139  | 1.667  | 446.990 | N    | None    |
| 3101 | 46.139  | 1.667  | 441.970 | N    | 1 - F40 |
| 3102 | 50.375  | 1.667  | 446.990 | N    | None    |
| 3103 | 50.375  | 1.667  | 441.970 | N    | 1 - F40 |
| 3104 | 54.611  | 1.667  | 446.990 | N    | None    |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 3105 | 54.611 | 1.667  | 441.970 | N    | 1 - F40 |
| 3106 | 58.847 | 1.667  | 446.990 | N    | None    |
| 3107 | 58.847 | 1.667  | 441.970 | N    | 1 - F40 |
| 3108 | 63.083 | 1.667  | 446.990 | N    | None    |
| 3109 | 41.584 | 19.833 | 446.990 | N    | None    |
| 3110 | 41.584 | 19.833 | 441.970 | N    | 1 - F40 |
| 3111 | 45.500 | 19.833 | 446.990 | N    | None    |
| 3112 | 54.625 | 37.167 | 446.990 | N    | None    |
| 3113 | 58.854 | 37.167 | 446.990 | N    | None    |
| 3114 | 58.854 | 37.167 | 441.970 | N    | 1 - F40 |
| 3115 | 63.083 | 37.167 | 446.990 | N    | None    |
| 3116 | 63.083 | 6.000  | 446.990 | N    | None    |
| 3117 | 63.083 | 6.000  | 441.970 | N    | 1 - F40 |
| 3118 | 63.083 | 10.334 | 446.990 | N    | None    |
| 3119 | 63.083 | 10.334 | 441.970 | N    | 1 - F40 |
| 3120 | 63.083 | 14.667 | 446.990 | N    | None    |
| 3121 | 63.083 | 14.667 | 441.970 | N    | 1 - F40 |
| 3122 | 63.083 | 19.000 | 446.990 | N    | None    |
| 3123 | 66.646 | 1.667  | 446.990 | N    | None    |
| 3124 | 66.646 | 1.667  | 441.970 | N    | 1 - F40 |
| 3125 | 70.208 | 1.667  | 446.990 | N    | None    |
| 3126 | 70.208 | 1.667  | 441.970 | N    | 1 - F40 |
| 3127 | 73.771 | 1.667  | 446.990 | N    | None    |
| 3128 | 73.771 | 1.667  | 441.970 | N    | 1 - F40 |
| 3129 | 77.333 | 1.667  | 446.990 | N    | None    |
| 3130 | 63.083 | 23.542 | 446.990 | N    | None    |
| 3131 | 63.083 | 23.542 | 441.970 | N    | 1 - F40 |
| 3132 | 63.083 | 28.083 | 446.990 | N    | None    |
| 3133 | 63.083 | 28.083 | 441.970 | N    | 1 - F40 |
| 3134 | 63.083 | 32.625 | 446.990 | N    | None    |
| 3135 | 63.083 | 32.625 | 441.970 | N    | 1 - F40 |
| 3136 | 77.333 | 6.306  | 446.990 | N    | None    |
| 3137 | 77.333 | 6.306  | 441.970 | N    | 1 - F40 |
| 3138 | 77.333 | 10.945 | 446.990 | N    | None    |
| 3139 | 77.333 | 10.945 | 441.970 | N    | 1 - F40 |
| 3140 | 77.333 | 15.584 | 446.990 | N    | None    |
| 3141 | 77.333 | 15.584 | 441.970 | N    | 1 - F40 |
| 3142 | 77.333 | 20.222 | 446.990 | N    | None    |
| 3143 | 77.333 | 20.222 | 441.970 | N    | 1 - F40 |
| 3144 | 77.333 | 24.861 | 446.990 | N    | None    |
| 3145 | 77.333 | 24.861 | 441.970 | N    | 1 - F40 |
| 3146 | 77.333 | 29.500 | 446.990 | N    | None    |
| 3147 | 77.333 | 32.823 | 446.990 | N    | None    |
| 3148 | 77.333 | 36.146 | 446.990 | N    | None    |
| 3149 | 77.333 | 39.469 | 446.990 | N    | None    |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3150 | 77.333  | 42.792 | 446.990 | N    | None    |
| 3151 | 77.333  | 32.823 | 441.970 | N    | 1 - F40 |
| 3152 | 77.333  | 36.146 | 441.970 | N    | 1 - F40 |
| 3153 | 77.333  | 39.469 | 441.970 | N    | 1 - F40 |
| 3154 | 83.208  | 29.500 | 446.990 | N    | None    |
| 3155 | 83.208  | 29.500 | 441.970 | N    | 1 - F40 |
| 3156 | 89.083  | 29.500 | 446.990 | N    | None    |
| 3157 | 89.083  | 56.670 | 446.990 | N    | None    |
| 3158 | 89.083  | 59.899 | 446.990 | N    | None    |
| 3159 | 89.083  | 59.899 | 441.970 | N    | 1 - F40 |
| 3160 | 89.083  | 63.127 | 446.990 | N    | None    |
| 3161 | 89.083  | 63.127 | 441.970 | N    | 1 - F40 |
| 3162 | 89.083  | 66.355 | 446.990 | N    | None    |
| 3163 | 89.083  | 66.355 | 441.970 | N    | 1 - F40 |
| 3164 | 89.083  | 69.584 | 446.990 | N    | None    |
| 3165 | 137.083 | 21.583 | 446.990 | N    | None    |
| 3166 | 137.083 | 25.333 | 446.990 | N    | None    |
| 3167 | 137.083 | 25.333 | 441.970 | N    | 1 - F40 |
| 3168 | 137.083 | 29.083 | 446.990 | N    | None    |
| 3169 | 137.083 | 29.083 | 441.970 | N    | 1 - F40 |
| 3170 | 137.083 | 32.833 | 446.990 | N    | None    |
| 3171 | 137.083 | 32.833 | 441.970 | N    | 1 - F40 |
| 3172 | 137.083 | 36.583 | 446.990 | N    | None    |
| 3173 | 137.083 | 56.670 | 446.990 | N    | None    |
| 3174 | 137.083 | 59.899 | 446.990 | N    | None    |
| 3175 | 137.083 | 59.899 | 441.970 | N    | 1 - F40 |
| 3176 | 137.083 | 63.127 | 446.990 | N    | None    |
| 3177 | 137.083 | 63.127 | 441.970 | N    | 1 - F40 |
| 3178 | 137.083 | 66.355 | 446.990 | N    | None    |
| 3179 | 137.083 | 66.355 | 441.970 | N    | 1 - F40 |
| 3180 | 137.083 | 69.584 | 446.990 | N    | None    |
| 3181 | 185.083 | 22.500 | 446.990 | N    | None    |
| 3182 | 185.083 | 28.271 | 446.990 | N    | None    |
| 3183 | 185.083 | 28.271 | 441.970 | N    | 1 - F40 |
| 3184 | 185.083 | 34.042 | 446.990 | N    | None    |
| 3185 | 185.083 | 34.042 | 441.970 | N    | 1 - F40 |
| 3186 | 185.083 | 39.813 | 446.990 | N    | None    |
| 3187 | 185.083 | 39.813 | 441.970 | N    | 1 - F40 |
| 3188 | 185.083 | 45.584 | 446.990 | N    | None    |
| 3189 | 185.083 | 45.584 | 441.970 | N    | 1 - F40 |
| 3190 | 185.083 | 51.354 | 446.990 | N    | None    |
| 3191 | 185.083 | 51.354 | 441.970 | N    | 1 - F40 |
| 3192 | 185.083 | 57.125 | 446.990 | N    | None    |
| 3193 | 185.083 | 57.125 | 441.970 | N    | 1 - F40 |
| 3194 | 185.083 | 62.896 | 446.990 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3195 | 185.083 | 62.896 | 441.970 | N    | 1 - F40 |
| 3196 | 185.083 | 68.667 | 446.990 | N    | None    |
| 3197 | 89.083  | 33.042 | 446.990 | N    | None    |
| 3198 | 89.083  | 33.042 | 441.970 | N    | 1 - F40 |
| 3199 | 89.083  | 36.583 | 446.990 | N    | None    |
| 3200 | 89.083  | 21.583 | 446.990 | N    | None    |
| 3201 | 89.083  | 25.542 | 446.990 | N    | None    |
| 3202 | 89.083  | 25.542 | 441.970 | N    | 1 - F40 |
| 3203 | 37.667  | 1.667  | 437.620 | N    | None    |
| 3204 | 37.667  | 6.209  | 437.620 | N    | None    |
| 3205 | 37.667  | 6.209  | 433.270 | N    | 1 - F39 |
| 3206 | 37.667  | 10.750 | 437.620 | N    | None    |
| 3207 | 37.667  | 10.750 | 433.270 | N    | 1 - F39 |
| 3208 | 37.667  | 15.292 | 437.620 | N    | None    |
| 3209 | 37.667  | 15.292 | 433.270 | N    | 1 - F39 |
| 3210 | 37.667  | 19.833 | 437.620 | N    | None    |
| 3211 | 41.903  | 1.667  | 437.620 | N    | None    |
| 3212 | 41.903  | 1.667  | 433.270 | N    | 1 - F39 |
| 3213 | 46.139  | 1.667  | 437.620 | N    | None    |
| 3214 | 46.139  | 1.667  | 433.270 | N    | 1 - F39 |
| 3215 | 50.375  | 1.667  | 437.620 | N    | None    |
| 3216 | 50.375  | 1.667  | 433.270 | N    | 1 - F39 |
| 3217 | 54.611  | 1.667  | 437.620 | N    | None    |
| 3218 | 54.611  | 1.667  | 433.270 | N    | 1 - F39 |
| 3219 | 58.847  | 1.667  | 437.620 | N    | None    |
| 3220 | 58.847  | 1.667  | 433.270 | N    | 1 - F39 |
| 3221 | 63.083  | 1.667  | 437.620 | N    | None    |
| 3222 | 41.584  | 19.833 | 437.620 | N    | None    |
| 3223 | 41.584  | 19.833 | 433.270 | N    | 1 - F39 |
| 3224 | 45.500  | 19.833 | 437.620 | N    | None    |
| 3225 | 54.625  | 37.167 | 437.620 | N    | None    |
| 3226 | 58.854  | 37.167 | 437.620 | N    | None    |
| 3227 | 58.854  | 37.167 | 433.270 | N    | 1 - F39 |
| 3228 | 63.083  | 37.167 | 437.620 | N    | None    |
| 3229 | 63.083  | 6.000  | 437.620 | N    | None    |
| 3230 | 63.083  | 6.000  | 433.270 | N    | 1 - F39 |
| 3231 | 63.083  | 10.334 | 437.620 | N    | None    |
| 3232 | 63.083  | 10.334 | 433.270 | N    | 1 - F39 |
| 3233 | 63.083  | 14.667 | 437.620 | N    | None    |
| 3234 | 63.083  | 14.667 | 433.270 | N    | 1 - F39 |
| 3235 | 63.083  | 19.000 | 437.620 | N    | None    |
| 3236 | 66.646  | 1.667  | 437.620 | N    | None    |
| 3237 | 66.646  | 1.667  | 433.270 | N    | 1 - F39 |
| 3238 | 70.208  | 1.667  | 437.620 | N    | None    |
| 3239 | 70.208  | 1.667  | 433.270 | N    | 1 - F39 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3240 | 73.771  | 1.667  | 437.620 | N    | None    |
| 3241 | 73.771  | 1.667  | 433.270 | N    | 1 - F39 |
| 3242 | 77.333  | 1.667  | 437.620 | N    | None    |
| 3243 | 63.083  | 23.542 | 437.620 | N    | None    |
| 3244 | 63.083  | 23.542 | 433.270 | N    | 1 - F39 |
| 3245 | 63.083  | 28.083 | 437.620 | N    | None    |
| 3246 | 63.083  | 28.083 | 433.270 | N    | 1 - F39 |
| 3247 | 63.083  | 32.625 | 437.620 | N    | None    |
| 3248 | 63.083  | 32.625 | 433.270 | N    | 1 - F39 |
| 3249 | 77.333  | 6.306  | 437.620 | N    | None    |
| 3250 | 77.333  | 6.306  | 433.270 | N    | 1 - F39 |
| 3251 | 77.333  | 10.945 | 437.620 | N    | None    |
| 3252 | 77.333  | 10.945 | 433.270 | N    | 1 - F39 |
| 3253 | 77.333  | 15.584 | 437.620 | N    | None    |
| 3254 | 77.333  | 15.584 | 433.270 | N    | 1 - F39 |
| 3255 | 77.333  | 20.222 | 437.620 | N    | None    |
| 3256 | 77.333  | 20.222 | 433.270 | N    | 1 - F39 |
| 3257 | 77.333  | 24.861 | 437.620 | N    | None    |
| 3258 | 77.333  | 24.861 | 433.270 | N    | 1 - F39 |
| 3259 | 77.333  | 29.500 | 437.620 | N    | None    |
| 3260 | 77.333  | 39.469 | 433.270 | N    | 1 - F39 |
| 3261 | 77.333  | 39.469 | 437.620 | N    | None    |
| 3262 | 77.333  | 42.792 | 437.620 | N    | None    |
| 3263 | 77.333  | 36.146 | 433.270 | N    | 1 - F39 |
| 3264 | 77.333  | 36.146 | 437.620 | N    | None    |
| 3265 | 77.333  | 32.823 | 433.270 | N    | 1 - F39 |
| 3266 | 77.333  | 32.823 | 437.620 | N    | None    |
| 3267 | 83.208  | 29.500 | 437.620 | N    | None    |
| 3268 | 83.208  | 29.500 | 433.270 | N    | 1 - F39 |
| 3269 | 89.083  | 29.500 | 437.620 | N    | None    |
| 3270 | 89.083  | 56.670 | 437.620 | N    | None    |
| 3271 | 89.083  | 59.899 | 437.620 | N    | None    |
| 3272 | 89.083  | 59.899 | 433.270 | N    | 1 - F39 |
| 3273 | 89.083  | 63.127 | 437.620 | N    | None    |
| 3274 | 89.083  | 63.127 | 433.270 | N    | 1 - F39 |
| 3275 | 89.083  | 66.355 | 437.620 | N    | None    |
| 3276 | 89.083  | 66.355 | 433.270 | N    | 1 - F39 |
| 3277 | 89.083  | 69.584 | 437.620 | N    | None    |
| 3278 | 137.083 | 21.583 | 437.620 | N    | None    |
| 3279 | 137.083 | 25.333 | 437.620 | N    | None    |
| 3280 | 137.083 | 25.333 | 433.270 | N    | 1 - F39 |
| 3281 | 137.083 | 29.083 | 437.620 | N    | None    |
| 3282 | 137.083 | 29.083 | 433.270 | N    | 1 - F39 |
| 3283 | 137.083 | 32.833 | 437.620 | N    | None    |
| 3284 | 137.083 | 32.833 | 433.270 | N    | 1 - F39 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3285 | 137.083 | 36.583 | 437.620 | N    | None    |
| 3286 | 137.083 | 56.670 | 437.620 | N    | None    |
| 3287 | 137.083 | 59.899 | 437.620 | N    | None    |
| 3288 | 137.083 | 59.899 | 433.270 | N    | 1 - F39 |
| 3289 | 137.083 | 63.127 | 437.620 | N    | None    |
| 3290 | 137.083 | 63.127 | 433.270 | N    | 1 - F39 |
| 3291 | 137.083 | 66.355 | 437.620 | N    | None    |
| 3292 | 137.083 | 66.355 | 433.270 | N    | 1 - F39 |
| 3293 | 137.083 | 69.584 | 437.620 | N    | None    |
| 3294 | 185.083 | 22.500 | 437.620 | N    | None    |
| 3295 | 185.083 | 28.271 | 437.620 | N    | None    |
| 3296 | 185.083 | 28.271 | 433.270 | N    | 1 - F39 |
| 3297 | 185.083 | 34.042 | 437.620 | N    | None    |
| 3298 | 185.083 | 34.042 | 433.270 | N    | 1 - F39 |
| 3299 | 185.083 | 39.813 | 437.620 | N    | None    |
| 3300 | 185.083 | 39.813 | 433.270 | N    | 1 - F39 |
| 3301 | 185.083 | 45.584 | 437.620 | N    | None    |
| 3302 | 185.083 | 45.584 | 433.270 | N    | 1 - F39 |
| 3303 | 185.083 | 51.354 | 437.620 | N    | None    |
| 3304 | 185.083 | 51.354 | 433.270 | N    | 1 - F39 |
| 3305 | 185.083 | 57.125 | 437.620 | N    | None    |
| 3306 | 185.083 | 57.125 | 433.270 | N    | 1 - F39 |
| 3307 | 185.083 | 62.896 | 437.620 | N    | None    |
| 3308 | 185.083 | 62.896 | 433.270 | N    | 1 - F39 |
| 3309 | 185.083 | 68.667 | 437.620 | N    | None    |
| 3310 | 89.083  | 33.042 | 437.620 | N    | None    |
| 3311 | 89.083  | 33.042 | 433.270 | N    | 1 - F39 |
| 3312 | 89.083  | 36.583 | 437.620 | N    | None    |
| 3313 | 89.083  | 21.583 | 437.620 | N    | None    |
| 3314 | 89.083  | 25.542 | 437.620 | N    | None    |
| 3315 | 89.083  | 25.542 | 433.270 | N    | 1 - F39 |
| 3316 | 37.667  | 1.667  | 428.920 | N    | None    |
| 3317 | 37.667  | 6.209  | 428.920 | N    | None    |
| 3318 | 37.667  | 6.209  | 424.570 | N    | 1 - F38 |
| 3319 | 37.667  | 10.750 | 428.920 | N    | None    |
| 3320 | 37.667  | 10.750 | 424.570 | N    | 1 - F38 |
| 3321 | 37.667  | 15.292 | 428.920 | N    | None    |
| 3322 | 37.667  | 15.292 | 424.570 | N    | 1 - F38 |
| 3323 | 37.667  | 19.833 | 428.920 | N    | None    |
| 3324 | 41.903  | 1.667  | 428.920 | N    | None    |
| 3325 | 41.903  | 1.667  | 424.570 | N    | 1 - F38 |
| 3326 | 46.139  | 1.667  | 428.920 | N    | None    |
| 3327 | 46.139  | 1.667  | 424.570 | N    | 1 - F38 |
| 3328 | 50.375  | 1.667  | 428.920 | N    | None    |
| 3329 | 50.375  | 1.667  | 424.570 | N    | 1 - F38 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 3330 | 54.611 | 1.667  | 428.920 | N    | None    |
| 3331 | 54.611 | 1.667  | 424.570 | N    | 1 - F38 |
| 3332 | 58.847 | 1.667  | 428.920 | N    | None    |
| 3333 | 58.847 | 1.667  | 424.570 | N    | 1 - F38 |
| 3334 | 63.083 | 1.667  | 428.920 | N    | None    |
| 3335 | 41.584 | 19.833 | 428.920 | N    | None    |
| 3336 | 41.584 | 19.833 | 424.570 | N    | 1 - F38 |
| 3337 | 45.500 | 19.833 | 428.920 | N    | None    |
| 3338 | 54.625 | 37.167 | 428.920 | N    | None    |
| 3339 | 58.854 | 37.167 | 428.920 | N    | None    |
| 3340 | 58.854 | 37.167 | 424.570 | N    | 1 - F38 |
| 3341 | 63.083 | 37.167 | 428.920 | N    | None    |
| 3342 | 63.083 | 6.000  | 428.920 | N    | None    |
| 3343 | 63.083 | 6.000  | 424.570 | N    | 1 - F38 |
| 3344 | 63.083 | 10.334 | 428.920 | N    | None    |
| 3345 | 63.083 | 10.334 | 424.570 | N    | 1 - F38 |
| 3346 | 63.083 | 14.667 | 428.920 | N    | None    |
| 3347 | 63.083 | 14.667 | 424.570 | N    | 1 - F38 |
| 3348 | 63.083 | 19.000 | 428.920 | N    | None    |
| 3349 | 66.646 | 1.667  | 428.920 | N    | None    |
| 3350 | 66.646 | 1.667  | 424.570 | N    | 1 - F38 |
| 3351 | 70.208 | 1.667  | 428.920 | N    | None    |
| 3352 | 70.208 | 1.667  | 424.570 | N    | 1 - F38 |
| 3353 | 73.771 | 1.667  | 428.920 | N    | None    |
| 3354 | 73.771 | 1.667  | 424.570 | N    | 1 - F38 |
| 3355 | 77.333 | 1.667  | 428.920 | N    | None    |
| 3356 | 63.083 | 23.542 | 428.920 | N    | None    |
| 3357 | 63.083 | 23.542 | 424.570 | N    | 1 - F38 |
| 3358 | 63.083 | 28.083 | 428.920 | N    | None    |
| 3359 | 63.083 | 28.083 | 424.570 | N    | 1 - F38 |
| 3360 | 63.083 | 32.625 | 428.920 | N    | None    |
| 3361 | 63.083 | 32.625 | 424.570 | N    | 1 - F38 |
| 3362 | 77.333 | 6.306  | 428.920 | N    | None    |
| 3363 | 77.333 | 6.306  | 424.570 | N    | 1 - F38 |
| 3364 | 77.333 | 10.945 | 428.920 | N    | None    |
| 3365 | 77.333 | 10.945 | 424.570 | N    | 1 - F38 |
| 3366 | 77.333 | 15.584 | 428.920 | N    | None    |
| 3367 | 77.333 | 15.584 | 424.570 | N    | 1 - F38 |
| 3368 | 77.333 | 20.222 | 428.920 | N    | None    |
| 3369 | 77.333 | 20.222 | 424.570 | N    | 1 - F38 |
| 3370 | 77.333 | 24.861 | 428.920 | N    | None    |
| 3371 | 77.333 | 24.861 | 424.570 | N    | 1 - F38 |
| 3372 | 77.333 | 29.500 | 428.920 | N    | None    |
| 3373 | 77.333 | 39.469 | 424.570 | N    | 1 - F38 |
| 3374 | 77.333 | 39.469 | 428.920 | N    | None    |





RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3375 | 77.333  | 42.792 | 428.920 | N    | None    |
| 3376 | 77.333  | 36.146 | 424.570 | N    | 1 - F38 |
| 3377 | 77.333  | 36.146 | 428.920 | N    | None    |
| 3378 | 77.333  | 32.823 | 424.570 | N    | 1 - F38 |
| 3379 | 77.333  | 32.823 | 428.920 | N    | None    |
| 3380 | 83.208  | 29.500 | 428.920 | N    | None    |
| 3381 | 83.208  | 29.500 | 424.570 | N    | 1 - F38 |
| 3382 | 89.083  | 29.500 | 428.920 | N    | None    |
| 3383 | 89.083  | 56.670 | 428.920 | N    | None    |
| 3384 | 89.083  | 59.899 | 428.920 | N    | None    |
| 3385 | 89.083  | 59.899 | 424.570 | N    | 1 - F38 |
| 3386 | 89.083  | 63.127 | 428.920 | N    | None    |
| 3387 | 89.083  | 63.127 | 424.570 | N    | 1 - F38 |
| 3388 | 89.083  | 66.355 | 428.920 | N    | None    |
| 3389 | 89.083  | 66.355 | 424.570 | N    | 1 - F38 |
| 3390 | 89.083  | 69.584 | 428.920 | N    | None    |
| 3391 | 137.083 | 21.583 | 428.920 | N    | None    |
| 3392 | 137.083 | 25.333 | 428.920 | N    | None    |
| 3393 | 137.083 | 25.333 | 424.570 | N    | 1 - F38 |
| 3394 | 137.083 | 29.083 | 428.920 | N    | None    |
| 3395 | 137.083 | 29.083 | 424.570 | N    | 1 - F38 |
| 3396 | 137.083 | 32.833 | 428.920 | N    | None    |
| 3397 | 137.083 | 32.833 | 424.570 | N    | 1 - F38 |
| 3398 | 137.083 | 36.583 | 428.920 | N    | None    |
| 3399 | 137.083 | 56.670 | 428.920 | N    | None    |
| 3400 | 137.083 | 59.899 | 428.920 | N    | None    |
| 3401 | 137.083 | 59.899 | 424.570 | N    | 1 - F38 |
| 3402 | 137.083 | 63.127 | 428.920 | N    | None    |
| 3403 | 137.083 | 63.127 | 424.570 | N    | 1 - F38 |
| 3404 | 137.083 | 66.355 | 428.920 | N    | None    |
| 3405 | 137.083 | 66.355 | 424.570 | N    | 1 - F38 |
| 3406 | 137.083 | 69.584 | 428.920 | N    | None    |
| 3407 | 185.083 | 22.500 | 428.920 | N    | None    |
| 3408 | 185.083 | 28.271 | 428.920 | N    | None    |
| 3409 | 185.083 | 28.271 | 424.570 | N    | 1 - F38 |
| 3410 | 185.083 | 34.042 | 428.920 | N    | None    |
| 3411 | 185.083 | 34.042 | 424.570 | N    | 1 - F38 |
| 3412 | 185.083 | 39.813 | 428.920 | N    | None    |
| 3413 | 185.083 | 39.813 | 424.570 | N    | 1 - F38 |
| 3414 | 185.083 | 45.584 | 428.920 | N    | None    |
| 3415 | 185.083 | 45.584 | 424.570 | N    | 1 - F38 |
| 3416 | 185.083 | 51.354 | 428.920 | N    | None    |
| 3417 | 185.083 | 51.354 | 424.570 | N    | 1 - F38 |
| 3418 | 185.083 | 57.125 | 428.920 | N    | None    |
| 3419 | 185.083 | 57.125 | 424.570 | N    | 1 - F38 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3420 | 185.083 | 62.896 | 428.920 | N    | None    |
| 3421 | 185.083 | 62.896 | 424.570 | N    | 1 - F38 |
| 3422 | 185.083 | 68.667 | 428.920 | N    | None    |
| 3423 | 89.083  | 33.042 | 428.920 | N    | None    |
| 3424 | 89.083  | 33.042 | 424.570 | N    | 1 - F38 |
| 3425 | 89.083  | 36.583 | 428.920 | N    | None    |
| 3426 | 89.083  | 21.583 | 428.920 | N    | None    |
| 3427 | 89.083  | 25.542 | 428.920 | N    | None    |
| 3428 | 89.083  | 25.542 | 424.570 | N    | 1 - F38 |
| 3429 | 37.667  | 1.667  | 420.220 | N    | None    |
| 3430 | 37.667  | 6.209  | 420.220 | N    | None    |
| 3431 | 37.667  | 6.209  | 415.870 | N    | 1 - F37 |
| 3432 | 37.667  | 10.750 | 420.220 | N    | None    |
| 3433 | 37.667  | 10.750 | 415.870 | N    | 1 - F37 |
| 3434 | 37.667  | 15.292 | 420.220 | N    | None    |
| 3435 | 37.667  | 15.292 | 415.870 | N    | 1 - F37 |
| 3436 | 37.667  | 19.833 | 420.220 | N    | None    |
| 3437 | 41.903  | 1.667  | 420.220 | N    | None    |
| 3438 | 41.903  | 1.667  | 415.870 | N    | 1 - F37 |
| 3439 | 46.139  | 1.667  | 420.220 | N    | None    |
| 3440 | 46.139  | 1.667  | 415.870 | N    | 1 - F37 |
| 3441 | 50.375  | 1.667  | 420.220 | N    | None    |
| 3442 | 50.375  | 1.667  | 415.870 | N    | 1 - F37 |
| 3443 | 54.611  | 1.667  | 420.220 | N    | None    |
| 3444 | 54.611  | 1.667  | 415.870 | N    | 1 - F37 |
| 3445 | 58.847  | 1.667  | 420.220 | N    | None    |
| 3446 | 58.847  | 1.667  | 415.870 | N    | 1 - F37 |
| 3447 | 63.083  | 1.667  | 420.220 | N    | None    |
| 3448 | 41.584  | 19.833 | 420.220 | N    | None    |
| 3449 | 41.584  | 19.833 | 415.870 | N    | 1 - F37 |
| 3450 | 45.500  | 19.833 | 420.220 | N    | None    |
| 3451 | 54.625  | 37.167 | 420.220 | N    | None    |
| 3452 | 58.854  | 37.167 | 420.220 | N    | None    |
| 3453 | 58.854  | 37.167 | 415.870 | N    | 1 - F37 |
| 3454 | 63.083  | 37.167 | 420.220 | N    | None    |
| 3455 | 63.083  | 6.000  | 420.220 | N    | None    |
| 3456 | 63.083  | 6.000  | 415.870 | N    | 1 - F37 |
| 3457 | 63.083  | 10.334 | 420.220 | N    | None    |
| 3458 | 63.083  | 10.334 | 415.870 | N    | 1 - F37 |
| 3459 | 63.083  | 14.667 | 420.220 | N    | None    |
| 3460 | 63.083  | 14.667 | 415.870 | N    | 1 - F37 |
| 3461 | 63.083  | 19.000 | 420.220 | N    | None    |
| 3462 | 66.646  | 1.667  | 420.220 | N    | None    |
| 3463 | 66.646  | 1.667  | 415.870 | N    | 1 - F37 |
| 3464 | 70.208  | 1.667  | 420.220 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3465 | 70.208  | 1.667  | 415.870 | N    | 1 - F37 |
| 3466 | 73.771  | 1.667  | 420.220 | N    | None    |
| 3467 | 73.771  | 1.667  | 415.870 | N    | 1 - F37 |
| 3468 | 77.333  | 1.667  | 420.220 | N    | None    |
| 3469 | 63.083  | 23.542 | 420.220 | N    | None    |
| 3470 | 63.083  | 23.542 | 415.870 | N    | 1 - F37 |
| 3471 | 63.083  | 28.083 | 420.220 | N    | None    |
| 3472 | 63.083  | 28.083 | 415.870 | N    | 1 - F37 |
| 3473 | 63.083  | 32.625 | 420.220 | N    | None    |
| 3474 | 63.083  | 32.625 | 415.870 | N    | 1 - F37 |
| 3475 | 77.333  | 6.306  | 420.220 | N    | None    |
| 3476 | 77.333  | 6.306  | 415.870 | N    | 1 - F37 |
| 3477 | 77.333  | 10.945 | 420.220 | N    | None    |
| 3478 | 77.333  | 10.945 | 415.870 | N    | 1 - F37 |
| 3479 | 77.333  | 15.584 | 420.220 | N    | None    |
| 3480 | 77.333  | 15.584 | 415.870 | N    | 1 - F37 |
| 3481 | 77.333  | 20.222 | 420.220 | N    | None    |
| 3482 | 77.333  | 20.222 | 415.870 | N    | 1 - F37 |
| 3483 | 77.333  | 24.861 | 420.220 | N    | None    |
| 3484 | 77.333  | 24.861 | 415.870 | N    | 1 - F37 |
| 3485 | 77.333  | 29.500 | 420.220 | N    | None    |
| 3486 | 77.333  | 39.469 | 415.870 | N    | 1 - F37 |
| 3487 | 77.333  | 39.469 | 420.220 | N    | None    |
| 3488 | 77.333  | 42.792 | 420.220 | N    | None    |
| 3489 | 77.333  | 36.146 | 415.870 | N    | 1 - F37 |
| 3490 | 77.333  | 36.146 | 420.220 | N    | None    |
| 3491 | 77.333  | 32.823 | 415.870 | N    | 1 - F37 |
| 3492 | 77.333  | 32.823 | 420.220 | N    | None    |
| 3493 | 83.208  | 29.500 | 420.220 | N    | None    |
| 3494 | 83.208  | 29.500 | 415.870 | N    | 1 - F37 |
| 3495 | 89.083  | 29.500 | 420.220 | N    | None    |
| 3496 | 89.083  | 56.670 | 420.220 | N    | None    |
| 3497 | 89.083  | 59.899 | 420.220 | N    | None    |
| 3498 | 89.083  | 59.899 | 415.870 | N    | 1 - F37 |
| 3499 | 89.083  | 63.127 | 420.220 | N    | None    |
| 3500 | 89.083  | 63.127 | 415.870 | N    | 1 - F37 |
| 3501 | 89.083  | 66.355 | 420.220 | N    | None    |
| 3502 | 89.083  | 66.355 | 415.870 | N    | 1 - F37 |
| 3503 | 89.083  | 69.584 | 420.220 | N    | None    |
| 3504 | 137.083 | 21.583 | 420.220 | N    | None    |
| 3505 | 137.083 | 25.333 | 420.220 | N    | None    |
| 3506 | 137.083 | 25.333 | 415.870 | N    | 1 - F37 |
| 3507 | 137.083 | 29.083 | 420.220 | N    | None    |
| 3508 | 137.083 | 29.083 | 415.870 | N    | 1 - F37 |
| 3509 | 137.083 | 32.833 | 420.220 | N    | None    |



RAM Structural System



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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3510 | 137.083 | 32.833 | 415.870 | N    | 1 - F37 |
| 3511 | 137.083 | 36.583 | 420.220 | N    | None    |
| 3512 | 137.083 | 56.670 | 420.220 | N    | None    |
| 3513 | 137.083 | 59.899 | 420.220 | N    | None    |
| 3514 | 137.083 | 59.899 | 415.870 | N    | 1 - F37 |
| 3515 | 137.083 | 63.127 | 420.220 | N    | None    |
| 3516 | 137.083 | 63.127 | 415.870 | N    | 1 - F37 |
| 3517 | 137.083 | 66.355 | 420.220 | N    | None    |
| 3518 | 137.083 | 66.355 | 415.870 | N    | 1 - F37 |
| 3519 | 137.083 | 69.584 | 420.220 | N    | None    |
| 3520 | 185.083 | 22.500 | 420.220 | N    | None    |
| 3521 | 185.083 | 28.271 | 420.220 | N    | None    |
| 3522 | 185.083 | 28.271 | 415.870 | N    | 1 - F37 |
| 3523 | 185.083 | 34.042 | 420.220 | N    | None    |
| 3524 | 185.083 | 34.042 | 415.870 | N    | 1 - F37 |
| 3525 | 185.083 | 39.813 | 420.220 | N    | None    |
| 3526 | 185.083 | 39.813 | 415.870 | N    | 1 - F37 |
| 3527 | 185.083 | 45.584 | 420.220 | N    | None    |
| 3528 | 185.083 | 45.584 | 415.870 | N    | 1 - F37 |
| 3529 | 185.083 | 51.354 | 420.220 | N    | None    |
| 3530 | 185.083 | 51.354 | 415.870 | N    | 1 - F37 |
| 3531 | 185.083 | 57.125 | 420.220 | N    | None    |
| 3532 | 185.083 | 57.125 | 415.870 | N    | 1 - F37 |
| 3533 | 185.083 | 62.896 | 420.220 | N    | None    |
| 3534 | 185.083 | 62.896 | 415.870 | N    | 1 - F37 |
| 3535 | 185.083 | 68.667 | 420.220 | N    | None    |
| 3536 | 89.083  | 33.042 | 420.220 | N    | None    |
| 3537 | 89.083  | 33.042 | 415.870 | N    | 1 - F37 |
| 3538 | 89.083  | 36.583 | 420.220 | N    | None    |
| 3539 | 89.083  | 21.583 | 420.220 | N    | None    |
| 3540 | 89.083  | 25.542 | 420.220 | N    | None    |
| 3541 | 89.083  | 25.542 | 415.870 | N    | 1 - F37 |
| 3542 | 37.667  | 1.667  | 411.520 | N    | None    |
| 3543 | 37.667  | 6.209  | 411.520 | N    | None    |
| 3544 | 37.667  | 6.209  | 407.170 | N    | 1 - F36 |
| 3545 | 37.667  | 10.750 | 411.520 | N    | None    |
| 3546 | 37.667  | 10.750 | 407.170 | N    | 1 - F36 |
| 3547 | 37.667  | 15.292 | 411.520 | N    | None    |
| 3548 | 37.667  | 15.292 | 407.170 | N    | 1 - F36 |
| 3549 | 37.667  | 19.833 | 411.520 | N    | None    |
| 3550 | 41.903  | 1.667  | 411.520 | N    | None    |
| 3551 | 41.903  | 1.667  | 407.170 | N    | 1 - F36 |
| 3552 | 46.139  | 1.667  | 411.520 | N    | None    |
| 3553 | 46.139  | 1.667  | 407.170 | N    | 1 - F36 |
| 3554 | 50.375  | 1.667  | 411.520 | N    | None    |



RAM Structural System



DEPT OF BLDGS121191236

Job Number



ES371279157

Scan Code

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| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 3555 | 50.375 | 1.667  | 407.170 | N    | 1 - F36 |
| 3556 | 54.611 | 1.667  | 411.520 | N    | None    |
| 3557 | 54.611 | 1.667  | 407.170 | N    | 1 - F36 |
| 3558 | 58.847 | 1.667  | 411.520 | N    | None    |
| 3559 | 58.847 | 1.667  | 407.170 | N    | 1 - F36 |
| 3560 | 63.083 | 1.667  | 411.520 | N    | None    |
| 3561 | 41.584 | 19.833 | 411.520 | N    | None    |
| 3562 | 41.584 | 19.833 | 407.170 | N    | 1 - F36 |
| 3563 | 45.500 | 19.833 | 411.520 | N    | None    |
| 3564 | 54.625 | 37.167 | 411.520 | N    | None    |
| 3565 | 58.854 | 37.167 | 411.520 | N    | None    |
| 3566 | 58.854 | 37.167 | 407.170 | N    | 1 - F36 |
| 3567 | 63.083 | 37.167 | 411.520 | N    | None    |
| 3568 | 63.083 | 6.000  | 411.520 | N    | None    |
| 3569 | 63.083 | 6.000  | 407.170 | N    | 1 - F36 |
| 3570 | 63.083 | 10.334 | 411.520 | N    | None    |
| 3571 | 63.083 | 10.334 | 407.170 | N    | 1 - F36 |
| 3572 | 63.083 | 14.667 | 411.520 | N    | None    |
| 3573 | 63.083 | 14.667 | 407.170 | N    | 1 - F36 |
| 3574 | 63.083 | 19.000 | 411.520 | N    | None    |
| 3575 | 66.646 | 1.667  | 411.520 | N    | None    |
| 3576 | 66.646 | 1.667  | 407.170 | N    | 1 - F36 |
| 3577 | 70.208 | 1.667  | 411.520 | N    | None    |
| 3578 | 70.208 | 1.667  | 407.170 | N    | 1 - F36 |
| 3579 | 73.771 | 1.667  | 411.520 | N    | None    |
| 3580 | 73.771 | 1.667  | 407.170 | N    | 1 - F36 |
| 3581 | 77.333 | 1.667  | 411.520 | N    | None    |
| 3582 | 63.083 | 23.542 | 411.520 | N    | None    |
| 3583 | 63.083 | 23.542 | 407.170 | N    | 1 - F36 |
| 3584 | 63.083 | 28.083 | 411.520 | N    | None    |
| 3585 | 63.083 | 28.083 | 407.170 | N    | 1 - F36 |
| 3586 | 63.083 | 32.625 | 411.520 | N    | None    |
| 3587 | 63.083 | 32.625 | 407.170 | N    | 1 - F36 |
| 3588 | 77.333 | 6.306  | 411.520 | N    | None    |
| 3589 | 77.333 | 6.306  | 407.170 | N    | 1 - F36 |
| 3590 | 77.333 | 10.945 | 411.520 | N    | None    |
| 3591 | 77.333 | 10.945 | 407.170 | N    | 1 - F36 |
| 3592 | 77.333 | 15.584 | 411.520 | N    | None    |
| 3593 | 77.333 | 15.584 | 407.170 | N    | 1 - F36 |
| 3594 | 77.333 | 20.222 | 411.520 | N    | None    |
| 3595 | 77.333 | 20.222 | 407.170 | N    | 1 - F36 |
| 3596 | 77.333 | 24.861 | 411.520 | N    | None    |
| 3597 | 77.333 | 24.861 | 407.170 | N    | 1 - F36 |
| 3598 | 77.333 | 29.500 | 411.520 | N    | None    |
| 3599 | 77.333 | 39.469 | 407.170 | N    | 1 - F36 |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3600 | 77.333  | 39.469 | 411.520 | N    | None    |
| 3601 | 77.333  | 42.792 | 411.520 | N    | None    |
| 3602 | 77.333  | 36.146 | 407.170 | N    | 1 - F36 |
| 3603 | 77.333  | 36.146 | 411.520 | N    | None    |
| 3604 | 77.333  | 32.823 | 407.170 | N    | 1 - F36 |
| 3605 | 77.333  | 32.823 | 411.520 | N    | None    |
| 3606 | 83.208  | 29.500 | 411.520 | N    | None    |
| 3607 | 83.208  | 29.500 | 407.170 | N    | 1 - F36 |
| 3608 | 89.083  | 29.500 | 411.520 | N    | None    |
| 3609 | 89.083  | 56.670 | 411.520 | N    | None    |
| 3610 | 89.083  | 59.899 | 411.520 | N    | None    |
| 3611 | 89.083  | 59.899 | 407.170 | N    | 1 - F36 |
| 3612 | 89.083  | 63.127 | 411.520 | N    | None    |
| 3613 | 89.083  | 63.127 | 407.170 | N    | 1 - F36 |
| 3614 | 89.083  | 66.355 | 411.520 | N    | None    |
| 3615 | 89.083  | 66.355 | 407.170 | N    | 1 - F36 |
| 3616 | 89.083  | 69.584 | 411.520 | N    | None    |
| 3617 | 137.083 | 21.583 | 411.520 | N    | None    |
| 3618 | 137.083 | 25.333 | 411.520 | N    | None    |
| 3619 | 137.083 | 25.333 | 407.170 | N    | 1 - F36 |
| 3620 | 137.083 | 29.083 | 411.520 | N    | None    |
| 3621 | 137.083 | 29.083 | 407.170 | N    | 1 - F36 |
| 3622 | 137.083 | 32.833 | 411.520 | N    | None    |
| 3623 | 137.083 | 32.833 | 407.170 | N    | 1 - F36 |
| 3624 | 137.083 | 36.583 | 411.520 | N    | None    |
| 3625 | 137.083 | 56.670 | 411.520 | N    | None    |
| 3626 | 137.083 | 59.899 | 411.520 | N    | None    |
| 3627 | 137.083 | 59.899 | 407.170 | N    | 1 - F36 |
| 3628 | 137.083 | 63.127 | 411.520 | N    | None    |
| 3629 | 137.083 | 63.127 | 407.170 | N    | 1 - F36 |
| 3630 | 137.083 | 66.355 | 411.520 | N    | None    |
| 3631 | 137.083 | 66.355 | 407.170 | N    | 1 - F36 |
| 3632 | 137.083 | 69.584 | 411.520 | N    | None    |
| 3633 | 185.083 | 22.500 | 411.520 | N    | None    |
| 3634 | 185.083 | 28.271 | 411.520 | N    | None    |
| 3635 | 185.083 | 28.271 | 407.170 | N    | 1 - F36 |
| 3636 | 185.083 | 34.042 | 411.520 | N    | None    |
| 3637 | 185.083 | 34.042 | 407.170 | N    | 1 - F36 |
| 3638 | 185.083 | 39.813 | 411.520 | N    | None    |
| 3639 | 185.083 | 39.813 | 407.170 | N    | 1 - F36 |
| 3640 | 185.083 | 45.584 | 411.520 | N    | None    |
| 3641 | 185.083 | 45.584 | 407.170 | N    | 1 - F36 |
| 3642 | 185.083 | 51.354 | 411.520 | N    | None    |
| 3643 | 185.083 | 51.354 | 407.170 | N    | 1 - F36 |
| 3644 | 185.083 | 57.125 | 411.520 | N    | None    |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3645 | 185.083 | 57.125 | 407.170 | N    | 1 - F36 |
| 3646 | 185.083 | 62.896 | 411.520 | N    | None    |
| 3647 | 185.083 | 62.896 | 407.170 | N    | 1 - F36 |
| 3648 | 185.083 | 68.667 | 411.520 | N    | None    |
| 3649 | 89.083  | 33.042 | 411.520 | N    | None    |
| 3650 | 89.083  | 33.042 | 407.170 | N    | 1 - F36 |
| 3651 | 89.083  | 36.583 | 411.520 | N    | None    |
| 3652 | 89.083  | 21.583 | 411.520 | N    | None    |
| 3653 | 89.083  | 25.542 | 411.520 | N    | None    |
| 3654 | 89.083  | 25.542 | 407.170 | N    | 1 - F36 |
| 3655 | 37.667  | 1.667  | 402.820 | N    | None    |
| 3656 | 37.667  | 6.209  | 402.820 | N    | None    |
| 3657 | 37.667  | 6.209  | 398.470 | N    | 1 - F35 |
| 3658 | 37.667  | 10.750 | 402.820 | N    | None    |
| 3659 | 37.667  | 10.750 | 398.470 | N    | 1 - F35 |
| 3660 | 37.667  | 15.292 | 402.820 | N    | None    |
| 3661 | 37.667  | 15.292 | 398.470 | N    | 1 - F35 |
| 3662 | 37.667  | 19.833 | 402.820 | N    | None    |
| 3663 | 41.903  | 1.667  | 402.820 | N    | None    |
| 3664 | 41.903  | 1.667  | 398.470 | N    | 1 - F35 |
| 3665 | 46.139  | 1.667  | 402.820 | N    | None    |
| 3666 | 46.139  | 1.667  | 398.470 | N    | 1 - F35 |
| 3667 | 50.375  | 1.667  | 402.820 | N    | None    |
| 3668 | 50.375  | 1.667  | 398.470 | N    | 1 - F35 |
| 3669 | 54.611  | 1.667  | 402.820 | N    | None    |
| 3670 | 54.611  | 1.667  | 398.470 | N    | 1 - F35 |
| 3671 | 58.847  | 1.667  | 402.820 | N    | None    |
| 3672 | 58.847  | 1.667  | 398.470 | N    | 1 - F35 |
| 3673 | 63.083  | 1.667  | 402.820 | N    | None    |
| 3674 | 41.584  | 19.833 | 402.820 | N    | None    |
| 3675 | 41.584  | 19.833 | 398.470 | N    | 1 - F35 |
| 3676 | 45.500  | 19.833 | 402.820 | N    | None    |
| 3677 | 54.625  | 37.167 | 402.820 | N    | None    |
| 3678 | 58.854  | 37.167 | 402.820 | N    | None    |
| 3679 | 58.854  | 37.167 | 398.470 | N    | 1 - F35 |
| 3680 | 63.083  | 37.167 | 402.820 | N    | None    |
| 3681 | 63.083  | 6.000  | 402.820 | N    | None    |
| 3682 | 63.083  | 6.000  | 398.470 | N    | 1 - F35 |
| 3683 | 63.083  | 10.334 | 402.820 | N    | None    |
| 3684 | 63.083  | 10.334 | 398.470 | N    | 1 - F35 |
| 3685 | 63.083  | 14.667 | 402.820 | N    | None    |
| 3686 | 63.083  | 14.667 | 398.470 | N    | 1 - F35 |
| 3687 | 63.083  | 19.000 | 402.820 | N    | None    |
| 3688 | 66.646  | 1.667  | 402.820 | N    | None    |
| 3689 | 66.646  | 1.667  | 398.470 | N    | 1 - F35 |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3690 | 70.208  | 1.667  | 402.820 | N    | None    |
| 3691 | 70.208  | 1.667  | 398.470 | N    | 1 - F35 |
| 3692 | 73.771  | 1.667  | 402.820 | N    | None    |
| 3693 | 73.771  | 1.667  | 398.470 | N    | 1 - F35 |
| 3694 | 77.333  | 1.667  | 402.820 | N    | None    |
| 3695 | 63.083  | 23.542 | 402.820 | N    | None    |
| 3696 | 63.083  | 23.542 | 398.470 | N    | 1 - F35 |
| 3697 | 63.083  | 28.083 | 402.820 | N    | None    |
| 3698 | 63.083  | 28.083 | 398.470 | N    | 1 - F35 |
| 3699 | 63.083  | 32.625 | 402.820 | N    | None    |
| 3700 | 63.083  | 32.625 | 398.470 | N    | 1 - F35 |
| 3701 | 77.333  | 6.306  | 402.820 | N    | None    |
| 3702 | 77.333  | 6.306  | 398.470 | N    | 1 - F35 |
| 3703 | 77.333  | 10.945 | 402.820 | N    | None    |
| 3704 | 77.333  | 10.945 | 398.470 | N    | 1 - F35 |
| 3705 | 77.333  | 15.584 | 402.820 | N    | None    |
| 3706 | 77.333  | 15.584 | 398.470 | N    | 1 - F35 |
| 3707 | 77.333  | 20.222 | 402.820 | N    | None    |
| 3708 | 77.333  | 20.222 | 398.470 | N    | 1 - F35 |
| 3709 | 77.333  | 24.861 | 402.820 | N    | None    |
| 3710 | 77.333  | 24.861 | 398.470 | N    | 1 - F35 |
| 3711 | 77.333  | 29.500 | 402.820 | N    | None    |
| 3712 | 77.333  | 39.469 | 398.470 | N    | 1 - F35 |
| 3713 | 77.333  | 39.469 | 402.820 | N    | None    |
| 3714 | 77.333  | 42.792 | 402.820 | N    | None    |
| 3715 | 77.333  | 36.146 | 398.470 | N    | 1 - F35 |
| 3716 | 77.333  | 36.146 | 402.820 | N    | None    |
| 3717 | 77.333  | 32.823 | 398.470 | N    | 1 - F35 |
| 3718 | 77.333  | 32.823 | 402.820 | N    | None    |
| 3719 | 83.208  | 29.500 | 402.820 | N    | None    |
| 3720 | 83.208  | 29.500 | 398.470 | N    | 1 - F35 |
| 3721 | 89.083  | 29.500 | 402.820 | N    | None    |
| 3722 | 89.083  | 56.670 | 402.820 | N    | None    |
| 3723 | 89.083  | 59.899 | 402.820 | N    | None    |
| 3724 | 89.083  | 59.899 | 398.470 | N    | 1 - F35 |
| 3725 | 89.083  | 63.127 | 402.820 | N    | None    |
| 3726 | 89.083  | 63.127 | 398.470 | N    | 1 - F35 |
| 3727 | 89.083  | 66.355 | 402.820 | N    | None    |
| 3728 | 89.083  | 66.355 | 398.470 | N    | 1 - F35 |
| 3729 | 89.083  | 69.584 | 402.820 | N    | None    |
| 3730 | 137.083 | 21.583 | 402.820 | N    | None    |
| 3731 | 137.083 | 25.333 | 402.820 | N    | None    |
| 3732 | 137.083 | 25.333 | 398.470 | N    | 1 - F35 |
| 3733 | 137.083 | 29.083 | 402.820 | N    | None    |
| 3734 | 137.083 | 29.083 | 398.470 | N    | 1 - F35 |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3735 | 137.083 | 32.833 | 402.820 | N    | None    |
| 3736 | 137.083 | 32.833 | 398.470 | N    | 1 - F35 |
| 3737 | 137.083 | 36.583 | 402.820 | N    | None    |
| 3738 | 137.083 | 56.670 | 402.820 | N    | None    |
| 3739 | 137.083 | 59.899 | 402.820 | N    | None    |
| 3740 | 137.083 | 59.899 | 398.470 | N    | 1 - F35 |
| 3741 | 137.083 | 63.127 | 402.820 | N    | None    |
| 3742 | 137.083 | 63.127 | 398.470 | N    | 1 - F35 |
| 3743 | 137.083 | 66.355 | 402.820 | N    | None    |
| 3744 | 137.083 | 66.355 | 398.470 | N    | 1 - F35 |
| 3745 | 137.083 | 69.584 | 402.820 | N    | None    |
| 3746 | 185.083 | 22.500 | 402.820 | N    | None    |
| 3747 | 185.083 | 28.271 | 402.820 | N    | None    |
| 3748 | 185.083 | 28.271 | 398.470 | N    | 1 - F35 |
| 3749 | 185.083 | 34.042 | 402.820 | N    | None    |
| 3750 | 185.083 | 34.042 | 398.470 | N    | 1 - F35 |
| 3751 | 185.083 | 39.813 | 402.820 | N    | None    |
| 3752 | 185.083 | 39.813 | 398.470 | N    | 1 - F35 |
| 3753 | 185.083 | 45.584 | 402.820 | N    | None    |
| 3754 | 185.083 | 45.584 | 398.470 | N    | 1 - F35 |
| 3755 | 185.083 | 51.354 | 402.820 | N    | None    |
| 3756 | 185.083 | 51.354 | 398.470 | N    | 1 - F35 |
| 3757 | 185.083 | 57.125 | 402.820 | N    | None    |
| 3758 | 185.083 | 57.125 | 398.470 | N    | 1 - F35 |
| 3759 | 185.083 | 62.896 | 402.820 | N    | None    |
| 3760 | 185.083 | 62.896 | 398.470 | N    | 1 - F35 |
| 3761 | 185.083 | 68.667 | 402.820 | N    | None    |
| 3762 | 89.083  | 33.042 | 402.820 | N    | None    |
| 3763 | 89.083  | 33.042 | 398.470 | N    | 1 - F35 |
| 3764 | 89.083  | 36.583 | 402.820 | N    | None    |
| 3765 | 89.083  | 21.583 | 402.820 | N    | None    |
| 3766 | 89.083  | 25.542 | 402.820 | N    | None    |
| 3767 | 89.083  | 25.542 | 398.470 | N    | 1 - F35 |
| 3768 | 37.667  | 1.667  | 394.120 | N    | None    |
| 3769 | 37.667  | 6.209  | 394.120 | N    | None    |
| 3770 | 37.667  | 6.209  | 389.770 | N    | 1 - F34 |
| 3771 | 37.667  | 10.750 | 394.120 | N    | None    |
| 3772 | 37.667  | 10.750 | 389.770 | N    | 1 - F34 |
| 3773 | 37.667  | 15.292 | 394.120 | N    | None    |
| 3774 | 37.667  | 15.292 | 389.770 | N    | 1 - F34 |
| 3775 | 37.667  | 19.833 | 394.120 | N    | None    |
| 3776 | 41.903  | 1.667  | 394.120 | N    | None    |
| 3777 | 41.903  | 1.667  | 389.770 | N    | 1 - F34 |
| 3778 | 46.139  | 1.667  | 394.120 | N    | None    |
| 3779 | 46.139  | 1.667  | 389.770 | N    | 1 - F34 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 3780 | 50.375 | 1.667  | 394.120 | N    | None    |
| 3781 | 50.375 | 1.667  | 389.770 | N    | 1 - F34 |
| 3782 | 54.611 | 1.667  | 394.120 | N    | None    |
| 3783 | 54.611 | 1.667  | 389.770 | N    | 1 - F34 |
| 3784 | 58.847 | 1.667  | 394.120 | N    | None    |
| 3785 | 58.847 | 1.667  | 389.770 | N    | 1 - F34 |
| 3786 | 63.083 | 1.667  | 394.120 | N    | None    |
| 3787 | 41.584 | 19.833 | 394.120 | N    | None    |
| 3788 | 41.584 | 19.833 | 389.770 | N    | 1 - F34 |
| 3789 | 45.500 | 19.833 | 394.120 | N    | None    |
| 3790 | 54.625 | 37.167 | 394.120 | N    | None    |
| 3791 | 58.854 | 37.167 | 394.120 | N    | None    |
| 3792 | 58.854 | 37.167 | 389.770 | N    | 1 - F34 |
| 3793 | 63.083 | 37.167 | 394.120 | N    | None    |
| 3794 | 63.083 | 6.000  | 394.120 | N    | None    |
| 3795 | 63.083 | 6.000  | 389.770 | N    | 1 - F34 |
| 3796 | 63.083 | 10.334 | 394.120 | N    | None    |
| 3797 | 63.083 | 10.334 | 389.770 | N    | 1 - F34 |
| 3798 | 63.083 | 14.667 | 394.120 | N    | None    |
| 3799 | 63.083 | 14.667 | 389.770 | N    | 1 - F34 |
| 3800 | 63.083 | 19.000 | 394.120 | N    | None    |
| 3801 | 66.646 | 1.667  | 394.120 | N    | None    |
| 3802 | 66.646 | 1.667  | 389.770 | N    | 1 - F34 |
| 3803 | 70.208 | 1.667  | 394.120 | N    | None    |
| 3804 | 70.208 | 1.667  | 389.770 | N    | 1 - F34 |
| 3805 | 73.771 | 1.667  | 394.120 | N    | None    |
| 3806 | 73.771 | 1.667  | 389.770 | N    | 1 - F34 |
| 3807 | 77.333 | 1.667  | 394.120 | N    | None    |
| 3808 | 63.083 | 23.542 | 394.120 | N    | None    |
| 3809 | 63.083 | 23.542 | 389.770 | N    | 1 - F34 |
| 3810 | 63.083 | 28.083 | 394.120 | N    | None    |
| 3811 | 63.083 | 28.083 | 389.770 | N    | 1 - F34 |
| 3812 | 63.083 | 32.625 | 394.120 | N    | None    |
| 3813 | 63.083 | 32.625 | 389.770 | N    | 1 - F34 |
| 3814 | 77.333 | 6.306  | 394.120 | N    | None    |
| 3815 | 77.333 | 6.306  | 389.770 | N    | 1 - F34 |
| 3816 | 77.333 | 10.945 | 394.120 | N    | None    |
| 3817 | 77.333 | 10.945 | 389.770 | N    | 1 - F34 |
| 3818 | 77.333 | 15.584 | 394.120 | N    | None    |
| 3819 | 77.333 | 15.584 | 389.770 | N    | 1 - F34 |
| 3820 | 77.333 | 20.222 | 394.120 | N    | None    |
| 3821 | 77.333 | 20.222 | 389.770 | N    | 1 - F34 |
| 3822 | 77.333 | 24.861 | 394.120 | N    | None    |
| 3823 | 77.333 | 24.861 | 389.770 | N    | 1 - F34 |
| 3824 | 77.333 | 29.500 | 394.120 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3825 | 77.333  | 39.469 | 389.770 | N    | 1 - F34 |
| 3826 | 77.333  | 39.469 | 394.120 | N    | None    |
| 3827 | 77.333  | 42.792 | 394.120 | N    | None    |
| 3828 | 77.333  | 36.146 | 389.770 | N    | 1 - F34 |
| 3829 | 77.333  | 36.146 | 394.120 | N    | None    |
| 3830 | 77.333  | 32.823 | 389.770 | N    | 1 - F34 |
| 3831 | 77.333  | 32.823 | 394.120 | N    | None    |
| 3832 | 83.208  | 29.500 | 394.120 | N    | None    |
| 3833 | 83.208  | 29.500 | 389.770 | N    | 1 - F34 |
| 3834 | 89.083  | 29.500 | 394.120 | N    | None    |
| 3835 | 89.083  | 56.670 | 394.120 | N    | None    |
| 3836 | 89.083  | 59.899 | 394.120 | N    | None    |
| 3837 | 89.083  | 59.899 | 389.770 | N    | 1 - F34 |
| 3838 | 89.083  | 63.127 | 394.120 | N    | None    |
| 3839 | 89.083  | 63.127 | 389.770 | N    | 1 - F34 |
| 3840 | 89.083  | 66.355 | 394.120 | N    | None    |
| 3841 | 89.083  | 66.355 | 389.770 | N    | 1 - F34 |
| 3842 | 89.083  | 69.584 | 394.120 | N    | None    |
| 3843 | 137.083 | 21.583 | 394.120 | N    | None    |
| 3844 | 137.083 | 25.333 | 394.120 | N    | None    |
| 3845 | 137.083 | 25.333 | 389.770 | N    | 1 - F34 |
| 3846 | 137.083 | 29.083 | 394.120 | N    | None    |
| 3847 | 137.083 | 29.083 | 389.770 | N    | 1 - F34 |
| 3848 | 137.083 | 32.833 | 394.120 | N    | None    |
| 3849 | 137.083 | 32.833 | 389.770 | N    | 1 - F34 |
| 3850 | 137.083 | 36.583 | 394.120 | N    | None    |
| 3851 | 137.083 | 56.670 | 394.120 | N    | None    |
| 3852 | 137.083 | 59.899 | 394.120 | N    | None    |
| 3853 | 137.083 | 59.899 | 389.770 | N    | 1 - F34 |
| 3854 | 137.083 | 63.127 | 394.120 | N    | None    |
| 3855 | 137.083 | 63.127 | 389.770 | N    | 1 - F34 |
| 3856 | 137.083 | 66.355 | 394.120 | N    | None    |
| 3857 | 137.083 | 66.355 | 389.770 | N    | 1 - F34 |
| 3858 | 137.083 | 69.584 | 394.120 | N    | None    |
| 3859 | 185.083 | 22.500 | 394.120 | N    | None    |
| 3860 | 185.083 | 28.271 | 394.120 | N    | None    |
| 3861 | 185.083 | 28.271 | 389.770 | N    | 1 - F34 |
| 3862 | 185.083 | 34.042 | 394.120 | N    | None    |
| 3863 | 185.083 | 34.042 | 389.770 | N    | 1 - F34 |
| 3864 | 185.083 | 39.813 | 394.120 | N    | None    |
| 3865 | 185.083 | 39.813 | 389.770 | N    | 1 - F34 |
| 3866 | 185.083 | 45.584 | 394.120 | N    | None    |
| 3867 | 185.083 | 45.584 | 389.770 | N    | 1 - F34 |
| 3868 | 185.083 | 51.354 | 394.120 | N    | None    |
| 3869 | 185.083 | 51.354 | 389.770 | N    | 1 - F34 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3870 | 185.083 | 57.125 | 394.120 | N    | None    |
| 3871 | 185.083 | 57.125 | 389.770 | N    | 1 - F34 |
| 3872 | 185.083 | 62.896 | 394.120 | N    | None    |
| 3873 | 185.083 | 62.896 | 389.770 | N    | 1 - F34 |
| 3874 | 185.083 | 68.667 | 394.120 | N    | None    |
| 3875 | 89.083  | 33.042 | 394.120 | N    | None    |
| 3876 | 89.083  | 33.042 | 389.770 | N    | 1 - F34 |
| 3877 | 89.083  | 36.583 | 394.120 | N    | None    |
| 3878 | 89.083  | 21.583 | 394.120 | N    | None    |
| 3879 | 89.083  | 25.542 | 394.120 | N    | None    |
| 3880 | 89.083  | 25.542 | 389.770 | N    | 1 - F34 |
| 3881 | 37.667  | 1.667  | 385.420 | N    | None    |
| 3882 | 37.667  | 6.209  | 385.420 | N    | None    |
| 3883 | 37.667  | 6.209  | 381.070 | N    | 1 - F33 |
| 3884 | 37.667  | 10.750 | 385.420 | N    | None    |
| 3885 | 37.667  | 10.750 | 381.070 | N    | 1 - F33 |
| 3886 | 37.667  | 15.292 | 385.420 | N    | None    |
| 3887 | 37.667  | 15.292 | 381.070 | N    | 1 - F33 |
| 3888 | 37.667  | 19.833 | 385.420 | N    | None    |
| 3889 | 41.903  | 1.667  | 385.420 | N    | None    |
| 3890 | 41.903  | 1.667  | 381.070 | N    | 1 - F33 |
| 3891 | 46.139  | 1.667  | 385.420 | N    | None    |
| 3892 | 46.139  | 1.667  | 381.070 | N    | 1 - F33 |
| 3893 | 50.375  | 1.667  | 385.420 | N    | None    |
| 3894 | 50.375  | 1.667  | 381.070 | N    | 1 - F33 |
| 3895 | 54.611  | 1.667  | 385.420 | N    | None    |
| 3896 | 54.611  | 1.667  | 381.070 | N    | 1 - F33 |
| 3897 | 58.847  | 1.667  | 385.420 | N    | None    |
| 3898 | 58.847  | 1.667  | 381.070 | N    | 1 - F33 |
| 3899 | 63.083  | 1.667  | 385.420 | N    | None    |
| 3900 | 41.584  | 19.833 | 385.420 | N    | None    |
| 3901 | 41.584  | 19.833 | 381.070 | N    | 1 - F33 |
| 3902 | 45.500  | 19.833 | 385.420 | N    | None    |
| 3903 | 54.625  | 37.167 | 385.420 | N    | None    |
| 3904 | 58.854  | 37.167 | 385.420 | N    | None    |
| 3905 | 58.854  | 37.167 | 381.070 | N    | 1 - F33 |
| 3906 | 63.083  | 37.167 | 385.420 | N    | None    |
| 3907 | 63.083  | 6.000  | 385.420 | N    | None    |
| 3908 | 63.083  | 6.000  | 381.070 | N    | 1 - F33 |
| 3909 | 63.083  | 10.334 | 385.420 | N    | None    |
| 3910 | 63.083  | 10.334 | 381.070 | N    | 1 - F33 |
| 3911 | 63.083  | 14.667 | 385.420 | N    | None    |
| 3912 | 63.083  | 14.667 | 381.070 | N    | 1 - F33 |
| 3913 | 63.083  | 19.000 | 385.420 | N    | None    |
| 3914 | 66.646  | 1.667  | 385.420 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3915 | 66.646  | 1.667  | 381.070 | N    | 1 - F33 |
| 3916 | 70.208  | 1.667  | 385.420 | N    | None    |
| 3917 | 70.208  | 1.667  | 381.070 | N    | 1 - F33 |
| 3918 | 73.771  | 1.667  | 385.420 | N    | None    |
| 3919 | 73.771  | 1.667  | 381.070 | N    | 1 - F33 |
| 3920 | 77.333  | 1.667  | 385.420 | N    | None    |
| 3921 | 63.083  | 23.542 | 385.420 | N    | None    |
| 3922 | 63.083  | 23.542 | 381.070 | N    | 1 - F33 |
| 3923 | 63.083  | 28.083 | 385.420 | N    | None    |
| 3924 | 63.083  | 28.083 | 381.070 | N    | 1 - F33 |
| 3925 | 63.083  | 32.625 | 385.420 | N    | None    |
| 3926 | 63.083  | 32.625 | 381.070 | N    | 1 - F33 |
| 3927 | 77.333  | 6.306  | 385.420 | N    | None    |
| 3928 | 77.333  | 6.306  | 381.070 | N    | 1 - F33 |
| 3929 | 77.333  | 10.945 | 385.420 | N    | None    |
| 3930 | 77.333  | 10.945 | 381.070 | N    | 1 - F33 |
| 3931 | 77.333  | 15.584 | 385.420 | N    | None    |
| 3932 | 77.333  | 15.584 | 381.070 | N    | 1 - F33 |
| 3933 | 77.333  | 20.222 | 385.420 | N    | None    |
| 3934 | 77.333  | 20.222 | 381.070 | N    | 1 - F33 |
| 3935 | 77.333  | 24.861 | 385.420 | N    | None    |
| 3936 | 77.333  | 24.861 | 381.070 | N    | 1 - F33 |
| 3937 | 77.333  | 29.500 | 385.420 | N    | None    |
| 3938 | 77.333  | 39.469 | 381.070 | N    | 1 - F33 |
| 3939 | 77.333  | 39.469 | 385.420 | N    | None    |
| 3940 | 77.333  | 42.792 | 385.420 | N    | None    |
| 3941 | 77.333  | 36.146 | 381.070 | N    | 1 - F33 |
| 3942 | 77.333  | 36.146 | 385.420 | N    | None    |
| 3943 | 77.333  | 32.823 | 381.070 | N    | 1 - F33 |
| 3944 | 77.333  | 32.823 | 385.420 | N    | None    |
| 3945 | 83.208  | 29.500 | 385.420 | N    | None    |
| 3946 | 83.208  | 29.500 | 381.070 | N    | 1 - F33 |
| 3947 | 89.083  | 29.500 | 385.420 | N    | None    |
| 3948 | 89.083  | 56.670 | 385.420 | N    | None    |
| 3949 | 89.083  | 59.899 | 385.420 | N    | None    |
| 3950 | 89.083  | 59.899 | 381.070 | N    | 1 - F33 |
| 3951 | 89.083  | 63.127 | 385.420 | N    | None    |
| 3952 | 89.083  | 63.127 | 381.070 | N    | 1 - F33 |
| 3953 | 89.083  | 66.355 | 385.420 | N    | None    |
| 3954 | 89.083  | 66.355 | 381.070 | N    | 1 - F33 |
| 3955 | 89.083  | 69.584 | 385.420 | N    | None    |
| 3956 | 137.083 | 21.583 | 385.420 | N    | None    |
| 3957 | 137.083 | 25.333 | 385.420 | N    | None    |
| 3958 | 137.083 | 25.333 | 381.070 | N    | 1 - F33 |
| 3959 | 137.083 | 29.083 | 385.420 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



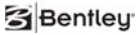
DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3960 | 137.083 | 29.083 | 381.070 | N    | 1 - F33 |
| 3961 | 137.083 | 32.833 | 385.420 | N    | None    |
| 3962 | 137.083 | 32.833 | 381.070 | N    | 1 - F33 |
| 3963 | 137.083 | 36.583 | 385.420 | N    | None    |
| 3964 | 137.083 | 56.670 | 385.420 | N    | None    |
| 3965 | 137.083 | 59.899 | 385.420 | N    | None    |
| 3966 | 137.083 | 59.899 | 381.070 | N    | 1 - F33 |
| 3967 | 137.083 | 63.127 | 385.420 | N    | None    |
| 3968 | 137.083 | 63.127 | 381.070 | N    | 1 - F33 |
| 3969 | 137.083 | 66.355 | 385.420 | N    | None    |
| 3970 | 137.083 | 66.355 | 381.070 | N    | 1 - F33 |
| 3971 | 137.083 | 69.584 | 385.420 | N    | None    |
| 3972 | 185.083 | 22.500 | 385.420 | N    | None    |
| 3973 | 185.083 | 28.271 | 385.420 | N    | None    |
| 3974 | 185.083 | 28.271 | 381.070 | N    | 1 - F33 |
| 3975 | 185.083 | 34.042 | 385.420 | N    | None    |
| 3976 | 185.083 | 34.042 | 381.070 | N    | 1 - F33 |
| 3977 | 185.083 | 39.813 | 385.420 | N    | None    |
| 3978 | 185.083 | 39.813 | 381.070 | N    | 1 - F33 |
| 3979 | 185.083 | 45.584 | 385.420 | N    | None    |
| 3980 | 185.083 | 45.584 | 381.070 | N    | 1 - F33 |
| 3981 | 185.083 | 51.354 | 385.420 | N    | None    |
| 3982 | 185.083 | 51.354 | 381.070 | N    | 1 - F33 |
| 3983 | 185.083 | 57.125 | 385.420 | N    | None    |
| 3984 | 185.083 | 57.125 | 381.070 | N    | 1 - F33 |
| 3985 | 185.083 | 62.896 | 385.420 | N    | None    |
| 3986 | 185.083 | 62.896 | 381.070 | N    | 1 - F33 |
| 3987 | 185.083 | 68.667 | 385.420 | N    | None    |
| 3988 | 89.083  | 33.042 | 385.420 | N    | None    |
| 3989 | 89.083  | 33.042 | 381.070 | N    | 1 - F33 |
| 3990 | 89.083  | 36.583 | 385.420 | N    | None    |
| 3991 | 89.083  | 21.583 | 385.420 | N    | None    |
| 3992 | 89.083  | 25.542 | 385.420 | N    | None    |
| 3993 | 89.083  | 25.542 | 381.070 | N    | 1 - F33 |
| 3994 | 37.667  | 1.667  | 376.720 | N    | None    |
| 3995 | 37.667  | 6.209  | 376.720 | N    | None    |
| 3996 | 37.667  | 6.209  | 372.370 | N    | 1 - F32 |
| 3997 | 37.667  | 10.750 | 376.720 | N    | None    |
| 3998 | 37.667  | 10.750 | 372.370 | N    | 1 - F32 |
| 3999 | 37.667  | 15.292 | 376.720 | N    | None    |
| 4000 | 37.667  | 15.292 | 372.370 | N    | 1 - F32 |
| 4001 | 37.667  | 19.833 | 376.720 | N    | None    |
| 4002 | 41.903  | 1.667  | 376.720 | N    | None    |
| 4003 | 41.903  | 1.667  | 372.370 | N    | 1 - F32 |
| 4004 | 46.139  | 1.667  | 376.720 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 4005 | 46.139 | 1.667  | 372.370 | N    | 1 - F32 |
| 4006 | 50.375 | 1.667  | 376.720 | N    | None    |
| 4007 | 50.375 | 1.667  | 372.370 | N    | 1 - F32 |
| 4008 | 54.611 | 1.667  | 376.720 | N    | None    |
| 4009 | 54.611 | 1.667  | 372.370 | N    | 1 - F32 |
| 4010 | 58.847 | 1.667  | 376.720 | N    | None    |
| 4011 | 58.847 | 1.667  | 372.370 | N    | 1 - F32 |
| 4012 | 63.083 | 1.667  | 376.720 | N    | None    |
| 4013 | 41.584 | 19.833 | 376.720 | N    | None    |
| 4014 | 41.584 | 19.833 | 372.370 | N    | 1 - F32 |
| 4015 | 45.500 | 19.833 | 376.720 | N    | None    |
| 4016 | 54.625 | 37.167 | 376.720 | N    | None    |
| 4017 | 58.854 | 37.167 | 376.720 | N    | None    |
| 4018 | 58.854 | 37.167 | 372.370 | N    | 1 - F32 |
| 4019 | 63.083 | 37.167 | 376.720 | N    | None    |
| 4020 | 63.083 | 6.000  | 376.720 | N    | None    |
| 4021 | 63.083 | 6.000  | 372.370 | N    | 1 - F32 |
| 4022 | 63.083 | 10.334 | 376.720 | N    | None    |
| 4023 | 63.083 | 10.334 | 372.370 | N    | 1 - F32 |
| 4024 | 63.083 | 14.667 | 376.720 | N    | None    |
| 4025 | 63.083 | 14.667 | 372.370 | N    | 1 - F32 |
| 4026 | 63.083 | 19.000 | 376.720 | N    | None    |
| 4027 | 66.646 | 1.667  | 376.720 | N    | None    |
| 4028 | 66.646 | 1.667  | 372.370 | N    | 1 - F32 |
| 4029 | 70.208 | 1.667  | 376.720 | N    | None    |
| 4030 | 70.208 | 1.667  | 372.370 | N    | 1 - F32 |
| 4031 | 73.771 | 1.667  | 376.720 | N    | None    |
| 4032 | 73.771 | 1.667  | 372.370 | N    | 1 - F32 |
| 4033 | 77.333 | 1.667  | 376.720 | N    | None    |
| 4034 | 63.083 | 23.542 | 376.720 | N    | None    |
| 4035 | 63.083 | 23.542 | 372.370 | N    | 1 - F32 |
| 4036 | 63.083 | 28.083 | 376.720 | N    | None    |
| 4037 | 63.083 | 28.083 | 372.370 | N    | 1 - F32 |
| 4038 | 63.083 | 32.625 | 376.720 | N    | None    |
| 4039 | 63.083 | 32.625 | 372.370 | N    | 1 - F32 |
| 4040 | 77.333 | 6.306  | 376.720 | N    | None    |
| 4041 | 77.333 | 6.306  | 372.370 | N    | 1 - F32 |
| 4042 | 77.333 | 10.945 | 376.720 | N    | None    |
| 4043 | 77.333 | 10.945 | 372.370 | N    | 1 - F32 |
| 4044 | 77.333 | 15.584 | 376.720 | N    | None    |
| 4045 | 77.333 | 15.584 | 372.370 | N    | 1 - F32 |
| 4046 | 77.333 | 20.222 | 376.720 | N    | None    |
| 4047 | 77.333 | 20.222 | 372.370 | N    | 1 - F32 |
| 4048 | 77.333 | 24.861 | 376.720 | N    | None    |
| 4049 | 77.333 | 24.861 | 372.370 | N    | 1 - F32 |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4050 | 77.333  | 29.500 | 376.720 | N    | None    |
| 4051 | 77.333  | 39.469 | 372.370 | N    | 1 - F32 |
| 4052 | 77.333  | 39.469 | 376.720 | N    | None    |
| 4053 | 77.333  | 42.792 | 376.720 | N    | None    |
| 4054 | 77.333  | 36.146 | 372.370 | N    | 1 - F32 |
| 4055 | 77.333  | 36.146 | 376.720 | N    | None    |
| 4056 | 77.333  | 32.823 | 372.370 | N    | 1 - F32 |
| 4057 | 77.333  | 32.823 | 376.720 | N    | None    |
| 4058 | 83.208  | 29.500 | 376.720 | N    | None    |
| 4059 | 83.208  | 29.500 | 372.370 | N    | 1 - F32 |
| 4060 | 89.083  | 29.500 | 376.720 | N    | None    |
| 4061 | 89.083  | 56.670 | 376.720 | N    | None    |
| 4062 | 89.083  | 59.899 | 376.720 | N    | None    |
| 4063 | 89.083  | 59.899 | 372.370 | N    | 1 - F32 |
| 4064 | 89.083  | 63.127 | 376.720 | N    | None    |
| 4065 | 89.083  | 63.127 | 372.370 | N    | 1 - F32 |
| 4066 | 89.083  | 66.355 | 376.720 | N    | None    |
| 4067 | 89.083  | 66.355 | 372.370 | N    | 1 - F32 |
| 4068 | 89.083  | 69.584 | 376.720 | N    | None    |
| 4069 | 137.083 | 21.583 | 376.720 | N    | None    |
| 4070 | 137.083 | 25.333 | 376.720 | N    | None    |
| 4071 | 137.083 | 25.333 | 372.370 | N    | 1 - F32 |
| 4072 | 137.083 | 29.083 | 376.720 | N    | None    |
| 4073 | 137.083 | 29.083 | 372.370 | N    | 1 - F32 |
| 4074 | 137.083 | 32.833 | 376.720 | N    | None    |
| 4075 | 137.083 | 32.833 | 372.370 | N    | 1 - F32 |
| 4076 | 137.083 | 36.583 | 376.720 | N    | None    |
| 4077 | 137.083 | 56.670 | 376.720 | N    | None    |
| 4078 | 137.083 | 59.899 | 376.720 | N    | None    |
| 4079 | 137.083 | 59.899 | 372.370 | N    | 1 - F32 |
| 4080 | 137.083 | 63.127 | 376.720 | N    | None    |
| 4081 | 137.083 | 63.127 | 372.370 | N    | 1 - F32 |
| 4082 | 137.083 | 66.355 | 376.720 | N    | None    |
| 4083 | 137.083 | 66.355 | 372.370 | N    | 1 - F32 |
| 4084 | 137.083 | 69.584 | 376.720 | N    | None    |
| 4085 | 185.083 | 22.500 | 376.720 | N    | None    |
| 4086 | 185.083 | 28.271 | 376.720 | N    | None    |
| 4087 | 185.083 | 28.271 | 372.370 | N    | 1 - F32 |
| 4088 | 185.083 | 34.042 | 376.720 | N    | None    |
| 4089 | 185.083 | 34.042 | 372.370 | N    | 1 - F32 |
| 4090 | 185.083 | 39.813 | 376.720 | N    | None    |
| 4091 | 185.083 | 39.813 | 372.370 | N    | 1 - F32 |
| 4092 | 185.083 | 45.584 | 376.720 | N    | None    |
| 4093 | 185.083 | 45.584 | 372.370 | N    | 1 - F32 |
| 4094 | 185.083 | 51.354 | 376.720 | N    | None    |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4095 | 185.083 | 51.354 | 372.370 | N    | 1 - F32 |
| 4096 | 185.083 | 57.125 | 376.720 | N    | None    |
| 4097 | 185.083 | 57.125 | 372.370 | N    | 1 - F32 |
| 4098 | 185.083 | 62.896 | 376.720 | N    | None    |
| 4099 | 185.083 | 62.896 | 372.370 | N    | 1 - F32 |
| 4100 | 185.083 | 68.667 | 376.720 | N    | None    |
| 4101 | 89.083  | 33.042 | 376.720 | N    | None    |
| 4102 | 89.083  | 33.042 | 372.370 | N    | 1 - F32 |
| 4103 | 89.083  | 36.583 | 376.720 | N    | None    |
| 4104 | 89.083  | 21.583 | 376.720 | N    | None    |
| 4105 | 89.083  | 25.542 | 376.720 | N    | None    |
| 4106 | 89.083  | 25.542 | 372.370 | N    | 1 - F32 |
| 4107 | 37.667  | 1.667  | 368.020 | N    | None    |
| 4108 | 37.667  | 6.209  | 368.020 | N    | None    |
| 4109 | 37.667  | 6.209  | 363.670 | N    | 1 - F31 |
| 4110 | 37.667  | 10.750 | 368.020 | N    | None    |
| 4111 | 37.667  | 10.750 | 363.670 | N    | 1 - F31 |
| 4112 | 37.667  | 15.292 | 368.020 | N    | None    |
| 4113 | 37.667  | 15.292 | 363.670 | N    | 1 - F31 |
| 4114 | 37.667  | 19.833 | 368.020 | N    | None    |
| 4115 | 41.903  | 1.667  | 368.020 | N    | None    |
| 4116 | 41.903  | 1.667  | 363.670 | N    | 1 - F31 |
| 4117 | 46.139  | 1.667  | 368.020 | N    | None    |
| 4118 | 46.139  | 1.667  | 363.670 | N    | 1 - F31 |
| 4119 | 50.375  | 1.667  | 368.020 | N    | None    |
| 4120 | 50.375  | 1.667  | 363.670 | N    | 1 - F31 |
| 4121 | 54.611  | 1.667  | 368.020 | N    | None    |
| 4122 | 54.611  | 1.667  | 363.670 | N    | 1 - F31 |
| 4123 | 58.847  | 1.667  | 368.020 | N    | None    |
| 4124 | 58.847  | 1.667  | 363.670 | N    | 1 - F31 |
| 4125 | 63.083  | 1.667  | 368.020 | N    | None    |
| 4126 | 41.584  | 19.833 | 368.020 | N    | None    |
| 4127 | 41.584  | 19.833 | 363.670 | N    | 1 - F31 |
| 4128 | 45.500  | 19.833 | 368.020 | N    | None    |
| 4129 | 54.625  | 37.167 | 368.020 | N    | None    |
| 4130 | 58.854  | 37.167 | 368.020 | N    | None    |
| 4131 | 58.854  | 37.167 | 363.670 | N    | 1 - F31 |
| 4132 | 63.083  | 37.167 | 368.020 | N    | None    |
| 4133 | 63.083  | 6.000  | 368.020 | N    | None    |
| 4134 | 63.083  | 6.000  | 363.670 | N    | 1 - F31 |
| 4135 | 63.083  | 10.334 | 368.020 | N    | None    |
| 4136 | 63.083  | 10.334 | 363.670 | N    | 1 - F31 |
| 4137 | 63.083  | 14.667 | 368.020 | N    | None    |
| 4138 | 63.083  | 14.667 | 363.670 | N    | 1 - F31 |
| 4139 | 63.083  | 19.000 | 368.020 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4140 | 66.646  | 1.667  | 368.020 | N    | None    |
| 4141 | 66.646  | 1.667  | 363.670 | N    | 1 - F31 |
| 4142 | 70.208  | 1.667  | 368.020 | N    | None    |
| 4143 | 70.208  | 1.667  | 363.670 | N    | 1 - F31 |
| 4144 | 73.771  | 1.667  | 368.020 | N    | None    |
| 4145 | 73.771  | 1.667  | 363.670 | N    | 1 - F31 |
| 4146 | 77.333  | 1.667  | 368.020 | N    | None    |
| 4147 | 63.083  | 23.542 | 368.020 | N    | None    |
| 4148 | 63.083  | 23.542 | 363.670 | N    | 1 - F31 |
| 4149 | 63.083  | 28.083 | 368.020 | N    | None    |
| 4150 | 63.083  | 28.083 | 363.670 | N    | 1 - F31 |
| 4151 | 63.083  | 32.625 | 368.020 | N    | None    |
| 4152 | 63.083  | 32.625 | 363.670 | N    | 1 - F31 |
| 4153 | 77.333  | 6.306  | 368.020 | N    | None    |
| 4154 | 77.333  | 6.306  | 363.670 | N    | 1 - F31 |
| 4155 | 77.333  | 10.945 | 368.020 | N    | None    |
| 4156 | 77.333  | 10.945 | 363.670 | N    | 1 - F31 |
| 4157 | 77.333  | 15.584 | 368.020 | N    | None    |
| 4158 | 77.333  | 15.584 | 363.670 | N    | 1 - F31 |
| 4159 | 77.333  | 20.222 | 368.020 | N    | None    |
| 4160 | 77.333  | 20.222 | 363.670 | N    | 1 - F31 |
| 4161 | 77.333  | 24.861 | 368.020 | N    | None    |
| 4162 | 77.333  | 24.861 | 363.670 | N    | 1 - F31 |
| 4163 | 77.333  | 29.500 | 368.020 | N    | None    |
| 4164 | 77.333  | 39.469 | 363.670 | N    | 1 - F31 |
| 4165 | 77.333  | 39.469 | 368.020 | N    | None    |
| 4166 | 77.333  | 42.792 | 368.020 | N    | None    |
| 4167 | 77.333  | 36.146 | 363.670 | N    | 1 - F31 |
| 4168 | 77.333  | 36.146 | 368.020 | N    | None    |
| 4169 | 77.333  | 32.823 | 363.670 | N    | 1 - F31 |
| 4170 | 77.333  | 32.823 | 368.020 | N    | None    |
| 4171 | 83.208  | 29.500 | 368.020 | N    | None    |
| 4172 | 83.208  | 29.500 | 363.670 | N    | 1 - F31 |
| 4173 | 89.083  | 29.500 | 368.020 | N    | None    |
| 4174 | 89.083  | 56.670 | 368.020 | N    | None    |
| 4175 | 89.083  | 59.899 | 368.020 | N    | None    |
| 4176 | 89.083  | 59.899 | 363.670 | N    | 1 - F31 |
| 4177 | 89.083  | 63.127 | 368.020 | N    | None    |
| 4178 | 89.083  | 63.127 | 363.670 | N    | 1 - F31 |
| 4179 | 89.083  | 66.355 | 368.020 | N    | None    |
| 4180 | 89.083  | 66.355 | 363.670 | N    | 1 - F31 |
| 4181 | 89.083  | 69.584 | 368.020 | N    | None    |
| 4182 | 137.083 | 21.583 | 368.020 | N    | None    |
| 4183 | 137.083 | 25.333 | 368.020 | N    | None    |
| 4184 | 137.083 | 25.333 | 363.670 | N    | 1 - F31 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4185 | 137.083 | 29.083 | 368.020 | N    | None    |
| 4186 | 137.083 | 29.083 | 363.670 | N    | 1 - F31 |
| 4187 | 137.083 | 32.833 | 368.020 | N    | None    |
| 4188 | 137.083 | 32.833 | 363.670 | N    | 1 - F31 |
| 4189 | 137.083 | 36.583 | 368.020 | N    | None    |
| 4190 | 137.083 | 56.670 | 368.020 | N    | None    |
| 4191 | 137.083 | 59.899 | 368.020 | N    | None    |
| 4192 | 137.083 | 59.899 | 363.670 | N    | 1 - F31 |
| 4193 | 137.083 | 63.127 | 368.020 | N    | None    |
| 4194 | 137.083 | 63.127 | 363.670 | N    | 1 - F31 |
| 4195 | 137.083 | 66.355 | 368.020 | N    | None    |
| 4196 | 137.083 | 66.355 | 363.670 | N    | 1 - F31 |
| 4197 | 137.083 | 69.584 | 368.020 | N    | None    |
| 4198 | 185.083 | 22.500 | 368.020 | N    | None    |
| 4199 | 185.083 | 28.271 | 368.020 | N    | None    |
| 4200 | 185.083 | 28.271 | 363.670 | N    | 1 - F31 |
| 4201 | 185.083 | 34.042 | 368.020 | N    | None    |
| 4202 | 185.083 | 34.042 | 363.670 | N    | 1 - F31 |
| 4203 | 185.083 | 39.813 | 368.020 | N    | None    |
| 4204 | 185.083 | 39.813 | 363.670 | N    | 1 - F31 |
| 4205 | 185.083 | 45.584 | 368.020 | N    | None    |
| 4206 | 185.083 | 45.584 | 363.670 | N    | 1 - F31 |
| 4207 | 185.083 | 51.354 | 368.020 | N    | None    |
| 4208 | 185.083 | 51.354 | 363.670 | N    | 1 - F31 |
| 4209 | 185.083 | 57.125 | 368.020 | N    | None    |
| 4210 | 185.083 | 57.125 | 363.670 | N    | 1 - F31 |
| 4211 | 185.083 | 62.896 | 368.020 | N    | None    |
| 4212 | 185.083 | 62.896 | 363.670 | N    | 1 - F31 |
| 4213 | 185.083 | 68.667 | 368.020 | N    | None    |
| 4214 | 89.083  | 33.042 | 368.020 | N    | None    |
| 4215 | 89.083  | 33.042 | 363.670 | N    | 1 - F31 |
| 4216 | 89.083  | 36.583 | 368.020 | N    | None    |
| 4217 | 89.083  | 21.583 | 368.020 | N    | None    |
| 4218 | 89.083  | 25.542 | 368.020 | N    | None    |
| 4219 | 89.083  | 25.542 | 363.670 | N    | 1 - F31 |
| 4220 | 37.667  | 1.667  | 359.320 | N    | None    |
| 4221 | 37.667  | 6.209  | 359.320 | N    | None    |
| 4222 | 37.667  | 6.209  | 354.970 | N    | 1 - F30 |
| 4223 | 37.667  | 10.750 | 359.320 | N    | None    |
| 4224 | 37.667  | 10.750 | 354.970 | N    | 1 - F30 |
| 4225 | 37.667  | 15.292 | 359.320 | N    | None    |
| 4226 | 37.667  | 15.292 | 354.970 | N    | 1 - F30 |
| 4227 | 37.667  | 19.833 | 359.320 | N    | None    |
| 4228 | 41.903  | 1.667  | 359.320 | N    | None    |
| 4229 | 41.903  | 1.667  | 354.970 | N    | 1 - F30 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 4230 | 46.139 | 1.667  | 359.320 | N    | None    |
| 4231 | 46.139 | 1.667  | 354.970 | N    | 1 - F30 |
| 4232 | 50.375 | 1.667  | 359.320 | N    | None    |
| 4233 | 50.375 | 1.667  | 354.970 | N    | 1 - F30 |
| 4234 | 54.611 | 1.667  | 359.320 | N    | None    |
| 4235 | 54.611 | 1.667  | 354.970 | N    | 1 - F30 |
| 4236 | 58.847 | 1.667  | 359.320 | N    | None    |
| 4237 | 58.847 | 1.667  | 354.970 | N    | 1 - F30 |
| 4238 | 63.083 | 1.667  | 359.320 | N    | None    |
| 4239 | 41.584 | 19.833 | 359.320 | N    | None    |
| 4240 | 41.584 | 19.833 | 354.970 | N    | 1 - F30 |
| 4241 | 45.500 | 19.833 | 359.320 | N    | None    |
| 4242 | 54.625 | 37.167 | 359.320 | N    | None    |
| 4243 | 58.854 | 37.167 | 359.320 | N    | None    |
| 4244 | 58.854 | 37.167 | 354.970 | N    | 1 - F30 |
| 4245 | 63.083 | 37.167 | 359.320 | N    | None    |
| 4246 | 63.083 | 6.000  | 359.320 | N    | None    |
| 4247 | 63.083 | 6.000  | 354.970 | N    | 1 - F30 |
| 4248 | 63.083 | 10.334 | 359.320 | N    | None    |
| 4249 | 63.083 | 10.334 | 354.970 | N    | 1 - F30 |
| 4250 | 63.083 | 14.667 | 359.320 | N    | None    |
| 4251 | 63.083 | 14.667 | 354.970 | N    | 1 - F30 |
| 4252 | 63.083 | 19.000 | 359.320 | N    | None    |
| 4253 | 66.646 | 1.667  | 359.320 | N    | None    |
| 4254 | 66.646 | 1.667  | 354.970 | N    | 1 - F30 |
| 4255 | 70.208 | 1.667  | 359.320 | N    | None    |
| 4256 | 70.208 | 1.667  | 354.970 | N    | 1 - F30 |
| 4257 | 73.771 | 1.667  | 359.320 | N    | None    |
| 4258 | 73.771 | 1.667  | 354.970 | N    | 1 - F30 |
| 4259 | 77.333 | 1.667  | 359.320 | N    | None    |
| 4260 | 63.083 | 23.542 | 359.320 | N    | None    |
| 4261 | 63.083 | 23.542 | 354.970 | N    | 1 - F30 |
| 4262 | 63.083 | 28.083 | 359.320 | N    | None    |
| 4263 | 63.083 | 28.083 | 354.970 | N    | 1 - F30 |
| 4264 | 63.083 | 32.625 | 359.320 | N    | None    |
| 4265 | 63.083 | 32.625 | 354.970 | N    | 1 - F30 |
| 4266 | 77.333 | 6.306  | 359.320 | N    | None    |
| 4267 | 77.333 | 6.306  | 354.970 | N    | 1 - F30 |
| 4268 | 77.333 | 10.945 | 359.320 | N    | None    |
| 4269 | 77.333 | 10.945 | 354.970 | N    | 1 - F30 |
| 4270 | 77.333 | 15.584 | 359.320 | N    | None    |
| 4271 | 77.333 | 15.584 | 354.970 | N    | 1 - F30 |
| 4272 | 77.333 | 20.222 | 359.320 | N    | None    |
| 4273 | 77.333 | 20.222 | 354.970 | N    | 1 - F30 |
| 4274 | 77.333 | 24.861 | 359.320 | N    | None    |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4275 | 77.333  | 24.861 | 354.970 | N    | 1 - F30 |
| 4276 | 77.333  | 29.500 | 359.320 | N    | None    |
| 4277 | 77.333  | 39.469 | 354.970 | N    | 1 - F30 |
| 4278 | 77.333  | 39.469 | 359.320 | N    | None    |
| 4279 | 77.333  | 42.792 | 359.320 | N    | None    |
| 4280 | 77.333  | 36.146 | 354.970 | N    | 1 - F30 |
| 4281 | 77.333  | 36.146 | 359.320 | N    | None    |
| 4282 | 77.333  | 32.823 | 354.970 | N    | 1 - F30 |
| 4283 | 77.333  | 32.823 | 359.320 | N    | None    |
| 4284 | 83.208  | 29.500 | 359.320 | N    | None    |
| 4285 | 83.208  | 29.500 | 354.970 | N    | 1 - F30 |
| 4286 | 89.083  | 29.500 | 359.320 | N    | None    |
| 4287 | 89.083  | 56.670 | 359.320 | N    | None    |
| 4288 | 89.083  | 59.899 | 359.320 | N    | None    |
| 4289 | 89.083  | 59.899 | 354.970 | N    | 1 - F30 |
| 4290 | 89.083  | 63.127 | 359.320 | N    | None    |
| 4291 | 89.083  | 63.127 | 354.970 | N    | 1 - F30 |
| 4292 | 89.083  | 66.355 | 359.320 | N    | None    |
| 4293 | 89.083  | 66.355 | 354.970 | N    | 1 - F30 |
| 4294 | 89.083  | 69.584 | 359.320 | N    | None    |
| 4295 | 137.083 | 21.583 | 359.320 | N    | None    |
| 4296 | 137.083 | 25.333 | 359.320 | N    | None    |
| 4297 | 137.083 | 25.333 | 354.970 | N    | 1 - F30 |
| 4298 | 137.083 | 29.083 | 359.320 | N    | None    |
| 4299 | 137.083 | 29.083 | 354.970 | N    | 1 - F30 |
| 4300 | 137.083 | 32.833 | 359.320 | N    | None    |
| 4301 | 137.083 | 32.833 | 354.970 | N    | 1 - F30 |
| 4302 | 137.083 | 36.583 | 359.320 | N    | None    |
| 4303 | 137.083 | 56.670 | 359.320 | N    | None    |
| 4304 | 137.083 | 59.899 | 359.320 | N    | None    |
| 4305 | 137.083 | 59.899 | 354.970 | N    | 1 - F30 |
| 4306 | 137.083 | 63.127 | 359.320 | N    | None    |
| 4307 | 137.083 | 63.127 | 354.970 | N    | 1 - F30 |
| 4308 | 137.083 | 66.355 | 359.320 | N    | None    |
| 4309 | 137.083 | 66.355 | 354.970 | N    | 1 - F30 |
| 4310 | 137.083 | 69.584 | 359.320 | N    | None    |
| 4311 | 185.083 | 22.500 | 359.320 | N    | None    |
| 4312 | 185.083 | 28.271 | 359.320 | N    | None    |
| 4313 | 185.083 | 28.271 | 354.970 | N    | 1 - F30 |
| 4314 | 185.083 | 34.042 | 359.320 | N    | None    |
| 4315 | 185.083 | 34.042 | 354.970 | N    | 1 - F30 |
| 4316 | 185.083 | 39.813 | 359.320 | N    | None    |
| 4317 | 185.083 | 39.813 | 354.970 | N    | 1 - F30 |
| 4318 | 185.083 | 45.584 | 359.320 | N    | None    |
| 4319 | 185.083 | 45.584 | 354.970 | N    | 1 - F30 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4320 | 185.083 | 51.354 | 359.320 | N    | None    |
| 4321 | 185.083 | 51.354 | 354.970 | N    | 1 - F30 |
| 4322 | 185.083 | 57.125 | 359.320 | N    | None    |
| 4323 | 185.083 | 57.125 | 354.970 | N    | 1 - F30 |
| 4324 | 185.083 | 62.896 | 359.320 | N    | None    |
| 4325 | 185.083 | 62.896 | 354.970 | N    | 1 - F30 |
| 4326 | 185.083 | 68.667 | 359.320 | N    | None    |
| 4327 | 89.083  | 33.042 | 359.320 | N    | None    |
| 4328 | 89.083  | 33.042 | 354.970 | N    | 1 - F30 |
| 4329 | 89.083  | 36.583 | 359.320 | N    | None    |
| 4330 | 89.083  | 21.583 | 359.320 | N    | None    |
| 4331 | 89.083  | 25.542 | 359.320 | N    | None    |
| 4332 | 89.083  | 25.542 | 354.970 | N    | 1 - F30 |
| 4333 | 37.667  | 1.667  | 350.620 | N    | None    |
| 4334 | 37.667  | 6.209  | 350.620 | N    | None    |
| 4335 | 37.667  | 6.209  | 346.270 | N    | 1 - F29 |
| 4336 | 37.667  | 10.750 | 350.620 | N    | None    |
| 4337 | 37.667  | 10.750 | 346.270 | N    | 1 - F29 |
| 4338 | 37.667  | 15.292 | 350.620 | N    | None    |
| 4339 | 37.667  | 15.292 | 346.270 | N    | 1 - F29 |
| 4340 | 37.667  | 19.833 | 350.620 | N    | None    |
| 4341 | 41.903  | 1.667  | 350.620 | N    | None    |
| 4342 | 41.903  | 1.667  | 346.270 | N    | 1 - F29 |
| 4343 | 46.139  | 1.667  | 350.620 | N    | None    |
| 4344 | 46.139  | 1.667  | 346.270 | N    | 1 - F29 |
| 4345 | 50.375  | 1.667  | 350.620 | N    | None    |
| 4346 | 50.375  | 1.667  | 346.270 | N    | 1 - F29 |
| 4347 | 54.611  | 1.667  | 350.620 | N    | None    |
| 4348 | 54.611  | 1.667  | 346.270 | N    | 1 - F29 |
| 4349 | 58.847  | 1.667  | 350.620 | N    | None    |
| 4350 | 58.847  | 1.667  | 346.270 | N    | 1 - F29 |
| 4351 | 63.083  | 1.667  | 350.620 | N    | None    |
| 4352 | 41.584  | 19.833 | 350.620 | N    | None    |
| 4353 | 41.584  | 19.833 | 346.270 | N    | 1 - F29 |
| 4354 | 45.500  | 19.833 | 350.620 | N    | None    |
| 4355 | 54.625  | 37.167 | 350.620 | N    | None    |
| 4356 | 58.854  | 37.167 | 350.620 | N    | None    |
| 4357 | 58.854  | 37.167 | 346.270 | N    | 1 - F29 |
| 4358 | 63.083  | 37.167 | 350.620 | N    | None    |
| 4359 | 63.083  | 6.000  | 350.620 | N    | None    |
| 4360 | 63.083  | 6.000  | 346.270 | N    | 1 - F29 |
| 4361 | 63.083  | 10.334 | 350.620 | N    | None    |
| 4362 | 63.083  | 10.334 | 346.270 | N    | 1 - F29 |
| 4363 | 63.083  | 14.667 | 350.620 | N    | None    |
| 4364 | 63.083  | 14.667 | 346.270 | N    | 1 - F29 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4365 | 63.083  | 19.000 | 350.620 | N    | None    |
| 4366 | 66.646  | 1.667  | 350.620 | N    | None    |
| 4367 | 66.646  | 1.667  | 346.270 | N    | 1 - F29 |
| 4368 | 70.208  | 1.667  | 350.620 | N    | None    |
| 4369 | 70.208  | 1.667  | 346.270 | N    | 1 - F29 |
| 4370 | 73.771  | 1.667  | 350.620 | N    | None    |
| 4371 | 73.771  | 1.667  | 346.270 | N    | 1 - F29 |
| 4372 | 77.333  | 1.667  | 350.620 | N    | None    |
| 4373 | 63.083  | 23.542 | 350.620 | N    | None    |
| 4374 | 63.083  | 23.542 | 346.270 | N    | 1 - F29 |
| 4375 | 63.083  | 28.083 | 350.620 | N    | None    |
| 4376 | 63.083  | 28.083 | 346.270 | N    | 1 - F29 |
| 4377 | 63.083  | 32.625 | 350.620 | N    | None    |
| 4378 | 63.083  | 32.625 | 346.270 | N    | 1 - F29 |
| 4379 | 77.333  | 6.306  | 350.620 | N    | None    |
| 4380 | 77.333  | 6.306  | 346.270 | N    | 1 - F29 |
| 4381 | 77.333  | 10.945 | 350.620 | N    | None    |
| 4382 | 77.333  | 10.945 | 346.270 | N    | 1 - F29 |
| 4383 | 77.333  | 15.584 | 350.620 | N    | None    |
| 4384 | 77.333  | 15.584 | 346.270 | N    | 1 - F29 |
| 4385 | 77.333  | 20.222 | 350.620 | N    | None    |
| 4386 | 77.333  | 20.222 | 346.270 | N    | 1 - F29 |
| 4387 | 77.333  | 24.861 | 350.620 | N    | None    |
| 4388 | 77.333  | 24.861 | 346.270 | N    | 1 - F29 |
| 4389 | 77.333  | 29.500 | 350.620 | N    | None    |
| 4390 | 77.333  | 32.823 | 350.620 | N    | None    |
| 4391 | 77.333  | 36.146 | 350.620 | N    | None    |
| 4392 | 77.333  | 39.469 | 350.620 | N    | None    |
| 4393 | 77.333  | 42.792 | 350.620 | N    | None    |
| 4394 | 77.333  | 32.823 | 346.270 | N    | 1 - F29 |
| 4395 | 77.333  | 36.146 | 346.270 | N    | 1 - F29 |
| 4396 | 77.333  | 39.469 | 346.270 | N    | 1 - F29 |
| 4397 | 83.208  | 29.500 | 350.620 | N    | None    |
| 4398 | 83.208  | 29.500 | 346.270 | N    | 1 - F29 |
| 4399 | 89.083  | 29.500 | 350.620 | N    | None    |
| 4400 | 89.083  | 56.670 | 350.620 | N    | None    |
| 4401 | 89.083  | 59.899 | 350.620 | N    | None    |
| 4402 | 89.083  | 59.899 | 346.270 | N    | 1 - F29 |
| 4403 | 89.083  | 63.127 | 350.620 | N    | None    |
| 4404 | 89.083  | 63.127 | 346.270 | N    | 1 - F29 |
| 4405 | 89.083  | 66.355 | 350.620 | N    | None    |
| 4406 | 89.083  | 66.355 | 346.270 | N    | 1 - F29 |
| 4407 | 89.083  | 69.584 | 350.620 | N    | None    |
| 4408 | 137.083 | 21.583 | 350.620 | N    | None    |
| 4409 | 137.083 | 25.333 | 350.620 | N    | None    |



RAM Structural System



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4410 | 137.083 | 25.333 | 346.270 | N    | 1 - F29 |
| 4411 | 137.083 | 29.083 | 350.620 | N    | None    |
| 4412 | 137.083 | 29.083 | 346.270 | N    | 1 - F29 |
| 4413 | 137.083 | 32.833 | 350.620 | N    | None    |
| 4414 | 137.083 | 32.833 | 346.270 | N    | 1 - F29 |
| 4415 | 137.083 | 36.583 | 350.620 | N    | None    |
| 4416 | 137.083 | 56.670 | 350.620 | N    | None    |
| 4417 | 137.083 | 59.899 | 350.620 | N    | None    |
| 4418 | 137.083 | 59.899 | 346.270 | N    | 1 - F29 |
| 4419 | 137.083 | 63.127 | 350.620 | N    | None    |
| 4420 | 137.083 | 63.127 | 346.270 | N    | 1 - F29 |
| 4421 | 137.083 | 66.355 | 350.620 | N    | None    |
| 4422 | 137.083 | 66.355 | 346.270 | N    | 1 - F29 |
| 4423 | 137.083 | 69.584 | 350.620 | N    | None    |
| 4424 | 185.083 | 22.500 | 350.620 | N    | None    |
| 4425 | 185.083 | 28.271 | 350.620 | N    | None    |
| 4426 | 185.083 | 28.271 | 346.270 | N    | 1 - F29 |
| 4427 | 185.083 | 34.042 | 350.620 | N    | None    |
| 4428 | 185.083 | 34.042 | 346.270 | N    | 1 - F29 |
| 4429 | 185.083 | 39.813 | 350.620 | N    | None    |
| 4430 | 185.083 | 39.813 | 346.270 | N    | 1 - F29 |
| 4431 | 185.083 | 45.584 | 350.620 | N    | None    |
| 4432 | 185.083 | 45.584 | 346.270 | N    | 1 - F29 |
| 4433 | 185.083 | 51.354 | 350.620 | N    | None    |
| 4434 | 185.083 | 51.354 | 346.270 | N    | 1 - F29 |
| 4435 | 185.083 | 57.125 | 350.620 | N    | None    |
| 4436 | 185.083 | 57.125 | 346.270 | N    | 1 - F29 |
| 4437 | 185.083 | 62.896 | 350.620 | N    | None    |
| 4438 | 185.083 | 62.896 | 346.270 | N    | 1 - F29 |
| 4439 | 185.083 | 68.667 | 350.620 | N    | None    |
| 4440 | 89.083  | 33.042 | 350.620 | N    | None    |
| 4441 | 89.083  | 33.042 | 346.270 | N    | 1 - F29 |
| 4442 | 89.083  | 36.583 | 350.620 | N    | None    |
| 4443 | 89.083  | 21.583 | 350.620 | N    | None    |
| 4444 | 89.083  | 25.542 | 350.620 | N    | None    |
| 4445 | 89.083  | 25.542 | 346.270 | N    | 1 - F29 |
| 4446 | 37.667  | 1.667  | 341.920 | N    | None    |
| 4447 | 37.667  | 6.209  | 341.920 | N    | None    |
| 4448 | 37.667  | 6.209  | 337.570 | N    | 1 - F28 |
| 4449 | 37.667  | 10.750 | 341.920 | N    | None    |
| 4450 | 37.667  | 10.750 | 337.570 | N    | 1 - F28 |
| 4451 | 37.667  | 15.292 | 341.920 | N    | None    |
| 4452 | 37.667  | 15.292 | 337.570 | N    | 1 - F28 |
| 4453 | 37.667  | 19.833 | 341.920 | N    | None    |
| 4454 | 41.903  | 1.667  | 341.920 | N    | None    |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 4455 | 41.903 | 1.667  | 337.570 | N    | 1 - F28 |
| 4456 | 46.139 | 1.667  | 341.920 | N    | None    |
| 4457 | 46.139 | 1.667  | 337.570 | N    | 1 - F28 |
| 4458 | 50.375 | 1.667  | 341.920 | N    | None    |
| 4459 | 50.375 | 1.667  | 337.570 | N    | 1 - F28 |
| 4460 | 54.611 | 1.667  | 341.920 | N    | None    |
| 4461 | 54.611 | 1.667  | 337.570 | N    | 1 - F28 |
| 4462 | 58.847 | 1.667  | 341.920 | N    | None    |
| 4463 | 58.847 | 1.667  | 337.570 | N    | 1 - F28 |
| 4464 | 63.083 | 1.667  | 341.920 | N    | None    |
| 4465 | 41.584 | 19.833 | 341.920 | N    | None    |
| 4466 | 41.584 | 19.833 | 337.570 | N    | 1 - F28 |
| 4467 | 45.500 | 19.833 | 341.920 | N    | None    |
| 4468 | 54.625 | 37.167 | 341.920 | N    | None    |
| 4469 | 58.854 | 37.167 | 341.920 | N    | None    |
| 4470 | 58.854 | 37.167 | 337.570 | N    | 1 - F28 |
| 4471 | 63.083 | 37.167 | 341.920 | N    | None    |
| 4472 | 63.083 | 6.000  | 341.920 | N    | None    |
| 4473 | 63.083 | 6.000  | 337.570 | N    | 1 - F28 |
| 4474 | 63.083 | 10.334 | 341.920 | N    | None    |
| 4475 | 63.083 | 10.334 | 337.570 | N    | 1 - F28 |
| 4476 | 63.083 | 14.667 | 341.920 | N    | None    |
| 4477 | 63.083 | 14.667 | 337.570 | N    | 1 - F28 |
| 4478 | 63.083 | 19.000 | 341.920 | N    | None    |
| 4479 | 66.646 | 1.667  | 341.920 | N    | None    |
| 4480 | 66.646 | 1.667  | 337.570 | N    | 1 - F28 |
| 4481 | 70.208 | 1.667  | 341.920 | N    | None    |
| 4482 | 70.208 | 1.667  | 337.570 | N    | 1 - F28 |
| 4483 | 73.771 | 1.667  | 341.920 | N    | None    |
| 4484 | 73.771 | 1.667  | 337.570 | N    | 1 - F28 |
| 4485 | 77.333 | 1.667  | 341.920 | N    | None    |
| 4486 | 63.083 | 23.542 | 341.920 | N    | None    |
| 4487 | 63.083 | 23.542 | 337.570 | N    | 1 - F28 |
| 4488 | 63.083 | 28.083 | 341.920 | N    | None    |
| 4489 | 63.083 | 28.083 | 337.570 | N    | 1 - F28 |
| 4490 | 63.083 | 32.625 | 341.920 | N    | None    |
| 4491 | 63.083 | 32.625 | 337.570 | N    | 1 - F28 |
| 4492 | 77.333 | 6.306  | 341.920 | N    | None    |
| 4493 | 77.333 | 6.306  | 337.570 | N    | 1 - F28 |
| 4494 | 77.333 | 10.945 | 341.920 | N    | None    |
| 4495 | 77.333 | 10.945 | 337.570 | N    | 1 - F28 |
| 4496 | 77.333 | 15.584 | 341.920 | N    | None    |
| 4497 | 77.333 | 15.584 | 337.570 | N    | 1 - F28 |
| 4498 | 77.333 | 20.222 | 341.920 | N    | None    |
| 4499 | 77.333 | 20.222 | 337.570 | N    | 1 - F28 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4500 | 77.333  | 24.861 | 341.920 | N    | None    |
| 4501 | 77.333  | 24.861 | 337.570 | N    | 1 - F28 |
| 4502 | 77.333  | 29.500 | 341.920 | N    | None    |
| 4503 | 77.333  | 39.469 | 337.570 | N    | 1 - F28 |
| 4504 | 77.333  | 39.469 | 341.920 | N    | None    |
| 4505 | 77.333  | 42.792 | 341.920 | N    | None    |
| 4506 | 77.333  | 36.146 | 337.570 | N    | 1 - F28 |
| 4507 | 77.333  | 36.146 | 341.920 | N    | None    |
| 4508 | 77.333  | 32.823 | 337.570 | N    | 1 - F28 |
| 4509 | 77.333  | 32.823 | 341.920 | N    | None    |
| 4510 | 83.208  | 29.500 | 341.920 | N    | None    |
| 4511 | 83.208  | 29.500 | 337.570 | N    | 1 - F28 |
| 4512 | 89.083  | 29.500 | 341.920 | N    | None    |
| 4513 | 89.083  | 56.670 | 341.920 | N    | None    |
| 4514 | 89.083  | 59.899 | 341.920 | N    | None    |
| 4515 | 89.083  | 59.899 | 337.570 | N    | 1 - F28 |
| 4516 | 89.083  | 63.127 | 341.920 | N    | None    |
| 4517 | 89.083  | 63.127 | 337.570 | N    | 1 - F28 |
| 4518 | 89.083  | 66.355 | 341.920 | N    | None    |
| 4519 | 89.083  | 66.355 | 337.570 | N    | 1 - F28 |
| 4520 | 89.083  | 69.584 | 341.920 | N    | None    |
| 4521 | 137.083 | 21.583 | 341.920 | N    | None    |
| 4522 | 137.083 | 25.333 | 341.920 | N    | None    |
| 4523 | 137.083 | 25.333 | 337.570 | N    | 1 - F28 |
| 4524 | 137.083 | 29.083 | 341.920 | N    | None    |
| 4525 | 137.083 | 29.083 | 337.570 | N    | 1 - F28 |
| 4526 | 137.083 | 32.833 | 341.920 | N    | None    |
| 4527 | 137.083 | 32.833 | 337.570 | N    | 1 - F28 |
| 4528 | 137.083 | 36.583 | 341.920 | N    | None    |
| 4529 | 137.083 | 56.670 | 341.920 | N    | None    |
| 4530 | 137.083 | 59.899 | 341.920 | N    | None    |
| 4531 | 137.083 | 59.899 | 337.570 | N    | 1 - F28 |
| 4532 | 137.083 | 63.127 | 341.920 | N    | None    |
| 4533 | 137.083 | 63.127 | 337.570 | N    | 1 - F28 |
| 4534 | 137.083 | 66.355 | 341.920 | N    | None    |
| 4535 | 137.083 | 66.355 | 337.570 | N    | 1 - F28 |
| 4536 | 137.083 | 69.584 | 341.920 | N    | None    |
| 4537 | 185.083 | 22.500 | 341.920 | N    | None    |
| 4538 | 185.083 | 28.271 | 341.920 | N    | None    |
| 4539 | 185.083 | 28.271 | 337.570 | N    | 1 - F28 |
| 4540 | 185.083 | 34.042 | 341.920 | N    | None    |
| 4541 | 185.083 | 34.042 | 337.570 | N    | 1 - F28 |
| 4542 | 185.083 | 39.813 | 341.920 | N    | None    |
| 4543 | 185.083 | 39.813 | 337.570 | N    | 1 - F28 |
| 4544 | 185.083 | 45.584 | 341.920 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4545 | 185.083 | 45.584 | 337.570 | N    | 1 - F28 |
| 4546 | 185.083 | 51.354 | 341.920 | N    | None    |
| 4547 | 185.083 | 51.354 | 337.570 | N    | 1 - F28 |
| 4548 | 185.083 | 57.125 | 341.920 | N    | None    |
| 4549 | 185.083 | 57.125 | 337.570 | N    | 1 - F28 |
| 4550 | 185.083 | 62.896 | 341.920 | N    | None    |
| 4551 | 185.083 | 62.896 | 337.570 | N    | 1 - F28 |
| 4552 | 185.083 | 68.667 | 341.920 | N    | None    |
| 4553 | 89.083  | 33.042 | 341.920 | N    | None    |
| 4554 | 89.083  | 33.042 | 337.570 | N    | 1 - F28 |
| 4555 | 89.083  | 36.583 | 341.920 | N    | None    |
| 4556 | 89.083  | 21.583 | 341.920 | N    | None    |
| 4557 | 89.083  | 25.542 | 341.920 | N    | None    |
| 4558 | 89.083  | 25.542 | 337.570 | N    | 1 - F28 |
| 4559 | 37.667  | 1.667  | 333.220 | N    | None    |
| 4560 | 37.667  | 6.209  | 333.220 | N    | None    |
| 4561 | 37.667  | 6.209  | 328.870 | N    | 1 - F27 |
| 4562 | 37.667  | 10.750 | 333.220 | N    | None    |
| 4563 | 37.667  | 10.750 | 328.870 | N    | 1 - F27 |
| 4564 | 37.667  | 15.292 | 333.220 | N    | None    |
| 4565 | 37.667  | 15.292 | 328.870 | N    | 1 - F27 |
| 4566 | 37.667  | 19.833 | 333.220 | N    | None    |
| 4567 | 41.903  | 1.667  | 333.220 | N    | None    |
| 4568 | 41.903  | 1.667  | 328.870 | N    | 1 - F27 |
| 4569 | 46.139  | 1.667  | 333.220 | N    | None    |
| 4570 | 46.139  | 1.667  | 328.870 | N    | 1 - F27 |
| 4571 | 50.375  | 1.667  | 333.220 | N    | None    |
| 4572 | 50.375  | 1.667  | 328.870 | N    | 1 - F27 |
| 4573 | 54.611  | 1.667  | 333.220 | N    | None    |
| 4574 | 54.611  | 1.667  | 328.870 | N    | 1 - F27 |
| 4575 | 58.847  | 1.667  | 333.220 | N    | None    |
| 4576 | 58.847  | 1.667  | 328.870 | N    | 1 - F27 |
| 4577 | 63.083  | 1.667  | 333.220 | N    | None    |
| 4578 | 41.584  | 19.833 | 333.220 | N    | None    |
| 4579 | 41.584  | 19.833 | 328.870 | N    | 1 - F27 |
| 4580 | 45.500  | 19.833 | 333.220 | N    | None    |
| 4581 | 54.625  | 37.167 | 333.220 | N    | None    |
| 4582 | 58.854  | 37.167 | 333.220 | N    | None    |
| 4583 | 58.854  | 37.167 | 328.870 | N    | 1 - F27 |
| 4584 | 63.083  | 37.167 | 333.220 | N    | None    |
| 4585 | 63.083  | 6.000  | 333.220 | N    | None    |
| 4586 | 63.083  | 6.000  | 328.870 | N    | 1 - F27 |
| 4587 | 63.083  | 10.334 | 333.220 | N    | None    |
| 4588 | 63.083  | 10.334 | 328.870 | N    | 1 - F27 |
| 4589 | 63.083  | 14.667 | 333.220 | N    | None    |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

ES978449093 Scan Code

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4590 | 63.083  | 14.667 | 328.870 | N    | 1 - F27 |
| 4591 | 63.083  | 19.000 | 333.220 | N    | None    |
| 4592 | 66.646  | 1.667  | 333.220 | N    | None    |
| 4593 | 66.646  | 1.667  | 328.870 | N    | 1 - F27 |
| 4594 | 70.208  | 1.667  | 333.220 | N    | None    |
| 4595 | 70.208  | 1.667  | 328.870 | N    | 1 - F27 |
| 4596 | 73.771  | 1.667  | 333.220 | N    | None    |
| 4597 | 73.771  | 1.667  | 328.870 | N    | 1 - F27 |
| 4598 | 77.333  | 1.667  | 333.220 | N    | None    |
| 4599 | 63.083  | 23.542 | 333.220 | N    | None    |
| 4600 | 63.083  | 23.542 | 328.870 | N    | 1 - F27 |
| 4601 | 63.083  | 28.083 | 333.220 | N    | None    |
| 4602 | 63.083  | 28.083 | 328.870 | N    | 1 - F27 |
| 4603 | 63.083  | 32.625 | 333.220 | N    | None    |
| 4604 | 63.083  | 32.625 | 328.870 | N    | 1 - F27 |
| 4605 | 77.333  | 6.306  | 333.220 | N    | None    |
| 4606 | 77.333  | 6.306  | 328.870 | N    | 1 - F27 |
| 4607 | 77.333  | 10.945 | 333.220 | N    | None    |
| 4608 | 77.333  | 10.945 | 328.870 | N    | 1 - F27 |
| 4609 | 77.333  | 15.584 | 333.220 | N    | None    |
| 4610 | 77.333  | 15.584 | 328.870 | N    | 1 - F27 |
| 4611 | 77.333  | 20.222 | 333.220 | N    | None    |
| 4612 | 77.333  | 20.222 | 328.870 | N    | 1 - F27 |
| 4613 | 77.333  | 24.861 | 333.220 | N    | None    |
| 4614 | 77.333  | 24.861 | 328.870 | N    | 1 - F27 |
| 4615 | 77.333  | 29.500 | 333.220 | N    | None    |
| 4616 | 77.333  | 39.469 | 328.870 | N    | 1 - F27 |
| 4617 | 77.333  | 39.469 | 333.220 | N    | None    |
| 4618 | 77.333  | 42.792 | 333.220 | N    | None    |
| 4619 | 77.333  | 36.146 | 328.870 | N    | 1 - F27 |
| 4620 | 77.333  | 36.146 | 333.220 | N    | None    |
| 4621 | 77.333  | 32.823 | 328.870 | N    | 1 - F27 |
| 4622 | 77.333  | 32.823 | 333.220 | N    | None    |
| 4623 | 83.208  | 29.500 | 333.220 | N    | None    |
| 4624 | 83.208  | 29.500 | 328.870 | N    | 1 - F27 |
| 4625 | 89.083  | 29.500 | 333.220 | N    | None    |
| 4626 | 89.083  | 56.670 | 333.220 | N    | None    |
| 4627 | 89.083  | 59.899 | 333.220 | N    | None    |
| 4628 | 89.083  | 59.899 | 328.870 | N    | 1 - F27 |
| 4629 | 89.083  | 63.127 | 333.220 | N    | None    |
| 4630 | 89.083  | 63.127 | 328.870 | N    | 1 - F27 |
| 4631 | 89.083  | 66.355 | 333.220 | N    | None    |
| 4632 | 89.083  | 66.355 | 328.870 | N    | 1 - F27 |
| 4633 | 89.083  | 69.584 | 333.220 | N    | None    |
| 4634 | 137.083 | 21.583 | 333.220 | N    | None    |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4635 | 137.083 | 25.333 | 333.220 | N    | None    |
| 4636 | 137.083 | 25.333 | 328.870 | N    | 1 - F27 |
| 4637 | 137.083 | 29.083 | 333.220 | N    | None    |
| 4638 | 137.083 | 29.083 | 328.870 | N    | 1 - F27 |
| 4639 | 137.083 | 32.833 | 333.220 | N    | None    |
| 4640 | 137.083 | 32.833 | 328.870 | N    | 1 - F27 |
| 4641 | 137.083 | 36.583 | 333.220 | N    | None    |
| 4642 | 137.083 | 56.670 | 333.220 | N    | None    |
| 4643 | 137.083 | 59.899 | 333.220 | N    | None    |
| 4644 | 137.083 | 59.899 | 328.870 | N    | 1 - F27 |
| 4645 | 137.083 | 63.127 | 333.220 | N    | None    |
| 4646 | 137.083 | 63.127 | 328.870 | N    | 1 - F27 |
| 4647 | 137.083 | 66.355 | 333.220 | N    | None    |
| 4648 | 137.083 | 66.355 | 328.870 | N    | 1 - F27 |
| 4649 | 137.083 | 69.584 | 333.220 | N    | None    |
| 4650 | 185.083 | 22.500 | 333.220 | N    | None    |
| 4651 | 185.083 | 28.271 | 333.220 | N    | None    |
| 4652 | 185.083 | 28.271 | 328.870 | N    | 1 - F27 |
| 4653 | 185.083 | 34.042 | 333.220 | N    | None    |
| 4654 | 185.083 | 34.042 | 328.870 | N    | 1 - F27 |
| 4655 | 185.083 | 39.813 | 333.220 | N    | None    |
| 4656 | 185.083 | 39.813 | 328.870 | N    | 1 - F27 |
| 4657 | 185.083 | 45.584 | 333.220 | N    | None    |
| 4658 | 185.083 | 45.584 | 328.870 | N    | 1 - F27 |
| 4659 | 185.083 | 51.354 | 333.220 | N    | None    |
| 4660 | 185.083 | 51.354 | 328.870 | N    | 1 - F27 |
| 4661 | 185.083 | 57.125 | 333.220 | N    | None    |
| 4662 | 185.083 | 57.125 | 328.870 | N    | 1 - F27 |
| 4663 | 185.083 | 62.896 | 333.220 | N    | None    |
| 4664 | 185.083 | 62.896 | 328.870 | N    | 1 - F27 |
| 4665 | 185.083 | 68.667 | 333.220 | N    | None    |
| 4666 | 89.083  | 33.042 | 333.220 | N    | None    |
| 4667 | 89.083  | 33.042 | 328.870 | N    | 1 - F27 |
| 4668 | 89.083  | 36.583 | 333.220 | N    | None    |
| 4669 | 89.083  | 21.583 | 333.220 | N    | None    |
| 4670 | 89.083  | 25.542 | 333.220 | N    | None    |
| 4671 | 89.083  | 25.542 | 328.870 | N    | 1 - F27 |
| 4672 | 37.667  | 1.667  | 324.520 | N    | None    |
| 4673 | 37.667  | 6.209  | 324.520 | N    | None    |
| 4674 | 37.667  | 6.209  | 320.170 | N    | 1 - F26 |
| 4675 | 37.667  | 10.750 | 324.520 | N    | None    |
| 4676 | 37.667  | 10.750 | 320.170 | N    | 1 - F26 |
| 4677 | 37.667  | 15.292 | 324.520 | N    | None    |
| 4678 | 37.667  | 15.292 | 320.170 | N    | 1 - F26 |
| 4679 | 37.667  | 19.833 | 324.520 | N    | None    |



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| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 4680 | 41.903 | 1.667  | 324.520 | N    | None    |
| 4681 | 41.903 | 1.667  | 320.170 | N    | 1 - F26 |
| 4682 | 46.139 | 1.667  | 324.520 | N    | None    |
| 4683 | 46.139 | 1.667  | 320.170 | N    | 1 - F26 |
| 4684 | 50.375 | 1.667  | 324.520 | N    | None    |
| 4685 | 50.375 | 1.667  | 320.170 | N    | 1 - F26 |
| 4686 | 54.611 | 1.667  | 324.520 | N    | None    |
| 4687 | 54.611 | 1.667  | 320.170 | N    | 1 - F26 |
| 4688 | 58.847 | 1.667  | 324.520 | N    | None    |
| 4689 | 58.847 | 1.667  | 320.170 | N    | 1 - F26 |
| 4690 | 63.083 | 1.667  | 324.520 | N    | None    |
| 4691 | 41.584 | 19.833 | 324.520 | N    | None    |
| 4692 | 41.584 | 19.833 | 320.170 | N    | 1 - F26 |
| 4693 | 45.500 | 19.833 | 324.520 | N    | None    |
| 4694 | 54.625 | 37.167 | 324.520 | N    | None    |
| 4695 | 58.854 | 37.167 | 324.520 | N    | None    |
| 4696 | 58.854 | 37.167 | 320.170 | N    | 1 - F26 |
| 4697 | 63.083 | 37.167 | 324.520 | N    | None    |
| 4698 | 63.083 | 6.000  | 324.520 | N    | None    |
| 4699 | 63.083 | 6.000  | 320.170 | N    | 1 - F26 |
| 4700 | 63.083 | 10.334 | 324.520 | N    | None    |
| 4701 | 63.083 | 10.334 | 320.170 | N    | 1 - F26 |
| 4702 | 63.083 | 14.667 | 324.520 | N    | None    |
| 4703 | 63.083 | 14.667 | 320.170 | N    | 1 - F26 |
| 4704 | 63.083 | 19.000 | 324.520 | N    | None    |
| 4705 | 66.646 | 1.667  | 324.520 | N    | None    |
| 4706 | 66.646 | 1.667  | 320.170 | N    | 1 - F26 |
| 4707 | 70.208 | 1.667  | 324.520 | N    | None    |
| 4708 | 70.208 | 1.667  | 320.170 | N    | 1 - F26 |
| 4709 | 73.771 | 1.667  | 324.520 | N    | None    |
| 4710 | 73.771 | 1.667  | 320.170 | N    | 1 - F26 |
| 4711 | 77.333 | 1.667  | 324.520 | N    | None    |
| 4712 | 63.083 | 23.542 | 324.520 | N    | None    |
| 4713 | 63.083 | 23.542 | 320.170 | N    | 1 - F26 |
| 4714 | 63.083 | 28.083 | 324.520 | N    | None    |
| 4715 | 63.083 | 28.083 | 320.170 | N    | 1 - F26 |
| 4716 | 63.083 | 32.625 | 324.520 | N    | None    |
| 4717 | 63.083 | 32.625 | 320.170 | N    | 1 - F26 |
| 4718 | 77.333 | 6.306  | 324.520 | N    | None    |
| 4719 | 77.333 | 6.306  | 320.170 | N    | 1 - F26 |
| 4720 | 77.333 | 10.945 | 324.520 | N    | None    |
| 4721 | 77.333 | 10.945 | 320.170 | N    | 1 - F26 |
| 4722 | 77.333 | 15.584 | 324.520 | N    | None    |
| 4723 | 77.333 | 15.584 | 320.170 | N    | 1 - F26 |
| 4724 | 77.333 | 20.222 | 324.520 | N    | None    |



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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4725 | 77.333  | 20.222 | 320.170 | N    | 1 - F26 |
| 4726 | 77.333  | 24.861 | 324.520 | N    | None    |
| 4727 | 77.333  | 24.861 | 320.170 | N    | 1 - F26 |
| 4728 | 77.333  | 29.500 | 324.520 | N    | None    |
| 4729 | 77.333  | 39.469 | 320.170 | N    | 1 - F26 |
| 4730 | 77.333  | 39.469 | 324.520 | N    | None    |
| 4731 | 77.333  | 42.792 | 324.520 | N    | None    |
| 4732 | 77.333  | 36.146 | 320.170 | N    | 1 - F26 |
| 4733 | 77.333  | 36.146 | 324.520 | N    | None    |
| 4734 | 77.333  | 32.823 | 320.170 | N    | 1 - F26 |
| 4735 | 77.333  | 32.823 | 324.520 | N    | None    |
| 4736 | 83.208  | 29.500 | 324.520 | N    | None    |
| 4737 | 83.208  | 29.500 | 320.170 | N    | 1 - F26 |
| 4738 | 89.083  | 29.500 | 324.520 | N    | None    |
| 4739 | 89.083  | 56.670 | 324.520 | N    | None    |
| 4740 | 89.083  | 59.899 | 324.520 | N    | None    |
| 4741 | 89.083  | 59.899 | 320.170 | N    | 1 - F26 |
| 4742 | 89.083  | 63.127 | 324.520 | N    | None    |
| 4743 | 89.083  | 63.127 | 320.170 | N    | 1 - F26 |
| 4744 | 89.083  | 66.355 | 324.520 | N    | None    |
| 4745 | 89.083  | 66.355 | 320.170 | N    | 1 - F26 |
| 4746 | 89.083  | 69.584 | 324.520 | N    | None    |
| 4747 | 137.083 | 21.583 | 324.520 | N    | None    |
| 4748 | 137.083 | 25.333 | 324.520 | N    | None    |
| 4749 | 137.083 | 25.333 | 320.170 | N    | 1 - F26 |
| 4750 | 137.083 | 29.083 | 324.520 | N    | None    |
| 4751 | 137.083 | 29.083 | 320.170 | N    | 1 - F26 |
| 4752 | 137.083 | 32.833 | 324.520 | N    | None    |
| 4753 | 137.083 | 32.833 | 320.170 | N    | 1 - F26 |
| 4754 | 137.083 | 36.583 | 324.520 | N    | None    |
| 4755 | 137.083 | 56.670 | 324.520 | N    | None    |
| 4756 | 137.083 | 59.899 | 324.520 | N    | None    |
| 4757 | 137.083 | 59.899 | 320.170 | N    | 1 - F26 |
| 4758 | 137.083 | 63.127 | 324.520 | N    | None    |
| 4759 | 137.083 | 63.127 | 320.170 | N    | 1 - F26 |
| 4760 | 137.083 | 66.355 | 324.520 | N    | None    |
| 4761 | 137.083 | 66.355 | 320.170 | N    | 1 - F26 |
| 4762 | 137.083 | 69.584 | 324.520 | N    | None    |
| 4763 | 185.083 | 22.500 | 324.520 | N    | None    |
| 4764 | 185.083 | 28.271 | 324.520 | N    | None    |
| 4765 | 185.083 | 28.271 | 320.170 | N    | 1 - F26 |
| 4766 | 185.083 | 34.042 | 324.520 | N    | None    |
| 4767 | 185.083 | 34.042 | 320.170 | N    | 1 - F26 |
| 4768 | 185.083 | 39.813 | 324.520 | N    | None    |
| 4769 | 185.083 | 39.813 | 320.170 | N    | 1 - F26 |



RAM Structural System  
Bentley

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4770 | 185.083 | 45.584 | 324.520 | N    | None    |
| 4771 | 185.083 | 45.584 | 320.170 | N    | 1 - F26 |
| 4772 | 185.083 | 51.354 | 324.520 | N    | None    |
| 4773 | 185.083 | 51.354 | 320.170 | N    | 1 - F26 |
| 4774 | 185.083 | 57.125 | 324.520 | N    | None    |
| 4775 | 185.083 | 57.125 | 320.170 | N    | 1 - F26 |
| 4776 | 185.083 | 62.896 | 324.520 | N    | None    |
| 4777 | 185.083 | 62.896 | 320.170 | N    | 1 - F26 |
| 4778 | 185.083 | 68.667 | 324.520 | N    | None    |
| 4779 | 89.083  | 33.042 | 324.520 | N    | None    |
| 4780 | 89.083  | 33.042 | 320.170 | N    | 1 - F26 |
| 4781 | 89.083  | 36.583 | 324.520 | N    | None    |
| 4782 | 89.083  | 21.583 | 324.520 | N    | None    |
| 4783 | 89.083  | 25.542 | 324.520 | N    | None    |
| 4784 | 89.083  | 25.542 | 320.170 | N    | 1 - F26 |
| 4785 | 37.667  | 1.667  | 315.820 | N    | None    |
| 4786 | 37.667  | 6.209  | 315.820 | N    | None    |
| 4787 | 37.667  | 6.209  | 311.470 | N    | 1 - F25 |
| 4788 | 37.667  | 10.750 | 315.820 | N    | None    |
| 4789 | 37.667  | 10.750 | 311.470 | N    | 1 - F25 |
| 4790 | 37.667  | 15.292 | 315.820 | N    | None    |
| 4791 | 37.667  | 15.292 | 311.470 | N    | 1 - F25 |
| 4792 | 37.667  | 19.833 | 315.820 | N    | None    |
| 4793 | 41.903  | 1.667  | 315.820 | N    | None    |
| 4794 | 41.903  | 1.667  | 311.470 | N    | 1 - F25 |
| 4795 | 46.139  | 1.667  | 315.820 | N    | None    |
| 4796 | 46.139  | 1.667  | 311.470 | N    | 1 - F25 |
| 4797 | 50.375  | 1.667  | 315.820 | N    | None    |
| 4798 | 50.375  | 1.667  | 311.470 | N    | 1 - F25 |
| 4799 | 54.611  | 1.667  | 315.820 | N    | None    |
| 4800 | 54.611  | 1.667  | 311.470 | N    | 1 - F25 |
| 4801 | 58.847  | 1.667  | 315.820 | N    | None    |
| 4802 | 58.847  | 1.667  | 311.470 | N    | 1 - F25 |
| 4803 | 63.083  | 1.667  | 315.820 | N    | None    |
| 4804 | 41.584  | 19.833 | 315.820 | N    | None    |
| 4805 | 41.584  | 19.833 | 311.470 | N    | 1 - F25 |
| 4806 | 45.500  | 19.833 | 315.820 | N    | None    |
| 4807 | 54.625  | 37.167 | 315.820 | N    | None    |
| 4808 | 58.854  | 37.167 | 315.820 | N    | None    |
| 4809 | 58.854  | 37.167 | 311.470 | N    | 1 - F25 |
| 4810 | 63.083  | 37.167 | 315.820 | N    | None    |
| 4811 | 63.083  | 6.000  | 315.820 | N    | None    |
| 4812 | 63.083  | 6.000  | 311.470 | N    | 1 - F25 |
| 4813 | 63.083  | 10.334 | 315.820 | N    | None    |
| 4814 | 63.083  | 10.334 | 311.470 | N    | 1 - F25 |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 4815 | 63.083 | 14.667 | 315.820 | N    | None    |
| 4816 | 63.083 | 14.667 | 311.470 | N    | 1 - F25 |
| 4817 | 63.083 | 19.000 | 315.820 | N    | None    |
| 4818 | 66.646 | 1.667  | 315.820 | N    | None    |
| 4819 | 66.646 | 1.667  | 311.470 | N    | 1 - F25 |
| 4820 | 70.208 | 1.667  | 315.820 | N    | None    |
| 4821 | 70.208 | 1.667  | 311.470 | N    | 1 - F25 |
| 4822 | 73.771 | 1.667  | 315.820 | N    | None    |
| 4823 | 73.771 | 1.667  | 311.470 | N    | 1 - F25 |
| 4824 | 77.333 | 1.667  | 315.820 | N    | None    |
| 4825 | 63.083 | 23.542 | 315.820 | N    | None    |
| 4826 | 63.083 | 23.542 | 311.470 | N    | 1 - F25 |
| 4827 | 63.083 | 28.083 | 315.820 | N    | None    |
| 4828 | 63.083 | 28.083 | 311.470 | N    | 1 - F25 |
| 4829 | 63.083 | 32.625 | 315.820 | N    | None    |
| 4830 | 63.083 | 32.625 | 311.470 | N    | 1 - F25 |
| 4831 | 77.333 | 6.306  | 315.820 | N    | None    |
| 4832 | 77.333 | 6.306  | 311.470 | N    | 1 - F25 |
| 4833 | 77.333 | 10.945 | 315.820 | N    | None    |
| 4834 | 77.333 | 10.945 | 311.470 | N    | 1 - F25 |
| 4835 | 77.333 | 15.584 | 315.820 | N    | None    |
| 4836 | 77.333 | 15.584 | 311.470 | N    | 1 - F25 |
| 4837 | 77.333 | 20.222 | 315.820 | N    | None    |
| 4838 | 77.333 | 20.222 | 311.470 | N    | 1 - F25 |
| 4839 | 77.333 | 24.861 | 315.820 | N    | None    |
| 4840 | 77.333 | 24.861 | 311.470 | N    | 1 - F25 |
| 4841 | 77.333 | 29.500 | 315.820 | N    | None    |
| 4842 | 77.333 | 39.469 | 311.470 | N    | 1 - F25 |
| 4843 | 77.333 | 39.469 | 315.820 | N    | None    |
| 4844 | 77.333 | 42.792 | 315.820 | N    | None    |
| 4845 | 77.333 | 36.146 | 311.470 | N    | 1 - F25 |
| 4846 | 77.333 | 36.146 | 315.820 | N    | None    |
| 4847 | 77.333 | 32.823 | 311.470 | N    | 1 - F25 |
| 4848 | 77.333 | 32.823 | 315.820 | N    | None    |
| 4849 | 83.208 | 29.500 | 315.820 | N    | None    |
| 4850 | 83.208 | 29.500 | 311.470 | N    | 1 - F25 |
| 4851 | 89.083 | 29.500 | 315.820 | N    | None    |
| 4852 | 89.083 | 56.670 | 315.820 | N    | None    |
| 4853 | 89.083 | 59.899 | 315.820 | N    | None    |
| 4854 | 89.083 | 59.899 | 311.470 | N    | 1 - F25 |
| 4855 | 89.083 | 63.127 | 315.820 | N    | None    |
| 4856 | 89.083 | 63.127 | 311.470 | N    | 1 - F25 |
| 4857 | 89.083 | 66.355 | 315.820 | N    | None    |
| 4858 | 89.083 | 66.355 | 311.470 | N    | 1 - F25 |
| 4859 | 89.083 | 69.584 | 315.820 | N    | None    |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4860 | 137.083 | 21.583 | 315.820 | N    | None    |
| 4861 | 137.083 | 25.333 | 315.820 | N    | None    |
| 4862 | 137.083 | 25.333 | 311.470 | N    | 1 - F25 |
| 4863 | 137.083 | 29.083 | 315.820 | N    | None    |
| 4864 | 137.083 | 29.083 | 311.470 | N    | 1 - F25 |
| 4865 | 137.083 | 32.833 | 315.820 | N    | None    |
| 4866 | 137.083 | 32.833 | 311.470 | N    | 1 - F25 |
| 4867 | 137.083 | 36.583 | 315.820 | N    | None    |
| 4868 | 137.083 | 56.670 | 315.820 | N    | None    |
| 4869 | 137.083 | 59.899 | 315.820 | N    | None    |
| 4870 | 137.083 | 59.899 | 311.470 | N    | 1 - F25 |
| 4871 | 137.083 | 63.127 | 315.820 | N    | None    |
| 4872 | 137.083 | 63.127 | 311.470 | N    | 1 - F25 |
| 4873 | 137.083 | 66.355 | 315.820 | N    | None    |
| 4874 | 137.083 | 66.355 | 311.470 | N    | 1 - F25 |
| 4875 | 137.083 | 69.584 | 315.820 | N    | None    |
| 4876 | 185.083 | 22.500 | 315.820 | N    | None    |
| 4877 | 185.083 | 28.271 | 315.820 | N    | None    |
| 4878 | 185.083 | 28.271 | 311.470 | N    | 1 - F25 |
| 4879 | 185.083 | 34.042 | 315.820 | N    | None    |
| 4880 | 185.083 | 34.042 | 311.470 | N    | 1 - F25 |
| 4881 | 185.083 | 39.813 | 315.820 | N    | None    |
| 4882 | 185.083 | 39.813 | 311.470 | N    | 1 - F25 |
| 4883 | 185.083 | 45.584 | 315.820 | N    | None    |
| 4884 | 185.083 | 45.584 | 311.470 | N    | 1 - F25 |
| 4885 | 185.083 | 51.354 | 315.820 | N    | None    |
| 4886 | 185.083 | 51.354 | 311.470 | N    | 1 - F25 |
| 4887 | 185.083 | 57.125 | 315.820 | N    | None    |
| 4888 | 185.083 | 57.125 | 311.470 | N    | 1 - F25 |
| 4889 | 185.083 | 62.896 | 315.820 | N    | None    |
| 4890 | 185.083 | 62.896 | 311.470 | N    | 1 - F25 |
| 4891 | 185.083 | 68.667 | 315.820 | N    | None    |
| 4892 | 89.083  | 33.042 | 315.820 | N    | None    |
| 4893 | 89.083  | 33.042 | 311.470 | N    | 1 - F25 |
| 4894 | 89.083  | 36.583 | 315.820 | N    | None    |
| 4895 | 89.083  | 21.583 | 315.820 | N    | None    |
| 4896 | 89.083  | 25.542 | 315.820 | N    | None    |
| 4897 | 89.083  | 25.542 | 311.470 | N    | 1 - F25 |
| 4898 | 37.667  | 1.667  | 307.120 | N    | None    |
| 4899 | 37.667  | 6.209  | 307.120 | N    | None    |
| 4900 | 37.667  | 6.209  | 302.770 | N    | 1 - F24 |
| 4901 | 37.667  | 10.750 | 307.120 | N    | None    |
| 4902 | 37.667  | 10.750 | 302.770 | N    | 1 - F24 |
| 4903 | 37.667  | 15.292 | 307.120 | N    | None    |
| 4904 | 37.667  | 15.292 | 302.770 | N    | 1 - F24 |



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| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 4905 | 37.667 | 19.833 | 307.120 | N    | None    |
| 4906 | 41.903 | 1.667  | 307.120 | N    | None    |
| 4907 | 41.903 | 1.667  | 302.770 | N    | 1 - F24 |
| 4908 | 46.139 | 1.667  | 307.120 | N    | None    |
| 4909 | 46.139 | 1.667  | 302.770 | N    | 1 - F24 |
| 4910 | 50.375 | 1.667  | 307.120 | N    | None    |
| 4911 | 50.375 | 1.667  | 302.770 | N    | 1 - F24 |
| 4912 | 54.611 | 1.667  | 307.120 | N    | None    |
| 4913 | 54.611 | 1.667  | 302.770 | N    | 1 - F24 |
| 4914 | 58.847 | 1.667  | 307.120 | N    | None    |
| 4915 | 58.847 | 1.667  | 302.770 | N    | 1 - F24 |
| 4916 | 63.083 | 1.667  | 307.120 | N    | None    |
| 4917 | 41.584 | 19.833 | 307.120 | N    | None    |
| 4918 | 41.584 | 19.833 | 302.770 | N    | 1 - F24 |
| 4919 | 45.500 | 19.833 | 307.120 | N    | None    |
| 4920 | 54.625 | 37.167 | 307.120 | N    | None    |
| 4921 | 58.854 | 37.167 | 307.120 | N    | None    |
| 4922 | 58.854 | 37.167 | 302.770 | N    | 1 - F24 |
| 4923 | 63.083 | 37.167 | 307.120 | N    | None    |
| 4924 | 63.083 | 6.000  | 307.120 | N    | None    |
| 4925 | 63.083 | 6.000  | 302.770 | N    | 1 - F24 |
| 4926 | 63.083 | 10.334 | 307.120 | N    | None    |
| 4927 | 63.083 | 10.334 | 302.770 | N    | 1 - F24 |
| 4928 | 63.083 | 14.667 | 307.120 | N    | None    |
| 4929 | 63.083 | 14.667 | 302.770 | N    | 1 - F24 |
| 4930 | 63.083 | 19.000 | 307.120 | N    | None    |
| 4931 | 66.646 | 1.667  | 307.120 | N    | None    |
| 4932 | 66.646 | 1.667  | 302.770 | N    | 1 - F24 |
| 4933 | 70.208 | 1.667  | 307.120 | N    | None    |
| 4934 | 70.208 | 1.667  | 302.770 | N    | 1 - F24 |
| 4935 | 73.771 | 1.667  | 307.120 | N    | None    |
| 4936 | 73.771 | 1.667  | 302.770 | N    | 1 - F24 |
| 4937 | 77.333 | 1.667  | 307.120 | N    | None    |
| 4938 | 63.083 | 23.542 | 307.120 | N    | None    |
| 4939 | 63.083 | 23.542 | 302.770 | N    | 1 - F24 |
| 4940 | 63.083 | 28.083 | 307.120 | N    | None    |
| 4941 | 63.083 | 28.083 | 302.770 | N    | 1 - F24 |
| 4942 | 63.083 | 32.625 | 307.120 | N    | None    |
| 4943 | 63.083 | 32.625 | 302.770 | N    | 1 - F24 |
| 4944 | 77.333 | 6.306  | 307.120 | N    | None    |
| 4945 | 77.333 | 6.306  | 302.770 | N    | 1 - F24 |
| 4946 | 77.333 | 10.945 | 307.120 | N    | None    |
| 4947 | 77.333 | 10.945 | 302.770 | N    | 1 - F24 |
| 4948 | 77.333 | 15.584 | 307.120 | N    | None    |
| 4949 | 77.333 | 15.584 | 302.770 | N    | 1 - F24 |



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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4950 | 77.333  | 20.222 | 307.120 | N    | None    |
| 4951 | 77.333  | 20.222 | 302.770 | N    | 1 - F24 |
| 4952 | 77.333  | 24.861 | 307.120 | N    | None    |
| 4953 | 77.333  | 24.861 | 302.770 | N    | 1 - F24 |
| 4954 | 77.333  | 29.500 | 307.120 | N    | None    |
| 4955 | 77.333  | 39.469 | 302.770 | N    | 1 - F24 |
| 4956 | 77.333  | 39.469 | 307.120 | N    | None    |
| 4957 | 77.333  | 42.792 | 307.120 | N    | None    |
| 4958 | 77.333  | 36.146 | 302.770 | N    | 1 - F24 |
| 4959 | 77.333  | 36.146 | 307.120 | N    | None    |
| 4960 | 77.333  | 32.823 | 302.770 | N    | 1 - F24 |
| 4961 | 77.333  | 32.823 | 307.120 | N    | None    |
| 4962 | 83.208  | 29.500 | 307.120 | N    | None    |
| 4963 | 83.208  | 29.500 | 302.770 | N    | 1 - F24 |
| 4964 | 89.083  | 29.500 | 307.120 | N    | None    |
| 4965 | 89.083  | 56.670 | 307.120 | N    | None    |
| 4966 | 89.083  | 59.899 | 307.120 | N    | None    |
| 4967 | 89.083  | 59.899 | 302.770 | N    | 1 - F24 |
| 4968 | 89.083  | 63.127 | 307.120 | N    | None    |
| 4969 | 89.083  | 63.127 | 302.770 | N    | 1 - F24 |
| 4970 | 89.083  | 66.355 | 307.120 | N    | None    |
| 4971 | 89.083  | 66.355 | 302.770 | N    | 1 - F24 |
| 4972 | 89.083  | 69.584 | 307.120 | N    | None    |
| 4973 | 137.083 | 21.583 | 307.120 | N    | None    |
| 4974 | 137.083 | 25.333 | 307.120 | N    | None    |
| 4975 | 137.083 | 25.333 | 302.770 | N    | 1 - F24 |
| 4976 | 137.083 | 29.083 | 307.120 | N    | None    |
| 4977 | 137.083 | 29.083 | 302.770 | N    | 1 - F24 |
| 4978 | 137.083 | 32.833 | 307.120 | N    | None    |
| 4979 | 137.083 | 32.833 | 302.770 | N    | 1 - F24 |
| 4980 | 137.083 | 36.583 | 307.120 | N    | None    |
| 4981 | 137.083 | 56.670 | 307.120 | N    | None    |
| 4982 | 137.083 | 59.899 | 307.120 | N    | None    |
| 4983 | 137.083 | 59.899 | 302.770 | N    | 1 - F24 |
| 4984 | 137.083 | 63.127 | 307.120 | N    | None    |
| 4985 | 137.083 | 63.127 | 302.770 | N    | 1 - F24 |
| 4986 | 137.083 | 66.355 | 307.120 | N    | None    |
| 4987 | 137.083 | 66.355 | 302.770 | N    | 1 - F24 |
| 4988 | 137.083 | 69.584 | 307.120 | N    | None    |
| 4989 | 185.083 | 22.500 | 307.120 | N    | None    |
| 4990 | 185.083 | 28.271 | 307.120 | N    | None    |
| 4991 | 185.083 | 28.271 | 302.770 | N    | 1 - F24 |
| 4992 | 185.083 | 34.042 | 307.120 | N    | None    |
| 4993 | 185.083 | 34.042 | 302.770 | N    | 1 - F24 |
| 4994 | 185.083 | 39.813 | 307.120 | N    | None    |



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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 4995 | 185.083 | 39.813 | 302.770 | N    | 1 - F24 |
| 4996 | 185.083 | 45.584 | 307.120 | N    | None    |
| 4997 | 185.083 | 45.584 | 302.770 | N    | 1 - F24 |
| 4998 | 185.083 | 51.354 | 307.120 | N    | None    |
| 4999 | 185.083 | 51.354 | 302.770 | N    | 1 - F24 |
| 5000 | 185.083 | 57.125 | 307.120 | N    | None    |
| 5001 | 185.083 | 57.125 | 302.770 | N    | 1 - F24 |
| 5002 | 185.083 | 62.896 | 307.120 | N    | None    |
| 5003 | 185.083 | 62.896 | 302.770 | N    | 1 - F24 |
| 5004 | 185.083 | 68.667 | 307.120 | N    | None    |
| 5005 | 89.083  | 33.042 | 307.120 | N    | None    |
| 5006 | 89.083  | 33.042 | 302.770 | N    | 1 - F24 |
| 5007 | 89.083  | 36.583 | 307.120 | N    | None    |
| 5008 | 89.083  | 21.583 | 307.120 | N    | None    |
| 5009 | 89.083  | 25.542 | 307.120 | N    | None    |
| 5010 | 89.083  | 25.542 | 302.770 | N    | 1 - F24 |
| 5011 | 37.667  | 1.667  | 298.420 | N    | None    |
| 5012 | 37.667  | 6.209  | 298.420 | N    | None    |
| 5013 | 37.667  | 6.209  | 294.070 | N    | 1 - F23 |
| 5014 | 37.667  | 10.750 | 298.420 | N    | None    |
| 5015 | 37.667  | 10.750 | 294.070 | N    | 1 - F23 |
| 5016 | 37.667  | 15.292 | 298.420 | N    | None    |
| 5017 | 37.667  | 15.292 | 294.070 | N    | 1 - F23 |
| 5018 | 37.667  | 19.833 | 298.420 | N    | None    |
| 5019 | 41.903  | 1.667  | 298.420 | N    | None    |
| 5020 | 41.903  | 1.667  | 294.070 | N    | 1 - F23 |
| 5021 | 46.139  | 1.667  | 298.420 | N    | None    |
| 5022 | 46.139  | 1.667  | 294.070 | N    | 1 - F23 |
| 5023 | 50.375  | 1.667  | 298.420 | N    | None    |
| 5024 | 50.375  | 1.667  | 294.070 | N    | 1 - F23 |
| 5025 | 54.611  | 1.667  | 298.420 | N    | None    |
| 5026 | 54.611  | 1.667  | 294.070 | N    | 1 - F23 |
| 5027 | 58.847  | 1.667  | 298.420 | N    | None    |
| 5028 | 58.847  | 1.667  | 294.070 | N    | 1 - F23 |
| 5029 | 63.083  | 1.667  | 298.420 | N    | None    |
| 5030 | 41.584  | 19.833 | 298.420 | N    | None    |
| 5031 | 41.584  | 19.833 | 294.070 | N    | 1 - F23 |
| 5032 | 45.500  | 19.833 | 298.420 | N    | None    |
| 5033 | 54.625  | 37.167 | 298.420 | N    | None    |
| 5034 | 58.854  | 37.167 | 298.420 | N    | None    |
| 5035 | 58.854  | 37.167 | 294.070 | N    | 1 - F23 |
| 5036 | 63.083  | 37.167 | 298.420 | N    | None    |
| 5037 | 63.083  | 6.000  | 298.420 | N    | None    |
| 5038 | 63.083  | 6.000  | 294.070 | N    | 1 - F23 |
| 5039 | 63.083  | 10.334 | 298.420 | N    | None    |



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| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 5040 | 63.083 | 10.334 | 294.070 | N    | 1 - F23 |
| 5041 | 63.083 | 14.667 | 298.420 | N    | None    |
| 5042 | 63.083 | 14.667 | 294.070 | N    | 1 - F23 |
| 5043 | 63.083 | 19.000 | 298.420 | N    | None    |
| 5044 | 66.646 | 1.667  | 298.420 | N    | None    |
| 5045 | 66.646 | 1.667  | 294.070 | N    | 1 - F23 |
| 5046 | 70.208 | 1.667  | 298.420 | N    | None    |
| 5047 | 70.208 | 1.667  | 294.070 | N    | 1 - F23 |
| 5048 | 73.771 | 1.667  | 298.420 | N    | None    |
| 5049 | 73.771 | 1.667  | 294.070 | N    | 1 - F23 |
| 5050 | 77.333 | 1.667  | 298.420 | N    | None    |
| 5051 | 63.083 | 23.542 | 298.420 | N    | None    |
| 5052 | 63.083 | 23.542 | 294.070 | N    | 1 - F23 |
| 5053 | 63.083 | 28.083 | 298.420 | N    | None    |
| 5054 | 63.083 | 28.083 | 294.070 | N    | 1 - F23 |
| 5055 | 63.083 | 32.625 | 298.420 | N    | None    |
| 5056 | 63.083 | 32.625 | 294.070 | N    | 1 - F23 |
| 5057 | 77.333 | 6.306  | 298.420 | N    | None    |
| 5058 | 77.333 | 6.306  | 294.070 | N    | 1 - F23 |
| 5059 | 77.333 | 10.945 | 298.420 | N    | None    |
| 5060 | 77.333 | 10.945 | 294.070 | N    | 1 - F23 |
| 5061 | 77.333 | 15.584 | 298.420 | N    | None    |
| 5062 | 77.333 | 15.584 | 294.070 | N    | 1 - F23 |
| 5063 | 77.333 | 20.222 | 298.420 | N    | None    |
| 5064 | 77.333 | 20.222 | 294.070 | N    | 1 - F23 |
| 5065 | 77.333 | 24.861 | 298.420 | N    | None    |
| 5066 | 77.333 | 24.861 | 294.070 | N    | 1 - F23 |
| 5067 | 77.333 | 29.500 | 298.420 | N    | None    |
| 5068 | 77.333 | 39.469 | 294.070 | N    | 1 - F23 |
| 5069 | 77.333 | 39.469 | 298.420 | N    | None    |
| 5070 | 77.333 | 42.792 | 298.420 | N    | None    |
| 5071 | 77.333 | 36.146 | 294.070 | N    | 1 - F23 |
| 5072 | 77.333 | 36.146 | 298.420 | N    | None    |
| 5073 | 77.333 | 32.823 | 294.070 | N    | 1 - F23 |
| 5074 | 77.333 | 32.823 | 298.420 | N    | None    |
| 5075 | 83.208 | 29.500 | 298.420 | N    | None    |
| 5076 | 83.208 | 29.500 | 294.070 | N    | 1 - F23 |
| 5077 | 89.083 | 29.500 | 298.420 | N    | None    |
| 5078 | 89.083 | 56.670 | 298.420 | N    | None    |
| 5079 | 89.083 | 59.899 | 298.420 | N    | None    |
| 5080 | 89.083 | 59.899 | 294.070 | N    | 1 - F23 |
| 5081 | 89.083 | 63.127 | 298.420 | N    | None    |
| 5082 | 89.083 | 63.127 | 294.070 | N    | 1 - F23 |
| 5083 | 89.083 | 66.355 | 298.420 | N    | None    |
| 5084 | 89.083 | 66.355 | 294.070 | N    | 1 - F23 |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5085 | 89.083  | 69.584 | 298.420 | N    | None    |
| 5086 | 137.083 | 21.583 | 298.420 | N    | None    |
| 5087 | 137.083 | 25.333 | 298.420 | N    | None    |
| 5088 | 137.083 | 25.333 | 294.070 | N    | 1 - F23 |
| 5089 | 137.083 | 29.083 | 298.420 | N    | None    |
| 5090 | 137.083 | 29.083 | 294.070 | N    | 1 - F23 |
| 5091 | 137.083 | 32.833 | 298.420 | N    | None    |
| 5092 | 137.083 | 32.833 | 294.070 | N    | 1 - F23 |
| 5093 | 137.083 | 36.583 | 298.420 | N    | None    |
| 5094 | 137.083 | 56.670 | 298.420 | N    | None    |
| 5095 | 137.083 | 59.899 | 298.420 | N    | None    |
| 5096 | 137.083 | 59.899 | 294.070 | N    | 1 - F23 |
| 5097 | 137.083 | 63.127 | 298.420 | N    | None    |
| 5098 | 137.083 | 63.127 | 294.070 | N    | 1 - F23 |
| 5099 | 137.083 | 66.355 | 298.420 | N    | None    |
| 5100 | 137.083 | 66.355 | 294.070 | N    | 1 - F23 |
| 5101 | 137.083 | 69.584 | 298.420 | N    | None    |
| 5102 | 185.083 | 22.500 | 298.420 | N    | None    |
| 5103 | 185.083 | 28.271 | 298.420 | N    | None    |
| 5104 | 185.083 | 28.271 | 294.070 | N    | 1 - F23 |
| 5105 | 185.083 | 34.042 | 298.420 | N    | None    |
| 5106 | 185.083 | 34.042 | 294.070 | N    | 1 - F23 |
| 5107 | 185.083 | 39.813 | 298.420 | N    | None    |
| 5108 | 185.083 | 39.813 | 294.070 | N    | 1 - F23 |
| 5109 | 185.083 | 45.584 | 298.420 | N    | None    |
| 5110 | 185.083 | 45.584 | 294.070 | N    | 1 - F23 |
| 5111 | 185.083 | 51.354 | 298.420 | N    | None    |
| 5112 | 185.083 | 51.354 | 294.070 | N    | 1 - F23 |
| 5113 | 185.083 | 57.125 | 298.420 | N    | None    |
| 5114 | 185.083 | 57.125 | 294.070 | N    | 1 - F23 |
| 5115 | 185.083 | 62.896 | 298.420 | N    | None    |
| 5116 | 185.083 | 62.896 | 294.070 | N    | 1 - F23 |
| 5117 | 185.083 | 68.667 | 298.420 | N    | None    |
| 5118 | 89.083  | 33.042 | 298.420 | N    | None    |
| 5119 | 89.083  | 33.042 | 294.070 | N    | 1 - F23 |
| 5120 | 89.083  | 36.583 | 298.420 | N    | None    |
| 5121 | 89.083  | 21.583 | 298.420 | N    | None    |
| 5122 | 89.083  | 25.542 | 298.420 | N    | None    |
| 5123 | 89.083  | 25.542 | 294.070 | N    | 1 - F23 |
| 5124 | 37.667  | 1.667  | 289.720 | N    | None    |
| 5125 | 37.667  | 6.209  | 289.720 | N    | None    |
| 5126 | 37.667  | 6.209  | 285.370 | N    | 1 - F22 |
| 5127 | 37.667  | 10.750 | 289.720 | N    | None    |
| 5128 | 37.667  | 10.750 | 285.370 | N    | 1 - F22 |
| 5129 | 37.667  | 15.292 | 289.720 | N    | None    |



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RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 5130 | 37.667 | 15.292 | 285.370 | N    | 1 - F22 |
| 5131 | 37.667 | 19.833 | 289.720 | N    | None    |
| 5132 | 41.903 | 1.667  | 289.720 | N    | None    |
| 5133 | 41.903 | 1.667  | 285.370 | N    | 1 - F22 |
| 5134 | 46.139 | 1.667  | 289.720 | N    | None    |
| 5135 | 46.139 | 1.667  | 285.370 | N    | 1 - F22 |
| 5136 | 50.375 | 1.667  | 289.720 | N    | None    |
| 5137 | 50.375 | 1.667  | 285.370 | N    | 1 - F22 |
| 5138 | 54.611 | 1.667  | 289.720 | N    | None    |
| 5139 | 54.611 | 1.667  | 285.370 | N    | 1 - F22 |
| 5140 | 58.847 | 1.667  | 289.720 | N    | None    |
| 5141 | 58.847 | 1.667  | 285.370 | N    | 1 - F22 |
| 5142 | 63.083 | 1.667  | 289.720 | N    | None    |
| 5143 | 41.584 | 19.833 | 289.720 | N    | None    |
| 5144 | 41.584 | 19.833 | 285.370 | N    | 1 - F22 |
| 5145 | 45.500 | 19.833 | 289.720 | N    | None    |
| 5146 | 54.625 | 37.167 | 289.720 | N    | None    |
| 5147 | 58.854 | 37.167 | 289.720 | N    | None    |
| 5148 | 58.854 | 37.167 | 285.370 | N    | 1 - F22 |
| 5149 | 63.083 | 37.167 | 289.720 | N    | None    |
| 5150 | 63.083 | 6.000  | 289.720 | N    | None    |
| 5151 | 63.083 | 6.000  | 285.370 | N    | 1 - F22 |
| 5152 | 63.083 | 10.334 | 289.720 | N    | None    |
| 5153 | 63.083 | 10.334 | 285.370 | N    | 1 - F22 |
| 5154 | 63.083 | 14.667 | 289.720 | N    | None    |
| 5155 | 63.083 | 14.667 | 285.370 | N    | 1 - F22 |
| 5156 | 63.083 | 19.000 | 289.720 | N    | None    |
| 5157 | 66.646 | 1.667  | 289.720 | N    | None    |
| 5158 | 66.646 | 1.667  | 285.370 | N    | 1 - F22 |
| 5159 | 70.208 | 1.667  | 289.720 | N    | None    |
| 5160 | 70.208 | 1.667  | 285.370 | N    | 1 - F22 |
| 5161 | 73.771 | 1.667  | 289.720 | N    | None    |
| 5162 | 73.771 | 1.667  | 285.370 | N    | 1 - F22 |
| 5163 | 77.333 | 1.667  | 289.720 | N    | None    |
| 5164 | 63.083 | 23.542 | 289.720 | N    | None    |
| 5165 | 63.083 | 23.542 | 285.370 | N    | 1 - F22 |
| 5166 | 63.083 | 28.083 | 289.720 | N    | None    |
| 5167 | 63.083 | 28.083 | 285.370 | N    | 1 - F22 |
| 5168 | 63.083 | 32.625 | 289.720 | N    | None    |
| 5169 | 63.083 | 32.625 | 285.370 | N    | 1 - F22 |
| 5170 | 77.333 | 6.306  | 289.720 | N    | None    |
| 5171 | 77.333 | 6.306  | 285.370 | N    | 1 - F22 |
| 5172 | 77.333 | 10.945 | 289.720 | N    | None    |
| 5173 | 77.333 | 10.945 | 285.370 | N    | 1 - F22 |
| 5174 | 77.333 | 15.584 | 289.720 | N    | None    |





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RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5175 | 77.333  | 15.584 | 285.370 | N    | 1 - F22 |
| 5176 | 77.333  | 20.222 | 289.720 | N    | None    |
| 5177 | 77.333  | 20.222 | 285.370 | N    | 1 - F22 |
| 5178 | 77.333  | 24.861 | 289.720 | N    | None    |
| 5179 | 77.333  | 24.861 | 285.370 | N    | 1 - F22 |
| 5180 | 77.333  | 29.500 | 289.720 | N    | None    |
| 5181 | 77.333  | 39.469 | 285.370 | N    | 1 - F22 |
| 5182 | 77.333  | 39.469 | 289.720 | N    | None    |
| 5183 | 77.333  | 42.792 | 289.720 | N    | None    |
| 5184 | 77.333  | 36.146 | 285.370 | N    | 1 - F22 |
| 5185 | 77.333  | 36.146 | 289.720 | N    | None    |
| 5186 | 77.333  | 32.823 | 285.370 | N    | 1 - F22 |
| 5187 | 77.333  | 32.823 | 289.720 | N    | None    |
| 5188 | 83.208  | 29.500 | 289.720 | N    | None    |
| 5189 | 83.208  | 29.500 | 285.370 | N    | 1 - F22 |
| 5190 | 89.083  | 29.500 | 289.720 | N    | None    |
| 5191 | 89.083  | 56.670 | 289.720 | N    | None    |
| 5192 | 89.083  | 59.899 | 289.720 | N    | None    |
| 5193 | 89.083  | 59.899 | 285.370 | N    | 1 - F22 |
| 5194 | 89.083  | 63.127 | 289.720 | N    | None    |
| 5195 | 89.083  | 63.127 | 285.370 | N    | 1 - F22 |
| 5196 | 89.083  | 66.355 | 289.720 | N    | None    |
| 5197 | 89.083  | 66.355 | 285.370 | N    | 1 - F22 |
| 5198 | 89.083  | 69.584 | 289.720 | N    | None    |
| 5199 | 137.083 | 21.583 | 289.720 | N    | None    |
| 5200 | 137.083 | 25.333 | 289.720 | N    | None    |
| 5201 | 137.083 | 25.333 | 285.370 | N    | 1 - F22 |
| 5202 | 137.083 | 29.083 | 289.720 | N    | None    |
| 5203 | 137.083 | 29.083 | 285.370 | N    | 1 - F22 |
| 5204 | 137.083 | 32.833 | 289.720 | N    | None    |
| 5205 | 137.083 | 32.833 | 285.370 | N    | 1 - F22 |
| 5206 | 137.083 | 36.583 | 289.720 | N    | None    |
| 5207 | 137.083 | 56.670 | 289.720 | N    | None    |
| 5208 | 137.083 | 59.899 | 289.720 | N    | None    |
| 5209 | 137.083 | 59.899 | 285.370 | N    | 1 - F22 |
| 5210 | 137.083 | 63.127 | 289.720 | N    | None    |
| 5211 | 137.083 | 63.127 | 285.370 | N    | 1 - F22 |
| 5212 | 137.083 | 66.355 | 289.720 | N    | None    |
| 5213 | 137.083 | 66.355 | 285.370 | N    | 1 - F22 |
| 5214 | 137.083 | 69.584 | 289.720 | N    | None    |
| 5215 | 185.083 | 22.500 | 289.720 | N    | None    |
| 5216 | 185.083 | 28.271 | 289.720 | N    | None    |
| 5217 | 185.083 | 28.271 | 285.370 | N    | 1 - F22 |
| 5218 | 185.083 | 34.042 | 289.720 | N    | None    |
| 5219 | 185.083 | 34.042 | 285.370 | N    | 1 - F22 |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5220 | 185.083 | 39.813 | 289.720 | N    | None    |
| 5221 | 185.083 | 39.813 | 285.370 | N    | 1 - F22 |
| 5222 | 185.083 | 45.584 | 289.720 | N    | None    |
| 5223 | 185.083 | 45.584 | 285.370 | N    | 1 - F22 |
| 5224 | 185.083 | 51.354 | 289.720 | N    | None    |
| 5225 | 185.083 | 51.354 | 285.370 | N    | 1 - F22 |
| 5226 | 185.083 | 57.125 | 289.720 | N    | None    |
| 5227 | 185.083 | 57.125 | 285.370 | N    | 1 - F22 |
| 5228 | 185.083 | 62.896 | 289.720 | N    | None    |
| 5229 | 185.083 | 62.896 | 285.370 | N    | 1 - F22 |
| 5230 | 185.083 | 68.667 | 289.720 | N    | None    |
| 5231 | 89.083  | 33.042 | 289.720 | N    | None    |
| 5232 | 89.083  | 33.042 | 285.370 | N    | 1 - F22 |
| 5233 | 89.083  | 36.583 | 289.720 | N    | None    |
| 5234 | 89.083  | 21.583 | 289.720 | N    | None    |
| 5235 | 89.083  | 25.542 | 289.720 | N    | None    |
| 5236 | 89.083  | 25.542 | 285.370 | N    | 1 - F22 |
| 5237 | 37.667  | 1.667  | 281.020 | N    | None    |
| 5238 | 37.667  | 6.209  | 281.020 | N    | None    |
| 5239 | 37.667  | 6.209  | 276.670 | N    | 1 - F21 |
| 5240 | 37.667  | 10.750 | 281.020 | N    | None    |
| 5241 | 37.667  | 10.750 | 276.670 | N    | 1 - F21 |
| 5242 | 37.667  | 15.292 | 281.020 | N    | None    |
| 5243 | 37.667  | 15.292 | 276.670 | N    | 1 - F21 |
| 5244 | 37.667  | 19.833 | 281.020 | N    | None    |
| 5245 | 41.903  | 1.667  | 281.020 | N    | None    |
| 5246 | 41.903  | 1.667  | 276.670 | N    | 1 - F21 |
| 5247 | 46.139  | 1.667  | 281.020 | N    | None    |
| 5248 | 46.139  | 1.667  | 276.670 | N    | 1 - F21 |
| 5249 | 50.375  | 1.667  | 281.020 | N    | None    |
| 5250 | 50.375  | 1.667  | 276.670 | N    | 1 - F21 |
| 5251 | 54.611  | 1.667  | 281.020 | N    | None    |
| 5252 | 54.611  | 1.667  | 276.670 | N    | 1 - F21 |
| 5253 | 58.847  | 1.667  | 281.020 | N    | None    |
| 5254 | 58.847  | 1.667  | 276.670 | N    | 1 - F21 |
| 5255 | 63.083  | 1.667  | 281.020 | N    | None    |
| 5256 | 41.584  | 19.833 | 281.020 | N    | None    |
| 5257 | 41.584  | 19.833 | 276.670 | N    | 1 - F21 |
| 5258 | 45.500  | 19.833 | 281.020 | N    | None    |
| 5259 | 54.625  | 37.167 | 281.020 | N    | None    |
| 5260 | 58.854  | 37.167 | 281.020 | N    | None    |
| 5261 | 58.854  | 37.167 | 276.670 | N    | 1 - F21 |
| 5262 | 63.083  | 37.167 | 281.020 | N    | None    |
| 5263 | 63.083  | 6.000  | 281.020 | N    | None    |
| 5264 | 63.083  | 6.000  | 276.670 | N    | 1 - F21 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 5265 | 63.083 | 10.334 | 281.020 | N    | None    |
| 5266 | 63.083 | 10.334 | 276.670 | N    | 1 - F21 |
| 5267 | 63.083 | 14.667 | 281.020 | N    | None    |
| 5268 | 63.083 | 14.667 | 276.670 | N    | 1 - F21 |
| 5269 | 63.083 | 19.000 | 281.020 | N    | None    |
| 5270 | 66.646 | 1.667  | 281.020 | N    | None    |
| 5271 | 66.646 | 1.667  | 276.670 | N    | 1 - F21 |
| 5272 | 70.208 | 1.667  | 281.020 | N    | None    |
| 5273 | 70.208 | 1.667  | 276.670 | N    | 1 - F21 |
| 5274 | 73.771 | 1.667  | 281.020 | N    | None    |
| 5275 | 73.771 | 1.667  | 276.670 | N    | 1 - F21 |
| 5276 | 77.333 | 1.667  | 281.020 | N    | None    |
| 5277 | 63.083 | 23.542 | 281.020 | N    | None    |
| 5278 | 63.083 | 23.542 | 276.670 | N    | 1 - F21 |
| 5279 | 63.083 | 28.083 | 281.020 | N    | None    |
| 5280 | 63.083 | 28.083 | 276.670 | N    | 1 - F21 |
| 5281 | 63.083 | 32.625 | 281.020 | N    | None    |
| 5282 | 63.083 | 32.625 | 276.670 | N    | 1 - F21 |
| 5283 | 77.333 | 6.306  | 281.020 | N    | None    |
| 5284 | 77.333 | 6.306  | 276.670 | N    | 1 - F21 |
| 5285 | 77.333 | 10.945 | 281.020 | N    | None    |
| 5286 | 77.333 | 10.945 | 276.670 | N    | 1 - F21 |
| 5287 | 77.333 | 15.584 | 281.020 | N    | None    |
| 5288 | 77.333 | 15.584 | 276.670 | N    | 1 - F21 |
| 5289 | 77.333 | 20.222 | 281.020 | N    | None    |
| 5290 | 77.333 | 20.222 | 276.670 | N    | 1 - F21 |
| 5291 | 77.333 | 24.861 | 281.020 | N    | None    |
| 5292 | 77.333 | 24.861 | 276.670 | N    | 1 - F21 |
| 5293 | 77.333 | 29.500 | 281.020 | N    | None    |
| 5294 | 77.333 | 39.469 | 276.670 | N    | 1 - F21 |
| 5295 | 77.333 | 39.469 | 281.020 | N    | None    |
| 5296 | 77.333 | 42.792 | 281.020 | N    | None    |
| 5297 | 77.333 | 36.146 | 276.670 | N    | 1 - F21 |
| 5298 | 77.333 | 36.146 | 281.020 | N    | None    |
| 5299 | 77.333 | 32.823 | 276.670 | N    | 1 - F21 |
| 5300 | 77.333 | 32.823 | 281.020 | N    | None    |
| 5301 | 83.208 | 29.500 | 281.020 | N    | None    |
| 5302 | 83.208 | 29.500 | 276.670 | N    | 1 - F21 |
| 5303 | 89.083 | 29.500 | 281.020 | N    | None    |
| 5304 | 89.083 | 56.670 | 281.020 | N    | None    |
| 5305 | 89.083 | 59.899 | 281.020 | N    | None    |
| 5306 | 89.083 | 59.899 | 276.670 | N    | 1 - F21 |
| 5307 | 89.083 | 63.127 | 281.020 | N    | None    |
| 5308 | 89.083 | 63.127 | 276.670 | N    | 1 - F21 |
| 5309 | 89.083 | 66.355 | 281.020 | N    | None    |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5310 | 89.083  | 66.355 | 276.670 | N    | 1 - F21 |
| 5311 | 89.083  | 69.584 | 281.020 | N    | None    |
| 5312 | 137.083 | 21.583 | 281.020 | N    | None    |
| 5313 | 137.083 | 25.333 | 281.020 | N    | None    |
| 5314 | 137.083 | 25.333 | 276.670 | N    | 1 - F21 |
| 5315 | 137.083 | 29.083 | 281.020 | N    | None    |
| 5316 | 137.083 | 29.083 | 276.670 | N    | 1 - F21 |
| 5317 | 137.083 | 32.833 | 281.020 | N    | None    |
| 5318 | 137.083 | 32.833 | 276.670 | N    | 1 - F21 |
| 5319 | 137.083 | 36.583 | 281.020 | N    | None    |
| 5320 | 137.083 | 56.670 | 281.020 | N    | None    |
| 5321 | 137.083 | 59.899 | 281.020 | N    | None    |
| 5322 | 137.083 | 59.899 | 276.670 | N    | 1 - F21 |
| 5323 | 137.083 | 63.127 | 281.020 | N    | None    |
| 5324 | 137.083 | 63.127 | 276.670 | N    | 1 - F21 |
| 5325 | 137.083 | 66.355 | 281.020 | N    | None    |
| 5326 | 137.083 | 66.355 | 276.670 | N    | 1 - F21 |
| 5327 | 137.083 | 69.584 | 281.020 | N    | None    |
| 5328 | 185.083 | 22.500 | 281.020 | N    | None    |
| 5329 | 185.083 | 28.271 | 281.020 | N    | None    |
| 5330 | 185.083 | 28.271 | 276.670 | N    | 1 - F21 |
| 5331 | 185.083 | 34.042 | 281.020 | N    | None    |
| 5332 | 185.083 | 34.042 | 276.670 | N    | 1 - F21 |
| 5333 | 185.083 | 39.813 | 281.020 | N    | None    |
| 5334 | 185.083 | 39.813 | 276.670 | N    | 1 - F21 |
| 5335 | 185.083 | 45.584 | 281.020 | N    | None    |
| 5336 | 185.083 | 45.584 | 276.670 | N    | 1 - F21 |
| 5337 | 185.083 | 51.354 | 281.020 | N    | None    |
| 5338 | 185.083 | 51.354 | 276.670 | N    | 1 - F21 |
| 5339 | 185.083 | 57.125 | 281.020 | N    | None    |
| 5340 | 185.083 | 57.125 | 276.670 | N    | 1 - F21 |
| 5341 | 185.083 | 62.896 | 281.020 | N    | None    |
| 5342 | 185.083 | 62.896 | 276.670 | N    | 1 - F21 |
| 5343 | 185.083 | 68.667 | 281.020 | N    | None    |
| 5344 | 89.083  | 33.042 | 281.020 | N    | None    |
| 5345 | 89.083  | 33.042 | 276.670 | N    | 1 - F21 |
| 5346 | 89.083  | 36.583 | 281.020 | N    | None    |
| 5347 | 89.083  | 21.583 | 281.020 | N    | None    |
| 5348 | 89.083  | 25.542 | 281.020 | N    | None    |
| 5349 | 89.083  | 25.542 | 276.670 | N    | 1 - F21 |
| 5350 | 37.667  | 1.667  | 272.320 | N    | None    |
| 5351 | 37.667  | 6.209  | 272.320 | N    | None    |
| 5352 | 37.667  | 6.209  | 267.970 | N    | 1 - F20 |
| 5353 | 37.667  | 10.750 | 272.320 | N    | None    |
| 5354 | 37.667  | 10.750 | 267.970 | N    | 1 - F20 |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 5355 | 37.667 | 15.292 | 272.320 | N    | None    |
| 5356 | 37.667 | 15.292 | 267.970 | N    | 1 - F20 |
| 5357 | 37.667 | 19.833 | 272.320 | N    | None    |
| 5358 | 41.903 | 1.667  | 272.320 | N    | None    |
| 5359 | 41.903 | 1.667  | 267.970 | N    | 1 - F20 |
| 5360 | 46.139 | 1.667  | 272.320 | N    | None    |
| 5361 | 46.139 | 1.667  | 267.970 | N    | 1 - F20 |
| 5362 | 50.375 | 1.667  | 272.320 | N    | None    |
| 5363 | 50.375 | 1.667  | 267.970 | N    | 1 - F20 |
| 5364 | 54.611 | 1.667  | 272.320 | N    | None    |
| 5365 | 54.611 | 1.667  | 267.970 | N    | 1 - F20 |
| 5366 | 58.847 | 1.667  | 272.320 | N    | None    |
| 5367 | 58.847 | 1.667  | 267.970 | N    | 1 - F20 |
| 5368 | 63.083 | 1.667  | 272.320 | N    | None    |
| 5369 | 41.584 | 19.833 | 272.320 | N    | None    |
| 5370 | 41.584 | 19.833 | 267.970 | N    | 1 - F20 |
| 5371 | 45.500 | 19.833 | 272.320 | N    | None    |
| 5372 | 54.625 | 37.167 | 272.320 | N    | None    |
| 5373 | 58.854 | 37.167 | 272.320 | N    | None    |
| 5374 | 58.854 | 37.167 | 267.970 | N    | 1 - F20 |
| 5375 | 63.083 | 37.167 | 272.320 | N    | None    |
| 5376 | 63.083 | 6.000  | 272.320 | N    | None    |
| 5377 | 63.083 | 6.000  | 267.970 | N    | 1 - F20 |
| 5378 | 63.083 | 10.334 | 272.320 | N    | None    |
| 5379 | 63.083 | 10.334 | 267.970 | N    | 1 - F20 |
| 5380 | 63.083 | 14.667 | 272.320 | N    | None    |
| 5381 | 63.083 | 14.667 | 267.970 | N    | 1 - F20 |
| 5382 | 63.083 | 19.000 | 272.320 | N    | None    |
| 5383 | 66.646 | 1.667  | 272.320 | N    | None    |
| 5384 | 66.646 | 1.667  | 267.970 | N    | 1 - F20 |
| 5385 | 70.208 | 1.667  | 272.320 | N    | None    |
| 5386 | 70.208 | 1.667  | 267.970 | N    | 1 - F20 |
| 5387 | 73.771 | 1.667  | 272.320 | N    | None    |
| 5388 | 73.771 | 1.667  | 267.970 | N    | 1 - F20 |
| 5389 | 77.333 | 1.667  | 272.320 | N    | None    |
| 5390 | 63.083 | 23.542 | 272.320 | N    | None    |
| 5391 | 63.083 | 23.542 | 267.970 | N    | 1 - F20 |
| 5392 | 63.083 | 28.083 | 272.320 | N    | None    |
| 5393 | 63.083 | 28.083 | 267.970 | N    | 1 - F20 |
| 5394 | 63.083 | 32.625 | 272.320 | N    | None    |
| 5395 | 63.083 | 32.625 | 267.970 | N    | 1 - F20 |
| 5396 | 77.333 | 6.306  | 272.320 | N    | None    |
| 5397 | 77.333 | 6.306  | 267.970 | N    | 1 - F20 |
| 5398 | 77.333 | 10.945 | 272.320 | N    | None    |
| 5399 | 77.333 | 10.945 | 267.970 | N    | 1 - F20 |



RAM Structural System



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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5400 | 77.333  | 15.584 | 272.320 | N    | None    |
| 5401 | 77.333  | 15.584 | 267.970 | N    | 1 - F20 |
| 5402 | 77.333  | 20.222 | 272.320 | N    | None    |
| 5403 | 77.333  | 20.222 | 267.970 | N    | 1 - F20 |
| 5404 | 77.333  | 24.861 | 272.320 | N    | None    |
| 5405 | 77.333  | 24.861 | 267.970 | N    | 1 - F20 |
| 5406 | 77.333  | 29.500 | 272.320 | N    | None    |
| 5407 | 77.333  | 39.469 | 267.970 | N    | 1 - F20 |
| 5408 | 77.333  | 39.469 | 272.320 | N    | None    |
| 5409 | 77.333  | 42.792 | 272.320 | N    | None    |
| 5410 | 77.333  | 36.146 | 267.970 | N    | 1 - F20 |
| 5411 | 77.333  | 36.146 | 272.320 | N    | None    |
| 5412 | 77.333  | 32.823 | 267.970 | N    | 1 - F20 |
| 5413 | 77.333  | 32.823 | 272.320 | N    | None    |
| 5414 | 83.208  | 29.500 | 272.320 | N    | None    |
| 5415 | 83.208  | 29.500 | 267.970 | N    | 1 - F20 |
| 5416 | 89.083  | 29.500 | 272.320 | N    | None    |
| 5417 | 89.083  | 56.670 | 272.320 | N    | None    |
| 5418 | 89.083  | 59.899 | 272.320 | N    | None    |
| 5419 | 89.083  | 59.899 | 267.970 | N    | 1 - F20 |
| 5420 | 89.083  | 63.127 | 272.320 | N    | None    |
| 5421 | 89.083  | 63.127 | 267.970 | N    | 1 - F20 |
| 5422 | 89.083  | 66.355 | 272.320 | N    | None    |
| 5423 | 89.083  | 66.355 | 267.970 | N    | 1 - F20 |
| 5424 | 89.083  | 69.584 | 272.320 | N    | None    |
| 5425 | 137.083 | 21.583 | 272.320 | N    | None    |
| 5426 | 137.083 | 25.333 | 272.320 | N    | None    |
| 5427 | 137.083 | 25.333 | 267.970 | N    | 1 - F20 |
| 5428 | 137.083 | 29.083 | 272.320 | N    | None    |
| 5429 | 137.083 | 29.083 | 267.970 | N    | 1 - F20 |
| 5430 | 137.083 | 32.833 | 272.320 | N    | None    |
| 5431 | 137.083 | 32.833 | 267.970 | N    | 1 - F20 |
| 5432 | 137.083 | 36.583 | 272.320 | N    | None    |
| 5433 | 137.083 | 56.670 | 272.320 | N    | None    |
| 5434 | 137.083 | 59.899 | 272.320 | N    | None    |
| 5435 | 137.083 | 59.899 | 267.970 | N    | 1 - F20 |
| 5436 | 137.083 | 63.127 | 272.320 | N    | None    |
| 5437 | 137.083 | 63.127 | 267.970 | N    | 1 - F20 |
| 5438 | 137.083 | 66.355 | 272.320 | N    | None    |
| 5439 | 137.083 | 66.355 | 267.970 | N    | 1 - F20 |
| 5440 | 137.083 | 69.584 | 272.320 | N    | None    |
| 5441 | 185.083 | 22.500 | 272.320 | N    | None    |
| 5442 | 185.083 | 28.271 | 272.320 | N    | None    |
| 5443 | 185.083 | 28.271 | 267.970 | N    | 1 - F20 |
| 5444 | 185.083 | 34.042 | 272.320 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5445 | 185.083 | 34.042 | 267.970 | N    | 1 - F20 |
| 5446 | 185.083 | 39.813 | 272.320 | N    | None    |
| 5447 | 185.083 | 39.813 | 267.970 | N    | 1 - F20 |
| 5448 | 185.083 | 45.584 | 272.320 | N    | None    |
| 5449 | 185.083 | 45.584 | 267.970 | N    | 1 - F20 |
| 5450 | 185.083 | 51.354 | 272.320 | N    | None    |
| 5451 | 185.083 | 51.354 | 267.970 | N    | 1 - F20 |
| 5452 | 185.083 | 57.125 | 272.320 | N    | None    |
| 5453 | 185.083 | 57.125 | 267.970 | N    | 1 - F20 |
| 5454 | 185.083 | 62.896 | 272.320 | N    | None    |
| 5455 | 185.083 | 62.896 | 267.970 | N    | 1 - F20 |
| 5456 | 185.083 | 68.667 | 272.320 | N    | None    |
| 5457 | 89.083  | 33.042 | 272.320 | N    | None    |
| 5458 | 89.083  | 33.042 | 267.970 | N    | 1 - F20 |
| 5459 | 89.083  | 36.583 | 272.320 | N    | None    |
| 5460 | 89.083  | 21.583 | 272.320 | N    | None    |
| 5461 | 89.083  | 25.542 | 272.320 | N    | None    |
| 5462 | 89.083  | 25.542 | 267.970 | N    | 1 - F20 |
| 5463 | 37.667  | 1.667  | 263.620 | N    | None    |
| 5464 | 37.667  | 6.209  | 263.620 | N    | None    |
| 5465 | 37.667  | 6.209  | 259.270 | N    | 1 - F19 |
| 5466 | 37.667  | 10.750 | 263.620 | N    | None    |
| 5467 | 37.667  | 10.750 | 259.270 | N    | 1 - F19 |
| 5468 | 37.667  | 15.292 | 263.620 | N    | None    |
| 5469 | 37.667  | 15.292 | 259.270 | N    | 1 - F19 |
| 5470 | 37.667  | 19.833 | 263.620 | N    | None    |
| 5471 | 41.903  | 1.667  | 263.620 | N    | None    |
| 5472 | 41.903  | 1.667  | 259.270 | N    | 1 - F19 |
| 5473 | 46.139  | 1.667  | 263.620 | N    | None    |
| 5474 | 46.139  | 1.667  | 259.270 | N    | 1 - F19 |
| 5475 | 50.375  | 1.667  | 263.620 | N    | None    |
| 5476 | 50.375  | 1.667  | 259.270 | N    | 1 - F19 |
| 5477 | 54.611  | 1.667  | 263.620 | N    | None    |
| 5478 | 54.611  | 1.667  | 259.270 | N    | 1 - F19 |
| 5479 | 58.847  | 1.667  | 263.620 | N    | None    |
| 5480 | 58.847  | 1.667  | 259.270 | N    | 1 - F19 |
| 5481 | 63.083  | 1.667  | 263.620 | N    | None    |
| 5482 | 41.584  | 19.833 | 263.620 | N    | None    |
| 5483 | 41.584  | 19.833 | 259.270 | N    | 1 - F19 |
| 5484 | 45.500  | 19.833 | 263.620 | N    | None    |
| 5485 | 54.625  | 37.167 | 263.620 | N    | None    |
| 5486 | 58.854  | 37.167 | 263.620 | N    | None    |
| 5487 | 58.854  | 37.167 | 259.270 | N    | 1 - F19 |
| 5488 | 63.083  | 37.167 | 263.620 | N    | None    |
| 5489 | 63.083  | 6.000  | 263.620 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 5490 | 63.083 | 6.000  | 259.270 | N    | 1 - F19 |
| 5491 | 63.083 | 10.334 | 263.620 | N    | None    |
| 5492 | 63.083 | 10.334 | 259.270 | N    | 1 - F19 |
| 5493 | 63.083 | 14.667 | 263.620 | N    | None    |
| 5494 | 63.083 | 14.667 | 259.270 | N    | 1 - F19 |
| 5495 | 63.083 | 19.000 | 263.620 | N    | None    |
| 5496 | 66.646 | 1.667  | 263.620 | N    | None    |
| 5497 | 66.646 | 1.667  | 259.270 | N    | 1 - F19 |
| 5498 | 70.208 | 1.667  | 263.620 | N    | None    |
| 5499 | 70.208 | 1.667  | 259.270 | N    | 1 - F19 |
| 5500 | 73.771 | 1.667  | 263.620 | N    | None    |
| 5501 | 73.771 | 1.667  | 259.270 | N    | 1 - F19 |
| 5502 | 77.333 | 1.667  | 263.620 | N    | None    |
| 5503 | 63.083 | 23.542 | 263.620 | N    | None    |
| 5504 | 63.083 | 23.542 | 259.270 | N    | 1 - F19 |
| 5505 | 63.083 | 28.083 | 263.620 | N    | None    |
| 5506 | 63.083 | 28.083 | 259.270 | N    | 1 - F19 |
| 5507 | 63.083 | 32.625 | 263.620 | N    | None    |
| 5508 | 63.083 | 32.625 | 259.270 | N    | 1 - F19 |
| 5509 | 77.333 | 6.306  | 263.620 | N    | None    |
| 5510 | 77.333 | 6.306  | 259.270 | N    | 1 - F19 |
| 5511 | 77.333 | 10.945 | 263.620 | N    | None    |
| 5512 | 77.333 | 10.945 | 259.270 | N    | 1 - F19 |
| 5513 | 77.333 | 15.584 | 263.620 | N    | None    |
| 5514 | 77.333 | 15.584 | 259.270 | N    | 1 - F19 |
| 5515 | 77.333 | 20.222 | 263.620 | N    | None    |
| 5516 | 77.333 | 20.222 | 259.270 | N    | 1 - F19 |
| 5517 | 77.333 | 24.861 | 263.620 | N    | None    |
| 5518 | 77.333 | 24.861 | 259.270 | N    | 1 - F19 |
| 5519 | 77.333 | 29.500 | 263.620 | N    | None    |
| 5520 | 77.333 | 39.469 | 259.270 | N    | 1 - F19 |
| 5521 | 77.333 | 39.469 | 263.620 | N    | None    |
| 5522 | 77.333 | 42.792 | 263.620 | N    | None    |
| 5523 | 77.333 | 36.146 | 259.270 | N    | 1 - F19 |
| 5524 | 77.333 | 36.146 | 263.620 | N    | None    |
| 5525 | 77.333 | 32.823 | 259.270 | N    | 1 - F19 |
| 5526 | 77.333 | 32.823 | 263.620 | N    | None    |
| 5527 | 83.208 | 29.500 | 263.620 | N    | None    |
| 5528 | 83.208 | 29.500 | 259.270 | N    | 1 - F19 |
| 5529 | 89.083 | 29.500 | 263.620 | N    | None    |
| 5530 | 89.083 | 56.670 | 263.620 | N    | None    |
| 5531 | 89.083 | 59.899 | 263.620 | N    | None    |
| 5532 | 89.083 | 59.899 | 259.270 | N    | 1 - F19 |
| 5533 | 89.083 | 63.127 | 263.620 | N    | None    |
| 5534 | 89.083 | 63.127 | 259.270 | N    | 1 - F19 |





RAM Structural System



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ES220261257 Scan Code

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5535 | 89.083  | 66.355 | 263.620 | N    | None    |
| 5536 | 89.083  | 66.355 | 259.270 | N    | 1 - F19 |
| 5537 | 89.083  | 69.584 | 263.620 | N    | None    |
| 5538 | 137.083 | 21.583 | 263.620 | N    | None    |
| 5539 | 137.083 | 25.333 | 263.620 | N    | None    |
| 5540 | 137.083 | 25.333 | 259.270 | N    | 1 - F19 |
| 5541 | 137.083 | 29.083 | 263.620 | N    | None    |
| 5542 | 137.083 | 29.083 | 259.270 | N    | 1 - F19 |
| 5543 | 137.083 | 32.833 | 263.620 | N    | None    |
| 5544 | 137.083 | 32.833 | 259.270 | N    | 1 - F19 |
| 5545 | 137.083 | 36.583 | 263.620 | N    | None    |
| 5546 | 137.083 | 56.670 | 263.620 | N    | None    |
| 5547 | 137.083 | 59.899 | 263.620 | N    | None    |
| 5548 | 137.083 | 59.899 | 259.270 | N    | 1 - F19 |
| 5549 | 137.083 | 63.127 | 263.620 | N    | None    |
| 5550 | 137.083 | 63.127 | 259.270 | N    | 1 - F19 |
| 5551 | 137.083 | 66.355 | 263.620 | N    | None    |
| 5552 | 137.083 | 66.355 | 259.270 | N    | 1 - F19 |
| 5553 | 137.083 | 69.584 | 263.620 | N    | None    |
| 5554 | 185.083 | 22.500 | 263.620 | N    | None    |
| 5555 | 185.083 | 28.271 | 263.620 | N    | None    |
| 5556 | 185.083 | 28.271 | 259.270 | N    | 1 - F19 |
| 5557 | 185.083 | 34.042 | 263.620 | N    | None    |
| 5558 | 185.083 | 34.042 | 259.270 | N    | 1 - F19 |
| 5559 | 185.083 | 39.813 | 263.620 | N    | None    |
| 5560 | 185.083 | 39.813 | 259.270 | N    | 1 - F19 |
| 5561 | 185.083 | 45.584 | 263.620 | N    | None    |
| 5562 | 185.083 | 45.584 | 259.270 | N    | 1 - F19 |
| 5563 | 185.083 | 51.354 | 263.620 | N    | None    |
| 5564 | 185.083 | 51.354 | 259.270 | N    | 1 - F19 |
| 5565 | 185.083 | 57.125 | 263.620 | N    | None    |
| 5566 | 185.083 | 57.125 | 259.270 | N    | 1 - F19 |
| 5567 | 185.083 | 62.896 | 263.620 | N    | None    |
| 5568 | 185.083 | 62.896 | 259.270 | N    | 1 - F19 |
| 5569 | 185.083 | 68.667 | 263.620 | N    | None    |
| 5570 | 89.083  | 33.042 | 263.620 | N    | None    |
| 5571 | 89.083  | 33.042 | 259.270 | N    | 1 - F19 |
| 5572 | 89.083  | 36.583 | 263.620 | N    | None    |
| 5573 | 89.083  | 21.583 | 263.620 | N    | None    |
| 5574 | 89.083  | 25.542 | 263.620 | N    | None    |
| 5575 | 89.083  | 25.542 | 259.270 | N    | 1 - F19 |
| 5576 | 37.667  | 1.667  | 254.920 | N    | None    |
| 5577 | 37.667  | 6.209  | 254.920 | N    | None    |
| 5578 | 37.667  | 6.209  | 250.570 | N    | 1 - F18 |
| 5579 | 37.667  | 10.750 | 254.920 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 5580 | 37.667 | 10.750 | 250.570 | N    | 1 - F18 |
| 5581 | 37.667 | 15.292 | 254.920 | N    | None    |
| 5582 | 37.667 | 15.292 | 250.570 | N    | 1 - F18 |
| 5583 | 37.667 | 19.833 | 254.920 | N    | None    |
| 5584 | 41.903 | 1.667  | 254.920 | N    | None    |
| 5585 | 41.903 | 1.667  | 250.570 | N    | 1 - F18 |
| 5586 | 46.139 | 1.667  | 254.920 | N    | None    |
| 5587 | 46.139 | 1.667  | 250.570 | N    | 1 - F18 |
| 5588 | 50.375 | 1.667  | 254.920 | N    | None    |
| 5589 | 50.375 | 1.667  | 250.570 | N    | 1 - F18 |
| 5590 | 54.611 | 1.667  | 254.920 | N    | None    |
| 5591 | 54.611 | 1.667  | 250.570 | N    | 1 - F18 |
| 5592 | 58.847 | 1.667  | 254.920 | N    | None    |
| 5593 | 58.847 | 1.667  | 250.570 | N    | 1 - F18 |
| 5594 | 63.083 | 1.667  | 254.920 | N    | None    |
| 5595 | 41.584 | 19.833 | 254.920 | N    | None    |
| 5596 | 41.584 | 19.833 | 250.570 | N    | 1 - F18 |
| 5597 | 45.500 | 19.833 | 254.920 | N    | None    |
| 5598 | 54.625 | 37.167 | 254.920 | N    | None    |
| 5599 | 58.854 | 37.167 | 254.920 | N    | None    |
| 5600 | 58.854 | 37.167 | 250.570 | N    | 1 - F18 |
| 5601 | 63.083 | 37.167 | 254.920 | N    | None    |
| 5602 | 63.083 | 6.000  | 254.920 | N    | None    |
| 5603 | 63.083 | 6.000  | 250.570 | N    | 1 - F18 |
| 5604 | 63.083 | 10.334 | 254.920 | N    | None    |
| 5605 | 63.083 | 10.334 | 250.570 | N    | 1 - F18 |
| 5606 | 63.083 | 14.667 | 254.920 | N    | None    |
| 5607 | 63.083 | 14.667 | 250.570 | N    | 1 - F18 |
| 5608 | 63.083 | 19.000 | 254.920 | N    | None    |
| 5609 | 66.646 | 1.667  | 254.920 | N    | None    |
| 5610 | 66.646 | 1.667  | 250.570 | N    | 1 - F18 |
| 5611 | 70.208 | 1.667  | 254.920 | N    | None    |
| 5612 | 70.208 | 1.667  | 250.570 | N    | 1 - F18 |
| 5613 | 73.771 | 1.667  | 254.920 | N    | None    |
| 5614 | 73.771 | 1.667  | 250.570 | N    | 1 - F18 |
| 5615 | 77.333 | 1.667  | 254.920 | N    | None    |
| 5616 | 63.083 | 23.542 | 254.920 | N    | None    |
| 5617 | 63.083 | 23.542 | 250.570 | N    | 1 - F18 |
| 5618 | 63.083 | 28.083 | 254.920 | N    | None    |
| 5619 | 63.083 | 28.083 | 250.570 | N    | 1 - F18 |
| 5620 | 63.083 | 32.625 | 254.920 | N    | None    |
| 5621 | 63.083 | 32.625 | 250.570 | N    | 1 - F18 |
| 5622 | 77.333 | 6.306  | 254.920 | N    | None    |
| 5623 | 77.333 | 6.306  | 250.570 | N    | 1 - F18 |
| 5624 | 77.333 | 10.945 | 254.920 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5625 | 77.333  | 10.945 | 250.570 | N    | 1 - F18 |
| 5626 | 77.333  | 15.584 | 254.920 | N    | None    |
| 5627 | 77.333  | 15.584 | 250.570 | N    | 1 - F18 |
| 5628 | 77.333  | 20.222 | 254.920 | N    | None    |
| 5629 | 77.333  | 20.222 | 250.570 | N    | 1 - F18 |
| 5630 | 77.333  | 24.861 | 254.920 | N    | None    |
| 5631 | 77.333  | 24.861 | 250.570 | N    | 1 - F18 |
| 5632 | 77.333  | 29.500 | 254.920 | N    | None    |
| 5633 | 77.333  | 32.823 | 254.920 | N    | None    |
| 5634 | 77.333  | 36.146 | 254.920 | N    | None    |
| 5635 | 77.333  | 39.469 | 254.920 | N    | None    |
| 5636 | 77.333  | 42.792 | 254.920 | N    | None    |
| 5637 | 77.333  | 32.823 | 250.570 | N    | 1 - F18 |
| 5638 | 77.333  | 36.146 | 250.570 | N    | 1 - F18 |
| 5639 | 77.333  | 39.469 | 250.570 | N    | 1 - F18 |
| 5640 | 83.208  | 29.500 | 254.920 | N    | None    |
| 5641 | 83.208  | 29.500 | 250.570 | N    | 1 - F18 |
| 5642 | 89.083  | 29.500 | 254.920 | N    | None    |
| 5643 | 89.083  | 56.670 | 254.920 | N    | None    |
| 5644 | 89.083  | 59.899 | 254.920 | N    | None    |
| 5645 | 89.083  | 59.899 | 250.570 | N    | 1 - F18 |
| 5646 | 89.083  | 63.127 | 254.920 | N    | None    |
| 5647 | 89.083  | 63.127 | 250.570 | N    | 1 - F18 |
| 5648 | 89.083  | 66.355 | 254.920 | N    | None    |
| 5649 | 89.083  | 66.355 | 250.570 | N    | 1 - F18 |
| 5650 | 89.083  | 69.584 | 254.920 | N    | None    |
| 5651 | 137.083 | 21.583 | 254.920 | N    | None    |
| 5652 | 137.083 | 25.333 | 254.920 | N    | None    |
| 5653 | 137.083 | 25.333 | 250.570 | N    | 1 - F18 |
| 5654 | 137.083 | 29.083 | 254.920 | N    | None    |
| 5655 | 137.083 | 29.083 | 250.570 | N    | 1 - F18 |
| 5656 | 137.083 | 32.833 | 254.920 | N    | None    |
| 5657 | 137.083 | 32.833 | 250.570 | N    | 1 - F18 |
| 5658 | 137.083 | 36.583 | 254.920 | N    | None    |
| 5659 | 137.083 | 56.670 | 254.920 | N    | None    |
| 5660 | 137.083 | 59.899 | 254.920 | N    | None    |
| 5661 | 137.083 | 59.899 | 250.570 | N    | 1 - F18 |
| 5662 | 137.083 | 63.127 | 254.920 | N    | None    |
| 5663 | 137.083 | 63.127 | 250.570 | N    | 1 - F18 |
| 5664 | 137.083 | 66.355 | 254.920 | N    | None    |
| 5665 | 137.083 | 66.355 | 250.570 | N    | 1 - F18 |
| 5666 | 137.083 | 69.584 | 254.920 | N    | None    |
| 5667 | 185.083 | 22.500 | 254.920 | N    | None    |
| 5668 | 185.083 | 28.271 | 254.920 | N    | None    |
| 5669 | 185.083 | 28.271 | 250.570 | N    | 1 - F18 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5670 | 185.083 | 34.042 | 254.920 | N    | None    |
| 5671 | 185.083 | 34.042 | 250.570 | N    | 1 - F18 |
| 5672 | 185.083 | 39.813 | 254.920 | N    | None    |
| 5673 | 185.083 | 39.813 | 250.570 | N    | 1 - F18 |
| 5674 | 185.083 | 45.584 | 254.920 | N    | None    |
| 5675 | 185.083 | 45.584 | 250.570 | N    | 1 - F18 |
| 5676 | 185.083 | 51.354 | 254.920 | N    | None    |
| 5677 | 185.083 | 51.354 | 250.570 | N    | 1 - F18 |
| 5678 | 185.083 | 57.125 | 254.920 | N    | None    |
| 5679 | 185.083 | 57.125 | 250.570 | N    | 1 - F18 |
| 5680 | 185.083 | 62.896 | 254.920 | N    | None    |
| 5681 | 185.083 | 62.896 | 250.570 | N    | 1 - F18 |
| 5682 | 185.083 | 68.667 | 254.920 | N    | None    |
| 5683 | 89.083  | 33.042 | 254.920 | N    | None    |
| 5684 | 89.083  | 33.042 | 250.570 | N    | 1 - F18 |
| 5685 | 89.083  | 36.583 | 254.920 | N    | None    |
| 5686 | 89.083  | 21.583 | 254.920 | N    | None    |
| 5687 | 89.083  | 25.542 | 254.920 | N    | None    |
| 5688 | 89.083  | 25.542 | 250.570 | N    | 1 - F18 |
| 5689 | 37.667  | 1.667  | 246.220 | N    | None    |
| 5690 | 37.667  | 6.209  | 246.220 | N    | None    |
| 5691 | 37.667  | 6.209  | 241.870 | N    | 1 - F17 |
| 5692 | 37.667  | 10.750 | 246.220 | N    | None    |
| 5693 | 37.667  | 10.750 | 241.870 | N    | 1 - F17 |
| 5694 | 37.667  | 15.292 | 246.220 | N    | None    |
| 5695 | 37.667  | 15.292 | 241.870 | N    | 1 - F17 |
| 5696 | 37.667  | 19.833 | 246.220 | N    | None    |
| 5697 | 41.903  | 1.667  | 246.220 | N    | None    |
| 5698 | 41.903  | 1.667  | 241.870 | N    | 1 - F17 |
| 5699 | 46.139  | 1.667  | 246.220 | N    | None    |
| 5700 | 46.139  | 1.667  | 241.870 | N    | 1 - F17 |
| 5701 | 50.375  | 1.667  | 246.220 | N    | None    |
| 5702 | 50.375  | 1.667  | 241.870 | N    | 1 - F17 |
| 5703 | 54.611  | 1.667  | 246.220 | N    | None    |
| 5704 | 54.611  | 1.667  | 241.870 | N    | 1 - F17 |
| 5705 | 58.847  | 1.667  | 246.220 | N    | None    |
| 5706 | 58.847  | 1.667  | 241.870 | N    | 1 - F17 |
| 5707 | 63.083  | 1.667  | 246.220 | N    | None    |
| 5708 | 41.584  | 19.833 | 246.220 | N    | None    |
| 5709 | 41.584  | 19.833 | 241.870 | N    | 1 - F17 |
| 5710 | 45.500  | 19.833 | 246.220 | N    | None    |
| 5711 | 54.625  | 37.167 | 246.220 | N    | None    |
| 5712 | 58.854  | 37.167 | 246.220 | N    | None    |
| 5713 | 58.854  | 37.167 | 241.870 | N    | 1 - F17 |
| 5714 | 63.083  | 37.167 | 246.220 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 5715 | 63.083 | 6.000  | 246.220 | N    | None    |
| 5716 | 63.083 | 6.000  | 241.870 | N    | 1 - F17 |
| 5717 | 63.083 | 10.334 | 246.220 | N    | None    |
| 5718 | 63.083 | 10.334 | 241.870 | N    | 1 - F17 |
| 5719 | 63.083 | 14.667 | 246.220 | N    | None    |
| 5720 | 63.083 | 14.667 | 241.870 | N    | 1 - F17 |
| 5721 | 63.083 | 19.000 | 246.220 | N    | None    |
| 5722 | 66.646 | 1.667  | 246.220 | N    | None    |
| 5723 | 66.646 | 1.667  | 241.870 | N    | 1 - F17 |
| 5724 | 70.208 | 1.667  | 246.220 | N    | None    |
| 5725 | 70.208 | 1.667  | 241.870 | N    | 1 - F17 |
| 5726 | 73.771 | 1.667  | 246.220 | N    | None    |
| 5727 | 73.771 | 1.667  | 241.870 | N    | 1 - F17 |
| 5728 | 77.333 | 1.667  | 246.220 | N    | None    |
| 5729 | 63.083 | 23.542 | 246.220 | N    | None    |
| 5730 | 63.083 | 23.542 | 241.870 | N    | 1 - F17 |
| 5731 | 63.083 | 28.083 | 246.220 | N    | None    |
| 5732 | 63.083 | 28.083 | 241.870 | N    | 1 - F17 |
| 5733 | 63.083 | 32.625 | 246.220 | N    | None    |
| 5734 | 63.083 | 32.625 | 241.870 | N    | 1 - F17 |
| 5735 | 77.333 | 6.306  | 246.220 | N    | None    |
| 5736 | 77.333 | 6.306  | 241.870 | N    | 1 - F17 |
| 5737 | 77.333 | 10.945 | 246.220 | N    | None    |
| 5738 | 77.333 | 10.945 | 241.870 | N    | 1 - F17 |
| 5739 | 77.333 | 15.584 | 246.220 | N    | None    |
| 5740 | 77.333 | 15.584 | 241.870 | N    | 1 - F17 |
| 5741 | 77.333 | 20.222 | 246.220 | N    | None    |
| 5742 | 77.333 | 20.222 | 241.870 | N    | 1 - F17 |
| 5743 | 77.333 | 24.861 | 246.220 | N    | None    |
| 5744 | 77.333 | 24.861 | 241.870 | N    | 1 - F17 |
| 5745 | 77.333 | 29.500 | 246.220 | N    | None    |
| 5746 | 77.333 | 39.469 | 241.870 | N    | 1 - F17 |
| 5747 | 77.333 | 39.469 | 246.220 | N    | None    |
| 5748 | 77.333 | 42.792 | 246.220 | N    | None    |
| 5749 | 77.333 | 36.146 | 241.870 | N    | 1 - F17 |
| 5750 | 77.333 | 36.146 | 246.220 | N    | None    |
| 5751 | 77.333 | 32.823 | 241.870 | N    | 1 - F17 |
| 5752 | 77.333 | 32.823 | 246.220 | N    | None    |
| 5753 | 83.208 | 29.500 | 246.220 | N    | None    |
| 5754 | 83.208 | 29.500 | 241.870 | N    | 1 - F17 |
| 5755 | 89.083 | 29.500 | 246.220 | N    | None    |
| 5756 | 89.083 | 67.272 | 247.953 | N    | None    |
| 5757 | 89.083 | 65.748 | 248.719 | N    | None    |
| 5758 | 89.083 | 63.569 | 247.548 | N    | None    |
| 5759 | 89.083 | 60.771 | 246.987 | N    | None    |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5760 | 89.083  | 66.887 | 242.971 | N    | None    |
| 5761 | 89.083  | 68.071 | 242.943 | N    | None    |
| 5762 | 89.083  | 69.125 | 241.870 | N    | 1 - F17 |
| 5763 | 89.083  | 65.834 | 245.175 | N    | None    |
| 5764 | 89.083  | 63.833 | 242.970 | N    | None    |
| 5765 | 89.083  | 60.721 | 244.745 | N    | None    |
| 5766 | 89.083  | 68.490 | 245.874 | N    | None    |
| 5767 | 89.083  | 68.522 | 243.915 | N    | None    |
| 5768 | 89.083  | 69.584 | 246.220 | N    | None    |
| 5769 | 89.083  | 56.670 | 246.220 | N    | None    |
| 5770 | 89.083  | 62.669 | 241.870 | N    | 1 - F17 |
| 5771 | 137.083 | 25.970 | 246.219 | N    | None    |
| 5772 | 137.083 | 23.089 | 245.978 | N    | None    |
| 5773 | 137.083 | 33.062 | 241.870 | N    | 1 - F17 |
| 5774 | 137.083 | 32.926 | 246.261 | N    | None    |
| 5775 | 137.083 | 36.583 | 246.220 | N    | None    |
| 5776 | 137.083 | 22.111 | 244.621 | N    | None    |
| 5777 | 137.083 | 21.583 | 246.220 | N    | None    |
| 5778 | 137.083 | 26.021 | 241.870 | N    | 1 - F17 |
| 5779 | 137.083 | 29.542 | 241.870 | N    | 1 - F17 |
| 5780 | 137.083 | 29.372 | 246.260 | N    | None    |
| 5781 | 137.083 | 22.042 | 241.870 | N    | 1 - F17 |
| 5782 | 137.083 | 67.272 | 247.953 | N    | None    |
| 5783 | 137.083 | 65.748 | 248.719 | N    | None    |
| 5784 | 137.083 | 63.569 | 247.548 | N    | None    |
| 5785 | 137.083 | 60.771 | 246.987 | N    | None    |
| 5786 | 137.083 | 66.887 | 242.971 | N    | None    |
| 5787 | 137.083 | 68.071 | 242.943 | N    | None    |
| 5788 | 137.083 | 69.125 | 241.870 | N    | 1 - F17 |
| 5789 | 137.083 | 65.834 | 245.175 | N    | None    |
| 5790 | 137.083 | 63.833 | 242.970 | N    | None    |
| 5791 | 137.083 | 60.721 | 244.745 | N    | None    |
| 5792 | 137.083 | 68.490 | 245.874 | N    | None    |
| 5793 | 137.083 | 68.522 | 243.915 | N    | None    |
| 5794 | 137.083 | 69.584 | 246.220 | N    | None    |
| 5795 | 137.083 | 56.670 | 246.220 | N    | None    |
| 5796 | 137.083 | 62.669 | 241.870 | N    | 1 - F17 |
| 5797 | 185.083 | 22.500 | 246.220 | N    | None    |
| 5798 | 185.083 | 28.271 | 246.220 | N    | None    |
| 5799 | 185.083 | 28.271 | 241.870 | N    | 1 - F17 |
| 5800 | 185.083 | 34.042 | 246.220 | N    | None    |
| 5801 | 185.083 | 34.042 | 241.870 | N    | 1 - F17 |
| 5802 | 185.083 | 39.813 | 246.220 | N    | None    |
| 5803 | 185.083 | 39.813 | 241.870 | N    | 1 - F17 |
| 5804 | 185.083 | 45.584 | 246.220 | N    | None    |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5805 | 185.083 | 45.584 | 241.870 | N    | 1 - F17 |
| 5806 | 185.083 | 51.354 | 246.220 | N    | None    |
| 5807 | 185.083 | 51.354 | 241.870 | N    | 1 - F17 |
| 5808 | 185.083 | 57.125 | 246.220 | N    | None    |
| 5809 | 185.083 | 57.125 | 241.870 | N    | 1 - F17 |
| 5810 | 185.083 | 62.896 | 246.220 | N    | None    |
| 5811 | 185.083 | 62.896 | 241.870 | N    | 1 - F17 |
| 5812 | 185.083 | 68.667 | 246.220 | N    | None    |
| 5813 | 89.083  | 33.042 | 246.220 | N    | None    |
| 5814 | 89.083  | 33.042 | 241.870 | N    | 1 - F17 |
| 5815 | 89.083  | 36.583 | 246.220 | N    | None    |
| 5816 | 89.083  | 26.000 | 241.870 | N    | 1 - F17 |
| 5817 | 89.083  | 26.085 | 246.276 | N    | None    |
| 5818 | 89.083  | 23.129 | 246.012 | N    | None    |
| 5819 | 89.083  | 22.109 | 244.613 | N    | None    |
| 5820 | 89.083  | 21.583 | 246.220 | N    | None    |
| 5821 | 89.083  | 22.042 | 241.870 | N    | 1 - F17 |
| 5822 | 37.667  | 1.667  | 237.520 | N    | None    |
| 5823 | 37.667  | 6.209  | 237.520 | N    | None    |
| 5824 | 37.667  | 6.209  | 233.170 | N    | 1 - F16 |
| 5825 | 37.667  | 10.750 | 237.520 | N    | None    |
| 5826 | 37.667  | 10.750 | 233.170 | N    | 1 - F16 |
| 5827 | 37.667  | 15.292 | 237.520 | N    | None    |
| 5828 | 37.667  | 15.292 | 233.170 | N    | 1 - F16 |
| 5829 | 37.667  | 19.833 | 237.520 | N    | None    |
| 5830 | 41.903  | 1.667  | 237.520 | N    | None    |
| 5831 | 41.903  | 1.667  | 233.170 | N    | 1 - F16 |
| 5832 | 46.139  | 1.667  | 237.520 | N    | None    |
| 5833 | 46.139  | 1.667  | 233.170 | N    | 1 - F16 |
| 5834 | 50.375  | 1.667  | 237.520 | N    | None    |
| 5835 | 50.375  | 1.667  | 233.170 | N    | 1 - F16 |
| 5836 | 54.611  | 1.667  | 237.520 | N    | None    |
| 5837 | 54.611  | 1.667  | 233.170 | N    | 1 - F16 |
| 5838 | 58.847  | 1.667  | 237.520 | N    | None    |
| 5839 | 58.847  | 1.667  | 233.170 | N    | 1 - F16 |
| 5840 | 63.083  | 1.667  | 237.520 | N    | None    |
| 5841 | 41.584  | 19.833 | 237.520 | N    | None    |
| 5842 | 41.584  | 19.833 | 233.170 | N    | 1 - F16 |
| 5843 | 45.500  | 19.833 | 237.520 | N    | None    |
| 5844 | 54.625  | 37.167 | 237.520 | N    | None    |
| 5845 | 58.854  | 37.167 | 237.520 | N    | None    |
| 5846 | 58.854  | 37.167 | 233.170 | N    | 1 - F16 |
| 5847 | 63.083  | 37.167 | 237.520 | N    | None    |
| 5848 | 63.083  | 6.000  | 237.520 | N    | None    |
| 5849 | 63.083  | 6.000  | 233.170 | N    | 1 - F16 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 5850 | 63.083 | 10.334 | 237.520 | N    | None    |
| 5851 | 63.083 | 10.334 | 233.170 | N    | 1 - F16 |
| 5852 | 63.083 | 14.667 | 237.520 | N    | None    |
| 5853 | 63.083 | 14.667 | 233.170 | N    | 1 - F16 |
| 5854 | 63.083 | 19.000 | 237.520 | N    | None    |
| 5855 | 66.646 | 1.667  | 237.520 | N    | None    |
| 5856 | 66.646 | 1.667  | 233.170 | N    | 1 - F16 |
| 5857 | 70.208 | 1.667  | 237.520 | N    | None    |
| 5858 | 70.208 | 1.667  | 233.170 | N    | 1 - F16 |
| 5859 | 73.771 | 1.667  | 237.520 | N    | None    |
| 5860 | 73.771 | 1.667  | 233.170 | N    | 1 - F16 |
| 5861 | 77.333 | 1.667  | 237.520 | N    | None    |
| 5862 | 63.083 | 23.542 | 237.520 | N    | None    |
| 5863 | 63.083 | 23.542 | 233.170 | N    | 1 - F16 |
| 5864 | 63.083 | 28.083 | 237.520 | N    | None    |
| 5865 | 63.083 | 28.083 | 233.170 | N    | 1 - F16 |
| 5866 | 63.083 | 32.625 | 237.520 | N    | None    |
| 5867 | 63.083 | 32.625 | 233.170 | N    | 1 - F16 |
| 5868 | 77.333 | 6.524  | 237.445 | N    | None    |
| 5869 | 77.333 | 11.629 | 237.459 | N    | None    |
| 5870 | 77.333 | 25.124 | 237.456 | N    | None    |
| 5871 | 77.333 | 29.500 | 237.520 | N    | None    |
| 5872 | 77.333 | 16.549 | 237.468 | N    | None    |
| 5873 | 77.333 | 26.000 | 233.170 | N    | 1 - F16 |
| 5874 | 77.333 | 21.225 | 237.468 | N    | None    |
| 5875 | 77.333 | 7.084  | 233.170 | N    | 1 - F16 |
| 5876 | 77.333 | 17.500 | 233.170 | N    | 1 - F16 |
| 5877 | 77.333 | 39.469 | 233.170 | N    | 1 - F16 |
| 5878 | 77.333 | 39.469 | 237.520 | N    | None    |
| 5879 | 77.333 | 42.792 | 237.520 | N    | None    |
| 5880 | 77.333 | 36.146 | 233.170 | N    | 1 - F16 |
| 5881 | 77.333 | 36.146 | 237.520 | N    | None    |
| 5882 | 77.333 | 32.823 | 233.170 | N    | 1 - F16 |
| 5883 | 77.333 | 32.823 | 237.520 | N    | None    |
| 5884 | 82.216 | 29.500 | 238.108 | N    | None    |
| 5885 | 81.542 | 29.500 | 233.170 | N    | 1 - F16 |
| 5886 | 89.083 | 29.500 | 237.520 | N    | None    |
| 5887 | 87.694 | 29.500 | 235.986 | N    | None    |
| 5888 | 85.640 | 29.500 | 238.126 | N    | None    |
| 5889 | 85.750 | 29.500 | 233.170 | N    | 1 - F16 |
| 5890 | 87.417 | 29.500 | 233.170 | N    | 1 - F16 |
| 5891 | 89.083 | 56.670 | 237.520 | N    | None    |
| 5892 | 89.083 | 62.669 | 237.520 | N    | None    |
| 5893 | 89.083 | 62.669 | 233.170 | N    | 1 - F16 |
| 5894 | 89.083 | 68.667 | 237.520 | N    | None    |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5895 | 137.083 | 22.500 | 237.520 | N    | None    |
| 5896 | 137.083 | 26.021 | 237.520 | N    | None    |
| 5897 | 137.083 | 26.021 | 233.170 | N    | 1 - F16 |
| 5898 | 137.083 | 29.542 | 237.520 | N    | None    |
| 5899 | 137.083 | 29.542 | 233.170 | N    | 1 - F16 |
| 5900 | 137.083 | 33.062 | 237.520 | N    | None    |
| 5901 | 137.083 | 33.062 | 233.170 | N    | 1 - F16 |
| 5902 | 137.083 | 36.583 | 237.520 | N    | None    |
| 5903 | 137.083 | 56.670 | 237.520 | N    | None    |
| 5904 | 137.083 | 62.669 | 237.520 | N    | None    |
| 5905 | 137.083 | 62.669 | 233.170 | N    | 1 - F16 |
| 5906 | 137.083 | 68.667 | 237.520 | N    | None    |
| 5907 | 185.083 | 51.648 | 233.170 | N    | 1 - F16 |
| 5908 | 185.083 | 51.505 | 237.470 | N    | None    |
| 5909 | 185.083 | 56.895 | 237.470 | N    | None    |
| 5910 | 185.083 | 40.942 | 237.569 | N    | None    |
| 5911 | 185.083 | 36.783 | 237.373 | N    | None    |
| 5912 | 185.083 | 30.799 | 237.827 | N    | None    |
| 5913 | 185.083 | 27.077 | 237.860 | N    | None    |
| 5914 | 185.083 | 62.782 | 237.507 | N    | None    |
| 5915 | 185.083 | 62.669 | 233.170 | N    | 1 - F16 |
| 5916 | 185.083 | 29.542 | 233.170 | N    | 1 - F16 |
| 5917 | 185.083 | 33.383 | 235.893 | N    | None    |
| 5918 | 185.083 | 33.062 | 233.170 | N    | 1 - F16 |
| 5919 | 185.083 | 46.120 | 237.564 | N    | None    |
| 5920 | 185.083 | 46.627 | 233.170 | N    | 1 - F16 |
| 5921 | 185.083 | 41.605 | 233.170 | N    | 1 - F16 |
| 5922 | 185.083 | 22.500 | 237.520 | N    | None    |
| 5923 | 185.083 | 26.021 | 233.170 | N    | 1 - F16 |
| 5924 | 185.083 | 68.667 | 237.520 | N    | None    |
| 5925 | 89.083  | 33.042 | 233.170 | N    | 1 - F16 |
| 5926 | 89.083  | 33.042 | 237.520 | N    | None    |
| 5927 | 89.083  | 36.583 | 237.520 | N    | None    |
| 5928 | 89.083  | 22.500 | 237.520 | N    | None    |
| 5929 | 89.083  | 26.000 | 237.520 | N    | None    |
| 5930 | 89.083  | 26.000 | 233.170 | N    | 1 - F16 |
| 5931 | 37.667  | 1.667  | 228.820 | N    | None    |
| 5932 | 37.667  | 6.209  | 228.820 | N    | None    |
| 5933 | 37.667  | 6.209  | 224.470 | N    | 1 - F15 |
| 5934 | 37.667  | 10.750 | 228.820 | N    | None    |
| 5935 | 37.667  | 10.750 | 224.470 | N    | 1 - F15 |
| 5936 | 37.667  | 15.292 | 228.820 | N    | None    |
| 5937 | 37.667  | 15.292 | 224.470 | N    | 1 - F15 |
| 5938 | 37.667  | 19.833 | 228.820 | N    | None    |
| 5939 | 41.903  | 1.667  | 228.820 | N    | None    |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 5940 | 41.903 | 1.667  | 224.470 | N    | 1 - F15 |
| 5941 | 46.139 | 1.667  | 228.820 | N    | None    |
| 5942 | 46.139 | 1.667  | 224.470 | N    | 1 - F15 |
| 5943 | 50.375 | 1.667  | 228.820 | N    | None    |
| 5944 | 50.375 | 1.667  | 224.470 | N    | 1 - F15 |
| 5945 | 54.611 | 1.667  | 228.820 | N    | None    |
| 5946 | 54.611 | 1.667  | 224.470 | N    | 1 - F15 |
| 5947 | 58.847 | 1.667  | 228.820 | N    | None    |
| 5948 | 58.847 | 1.667  | 224.470 | N    | 1 - F15 |
| 5949 | 63.083 | 1.667  | 228.820 | N    | None    |
| 5950 | 41.584 | 19.833 | 228.820 | N    | None    |
| 5951 | 41.584 | 19.833 | 224.470 | N    | 1 - F15 |
| 5952 | 45.500 | 19.833 | 228.820 | N    | None    |
| 5953 | 54.625 | 37.167 | 228.820 | N    | None    |
| 5954 | 58.854 | 37.167 | 228.820 | N    | None    |
| 5955 | 58.854 | 37.167 | 224.470 | N    | 1 - F15 |
| 5956 | 63.083 | 37.167 | 228.820 | N    | None    |
| 5957 | 63.083 | 6.000  | 228.820 | N    | None    |
| 5958 | 63.083 | 6.000  | 224.470 | N    | 1 - F15 |
| 5959 | 63.083 | 10.334 | 228.820 | N    | None    |
| 5960 | 63.083 | 10.334 | 224.470 | N    | 1 - F15 |
| 5961 | 63.083 | 14.667 | 228.820 | N    | None    |
| 5962 | 63.083 | 14.667 | 224.470 | N    | 1 - F15 |
| 5963 | 63.083 | 19.000 | 228.820 | N    | None    |
| 5964 | 66.646 | 1.667  | 228.820 | N    | None    |
| 5965 | 66.646 | 1.667  | 224.470 | N    | 1 - F15 |
| 5966 | 70.208 | 1.667  | 228.820 | N    | None    |
| 5967 | 70.208 | 1.667  | 224.470 | N    | 1 - F15 |
| 5968 | 73.771 | 1.667  | 228.820 | N    | None    |
| 5969 | 73.771 | 1.667  | 224.470 | N    | 1 - F15 |
| 5970 | 77.333 | 1.667  | 228.820 | N    | None    |
| 5971 | 63.083 | 23.542 | 228.820 | N    | None    |
| 5972 | 63.083 | 23.542 | 224.470 | N    | 1 - F15 |
| 5973 | 63.083 | 28.083 | 228.820 | N    | None    |
| 5974 | 63.083 | 28.083 | 224.470 | N    | 1 - F15 |
| 5975 | 63.083 | 32.625 | 228.820 | N    | None    |
| 5976 | 63.083 | 32.625 | 224.470 | N    | 1 - F15 |
| 5977 | 81.542 | 22.500 | 233.170 | N    | 1 - F16 |
| 5978 | 81.220 | 22.500 | 228.820 | N    | None    |
| 5979 | 77.333 | 22.500 | 228.820 | N    | None    |
| 5980 | 85.750 | 22.500 | 233.170 | N    | 1 - F16 |
| 5981 | 84.835 | 22.500 | 228.820 | N    | None    |
| 5982 | 87.417 | 22.500 | 233.170 | N    | 1 - F16 |
| 5983 | 87.241 | 22.500 | 228.820 | N    | None    |
| 5984 | 89.083 | 22.500 | 228.820 | N    | None    |



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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 5985 | 81.542  | 22.500 | 224.470 | N    | 1 - F15 |
| 5986 | 85.750  | 22.500 | 224.470 | N    | 1 - F15 |
| 5987 | 87.417  | 22.500 | 224.470 | N    | 1 - F15 |
| 5988 | 87.417  | 68.667 | 233.170 | N    | 1 - F16 |
| 5989 | 85.750  | 68.667 | 233.170 | N    | 1 - F16 |
| 5990 | 87.278  | 68.667 | 228.820 | N    | None    |
| 5991 | 85.448  | 68.667 | 228.858 | N    | None    |
| 5992 | 79.607  | 68.667 | 230.523 | N    | None    |
| 5993 | 82.306  | 68.667 | 229.766 | N    | None    |
| 5994 | 81.542  | 68.667 | 224.470 | N    | 1 - F15 |
| 5995 | 77.598  | 68.667 | 233.170 | N    | 1 - F16 |
| 5996 | 78.028  | 68.667 | 230.561 | N    | None    |
| 5997 | 77.333  | 68.667 | 228.820 | N    | None    |
| 5998 | 85.750  | 68.667 | 224.470 | N    | 1 - F15 |
| 5999 | 87.417  | 68.667 | 224.470 | N    | 1 - F15 |
| 6000 | 89.083  | 68.667 | 228.820 | N    | None    |
| 6001 | 81.806  | 68.667 | 233.170 | N    | 1 - F16 |
| 6002 | 77.863  | 68.667 | 233.170 | N    | 1 - F16 |
| 6003 | 93.291  | 22.500 | 228.287 | N    | None    |
| 6004 | 97.140  | 22.500 | 228.289 | N    | None    |
| 6005 | 95.083  | 22.500 | 224.470 | N    | 1 - F15 |
| 6006 | 102.388 | 22.500 | 228.410 | N    | None    |
| 6007 | 101.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 6008 | 107.736 | 22.500 | 228.558 | N    | None    |
| 6009 | 107.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 6010 | 92.099  | 22.500 | 233.170 | N    | 1 - F16 |
| 6011 | 91.317  | 22.500 | 230.273 | N    | None    |
| 6012 | 104.099 | 22.500 | 233.170 | N    | 1 - F16 |
| 6013 | 99.607  | 22.500 | 233.170 | N    | 1 - F16 |
| 6014 | 95.115  | 22.500 | 233.170 | N    | 1 - F16 |
| 6015 | 113.083 | 22.500 | 228.820 | N    | None    |
| 6016 | 108.591 | 22.500 | 233.170 | N    | 1 - F16 |
| 6017 | 95.083  | 68.667 | 228.820 | N    | None    |
| 6018 | 95.083  | 68.667 | 224.470 | N    | 1 - F15 |
| 6019 | 95.083  | 68.667 | 233.170 | N    | 1 - F16 |
| 6020 | 101.083 | 68.667 | 228.820 | N    | None    |
| 6021 | 101.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 6022 | 101.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 6023 | 107.083 | 68.667 | 228.820 | N    | None    |
| 6024 | 107.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 6025 | 107.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 6026 | 113.083 | 68.667 | 228.820 | N    | None    |
| 6027 | 119.083 | 22.500 | 228.820 | N    | None    |
| 6028 | 119.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 6029 | 119.083 | 22.500 | 233.170 | N    | 1 - F16 |



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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6030 | 125.083 | 22.500 | 228.820 | N    | None    |
| 6031 | 125.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 6032 | 125.083 | 22.500 | 233.170 | N    | 1 - F16 |
| 6033 | 131.083 | 22.500 | 228.820 | N    | None    |
| 6034 | 131.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 6035 | 131.083 | 22.500 | 233.170 | N    | 1 - F16 |
| 6036 | 137.083 | 22.500 | 228.820 | N    | None    |
| 6037 | 119.083 | 68.667 | 228.820 | N    | None    |
| 6038 | 119.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 6039 | 119.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 6040 | 125.083 | 68.667 | 228.820 | N    | None    |
| 6041 | 125.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 6042 | 125.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 6043 | 131.083 | 68.667 | 228.820 | N    | None    |
| 6044 | 131.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 6045 | 131.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 6046 | 137.083 | 68.667 | 228.820 | N    | None    |
| 6047 | 143.083 | 22.500 | 228.820 | N    | None    |
| 6048 | 143.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 6049 | 143.083 | 22.500 | 233.170 | N    | 1 - F16 |
| 6050 | 149.083 | 22.500 | 228.820 | N    | None    |
| 6051 | 149.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 6052 | 149.083 | 22.500 | 233.170 | N    | 1 - F16 |
| 6053 | 155.083 | 22.500 | 228.820 | N    | None    |
| 6054 | 155.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 6055 | 155.083 | 22.500 | 233.170 | N    | 1 - F16 |
| 6056 | 161.083 | 22.500 | 228.820 | N    | None    |
| 6057 | 143.083 | 68.667 | 228.820 | N    | None    |
| 6058 | 143.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 6059 | 143.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 6060 | 149.083 | 68.667 | 228.820 | N    | None    |
| 6061 | 149.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 6062 | 149.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 6063 | 155.083 | 68.667 | 228.820 | N    | None    |
| 6064 | 155.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 6065 | 155.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 6066 | 161.083 | 68.667 | 228.820 | N    | None    |
| 6067 | 179.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 6068 | 179.083 | 22.500 | 228.820 | N    | None    |
| 6069 | 185.083 | 22.500 | 228.820 | N    | None    |
| 6070 | 173.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 6071 | 173.083 | 22.500 | 228.820 | N    | None    |
| 6072 | 167.083 | 22.500 | 224.470 | N    | 1 - F15 |
| 6073 | 167.083 | 22.500 | 228.820 | N    | None    |
| 6074 | 179.083 | 22.500 | 233.170 | N    | 1 - F16 |



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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6075 | 173.083 | 22.500 | 233.170 | N    | 1 - F16 |
| 6076 | 167.083 | 22.500 | 233.170 | N    | 1 - F16 |
| 6077 | 179.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 6078 | 179.083 | 68.667 | 228.820 | N    | None    |
| 6079 | 185.083 | 68.667 | 228.820 | N    | None    |
| 6080 | 173.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 6081 | 173.083 | 68.667 | 228.820 | N    | None    |
| 6082 | 167.083 | 68.667 | 224.470 | N    | 1 - F15 |
| 6083 | 167.083 | 68.667 | 228.820 | N    | None    |
| 6084 | 179.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 6085 | 173.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 6086 | 167.083 | 68.667 | 233.170 | N    | 1 - F16 |
| 6087 | 190.500 | 22.500 | 233.170 | N    | 1 - F16 |
| 6088 | 190.500 | 22.500 | 228.820 | N    | None    |
| 6089 | 195.916 | 22.500 | 233.170 | N    | 1 - F16 |
| 6090 | 195.916 | 22.500 | 228.820 | N    | None    |
| 6091 | 201.333 | 22.500 | 233.170 | N    | 1 - F16 |
| 6092 | 201.333 | 22.500 | 228.820 | N    | None    |
| 6093 | 206.750 | 22.500 | 228.820 | N    | None    |
| 6094 | 190.500 | 22.500 | 224.470 | N    | 1 - F15 |
| 6095 | 195.917 | 22.500 | 224.470 | N    | 1 - F15 |
| 6096 | 201.333 | 22.500 | 224.470 | N    | 1 - F15 |
| 6097 | 190.500 | 68.667 | 233.170 | N    | 1 - F16 |
| 6098 | 190.500 | 68.667 | 228.820 | N    | None    |
| 6099 | 195.916 | 68.667 | 233.170 | N    | 1 - F16 |
| 6100 | 195.916 | 68.667 | 228.820 | N    | None    |
| 6101 | 201.333 | 68.667 | 233.170 | N    | 1 - F16 |
| 6102 | 201.333 | 68.667 | 228.820 | N    | None    |
| 6103 | 206.750 | 68.667 | 228.820 | N    | None    |
| 6104 | 190.500 | 68.667 | 224.470 | N    | 1 - F15 |
| 6105 | 195.917 | 68.667 | 224.470 | N    | 1 - F15 |
| 6106 | 201.333 | 68.667 | 224.470 | N    | 1 - F15 |
| 6107 | 206.750 | 28.271 | 228.820 | N    | None    |
| 6108 | 206.750 | 28.271 | 224.470 | N    | 1 - F15 |
| 6109 | 206.750 | 28.271 | 233.170 | N    | 1 - F16 |
| 6110 | 206.750 | 34.042 | 228.820 | N    | None    |
| 6111 | 206.750 | 34.042 | 224.470 | N    | 1 - F15 |
| 6112 | 206.750 | 34.042 | 233.170 | N    | 1 - F16 |
| 6113 | 206.750 | 39.813 | 228.820 | N    | None    |
| 6114 | 206.750 | 39.813 | 224.470 | N    | 1 - F15 |
| 6115 | 206.750 | 39.813 | 233.170 | N    | 1 - F16 |
| 6116 | 206.750 | 45.584 | 228.820 | N    | None    |
| 6117 | 206.750 | 45.584 | 224.470 | N    | 1 - F15 |
| 6118 | 206.750 | 45.584 | 233.170 | N    | 1 - F16 |
| 6119 | 206.750 | 51.354 | 228.820 | N    | None    |



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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6120 | 206.750 | 51.354 | 224.470 | N    | 1 - F15 |
| 6121 | 206.750 | 51.354 | 233.170 | N    | 1 - F16 |
| 6122 | 206.750 | 57.125 | 228.820 | N    | None    |
| 6123 | 206.750 | 57.125 | 224.470 | N    | 1 - F15 |
| 6124 | 206.750 | 57.125 | 233.170 | N    | 1 - F16 |
| 6125 | 206.750 | 62.896 | 228.820 | N    | None    |
| 6126 | 206.750 | 62.896 | 224.470 | N    | 1 - F15 |
| 6127 | 206.750 | 62.896 | 233.170 | N    | 1 - F16 |
| 6128 | 21.583  | 1.667  | 228.820 | N    | None    |
| 6129 | 25.604  | 1.667  | 228.820 | N    | None    |
| 6130 | 25.604  | 1.667  | 224.470 | N    | 1 - F15 |
| 6131 | 25.604  | 1.667  | 233.170 | N    | 1 - F16 |
| 6132 | 29.625  | 1.667  | 228.820 | N    | None    |
| 6133 | 29.625  | 1.667  | 224.470 | N    | 1 - F15 |
| 6134 | 29.625  | 1.667  | 233.170 | N    | 1 - F16 |
| 6135 | 33.646  | 1.667  | 228.820 | N    | None    |
| 6136 | 33.646  | 1.667  | 224.470 | N    | 1 - F15 |
| 6137 | 33.646  | 1.667  | 233.170 | N    | 1 - F16 |
| 6138 | 77.333  | 17.500 | 224.470 | N    | 1 - F15 |
| 6139 | 77.333  | 17.500 | 228.820 | N    | None    |
| 6140 | 77.333  | 12.500 | 228.820 | N    | None    |
| 6141 | 77.333  | 7.084  | 228.820 | N    | None    |
| 6142 | 77.333  | 7.084  | 224.470 | N    | 1 - F15 |
| 6143 | 37.667  | 1.667  | 220.120 | N    | None    |
| 6144 | 37.667  | 6.209  | 220.120 | N    | None    |
| 6145 | 37.667  | 6.209  | 215.770 | N    | 1 - F14 |
| 6146 | 37.667  | 10.750 | 220.120 | N    | None    |
| 6147 | 37.667  | 10.750 | 215.770 | N    | 1 - F14 |
| 6148 | 37.667  | 15.292 | 220.120 | N    | None    |
| 6149 | 37.667  | 15.292 | 215.770 | N    | 1 - F14 |
| 6150 | 37.667  | 19.833 | 220.120 | N    | None    |
| 6151 | 41.903  | 1.667  | 220.120 | N    | None    |
| 6152 | 41.903  | 1.667  | 215.770 | N    | 1 - F14 |
| 6153 | 46.139  | 1.667  | 220.120 | N    | None    |
| 6154 | 46.139  | 1.667  | 215.770 | N    | 1 - F14 |
| 6155 | 50.375  | 1.667  | 220.120 | N    | None    |
| 6156 | 50.375  | 1.667  | 215.770 | N    | 1 - F14 |
| 6157 | 54.611  | 1.667  | 220.120 | N    | None    |
| 6158 | 54.611  | 1.667  | 215.770 | N    | 1 - F14 |
| 6159 | 58.847  | 1.667  | 220.120 | N    | None    |
| 6160 | 58.847  | 1.667  | 215.770 | N    | 1 - F14 |
| 6161 | 63.083  | 1.667  | 220.120 | N    | None    |
| 6162 | 41.584  | 19.833 | 220.120 | N    | None    |
| 6163 | 41.584  | 19.833 | 215.770 | N    | 1 - F14 |
| 6164 | 45.500  | 19.833 | 220.120 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6165 | 54.625  | 37.167 | 220.120 | N    | None    |
| 6166 | 58.854  | 37.167 | 220.120 | N    | None    |
| 6167 | 58.854  | 37.167 | 215.770 | N    | 1 - F14 |
| 6168 | 63.083  | 37.167 | 220.120 | N    | None    |
| 6169 | 63.083  | 6.000  | 220.120 | N    | None    |
| 6170 | 63.083  | 6.000  | 215.770 | N    | 1 - F14 |
| 6171 | 63.083  | 10.334 | 220.120 | N    | None    |
| 6172 | 63.083  | 10.334 | 215.770 | N    | 1 - F14 |
| 6173 | 63.083  | 14.667 | 220.120 | N    | None    |
| 6174 | 63.083  | 14.667 | 215.770 | N    | 1 - F14 |
| 6175 | 63.083  | 19.000 | 220.120 | N    | None    |
| 6176 | 66.646  | 1.667  | 220.120 | N    | None    |
| 6177 | 66.646  | 1.667  | 215.770 | N    | 1 - F14 |
| 6178 | 70.208  | 1.667  | 220.120 | N    | None    |
| 6179 | 70.208  | 1.667  | 215.770 | N    | 1 - F14 |
| 6180 | 73.771  | 1.667  | 220.120 | N    | None    |
| 6181 | 73.771  | 1.667  | 215.770 | N    | 1 - F14 |
| 6182 | 77.333  | 1.667  | 220.120 | N    | None    |
| 6183 | 63.083  | 23.542 | 220.120 | N    | None    |
| 6184 | 63.083  | 23.542 | 215.770 | N    | 1 - F14 |
| 6185 | 63.083  | 28.083 | 220.120 | N    | None    |
| 6186 | 63.083  | 28.083 | 215.770 | N    | 1 - F14 |
| 6187 | 63.083  | 32.625 | 220.120 | N    | None    |
| 6188 | 63.083  | 32.625 | 215.770 | N    | 1 - F14 |
| 6189 | 77.333  | 22.500 | 220.120 | N    | None    |
| 6190 | 81.224  | 22.500 | 220.120 | N    | None    |
| 6191 | 81.542  | 22.500 | 215.770 | N    | 1 - F14 |
| 6192 | 84.891  | 22.500 | 220.120 | N    | None    |
| 6193 | 85.750  | 22.500 | 215.770 | N    | 1 - F14 |
| 6194 | 87.252  | 22.500 | 220.120 | N    | None    |
| 6195 | 87.417  | 22.500 | 215.770 | N    | 1 - F14 |
| 6196 | 89.083  | 22.500 | 220.120 | N    | None    |
| 6197 | 77.333  | 68.667 | 220.120 | N    | None    |
| 6198 | 81.224  | 68.667 | 220.120 | N    | None    |
| 6199 | 81.542  | 68.667 | 215.770 | N    | 1 - F14 |
| 6200 | 84.891  | 68.667 | 220.120 | N    | None    |
| 6201 | 85.750  | 68.667 | 215.770 | N    | 1 - F14 |
| 6202 | 87.252  | 68.667 | 220.120 | N    | None    |
| 6203 | 87.417  | 68.667 | 215.770 | N    | 1 - F14 |
| 6204 | 89.083  | 68.667 | 220.120 | N    | None    |
| 6205 | 95.083  | 22.500 | 220.120 | N    | None    |
| 6206 | 95.083  | 22.500 | 215.770 | N    | 1 - F14 |
| 6207 | 101.083 | 22.500 | 220.120 | N    | None    |
| 6208 | 101.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 6209 | 107.083 | 22.500 | 220.120 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6210 | 107.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 6211 | 113.083 | 22.500 | 220.120 | N    | None    |
| 6212 | 95.083  | 68.667 | 220.120 | N    | None    |
| 6213 | 95.083  | 68.667 | 215.770 | N    | 1 - F14 |
| 6214 | 101.083 | 68.667 | 220.120 | N    | None    |
| 6215 | 101.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 6216 | 107.083 | 68.667 | 220.120 | N    | None    |
| 6217 | 107.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 6218 | 113.083 | 68.667 | 220.120 | N    | None    |
| 6219 | 119.083 | 22.500 | 220.120 | N    | None    |
| 6220 | 119.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 6221 | 125.083 | 22.500 | 220.120 | N    | None    |
| 6222 | 125.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 6223 | 131.083 | 22.500 | 220.120 | N    | None    |
| 6224 | 131.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 6225 | 137.083 | 22.500 | 220.120 | N    | None    |
| 6226 | 119.083 | 68.667 | 220.120 | N    | None    |
| 6227 | 119.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 6228 | 125.083 | 68.667 | 220.120 | N    | None    |
| 6229 | 125.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 6230 | 131.083 | 68.667 | 220.120 | N    | None    |
| 6231 | 131.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 6232 | 137.083 | 68.667 | 220.120 | N    | None    |
| 6233 | 143.083 | 22.500 | 220.120 | N    | None    |
| 6234 | 143.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 6235 | 149.083 | 22.500 | 220.120 | N    | None    |
| 6236 | 149.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 6237 | 155.083 | 22.500 | 220.120 | N    | None    |
| 6238 | 155.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 6239 | 161.083 | 22.500 | 220.120 | N    | None    |
| 6240 | 143.083 | 68.667 | 220.120 | N    | None    |
| 6241 | 143.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 6242 | 149.083 | 68.667 | 220.120 | N    | None    |
| 6243 | 149.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 6244 | 155.083 | 68.667 | 220.120 | N    | None    |
| 6245 | 155.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 6246 | 161.083 | 68.667 | 220.120 | N    | None    |
| 6247 | 167.083 | 22.500 | 220.120 | N    | None    |
| 6248 | 167.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 6249 | 173.083 | 22.500 | 220.120 | N    | None    |
| 6250 | 173.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 6251 | 179.083 | 22.500 | 220.120 | N    | None    |
| 6252 | 179.083 | 22.500 | 215.770 | N    | 1 - F14 |
| 6253 | 185.083 | 22.500 | 220.120 | N    | None    |
| 6254 | 167.083 | 68.667 | 220.120 | N    | None    |





RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6255 | 167.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 6256 | 173.083 | 68.667 | 220.120 | N    | None    |
| 6257 | 173.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 6258 | 179.083 | 68.667 | 220.120 | N    | None    |
| 6259 | 179.083 | 68.667 | 215.770 | N    | 1 - F14 |
| 6260 | 185.083 | 68.667 | 220.120 | N    | None    |
| 6261 | 190.500 | 22.500 | 220.120 | N    | None    |
| 6262 | 190.500 | 22.500 | 215.770 | N    | 1 - F14 |
| 6263 | 195.917 | 22.500 | 220.120 | N    | None    |
| 6264 | 195.917 | 22.500 | 215.770 | N    | 1 - F14 |
| 6265 | 201.333 | 22.500 | 220.120 | N    | None    |
| 6266 | 201.333 | 22.500 | 215.770 | N    | 1 - F14 |
| 6267 | 206.750 | 22.500 | 220.120 | N    | None    |
| 6268 | 190.500 | 68.667 | 220.120 | N    | None    |
| 6269 | 190.500 | 68.667 | 215.770 | N    | 1 - F14 |
| 6270 | 195.917 | 68.667 | 220.120 | N    | None    |
| 6271 | 195.917 | 68.667 | 215.770 | N    | 1 - F14 |
| 6272 | 201.333 | 68.667 | 220.120 | N    | None    |
| 6273 | 201.333 | 68.667 | 215.770 | N    | 1 - F14 |
| 6274 | 206.750 | 68.667 | 220.120 | N    | None    |
| 6275 | 206.750 | 28.271 | 220.120 | N    | None    |
| 6276 | 206.750 | 28.271 | 215.770 | N    | 1 - F14 |
| 6277 | 206.750 | 34.042 | 220.120 | N    | None    |
| 6278 | 206.750 | 34.042 | 215.770 | N    | 1 - F14 |
| 6279 | 206.750 | 39.813 | 220.120 | N    | None    |
| 6280 | 206.750 | 39.813 | 215.770 | N    | 1 - F14 |
| 6281 | 206.750 | 45.584 | 220.120 | N    | None    |
| 6282 | 206.750 | 45.584 | 215.770 | N    | 1 - F14 |
| 6283 | 206.750 | 51.354 | 220.120 | N    | None    |
| 6284 | 206.750 | 51.354 | 215.770 | N    | 1 - F14 |
| 6285 | 206.750 | 57.125 | 220.120 | N    | None    |
| 6286 | 206.750 | 57.125 | 215.770 | N    | 1 - F14 |
| 6287 | 206.750 | 62.896 | 220.120 | N    | None    |
| 6288 | 206.750 | 62.896 | 215.770 | N    | 1 - F14 |
| 6289 | 21.583  | 1.667  | 220.120 | N    | None    |
| 6290 | 25.604  | 1.667  | 220.120 | N    | None    |
| 6291 | 25.604  | 1.667  | 215.770 | N    | 1 - F14 |
| 6292 | 29.625  | 1.667  | 220.120 | N    | None    |
| 6293 | 29.625  | 1.667  | 215.770 | N    | 1 - F14 |
| 6294 | 33.646  | 1.667  | 220.120 | N    | None    |
| 6295 | 33.646  | 1.667  | 215.770 | N    | 1 - F14 |
| 6296 | 77.333  | 17.500 | 215.770 | N    | 1 - F14 |
| 6297 | 77.333  | 17.500 | 220.120 | N    | None    |
| 6298 | 77.333  | 12.500 | 220.120 | N    | None    |
| 6299 | 77.333  | 7.084  | 220.120 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 6300 | 77.333 | 7.084  | 215.770 | N    | 1 - F14 |
| 6301 | 37.667 | 1.667  | 211.420 | N    | None    |
| 6302 | 37.667 | 6.209  | 211.420 | N    | None    |
| 6303 | 37.667 | 6.209  | 207.070 | N    | 1 - F13 |
| 6304 | 37.667 | 10.750 | 211.420 | N    | None    |
| 6305 | 37.667 | 10.750 | 207.070 | N    | 1 - F13 |
| 6306 | 37.667 | 15.292 | 211.420 | N    | None    |
| 6307 | 37.667 | 15.292 | 207.070 | N    | 1 - F13 |
| 6308 | 37.667 | 19.833 | 211.420 | N    | None    |
| 6309 | 41.903 | 1.667  | 211.420 | N    | None    |
| 6310 | 41.903 | 1.667  | 207.070 | N    | 1 - F13 |
| 6311 | 46.139 | 1.667  | 211.420 | N    | None    |
| 6312 | 46.139 | 1.667  | 207.070 | N    | 1 - F13 |
| 6313 | 50.375 | 1.667  | 211.420 | N    | None    |
| 6314 | 50.375 | 1.667  | 207.070 | N    | 1 - F13 |
| 6315 | 54.611 | 1.667  | 211.420 | N    | None    |
| 6316 | 54.611 | 1.667  | 207.070 | N    | 1 - F13 |
| 6317 | 58.847 | 1.667  | 211.420 | N    | None    |
| 6318 | 58.847 | 1.667  | 207.070 | N    | 1 - F13 |
| 6319 | 63.083 | 1.667  | 211.420 | N    | None    |
| 6320 | 41.584 | 19.833 | 211.420 | N    | None    |
| 6321 | 41.584 | 19.833 | 207.070 | N    | 1 - F13 |
| 6322 | 45.500 | 19.833 | 211.420 | N    | None    |
| 6323 | 54.625 | 37.167 | 211.420 | N    | None    |
| 6324 | 58.854 | 37.167 | 211.420 | N    | None    |
| 6325 | 58.854 | 37.167 | 207.070 | N    | 1 - F13 |
| 6326 | 63.083 | 37.167 | 211.420 | N    | None    |
| 6327 | 63.083 | 6.000  | 211.420 | N    | None    |
| 6328 | 63.083 | 6.000  | 207.070 | N    | 1 - F13 |
| 6329 | 63.083 | 10.334 | 211.420 | N    | None    |
| 6330 | 63.083 | 10.334 | 207.070 | N    | 1 - F13 |
| 6331 | 63.083 | 14.667 | 211.420 | N    | None    |
| 6332 | 63.083 | 14.667 | 207.070 | N    | 1 - F13 |
| 6333 | 63.083 | 19.000 | 211.420 | N    | None    |
| 6334 | 66.646 | 1.667  | 211.420 | N    | None    |
| 6335 | 66.646 | 1.667  | 207.070 | N    | 1 - F13 |
| 6336 | 70.208 | 1.667  | 211.420 | N    | None    |
| 6337 | 70.208 | 1.667  | 207.070 | N    | 1 - F13 |
| 6338 | 73.771 | 1.667  | 211.420 | N    | None    |
| 6339 | 73.771 | 1.667  | 207.070 | N    | 1 - F13 |
| 6340 | 77.333 | 1.667  | 211.420 | N    | None    |
| 6341 | 63.083 | 23.542 | 211.420 | N    | None    |
| 6342 | 63.083 | 23.542 | 207.070 | N    | 1 - F13 |
| 6343 | 63.083 | 28.083 | 211.420 | N    | None    |
| 6344 | 63.083 | 28.083 | 207.070 | N    | 1 - F13 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6345 | 63.083  | 32.625 | 211.420 | N    | None    |
| 6346 | 63.083  | 32.625 | 207.070 | N    | 1 - F13 |
| 6347 | 77.333  | 22.500 | 211.420 | N    | None    |
| 6348 | 81.224  | 22.500 | 211.420 | N    | None    |
| 6349 | 81.542  | 22.500 | 207.070 | N    | 1 - F13 |
| 6350 | 84.891  | 22.500 | 211.420 | N    | None    |
| 6351 | 85.750  | 22.500 | 207.070 | N    | 1 - F13 |
| 6352 | 87.252  | 22.500 | 211.420 | N    | None    |
| 6353 | 87.417  | 22.500 | 207.070 | N    | 1 - F13 |
| 6354 | 89.083  | 22.500 | 211.420 | N    | None    |
| 6355 | 77.333  | 68.667 | 211.420 | N    | None    |
| 6356 | 81.224  | 68.667 | 211.420 | N    | None    |
| 6357 | 81.542  | 68.667 | 207.070 | N    | 1 - F13 |
| 6358 | 84.891  | 68.667 | 211.420 | N    | None    |
| 6359 | 85.750  | 68.667 | 207.070 | N    | 1 - F13 |
| 6360 | 87.252  | 68.667 | 211.420 | N    | None    |
| 6361 | 87.417  | 68.667 | 207.070 | N    | 1 - F13 |
| 6362 | 89.083  | 68.667 | 211.420 | N    | None    |
| 6363 | 95.083  | 22.500 | 211.420 | N    | None    |
| 6364 | 95.083  | 22.500 | 207.070 | N    | 1 - F13 |
| 6365 | 101.083 | 22.500 | 211.420 | N    | None    |
| 6366 | 101.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6367 | 107.083 | 22.500 | 211.420 | N    | None    |
| 6368 | 107.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6369 | 113.083 | 22.500 | 211.420 | N    | None    |
| 6370 | 95.083  | 68.667 | 211.420 | N    | None    |
| 6371 | 95.083  | 68.667 | 207.070 | N    | 1 - F13 |
| 6372 | 101.083 | 68.667 | 211.420 | N    | None    |
| 6373 | 101.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 6374 | 107.083 | 68.667 | 211.420 | N    | None    |
| 6375 | 107.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 6376 | 113.083 | 68.667 | 211.420 | N    | None    |
| 6377 | 119.083 | 22.500 | 211.420 | N    | None    |
| 6378 | 119.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6379 | 125.083 | 22.500 | 211.420 | N    | None    |
| 6380 | 125.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6381 | 131.083 | 22.500 | 211.420 | N    | None    |
| 6382 | 131.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6383 | 137.083 | 22.500 | 211.420 | N    | None    |
| 6384 | 119.083 | 68.667 | 211.420 | N    | None    |
| 6385 | 119.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 6386 | 125.083 | 68.667 | 211.420 | N    | None    |
| 6387 | 125.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 6388 | 131.083 | 68.667 | 211.420 | N    | None    |
| 6389 | 131.083 | 68.667 | 207.070 | N    | 1 - F13 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6390 | 137.083 | 68.667 | 211.420 | N    | None    |
| 6391 | 143.083 | 22.500 | 211.420 | N    | None    |
| 6392 | 143.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6393 | 149.083 | 22.500 | 211.420 | N    | None    |
| 6394 | 149.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6395 | 155.083 | 22.500 | 211.420 | N    | None    |
| 6396 | 155.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6397 | 161.083 | 22.500 | 211.420 | N    | None    |
| 6398 | 143.083 | 68.667 | 211.420 | N    | None    |
| 6399 | 143.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 6400 | 149.083 | 68.667 | 211.420 | N    | None    |
| 6401 | 149.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 6402 | 155.083 | 68.667 | 211.420 | N    | None    |
| 6403 | 155.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 6404 | 161.083 | 68.667 | 211.420 | N    | None    |
| 6405 | 167.083 | 22.500 | 211.420 | N    | None    |
| 6406 | 167.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6407 | 173.083 | 22.500 | 211.420 | N    | None    |
| 6408 | 173.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6409 | 179.083 | 22.500 | 211.420 | N    | None    |
| 6410 | 179.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6411 | 185.083 | 22.500 | 211.420 | N    | None    |
| 6412 | 167.083 | 68.667 | 211.420 | N    | None    |
| 6413 | 167.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 6414 | 173.083 | 68.667 | 211.420 | N    | None    |
| 6415 | 173.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 6416 | 179.083 | 68.667 | 211.420 | N    | None    |
| 6417 | 179.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 6418 | 185.083 | 68.667 | 211.420 | N    | None    |
| 6419 | 191.608 | 22.500 | 211.295 | N    | None    |
| 6420 | 187.902 | 22.500 | 211.074 | N    | None    |
| 6421 | 201.583 | 22.500 | 207.070 | N    | None    |
| 6422 | 201.581 | 22.500 | 211.415 | N    | None    |
| 6423 | 206.750 | 22.500 | 211.420 | N    | None    |
| 6424 | 186.420 | 22.500 | 210.126 | N    | None    |
| 6425 | 186.083 | 22.500 | 207.070 | N    | 1 - F13 |
| 6426 | 191.250 | 22.500 | 207.070 | N    | None    |
| 6427 | 196.417 | 22.500 | 207.070 | N    | None    |
| 6428 | 196.395 | 22.500 | 211.397 | N    | None    |
| 6429 | 185.583 | 22.500 | 207.070 | N    | 1 - F13 |
| 6430 | 191.608 | 68.667 | 211.295 | N    | None    |
| 6431 | 187.902 | 68.667 | 211.074 | N    | None    |
| 6432 | 201.583 | 68.667 | 207.070 | N    | None    |
| 6433 | 201.581 | 68.667 | 211.415 | N    | None    |
| 6434 | 206.750 | 68.667 | 211.420 | N    | None    |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6435 | 186.420 | 68.667 | 210.126 | N    | None    |
| 6436 | 186.083 | 68.667 | 207.070 | N    | 1 - F13 |
| 6437 | 191.250 | 68.667 | 207.070 | N    | None    |
| 6438 | 196.417 | 68.667 | 207.070 | N    | None    |
| 6439 | 196.395 | 68.667 | 211.397 | N    | None    |
| 6440 | 185.583 | 68.667 | 207.070 | N    | 1 - F13 |
| 6441 | 206.750 | 28.271 | 211.420 | N    | None    |
| 6442 | 206.750 | 28.271 | 207.070 | N    | None    |
| 6443 | 206.750 | 34.042 | 211.420 | N    | None    |
| 6444 | 206.750 | 34.042 | 207.070 | N    | None    |
| 6445 | 206.750 | 39.813 | 211.420 | N    | None    |
| 6446 | 206.750 | 39.813 | 207.070 | N    | None    |
| 6447 | 206.750 | 45.584 | 211.420 | N    | None    |
| 6448 | 206.750 | 45.584 | 207.070 | N    | None    |
| 6449 | 206.750 | 51.354 | 211.420 | N    | None    |
| 6450 | 206.750 | 51.354 | 207.070 | N    | None    |
| 6451 | 206.750 | 57.125 | 211.420 | N    | None    |
| 6452 | 206.750 | 57.125 | 207.070 | N    | None    |
| 6453 | 206.750 | 62.896 | 211.420 | N    | None    |
| 6454 | 206.750 | 62.896 | 207.070 | N    | None    |
| 6455 | 21.583  | 1.667  | 211.420 | N    | None    |
| 6456 | 25.604  | 1.667  | 211.420 | N    | None    |
| 6457 | 25.604  | 1.667  | 207.070 | N    | 1 - F13 |
| 6458 | 29.625  | 1.667  | 211.420 | N    | None    |
| 6459 | 29.625  | 1.667  | 207.070 | N    | 1 - F13 |
| 6460 | 33.646  | 1.667  | 211.420 | N    | None    |
| 6461 | 33.646  | 1.667  | 207.070 | N    | 1 - F13 |
| 6462 | 77.333  | 17.500 | 207.070 | N    | 1 - F13 |
| 6463 | 77.333  | 17.500 | 211.420 | N    | None    |
| 6464 | 77.333  | 12.500 | 211.420 | N    | None    |
| 6465 | 77.333  | 7.084  | 211.420 | N    | None    |
| 6466 | 77.333  | 7.084  | 207.070 | N    | 1 - F13 |
| 6467 | 34.163  | 64.654 | 202.720 | N    | None    |
| 6468 | 34.163  | 69.339 | 202.720 | N    | None    |
| 6469 | 34.163  | 69.339 | 198.370 | N    | 1 - F12 |
| 6470 | 34.163  | 69.339 | 207.070 | N    | 1 - F13 |
| 6471 | 34.163  | 74.024 | 202.720 | N    | None    |
| 6472 | 35.663  | 64.654 | 202.720 | N    | None    |
| 6473 | 35.663  | 64.654 | 198.370 | N    | 1 - F12 |
| 6474 | 35.663  | 64.654 | 207.070 | N    | 1 - F13 |
| 6475 | 37.163  | 64.654 | 202.720 | N    | None    |
| 6476 | 38.123  | 74.024 | 198.370 | N    | 1 - F12 |
| 6477 | 38.123  | 74.024 | 202.720 | N    | None    |
| 6478 | 42.083  | 74.024 | 202.720 | N    | None    |
| 6479 | 38.123  | 74.024 | 207.070 | N    | 1 - F13 |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

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RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 6480 | 37.667 | 1.667  | 202.720 | N    | None    |
| 6481 | 37.667 | 6.209  | 202.720 | N    | None    |
| 6482 | 37.667 | 6.209  | 198.370 | N    | 1 - F12 |
| 6483 | 37.667 | 10.750 | 202.720 | N    | None    |
| 6484 | 37.667 | 10.750 | 198.370 | N    | 1 - F12 |
| 6485 | 37.667 | 15.292 | 202.720 | N    | None    |
| 6486 | 37.667 | 15.292 | 198.370 | N    | 1 - F12 |
| 6487 | 37.667 | 19.833 | 202.720 | N    | None    |
| 6488 | 41.903 | 1.667  | 202.720 | N    | None    |
| 6489 | 41.903 | 1.667  | 198.370 | N    | 1 - F12 |
| 6490 | 46.139 | 1.667  | 202.720 | N    | None    |
| 6491 | 46.139 | 1.667  | 198.370 | N    | 1 - F12 |
| 6492 | 50.375 | 1.667  | 202.720 | N    | None    |
| 6493 | 50.375 | 1.667  | 198.370 | N    | 1 - F12 |
| 6494 | 54.611 | 1.667  | 202.720 | N    | None    |
| 6495 | 54.611 | 1.667  | 198.370 | N    | 1 - F12 |
| 6496 | 58.847 | 1.667  | 202.720 | N    | None    |
| 6497 | 58.847 | 1.667  | 198.370 | N    | 1 - F12 |
| 6498 | 63.083 | 1.667  | 202.720 | N    | None    |
| 6499 | 41.584 | 19.833 | 202.720 | N    | None    |
| 6500 | 41.584 | 19.833 | 198.370 | N    | 1 - F12 |
| 6501 | 45.500 | 19.833 | 202.720 | N    | None    |
| 6502 | 46.863 | 64.654 | 202.720 | N    | None    |
| 6503 | 44.690 | 64.654 | 202.707 | N    | None    |
| 6504 | 44.473 | 64.654 | 207.070 | N    | 1 - F13 |
| 6505 | 41.373 | 64.654 | 207.070 | N    | 1 - F13 |
| 6506 | 41.620 | 64.654 | 204.651 | N    | None    |
| 6507 | 40.663 | 64.654 | 202.720 | N    | None    |
| 6508 | 42.902 | 64.654 | 203.124 | N    | None    |
| 6509 | 43.763 | 64.654 | 198.370 | N    | 1 - F12 |
| 6510 | 47.833 | 74.024 | 202.720 | N    | None    |
| 6511 | 47.833 | 74.024 | 198.370 | N    | 1 - F12 |
| 6512 | 47.833 | 74.024 | 207.070 | N    | 1 - F13 |
| 6513 | 53.583 | 74.024 | 202.720 | N    | None    |
| 6514 | 53.583 | 74.024 | 198.370 | N    | 1 - F12 |
| 6515 | 53.583 | 74.024 | 207.070 | N    | 1 - F13 |
| 6516 | 59.333 | 74.024 | 202.720 | N    | None    |
| 6517 | 59.333 | 74.024 | 198.370 | N    | 1 - F12 |
| 6518 | 59.333 | 74.024 | 207.070 | N    | 1 - F13 |
| 6519 | 65.083 | 74.024 | 202.720 | N    | None    |
| 6520 | 50.363 | 64.654 | 202.720 | N    | None    |
| 6521 | 53.613 | 64.654 | 202.720 | N    | None    |
| 6522 | 53.613 | 64.654 | 198.370 | N    | 1 - F12 |
| 6523 | 53.613 | 64.654 | 207.070 | N    | 1 - F13 |
| 6524 | 56.863 | 64.654 | 202.720 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 6525 | 54.625 | 37.167 | 202.720 | N    | None    |
| 6526 | 58.854 | 37.167 | 202.720 | N    | None    |
| 6527 | 58.854 | 37.167 | 198.370 | N    | 1 - F12 |
| 6528 | 63.083 | 37.167 | 202.720 | N    | None    |
| 6529 | 62.723 | 64.654 | 207.070 | N    | 1 - F13 |
| 6530 | 62.434 | 64.654 | 202.604 | N    | None    |
| 6531 | 60.363 | 64.654 | 202.720 | N    | None    |
| 6532 | 65.823 | 64.654 | 207.070 | N    | 1 - F13 |
| 6533 | 65.709 | 64.654 | 204.387 | N    | None    |
| 6534 | 64.131 | 64.654 | 202.931 | N    | None    |
| 6535 | 63.463 | 64.654 | 198.370 | N    | 1 - F12 |
| 6536 | 66.563 | 64.654 | 202.720 | N    | None    |
| 6537 | 63.083 | 6.000  | 202.720 | N    | None    |
| 6538 | 63.083 | 6.000  | 198.370 | N    | 1 - F12 |
| 6539 | 63.083 | 10.334 | 202.720 | N    | None    |
| 6540 | 63.083 | 10.334 | 198.370 | N    | 1 - F12 |
| 6541 | 63.083 | 14.667 | 202.720 | N    | None    |
| 6542 | 63.083 | 14.667 | 198.370 | N    | 1 - F12 |
| 6543 | 63.083 | 19.000 | 202.720 | N    | None    |
| 6544 | 66.646 | 1.667  | 202.720 | N    | None    |
| 6545 | 66.646 | 1.667  | 198.370 | N    | 1 - F12 |
| 6546 | 70.208 | 1.667  | 202.720 | N    | None    |
| 6547 | 70.208 | 1.667  | 198.370 | N    | 1 - F12 |
| 6548 | 73.771 | 1.667  | 202.720 | N    | None    |
| 6549 | 73.771 | 1.667  | 198.370 | N    | 1 - F12 |
| 6550 | 77.333 | 1.667  | 202.720 | N    | None    |
| 6551 | 63.083 | 23.542 | 202.720 | N    | None    |
| 6552 | 63.083 | 23.542 | 198.370 | N    | 1 - F12 |
| 6553 | 63.083 | 28.083 | 202.720 | N    | None    |
| 6554 | 63.083 | 28.083 | 198.370 | N    | 1 - F12 |
| 6555 | 63.083 | 32.625 | 202.720 | N    | None    |
| 6556 | 63.083 | 32.625 | 198.370 | N    | 1 - F12 |
| 6557 | 69.588 | 74.024 | 202.720 | N    | None    |
| 6558 | 69.588 | 74.024 | 198.370 | N    | 1 - F12 |
| 6559 | 69.588 | 74.024 | 207.070 | N    | 1 - F13 |
| 6560 | 74.093 | 74.024 | 202.720 | N    | None    |
| 6561 | 70.063 | 64.654 | 202.720 | N    | None    |
| 6562 | 72.078 | 64.654 | 202.720 | N    | None    |
| 6563 | 72.078 | 64.654 | 198.370 | N    | 1 - F12 |
| 6564 | 72.078 | 64.654 | 207.070 | N    | 1 - F13 |
| 6565 | 74.093 | 64.654 | 202.720 | N    | None    |
| 6566 | 74.093 | 69.339 | 202.720 | N    | None    |
| 6567 | 74.093 | 69.339 | 198.370 | N    | 1 - F12 |
| 6568 | 74.093 | 69.339 | 207.070 | N    | 1 - F13 |
| 6569 | 82.017 | 22.500 | 202.270 | N    | None    |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6570 | 77.333  | 22.500 | 202.720 | N    | None    |
| 6571 | 87.467  | 22.500 | 204.118 | N    | None    |
| 6572 | 85.515  | 22.500 | 202.352 | N    | None    |
| 6573 | 83.208  | 22.500 | 198.370 | N    | 1 - F12 |
| 6574 | 89.083  | 22.500 | 202.720 | N    | None    |
| 6575 | 82.017  | 68.667 | 202.270 | N    | None    |
| 6576 | 77.333  | 68.667 | 202.720 | N    | None    |
| 6577 | 87.467  | 68.667 | 204.118 | N    | None    |
| 6578 | 85.515  | 68.667 | 202.352 | N    | None    |
| 6579 | 83.208  | 68.667 | 198.370 | N    | 1 - F12 |
| 6580 | 89.083  | 68.667 | 202.720 | N    | None    |
| 6581 | 95.083  | 22.500 | 202.720 | N    | None    |
| 6582 | 95.083  | 22.500 | 198.370 | N    | 1 - F12 |
| 6583 | 101.083 | 22.500 | 202.720 | N    | None    |
| 6584 | 101.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 6585 | 107.083 | 22.500 | 202.720 | N    | None    |
| 6586 | 107.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 6587 | 113.083 | 22.500 | 202.720 | N    | None    |
| 6588 | 95.083  | 68.667 | 202.720 | N    | None    |
| 6589 | 95.083  | 68.667 | 198.370 | N    | 1 - F12 |
| 6590 | 101.083 | 68.667 | 202.720 | N    | None    |
| 6591 | 101.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 6592 | 107.083 | 68.667 | 202.720 | N    | None    |
| 6593 | 107.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 6594 | 113.083 | 68.667 | 202.720 | N    | None    |
| 6595 | 119.083 | 22.500 | 202.720 | N    | None    |
| 6596 | 119.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 6597 | 125.083 | 22.500 | 202.720 | N    | None    |
| 6598 | 125.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 6599 | 131.083 | 22.500 | 202.720 | N    | None    |
| 6600 | 131.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 6601 | 137.083 | 22.500 | 202.720 | N    | None    |
| 6602 | 119.083 | 68.667 | 202.720 | N    | None    |
| 6603 | 119.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 6604 | 125.083 | 68.667 | 202.720 | N    | None    |
| 6605 | 125.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 6606 | 131.083 | 68.667 | 202.720 | N    | None    |
| 6607 | 131.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 6608 | 137.083 | 68.667 | 202.720 | N    | None    |
| 6609 | 143.083 | 22.500 | 202.720 | N    | None    |
| 6610 | 143.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 6611 | 149.083 | 22.500 | 202.720 | N    | None    |
| 6612 | 149.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 6613 | 155.083 | 22.500 | 202.720 | N    | None    |
| 6614 | 155.083 | 22.500 | 198.370 | N    | 1 - F12 |





RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6615 | 161.083 | 22.500 | 202.720 | N    | None    |
| 6616 | 143.083 | 68.667 | 202.720 | N    | None    |
| 6617 | 143.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 6618 | 149.083 | 68.667 | 202.720 | N    | None    |
| 6619 | 149.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 6620 | 155.083 | 68.667 | 202.720 | N    | None    |
| 6621 | 155.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 6622 | 161.083 | 68.667 | 202.720 | N    | None    |
| 6623 | 167.083 | 22.500 | 202.720 | N    | None    |
| 6624 | 167.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 6625 | 173.083 | 22.500 | 202.720 | N    | None    |
| 6626 | 173.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 6627 | 179.083 | 22.500 | 202.720 | N    | None    |
| 6628 | 179.083 | 22.500 | 198.370 | N    | 1 - F12 |
| 6629 | 185.083 | 22.500 | 202.720 | N    | None    |
| 6630 | 167.083 | 68.667 | 202.720 | N    | None    |
| 6631 | 167.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 6632 | 173.083 | 68.667 | 202.720 | N    | None    |
| 6633 | 173.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 6634 | 179.083 | 68.667 | 202.720 | N    | None    |
| 6635 | 179.083 | 68.667 | 198.370 | N    | 1 - F12 |
| 6636 | 185.083 | 68.667 | 202.720 | N    | None    |
| 6637 | 196.271 | 22.500 | 202.768 | N    | None    |
| 6638 | 195.917 | 22.500 | 198.370 | N    | 1 - F12 |
| 6639 | 201.527 | 22.500 | 202.729 | N    | None    |
| 6640 | 201.333 | 22.500 | 198.370 | N    | 1 - F12 |
| 6641 | 191.306 | 22.500 | 203.145 | N    | None    |
| 6642 | 186.180 | 22.500 | 204.239 | N    | None    |
| 6643 | 206.750 | 22.500 | 202.720 | N    | None    |
| 6644 | 187.841 | 22.500 | 203.528 | N    | None    |
| 6645 | 190.500 | 22.500 | 198.370 | N    | 1 - F12 |
| 6646 | 196.271 | 68.667 | 202.768 | N    | None    |
| 6647 | 195.917 | 68.667 | 198.370 | N    | 1 - F12 |
| 6648 | 201.527 | 68.667 | 202.729 | N    | None    |
| 6649 | 201.333 | 68.667 | 198.370 | N    | 1 - F12 |
| 6650 | 191.306 | 68.667 | 203.145 | N    | None    |
| 6651 | 186.180 | 68.667 | 204.239 | N    | None    |
| 6652 | 206.750 | 68.667 | 202.720 | N    | None    |
| 6653 | 187.841 | 68.667 | 203.528 | N    | None    |
| 6654 | 190.500 | 68.667 | 198.370 | N    | 1 - F12 |
| 6655 | 206.750 | 28.271 | 202.720 | N    | None    |
| 6656 | 206.750 | 28.271 | 198.370 | N    | 1 - F12 |
| 6657 | 206.750 | 34.042 | 202.720 | N    | None    |
| 6658 | 206.750 | 34.042 | 198.370 | N    | 1 - F12 |
| 6659 | 206.750 | 39.813 | 202.720 | N    | None    |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

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RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6660 | 206.750 | 39.813 | 198.370 | N    | 1 - F12 |
| 6661 | 206.750 | 45.584 | 202.720 | N    | None    |
| 6662 | 206.750 | 45.584 | 198.370 | N    | 1 - F12 |
| 6663 | 206.750 | 51.354 | 202.720 | N    | None    |
| 6664 | 206.750 | 51.354 | 198.370 | N    | 1 - F12 |
| 6665 | 206.750 | 57.125 | 202.720 | N    | None    |
| 6666 | 206.750 | 57.125 | 198.370 | N    | 1 - F12 |
| 6667 | 206.750 | 62.896 | 202.720 | N    | None    |
| 6668 | 206.750 | 62.896 | 198.370 | N    | 1 - F12 |
| 6669 | 21.583  | 1.667  | 202.720 | N    | None    |
| 6670 | 25.604  | 1.667  | 202.720 | N    | None    |
| 6671 | 25.604  | 1.667  | 198.370 | N    | 1 - F12 |
| 6672 | 29.625  | 1.667  | 202.720 | N    | None    |
| 6673 | 29.625  | 1.667  | 198.370 | N    | 1 - F12 |
| 6674 | 33.646  | 1.667  | 202.720 | N    | None    |
| 6675 | 33.646  | 1.667  | 198.370 | N    | 1 - F12 |
| 6676 | 77.333  | 17.500 | 198.370 | N    | 1 - F12 |
| 6677 | 77.333  | 17.500 | 202.720 | N    | None    |
| 6678 | 77.333  | 12.500 | 202.720 | N    | None    |
| 6679 | 77.333  | 7.084  | 202.720 | N    | None    |
| 6680 | 77.333  | 7.084  | 198.370 | N    | 1 - F12 |
| 6681 | 34.163  | 64.654 | 194.020 | N    | None    |
| 6682 | 34.163  | 69.339 | 194.020 | N    | None    |
| 6683 | 34.163  | 69.339 | 189.670 | N    | None    |
| 6684 | 34.163  | 74.024 | 194.020 | N    | None    |
| 6685 | 35.663  | 64.654 | 194.020 | N    | None    |
| 6686 | 35.663  | 64.654 | 189.670 | N    | None    |
| 6687 | 37.163  | 64.654 | 194.020 | N    | None    |
| 6688 | 38.639  | 74.024 | 194.020 | N    | None    |
| 6689 | 43.115  | 74.024 | 194.020 | N    | None    |
| 6690 | 48.485  | 74.024 | 194.020 | N    | None    |
| 6691 | 53.856  | 74.024 | 194.020 | N    | None    |
| 6692 | 59.226  | 74.024 | 194.020 | N    | None    |
| 6693 | 64.597  | 74.024 | 194.020 | N    | None    |
| 6694 | 69.345  | 74.024 | 194.020 | N    | None    |
| 6695 | 74.093  | 74.024 | 194.020 | N    | None    |
| 6696 | 39.155  | 74.024 | 189.670 | N    | None    |
| 6697 | 44.146  | 74.024 | 189.670 | N    | None    |
| 6698 | 49.137  | 74.024 | 189.670 | N    | None    |
| 6699 | 54.128  | 74.024 | 189.670 | N    | None    |
| 6700 | 59.120  | 74.024 | 189.670 | N    | None    |
| 6701 | 64.111  | 74.024 | 189.670 | N    | None    |
| 6702 | 69.102  | 74.024 | 189.670 | N    | None    |
| 6703 | 37.667  | 1.667  | 194.020 | N    | None    |
| 6704 | 37.667  | 6.209  | 194.020 | N    | None    |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

ES951655794 Scan Code

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 6705 | 37.667 | 6.209  | 189.670 | N    | None   |
| 6706 | 37.667 | 10.750 | 194.020 | N    | None   |
| 6707 | 37.667 | 10.750 | 189.670 | N    | None   |
| 6708 | 37.667 | 15.292 | 194.020 | N    | None   |
| 6709 | 37.667 | 15.292 | 189.670 | N    | None   |
| 6710 | 37.667 | 19.833 | 194.020 | N    | None   |
| 6711 | 41.903 | 1.667  | 194.020 | N    | None   |
| 6712 | 41.903 | 1.667  | 189.670 | N    | None   |
| 6713 | 46.139 | 1.667  | 194.020 | N    | None   |
| 6714 | 46.139 | 1.667  | 189.670 | N    | None   |
| 6715 | 50.375 | 1.667  | 194.020 | N    | None   |
| 6716 | 50.375 | 1.667  | 189.670 | N    | None   |
| 6717 | 54.611 | 1.667  | 194.020 | N    | None   |
| 6718 | 54.611 | 1.667  | 189.670 | N    | None   |
| 6719 | 58.847 | 1.667  | 194.020 | N    | None   |
| 6720 | 58.847 | 1.667  | 189.670 | N    | None   |
| 6721 | 63.083 | 1.667  | 194.020 | N    | None   |
| 6722 | 41.584 | 19.833 | 194.020 | N    | None   |
| 6723 | 41.584 | 19.833 | 189.670 | N    | None   |
| 6724 | 45.500 | 19.833 | 194.020 | N    | None   |
| 6725 | 40.663 | 64.654 | 194.020 | N    | None   |
| 6726 | 43.763 | 64.654 | 194.020 | N    | None   |
| 6727 | 43.763 | 64.654 | 189.670 | N    | None   |
| 6728 | 46.863 | 64.654 | 194.020 | N    | None   |
| 6729 | 50.363 | 64.654 | 194.020 | N    | None   |
| 6730 | 53.613 | 64.654 | 194.020 | N    | None   |
| 6731 | 53.613 | 64.654 | 189.670 | N    | None   |
| 6732 | 56.863 | 64.654 | 194.020 | N    | None   |
| 6733 | 54.625 | 37.167 | 194.020 | N    | None   |
| 6734 | 58.854 | 37.167 | 194.020 | N    | None   |
| 6735 | 58.854 | 37.167 | 189.670 | N    | None   |
| 6736 | 63.083 | 37.167 | 194.020 | N    | None   |
| 6737 | 60.363 | 64.654 | 194.020 | N    | None   |
| 6738 | 63.463 | 64.654 | 194.020 | N    | None   |
| 6739 | 63.463 | 64.654 | 189.670 | N    | None   |
| 6740 | 66.563 | 64.654 | 194.020 | N    | None   |
| 6741 | 63.083 | 6.000  | 194.020 | N    | None   |
| 6742 | 63.083 | 6.000  | 189.670 | N    | None   |
| 6743 | 63.083 | 10.334 | 194.020 | N    | None   |
| 6744 | 63.083 | 10.334 | 189.670 | N    | None   |
| 6745 | 63.083 | 14.667 | 194.020 | N    | None   |
| 6746 | 63.083 | 14.667 | 189.670 | N    | None   |
| 6747 | 63.083 | 19.000 | 194.020 | N    | None   |
| 6748 | 66.646 | 1.667  | 194.020 | N    | None   |
| 6749 | 66.646 | 1.667  | 189.670 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 6750 | 70.208  | 1.667  | 194.020 | N    | None   |
| 6751 | 70.208  | 1.667  | 189.670 | N    | None   |
| 6752 | 73.771  | 1.667  | 194.020 | N    | None   |
| 6753 | 73.771  | 1.667  | 189.670 | N    | None   |
| 6754 | 77.333  | 1.667  | 194.020 | N    | None   |
| 6755 | 63.083  | 23.542 | 194.020 | N    | None   |
| 6756 | 63.083  | 23.542 | 189.670 | N    | None   |
| 6757 | 63.083  | 28.083 | 194.020 | N    | None   |
| 6758 | 63.083  | 28.083 | 189.670 | N    | None   |
| 6759 | 63.083  | 32.625 | 194.020 | N    | None   |
| 6760 | 63.083  | 32.625 | 189.670 | N    | None   |
| 6761 | 70.063  | 64.654 | 194.020 | N    | None   |
| 6762 | 72.078  | 64.654 | 194.020 | N    | None   |
| 6763 | 72.078  | 64.654 | 189.670 | N    | None   |
| 6764 | 74.093  | 64.654 | 194.020 | N    | None   |
| 6765 | 74.093  | 69.339 | 194.020 | N    | None   |
| 6766 | 74.093  | 69.339 | 189.670 | N    | None   |
| 6767 | 206.750 | 22.500 | 194.020 | N    | None   |
| 6768 | 206.750 | 28.271 | 194.020 | N    | None   |
| 6769 | 206.750 | 28.271 | 189.670 | N    | None   |
| 6770 | 206.750 | 34.042 | 194.020 | N    | None   |
| 6771 | 206.750 | 34.042 | 189.670 | N    | None   |
| 6772 | 206.750 | 39.813 | 194.020 | N    | None   |
| 6773 | 206.750 | 39.813 | 189.670 | N    | None   |
| 6774 | 206.750 | 45.584 | 194.020 | N    | None   |
| 6775 | 206.750 | 45.584 | 189.670 | N    | None   |
| 6776 | 206.750 | 51.354 | 194.020 | N    | None   |
| 6777 | 206.750 | 51.354 | 189.670 | N    | None   |
| 6778 | 206.750 | 57.125 | 194.020 | N    | None   |
| 6779 | 206.750 | 57.125 | 189.670 | N    | None   |
| 6780 | 206.750 | 62.896 | 194.020 | N    | None   |
| 6781 | 206.750 | 62.896 | 189.670 | N    | None   |
| 6782 | 206.750 | 68.667 | 194.020 | N    | None   |
| 6783 | 21.583  | 1.667  | 194.020 | N    | None   |
| 6784 | 25.604  | 1.667  | 194.020 | N    | None   |
| 6785 | 25.604  | 1.667  | 189.670 | N    | None   |
| 6786 | 29.625  | 1.667  | 194.020 | N    | None   |
| 6787 | 29.625  | 1.667  | 189.670 | N    | None   |
| 6788 | 33.646  | 1.667  | 194.020 | N    | None   |
| 6789 | 33.646  | 1.667  | 189.670 | N    | None   |
| 6790 | 77.333  | 17.500 | 189.670 | N    | None   |
| 6791 | 77.333  | 17.500 | 194.020 | N    | None   |
| 6792 | 77.333  | 22.500 | 194.020 | N    | None   |
| 6793 | 77.333  | 12.500 | 194.020 | N    | None   |
| 6794 | 77.333  | 7.084  | 194.020 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 6795 | 77.333 | 7.084  | 189.670 | N    | None    |
| 6796 | 34.163 | 64.654 | 185.320 | N    | None    |
| 6797 | 34.163 | 69.339 | 185.320 | N    | None    |
| 6798 | 34.163 | 69.339 | 180.970 | N    | 1 - F11 |
| 6799 | 34.163 | 74.024 | 185.320 | N    | None    |
| 6800 | 35.663 | 64.654 | 185.320 | N    | None    |
| 6801 | 35.663 | 64.654 | 180.970 | N    | 1 - F11 |
| 6802 | 37.163 | 64.654 | 185.320 | N    | None    |
| 6803 | 39.155 | 74.024 | 185.320 | N    | None    |
| 6804 | 39.155 | 74.024 | 180.970 | N    | 1 - F11 |
| 6805 | 44.146 | 74.024 | 185.320 | N    | None    |
| 6806 | 44.146 | 74.024 | 180.970 | N    | 1 - F11 |
| 6807 | 49.137 | 74.024 | 185.320 | N    | None    |
| 6808 | 49.137 | 74.024 | 180.970 | N    | 1 - F11 |
| 6809 | 54.128 | 74.024 | 185.320 | N    | None    |
| 6810 | 54.128 | 74.024 | 180.970 | N    | 1 - F11 |
| 6811 | 59.120 | 74.024 | 185.320 | N    | None    |
| 6812 | 59.120 | 74.024 | 180.970 | N    | 1 - F11 |
| 6813 | 64.111 | 74.024 | 185.320 | N    | None    |
| 6814 | 64.111 | 74.024 | 180.970 | N    | 1 - F11 |
| 6815 | 69.102 | 74.024 | 185.320 | N    | None    |
| 6816 | 69.102 | 74.024 | 180.970 | N    | 1 - F11 |
| 6817 | 74.093 | 74.024 | 185.320 | N    | None    |
| 6818 | 37.667 | 1.667  | 185.320 | N    | None    |
| 6819 | 37.667 | 6.209  | 185.320 | N    | None    |
| 6820 | 37.667 | 6.209  | 180.970 | N    | 1 - F11 |
| 6821 | 37.667 | 10.750 | 185.320 | N    | None    |
| 6822 | 37.667 | 10.750 | 180.970 | N    | 1 - F11 |
| 6823 | 37.667 | 15.292 | 185.320 | N    | None    |
| 6824 | 37.667 | 15.292 | 180.970 | N    | 1 - F11 |
| 6825 | 37.667 | 19.833 | 185.320 | N    | None    |
| 6826 | 41.903 | 1.667  | 185.320 | N    | None    |
| 6827 | 41.903 | 1.667  | 180.970 | N    | 1 - F11 |
| 6828 | 46.139 | 1.667  | 185.320 | N    | None    |
| 6829 | 46.139 | 1.667  | 180.970 | N    | 1 - F11 |
| 6830 | 50.375 | 1.667  | 185.320 | N    | None    |
| 6831 | 50.375 | 1.667  | 180.970 | N    | 1 - F11 |
| 6832 | 54.611 | 1.667  | 185.320 | N    | None    |
| 6833 | 54.611 | 1.667  | 180.970 | N    | 1 - F11 |
| 6834 | 58.847 | 1.667  | 185.320 | N    | None    |
| 6835 | 58.847 | 1.667  | 180.970 | N    | 1 - F11 |
| 6836 | 63.083 | 1.667  | 185.320 | N    | None    |
| 6837 | 41.584 | 19.833 | 185.320 | N    | None    |
| 6838 | 41.584 | 19.833 | 180.970 | N    | 1 - F11 |
| 6839 | 45.500 | 19.833 | 185.320 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6840 | 40.663  | 64.654 | 185.320 | N    | None    |
| 6841 | 43.763  | 64.654 | 185.320 | N    | None    |
| 6842 | 43.763  | 64.654 | 180.970 | N    | 1 - F11 |
| 6843 | 46.863  | 64.654 | 185.320 | N    | None    |
| 6844 | 50.363  | 64.654 | 185.320 | N    | None    |
| 6845 | 53.613  | 64.654 | 185.320 | N    | None    |
| 6846 | 53.613  | 64.654 | 180.970 | N    | 1 - F11 |
| 6847 | 56.863  | 64.654 | 185.320 | N    | None    |
| 6848 | 54.625  | 37.167 | 185.320 | N    | None    |
| 6849 | 58.854  | 37.167 | 185.320 | N    | None    |
| 6850 | 58.854  | 37.167 | 180.970 | N    | 1 - F11 |
| 6851 | 63.083  | 37.167 | 185.320 | N    | None    |
| 6852 | 60.363  | 64.654 | 185.320 | N    | None    |
| 6853 | 63.463  | 64.654 | 185.320 | N    | None    |
| 6854 | 63.463  | 64.654 | 180.970 | N    | 1 - F11 |
| 6855 | 66.563  | 64.654 | 185.320 | N    | None    |
| 6856 | 63.083  | 6.000  | 185.320 | N    | None    |
| 6857 | 63.083  | 6.000  | 180.970 | N    | 1 - F11 |
| 6858 | 63.083  | 10.334 | 185.320 | N    | None    |
| 6859 | 63.083  | 10.334 | 180.970 | N    | 1 - F11 |
| 6860 | 63.083  | 14.667 | 185.320 | N    | None    |
| 6861 | 63.083  | 14.667 | 180.970 | N    | 1 - F11 |
| 6862 | 63.083  | 19.000 | 185.320 | N    | None    |
| 6863 | 66.646  | 1.667  | 185.320 | N    | None    |
| 6864 | 66.646  | 1.667  | 180.970 | N    | 1 - F11 |
| 6865 | 70.208  | 1.667  | 185.320 | N    | None    |
| 6866 | 70.208  | 1.667  | 180.970 | N    | 1 - F11 |
| 6867 | 73.771  | 1.667  | 185.320 | N    | None    |
| 6868 | 73.771  | 1.667  | 180.970 | N    | 1 - F11 |
| 6869 | 77.333  | 1.667  | 185.320 | N    | None    |
| 6870 | 63.083  | 23.542 | 185.320 | N    | None    |
| 6871 | 63.083  | 23.542 | 180.970 | N    | 1 - F11 |
| 6872 | 63.083  | 28.083 | 185.320 | N    | None    |
| 6873 | 63.083  | 28.083 | 180.970 | N    | 1 - F11 |
| 6874 | 63.083  | 32.625 | 185.320 | N    | None    |
| 6875 | 63.083  | 32.625 | 180.970 | N    | 1 - F11 |
| 6876 | 70.063  | 64.654 | 185.320 | N    | None    |
| 6877 | 72.078  | 64.654 | 185.320 | N    | None    |
| 6878 | 72.078  | 64.654 | 180.970 | N    | 1 - F11 |
| 6879 | 74.093  | 64.654 | 185.320 | N    | None    |
| 6880 | 74.093  | 69.339 | 185.320 | N    | None    |
| 6881 | 74.093  | 69.339 | 180.970 | N    | 1 - F11 |
| 6882 | 206.750 | 22.500 | 185.320 | N    | None    |
| 6883 | 206.750 | 28.271 | 185.320 | N    | None    |
| 6884 | 206.750 | 28.271 | 180.970 | N    | 1 - F11 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 6885 | 206.750 | 34.042 | 185.320 | N    | None    |
| 6886 | 206.750 | 34.042 | 180.970 | N    | 1 - F11 |
| 6887 | 206.750 | 39.813 | 185.320 | N    | None    |
| 6888 | 206.750 | 39.813 | 180.970 | N    | 1 - F11 |
| 6889 | 206.750 | 45.584 | 185.320 | N    | None    |
| 6890 | 206.750 | 45.584 | 180.970 | N    | 1 - F11 |
| 6891 | 206.750 | 51.354 | 185.320 | N    | None    |
| 6892 | 206.750 | 51.354 | 180.970 | N    | 1 - F11 |
| 6893 | 206.750 | 57.125 | 185.320 | N    | None    |
| 6894 | 206.750 | 57.125 | 180.970 | N    | 1 - F11 |
| 6895 | 206.750 | 62.896 | 185.320 | N    | None    |
| 6896 | 206.750 | 62.896 | 180.970 | N    | 1 - F11 |
| 6897 | 206.750 | 68.667 | 185.320 | N    | None    |
| 6898 | 21.583  | 1.667  | 185.320 | N    | None    |
| 6899 | 25.604  | 1.667  | 185.320 | N    | None    |
| 6900 | 25.604  | 1.667  | 180.970 | N    | 1 - F11 |
| 6901 | 29.625  | 1.667  | 185.320 | N    | None    |
| 6902 | 29.625  | 1.667  | 180.970 | N    | 1 - F11 |
| 6903 | 33.646  | 1.667  | 185.320 | N    | None    |
| 6904 | 33.646  | 1.667  | 180.970 | N    | 1 - F11 |
| 6905 | 77.333  | 17.500 | 180.970 | N    | 1 - F11 |
| 6906 | 77.333  | 17.500 | 185.320 | N    | None    |
| 6907 | 77.333  | 22.500 | 185.320 | N    | None    |
| 6908 | 77.333  | 12.500 | 185.320 | N    | None    |
| 6909 | 77.333  | 7.084  | 185.320 | N    | None    |
| 6910 | 77.333  | 7.084  | 180.970 | N    | 1 - F11 |
| 6911 | 34.163  | 64.654 | 176.615 | N    | None    |
| 6912 | 34.163  | 69.339 | 176.615 | N    | None    |
| 6913 | 34.163  | 69.339 | 172.260 | N    | None    |
| 6914 | 34.163  | 74.024 | 176.615 | N    | None    |
| 6915 | 35.663  | 64.654 | 176.615 | N    | None    |
| 6916 | 35.663  | 64.654 | 172.260 | N    | None    |
| 6917 | 37.163  | 64.654 | 176.615 | N    | None    |
| 6918 | 39.155  | 74.024 | 176.615 | N    | None    |
| 6919 | 39.155  | 74.024 | 172.260 | N    | None    |
| 6920 | 44.146  | 74.024 | 176.615 | N    | None    |
| 6921 | 44.146  | 74.024 | 172.260 | N    | None    |
| 6922 | 49.137  | 74.024 | 176.615 | N    | None    |
| 6923 | 49.137  | 74.024 | 172.260 | N    | None    |
| 6924 | 54.128  | 74.024 | 176.615 | N    | None    |
| 6925 | 54.128  | 74.024 | 172.260 | N    | None    |
| 6926 | 59.120  | 74.024 | 176.615 | N    | None    |
| 6927 | 59.120  | 74.024 | 172.260 | N    | None    |
| 6928 | 64.111  | 74.024 | 176.615 | N    | None    |
| 6929 | 64.111  | 74.024 | 172.260 | N    | None    |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

ES393395332 Scan Code

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| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 6930 | 69.102 | 74.024 | 176.615 | N    | None   |
| 6931 | 69.102 | 74.024 | 172.260 | N    | None   |
| 6932 | 74.093 | 74.024 | 176.615 | N    | None   |
| 6933 | 37.667 | 1.667  | 176.615 | N    | None   |
| 6934 | 37.667 | 6.209  | 176.615 | N    | None   |
| 6935 | 37.667 | 6.209  | 172.260 | N    | None   |
| 6936 | 37.667 | 10.750 | 176.615 | N    | None   |
| 6937 | 37.667 | 10.750 | 172.260 | N    | None   |
| 6938 | 37.667 | 15.292 | 176.615 | N    | None   |
| 6939 | 37.667 | 15.292 | 172.260 | N    | None   |
| 6940 | 37.667 | 19.833 | 176.615 | N    | None   |
| 6941 | 41.903 | 1.667  | 176.615 | N    | None   |
| 6942 | 41.903 | 1.667  | 172.260 | N    | None   |
| 6943 | 46.139 | 1.667  | 176.615 | N    | None   |
| 6944 | 46.139 | 1.667  | 172.260 | N    | None   |
| 6945 | 50.375 | 1.667  | 176.615 | N    | None   |
| 6946 | 50.375 | 1.667  | 172.260 | N    | None   |
| 6947 | 54.611 | 1.667  | 176.615 | N    | None   |
| 6948 | 54.611 | 1.667  | 172.260 | N    | None   |
| 6949 | 58.847 | 1.667  | 176.615 | N    | None   |
| 6950 | 58.847 | 1.667  | 172.260 | N    | None   |
| 6951 | 63.083 | 1.667  | 176.615 | N    | None   |
| 6952 | 41.584 | 19.833 | 176.615 | N    | None   |
| 6953 | 41.584 | 19.833 | 172.260 | N    | None   |
| 6954 | 45.500 | 19.833 | 176.615 | N    | None   |
| 6955 | 40.663 | 64.654 | 176.615 | N    | None   |
| 6956 | 43.763 | 64.654 | 176.615 | N    | None   |
| 6957 | 43.763 | 64.654 | 172.260 | N    | None   |
| 6958 | 46.863 | 64.654 | 176.615 | N    | None   |
| 6959 | 50.363 | 64.654 | 176.615 | N    | None   |
| 6960 | 53.613 | 64.654 | 176.615 | N    | None   |
| 6961 | 53.613 | 64.654 | 172.260 | N    | None   |
| 6962 | 56.863 | 64.654 | 176.615 | N    | None   |
| 6963 | 54.625 | 37.167 | 176.615 | N    | None   |
| 6964 | 58.854 | 37.167 | 176.615 | N    | None   |
| 6965 | 58.854 | 37.167 | 172.260 | N    | None   |
| 6966 | 63.083 | 37.167 | 176.615 | N    | None   |
| 6967 | 60.363 | 64.654 | 176.615 | N    | None   |
| 6968 | 63.463 | 64.654 | 176.615 | N    | None   |
| 6969 | 63.463 | 64.654 | 172.260 | N    | None   |
| 6970 | 66.563 | 64.654 | 176.615 | N    | None   |
| 6971 | 63.083 | 6.000  | 176.615 | N    | None   |
| 6972 | 63.083 | 6.000  | 172.260 | N    | None   |
| 6973 | 63.083 | 10.334 | 176.615 | N    | None   |
| 6974 | 63.083 | 10.334 | 172.260 | N    | None   |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 6975 | 63.083  | 14.667 | 176.615 | N    | None   |
| 6976 | 63.083  | 14.667 | 172.260 | N    | None   |
| 6977 | 63.083  | 19.000 | 176.615 | N    | None   |
| 6978 | 66.646  | 1.667  | 176.615 | N    | None   |
| 6979 | 66.646  | 1.667  | 172.260 | N    | None   |
| 6980 | 70.208  | 1.667  | 176.615 | N    | None   |
| 6981 | 70.208  | 1.667  | 172.260 | N    | None   |
| 6982 | 73.771  | 1.667  | 176.615 | N    | None   |
| 6983 | 73.771  | 1.667  | 172.260 | N    | None   |
| 6984 | 77.333  | 1.667  | 176.615 | N    | None   |
| 6985 | 63.083  | 23.542 | 176.615 | N    | None   |
| 6986 | 63.083  | 23.542 | 172.260 | N    | None   |
| 6987 | 63.083  | 28.083 | 176.615 | N    | None   |
| 6988 | 63.083  | 28.083 | 172.260 | N    | None   |
| 6989 | 63.083  | 32.625 | 176.615 | N    | None   |
| 6990 | 63.083  | 32.625 | 172.260 | N    | None   |
| 6991 | 70.063  | 64.654 | 176.615 | N    | None   |
| 6992 | 72.078  | 64.654 | 176.615 | N    | None   |
| 6993 | 72.078  | 64.654 | 172.260 | N    | None   |
| 6994 | 74.093  | 64.654 | 176.615 | N    | None   |
| 6995 | 74.093  | 69.339 | 176.615 | N    | None   |
| 6996 | 74.093  | 69.339 | 172.260 | N    | None   |
| 6997 | 206.750 | 22.500 | 176.615 | N    | None   |
| 6998 | 206.750 | 28.271 | 176.615 | N    | None   |
| 6999 | 206.750 | 28.271 | 172.260 | N    | None   |
| 7000 | 206.750 | 34.042 | 176.615 | N    | None   |
| 7001 | 206.750 | 34.042 | 172.260 | N    | None   |
| 7002 | 206.750 | 39.813 | 176.615 | N    | None   |
| 7003 | 206.750 | 39.813 | 172.260 | N    | None   |
| 7004 | 206.750 | 45.584 | 176.615 | N    | None   |
| 7005 | 206.750 | 45.584 | 172.260 | N    | None   |
| 7006 | 206.750 | 51.354 | 176.615 | N    | None   |
| 7007 | 206.750 | 51.354 | 172.260 | N    | None   |
| 7008 | 206.750 | 57.125 | 176.615 | N    | None   |
| 7009 | 206.750 | 57.125 | 172.260 | N    | None   |
| 7010 | 206.750 | 62.896 | 176.615 | N    | None   |
| 7011 | 206.750 | 62.896 | 172.260 | N    | None   |
| 7012 | 206.750 | 68.667 | 176.615 | N    | None   |
| 7013 | 33.646  | 1.667  | 176.615 | N    | None   |
| 7014 | 33.646  | 1.667  | 172.260 | N    | None   |
| 7015 | 29.625  | 1.667  | 176.615 | N    | None   |
| 7016 | 29.625  | 1.667  | 172.260 | N    | None   |
| 7017 | 25.604  | 1.667  | 176.615 | N    | None   |
| 7018 | 25.604  | 1.667  | 172.260 | N    | None   |
| 7019 | 21.583  | 1.667  | 176.615 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr  |
|------|--------|--------|---------|------|---------|
| 7020 | 77.333 | 17.500 | 176.615 | N    | None    |
| 7021 | 77.333 | 12.500 | 176.615 | N    | None    |
| 7022 | 77.333 | 22.500 | 176.615 | N    | None    |
| 7023 | 77.333 | 17.500 | 172.260 | N    | None    |
| 7024 | 77.333 | 7.084  | 176.615 | N    | None    |
| 7025 | 77.333 | 7.084  | 172.260 | N    | None    |
| 7026 | 34.163 | 64.654 | 167.905 | N    | None    |
| 7027 | 34.163 | 69.339 | 167.905 | N    | None    |
| 7028 | 34.163 | 69.339 | 163.550 | N    | 1 - F10 |
| 7029 | 34.163 | 74.024 | 167.905 | N    | None    |
| 7030 | 35.663 | 64.654 | 167.905 | N    | None    |
| 7031 | 35.663 | 64.654 | 163.550 | N    | 1 - F10 |
| 7032 | 37.163 | 64.654 | 167.905 | N    | None    |
| 7033 | 39.155 | 74.024 | 167.905 | N    | None    |
| 7034 | 39.155 | 74.024 | 163.550 | N    | 1 - F10 |
| 7035 | 44.146 | 74.024 | 167.905 | N    | None    |
| 7036 | 44.146 | 74.024 | 163.550 | N    | 1 - F10 |
| 7037 | 49.137 | 74.024 | 167.905 | N    | None    |
| 7038 | 49.137 | 74.024 | 163.550 | N    | 1 - F10 |
| 7039 | 54.128 | 74.024 | 167.905 | N    | None    |
| 7040 | 54.128 | 74.024 | 163.550 | N    | 1 - F10 |
| 7041 | 59.120 | 74.024 | 167.905 | N    | None    |
| 7042 | 59.120 | 74.024 | 163.550 | N    | 1 - F10 |
| 7043 | 64.111 | 74.024 | 167.905 | N    | None    |
| 7044 | 64.111 | 74.024 | 163.550 | N    | 1 - F10 |
| 7045 | 69.102 | 74.024 | 167.905 | N    | None    |
| 7046 | 69.102 | 74.024 | 163.550 | N    | 1 - F10 |
| 7047 | 74.093 | 74.024 | 167.905 | N    | None    |
| 7048 | 37.667 | 1.667  | 167.905 | N    | None    |
| 7049 | 41.905 | 1.667  | 167.905 | N    | None    |
| 7050 | 41.907 | 1.667  | 163.550 | N    | 1 - F10 |
| 7051 | 46.143 | 1.667  | 167.905 | N    | None    |
| 7052 | 46.146 | 1.667  | 163.550 | N    | 1 - F10 |
| 7053 | 50.380 | 1.667  | 167.905 | N    | None    |
| 7054 | 50.386 | 1.667  | 163.550 | N    | 1 - F10 |
| 7055 | 54.618 | 1.667  | 167.905 | N    | None    |
| 7056 | 58.851 | 1.667  | 167.905 | N    | None    |
| 7057 | 58.854 | 1.667  | 163.550 | N    | 1 - F10 |
| 7058 | 63.083 | 1.667  | 167.905 | N    | None    |
| 7059 | 40.663 | 64.654 | 167.905 | N    | None    |
| 7060 | 43.763 | 64.654 | 167.905 | N    | None    |
| 7061 | 43.763 | 64.654 | 163.550 | N    | 1 - F10 |
| 7062 | 46.863 | 64.654 | 167.905 | N    | None    |
| 7063 | 50.363 | 64.654 | 167.905 | N    | None    |
| 7064 | 53.613 | 64.654 | 167.905 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 7065 | 53.613  | 64.654 | 163.550 | N    | 1 - F10 |
| 7066 | 56.863  | 64.654 | 167.905 | N    | None    |
| 7067 | 54.625  | 37.167 | 167.905 | N    | None    |
| 7068 | 58.854  | 37.167 | 167.905 | N    | None    |
| 7069 | 58.854  | 37.167 | 163.550 | N    | 1 - F10 |
| 7070 | 63.083  | 37.167 | 167.905 | N    | None    |
| 7071 | 60.363  | 64.654 | 167.905 | N    | None    |
| 7072 | 63.463  | 64.654 | 167.905 | N    | None    |
| 7073 | 63.463  | 64.654 | 163.550 | N    | 1 - F10 |
| 7074 | 66.563  | 64.654 | 167.905 | N    | None    |
| 7075 | 63.083  | 6.000  | 167.905 | N    | None    |
| 7076 | 63.083  | 6.000  | 163.550 | N    | 1 - F10 |
| 7077 | 63.083  | 10.334 | 167.905 | N    | None    |
| 7078 | 63.083  | 10.334 | 163.550 | N    | 1 - F10 |
| 7079 | 63.083  | 14.667 | 167.905 | N    | None    |
| 7080 | 63.083  | 14.667 | 163.550 | N    | 1 - F10 |
| 7081 | 63.083  | 19.000 | 167.905 | N    | None    |
| 7082 | 66.646  | 1.667  | 167.905 | N    | None    |
| 7083 | 66.646  | 1.667  | 163.550 | N    | 1 - F10 |
| 7084 | 70.208  | 1.667  | 167.905 | N    | None    |
| 7085 | 70.208  | 1.667  | 163.550 | N    | 1 - F10 |
| 7086 | 73.771  | 1.667  | 167.905 | N    | None    |
| 7087 | 73.771  | 1.667  | 163.550 | N    | 1 - F10 |
| 7088 | 77.333  | 1.667  | 167.905 | N    | None    |
| 7089 | 63.083  | 23.542 | 167.905 | N    | None    |
| 7090 | 63.083  | 23.542 | 163.550 | N    | 1 - F10 |
| 7091 | 63.083  | 28.083 | 167.905 | N    | None    |
| 7092 | 63.083  | 28.083 | 163.550 | N    | 1 - F10 |
| 7093 | 63.083  | 32.625 | 167.905 | N    | None    |
| 7094 | 63.083  | 32.625 | 163.550 | N    | 1 - F10 |
| 7095 | 70.063  | 64.654 | 167.905 | N    | None    |
| 7096 | 72.078  | 64.654 | 167.905 | N    | None    |
| 7097 | 72.078  | 64.654 | 163.550 | N    | 1 - F10 |
| 7098 | 74.093  | 64.654 | 167.905 | N    | None    |
| 7099 | 74.093  | 69.339 | 167.905 | N    | None    |
| 7100 | 74.093  | 69.339 | 163.550 | N    | 1 - F10 |
| 7101 | 206.750 | 22.500 | 167.905 | N    | None    |
| 7102 | 206.750 | 28.271 | 167.905 | N    | None    |
| 7103 | 206.750 | 28.271 | 163.550 | N    | 1 - F10 |
| 7104 | 206.750 | 34.042 | 167.905 | N    | None    |
| 7105 | 206.750 | 34.042 | 163.550 | N    | 1 - F10 |
| 7106 | 206.750 | 39.813 | 167.905 | N    | None    |
| 7107 | 206.750 | 39.813 | 163.550 | N    | 1 - F10 |
| 7108 | 206.750 | 45.584 | 167.905 | N    | None    |
| 7109 | 206.750 | 45.584 | 163.550 | N    | 1 - F10 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 7110 | 206.750 | 51.354 | 167.905 | N    | None    |
| 7111 | 206.750 | 51.354 | 163.550 | N    | 1 - F10 |
| 7112 | 206.750 | 57.125 | 167.905 | N    | None    |
| 7113 | 206.750 | 57.125 | 163.550 | N    | 1 - F10 |
| 7114 | 206.750 | 62.896 | 167.905 | N    | None    |
| 7115 | 206.750 | 62.896 | 163.550 | N    | 1 - F10 |
| 7116 | 206.750 | 68.667 | 167.905 | N    | None    |
| 7117 | 25.604  | 1.667  | 167.905 | N    | None    |
| 7118 | 21.583  | 1.667  | 167.905 | N    | None    |
| 7119 | 29.625  | 1.667  | 167.905 | N    | None    |
| 7120 | 33.646  | 1.667  | 167.905 | N    | None    |
| 7121 | 25.604  | 1.667  | 163.550 | N    | 1 - F10 |
| 7122 | 29.625  | 1.667  | 163.550 | N    | 1 - F10 |
| 7123 | 33.646  | 1.667  | 163.550 | N    | 1 - F10 |
| 7124 | 77.333  | 22.500 | 167.905 | N    | None    |
| 7125 | 77.333  | 17.500 | 167.905 | N    | None    |
| 7126 | 77.333  | 17.500 | 163.550 | N    | 1 - F10 |
| 7127 | 77.333  | 12.500 | 167.905 | N    | None    |
| 7128 | 77.333  | 7.084  | 167.905 | N    | None    |
| 7129 | 77.333  | 7.084  | 163.550 | N    | 1 - F10 |
| 7130 | 37.667  | 6.209  | 167.905 | N    | None    |
| 7131 | 37.667  | 6.209  | 163.550 | N    | 1 - F10 |
| 7132 | 37.667  | 10.750 | 167.905 | N    | None    |
| 7133 | 37.667  | 10.750 | 163.550 | N    | 1 - F10 |
| 7134 | 37.667  | 15.292 | 167.905 | N    | None    |
| 7135 | 37.667  | 15.292 | 163.550 | N    | 1 - F10 |
| 7136 | 37.667  | 19.833 | 167.905 | N    | None    |
| 7137 | 41.584  | 19.833 | 167.905 | N    | None    |
| 7138 | 41.584  | 19.833 | 163.550 | N    | 1 - F10 |
| 7139 | 45.500  | 19.833 | 167.905 | N    | None    |
| 7140 | 34.163  | 64.654 | 151.550 | N    | None    |
| 7141 | 34.163  | 69.339 | 151.550 | N    | None    |
| 7142 | 34.163  | 69.339 | 147.550 | N    | 1 - F9  |
| 7143 | 34.163  | 64.654 | 155.550 | N    | None    |
| 7144 | 34.163  | 69.339 | 155.550 | N    | None    |
| 7145 | 34.163  | 64.654 | 159.550 | N    | None    |
| 7146 | 34.163  | 69.339 | 159.550 | N    | None    |
| 7147 | 34.163  | 74.024 | 151.550 | N    | None    |
| 7148 | 34.163  | 74.024 | 155.550 | N    | None    |
| 7149 | 34.163  | 74.024 | 159.550 | N    | None    |
| 7150 | 35.663  | 64.654 | 151.550 | N    | None    |
| 7151 | 35.663  | 64.654 | 147.550 | N    | 1 - F9  |
| 7152 | 35.663  | 64.654 | 155.550 | N    | None    |
| 7153 | 35.663  | 64.654 | 159.550 | N    | None    |
| 7154 | 37.163  | 64.654 | 151.550 | N    | None    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7155 | 37.163 | 64.654 | 155.550 | N    | None   |
| 7156 | 37.163 | 64.654 | 159.550 | N    | None   |
| 7157 | 39.155 | 74.024 | 151.550 | N    | None   |
| 7158 | 39.155 | 74.024 | 147.550 | N    | 1 - F9 |
| 7159 | 39.155 | 74.024 | 155.550 | N    | None   |
| 7160 | 39.155 | 74.024 | 159.550 | N    | None   |
| 7161 | 44.146 | 74.024 | 151.550 | N    | None   |
| 7162 | 44.146 | 74.024 | 147.550 | N    | 1 - F9 |
| 7163 | 44.146 | 74.024 | 155.550 | N    | None   |
| 7164 | 44.146 | 74.024 | 159.550 | N    | None   |
| 7165 | 49.137 | 74.024 | 151.550 | N    | None   |
| 7166 | 49.137 | 74.024 | 147.550 | N    | 1 - F9 |
| 7167 | 49.137 | 74.024 | 155.550 | N    | None   |
| 7168 | 49.137 | 74.024 | 159.550 | N    | None   |
| 7169 | 54.128 | 74.024 | 151.550 | N    | None   |
| 7170 | 54.128 | 74.024 | 147.550 | N    | 1 - F9 |
| 7171 | 54.128 | 74.024 | 155.550 | N    | None   |
| 7172 | 54.128 | 74.024 | 159.550 | N    | None   |
| 7173 | 59.120 | 74.024 | 151.550 | N    | None   |
| 7174 | 59.120 | 74.024 | 147.550 | N    | 1 - F9 |
| 7175 | 59.120 | 74.024 | 155.550 | N    | None   |
| 7176 | 59.120 | 74.024 | 159.550 | N    | None   |
| 7177 | 64.111 | 74.024 | 151.550 | N    | None   |
| 7178 | 64.111 | 74.024 | 147.550 | N    | 1 - F9 |
| 7179 | 64.111 | 74.024 | 155.550 | N    | None   |
| 7180 | 64.111 | 74.024 | 159.550 | N    | None   |
| 7181 | 69.102 | 74.024 | 151.550 | N    | None   |
| 7182 | 69.102 | 74.024 | 147.550 | N    | 1 - F9 |
| 7183 | 69.102 | 74.024 | 155.550 | N    | None   |
| 7184 | 69.102 | 74.024 | 159.550 | N    | None   |
| 7185 | 74.093 | 74.024 | 151.550 | N    | None   |
| 7186 | 74.093 | 74.024 | 155.550 | N    | None   |
| 7187 | 74.093 | 74.024 | 159.550 | N    | None   |
| 7188 | 37.667 | 1.667  | 151.550 | N    | None   |
| 7189 | 41.901 | 1.667  | 151.554 | N    | None   |
| 7190 | 41.903 | 1.667  | 147.550 | N    | 1 - F9 |
| 7191 | 37.667 | 1.667  | 155.550 | N    | None   |
| 7192 | 41.903 | 1.667  | 155.550 | N    | None   |
| 7193 | 37.667 | 1.667  | 159.550 | N    | None   |
| 7194 | 41.903 | 1.667  | 159.546 | N    | None   |
| 7195 | 46.141 | 1.667  | 151.556 | N    | None   |
| 7196 | 46.139 | 1.667  | 147.550 | N    | 1 - F9 |
| 7197 | 46.141 | 1.667  | 155.549 | N    | None   |
| 7198 | 46.144 | 1.667  | 159.543 | N    | None   |
| 7199 | 50.378 | 1.667  | 151.558 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7200 | 50.375 | 1.667  | 147.550 | N    | 1 - F9 |
| 7201 | 50.380 | 1.667  | 155.551 | N    | None   |
| 7202 | 50.383 | 1.667  | 159.538 | N    | None   |
| 7203 | 54.615 | 1.667  | 151.560 | N    | None   |
| 7204 | 54.611 | 1.667  | 147.550 | N    | 1 - F9 |
| 7205 | 54.619 | 1.667  | 155.553 | N    | None   |
| 7206 | 54.622 | 1.667  | 159.541 | N    | None   |
| 7207 | 58.853 | 1.667  | 151.555 | N    | None   |
| 7208 | 58.847 | 1.667  | 147.550 | N    | 1 - F9 |
| 7209 | 58.859 | 1.667  | 155.551 | N    | None   |
| 7210 | 58.858 | 1.667  | 159.545 | N    | None   |
| 7211 | 63.083 | 1.667  | 151.550 | N    | None   |
| 7212 | 63.083 | 1.667  | 155.550 | N    | None   |
| 7213 | 63.083 | 1.667  | 159.550 | N    | None   |
| 7214 | 40.663 | 64.654 | 151.550 | N    | None   |
| 7215 | 43.763 | 64.654 | 151.550 | N    | None   |
| 7216 | 43.763 | 64.654 | 147.550 | N    | 1 - F9 |
| 7217 | 40.663 | 64.654 | 155.550 | N    | None   |
| 7218 | 43.763 | 64.654 | 155.550 | N    | None   |
| 7219 | 40.663 | 64.654 | 159.550 | N    | None   |
| 7220 | 43.763 | 64.654 | 159.550 | N    | None   |
| 7221 | 46.863 | 64.654 | 151.550 | N    | None   |
| 7222 | 46.863 | 64.654 | 155.550 | N    | None   |
| 7223 | 46.863 | 64.654 | 159.550 | N    | None   |
| 7224 | 50.363 | 64.654 | 151.550 | N    | None   |
| 7225 | 53.613 | 64.654 | 151.550 | N    | None   |
| 7226 | 53.613 | 64.654 | 147.550 | N    | 1 - F9 |
| 7227 | 50.363 | 64.654 | 155.550 | N    | None   |
| 7228 | 53.613 | 64.654 | 155.550 | N    | None   |
| 7229 | 50.363 | 64.654 | 159.550 | N    | None   |
| 7230 | 53.613 | 64.654 | 159.550 | N    | None   |
| 7231 | 56.863 | 64.654 | 151.550 | N    | None   |
| 7232 | 56.863 | 64.654 | 155.550 | N    | None   |
| 7233 | 56.863 | 64.654 | 159.550 | N    | None   |
| 7234 | 60.363 | 64.654 | 151.550 | N    | None   |
| 7235 | 63.463 | 64.654 | 151.550 | N    | None   |
| 7236 | 63.463 | 64.654 | 147.550 | N    | 1 - F9 |
| 7237 | 60.363 | 64.654 | 155.550 | N    | None   |
| 7238 | 63.463 | 64.654 | 155.550 | N    | None   |
| 7239 | 60.363 | 64.654 | 159.550 | N    | None   |
| 7240 | 63.463 | 64.654 | 159.550 | N    | None   |
| 7241 | 66.563 | 64.654 | 151.550 | N    | None   |
| 7242 | 66.563 | 64.654 | 155.550 | N    | None   |
| 7243 | 66.563 | 64.654 | 159.550 | N    | None   |
| 7244 | 63.083 | 6.000  | 151.550 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7245 | 63.083 | 6.000  | 147.550 | N    | 1 - F9 |
| 7246 | 63.083 | 6.000  | 155.550 | N    | None   |
| 7247 | 63.083 | 6.000  | 159.550 | N    | None   |
| 7248 | 63.083 | 10.334 | 151.550 | N    | None   |
| 7249 | 63.083 | 10.334 | 147.550 | N    | 1 - F9 |
| 7250 | 63.083 | 10.334 | 155.550 | N    | None   |
| 7251 | 63.083 | 10.334 | 159.550 | N    | None   |
| 7252 | 63.083 | 14.667 | 151.550 | N    | None   |
| 7253 | 63.083 | 14.667 | 147.550 | N    | 1 - F9 |
| 7254 | 63.083 | 14.667 | 155.550 | N    | None   |
| 7255 | 63.083 | 14.667 | 159.550 | N    | None   |
| 7256 | 63.083 | 19.000 | 151.550 | N    | None   |
| 7257 | 63.083 | 19.000 | 155.550 | N    | None   |
| 7258 | 63.083 | 19.000 | 159.550 | N    | None   |
| 7259 | 66.646 | 1.667  | 151.550 | N    | None   |
| 7260 | 66.646 | 1.667  | 147.550 | N    | 1 - F9 |
| 7261 | 66.646 | 1.667  | 155.550 | N    | None   |
| 7262 | 66.646 | 1.667  | 159.550 | N    | None   |
| 7263 | 70.208 | 1.667  | 151.550 | N    | None   |
| 7264 | 70.208 | 1.667  | 147.550 | N    | 1 - F9 |
| 7265 | 70.208 | 1.667  | 155.550 | N    | None   |
| 7266 | 70.208 | 1.667  | 159.550 | N    | None   |
| 7267 | 73.771 | 1.667  | 151.550 | N    | None   |
| 7268 | 73.771 | 1.667  | 147.550 | N    | 1 - F9 |
| 7269 | 73.771 | 1.667  | 155.550 | N    | None   |
| 7270 | 73.771 | 1.667  | 159.550 | N    | None   |
| 7271 | 77.333 | 1.667  | 151.550 | N    | None   |
| 7272 | 77.333 | 1.667  | 155.550 | N    | None   |
| 7273 | 77.333 | 1.667  | 159.550 | N    | None   |
| 7274 | 70.063 | 64.654 | 151.550 | N    | None   |
| 7275 | 72.078 | 64.654 | 151.550 | N    | None   |
| 7276 | 72.078 | 64.654 | 147.550 | N    | 1 - F9 |
| 7277 | 70.063 | 64.654 | 155.550 | N    | None   |
| 7278 | 72.078 | 64.654 | 155.550 | N    | None   |
| 7279 | 70.063 | 64.654 | 159.550 | N    | None   |
| 7280 | 72.078 | 64.654 | 159.550 | N    | None   |
| 7281 | 74.093 | 64.654 | 151.550 | N    | None   |
| 7282 | 74.093 | 64.654 | 155.550 | N    | None   |
| 7283 | 74.093 | 64.654 | 159.550 | N    | None   |
| 7284 | 74.093 | 69.339 | 151.550 | N    | None   |
| 7285 | 74.093 | 69.339 | 147.550 | N    | 1 - F9 |
| 7286 | 74.093 | 69.339 | 155.550 | N    | None   |
| 7287 | 74.093 | 69.339 | 159.550 | N    | None   |
| 7288 | 77.333 | 7.084  | 151.550 | N    | None   |
| 7289 | 77.333 | 7.084  | 147.550 | N    | 1 - F9 |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 7290 | 77.333  | 7.084  | 155.550 | N    | None   |
| 7291 | 77.333  | 7.084  | 159.550 | N    | None   |
| 7292 | 77.333  | 12.500 | 151.550 | N    | None   |
| 7293 | 77.333  | 12.500 | 155.550 | N    | None   |
| 7294 | 77.333  | 12.500 | 159.550 | N    | None   |
| 7295 | 77.333  | 22.500 | 151.550 | N    | None   |
| 7296 | 77.333  | 22.500 | 155.550 | N    | None   |
| 7297 | 77.333  | 20.895 | 151.411 | N    | None   |
| 7298 | 77.333  | 20.892 | 155.317 | N    | None   |
| 7299 | 77.333  | 17.598 | 159.838 | N    | None   |
| 7300 | 77.333  | 15.572 | 159.806 | N    | None   |
| 7301 | 77.333  | 14.185 | 155.405 | N    | None   |
| 7302 | 77.333  | 14.212 | 151.440 | N    | None   |
| 7303 | 77.333  | 21.110 | 158.005 | N    | None   |
| 7304 | 77.333  | 22.500 | 159.550 | N    | None   |
| 7305 | 77.333  | 16.000 | 155.050 | N    | None   |
| 7306 | 77.333  | 14.012 | 158.015 | N    | None   |
| 7307 | 77.333  | 19.330 | 155.050 | N    | None   |
| 7308 | 77.333  | 19.330 | 151.300 | N    | None   |
| 7309 | 77.333  | 19.330 | 147.550 | N    | 1 - F9 |
| 7310 | 77.333  | 20.915 | 147.550 | N    | 1 - F9 |
| 7311 | 77.333  | 17.665 | 155.050 | N    | None   |
| 7312 | 77.333  | 19.578 | 159.809 | N    | None   |
| 7313 | 77.333  | 14.250 | 147.550 | N    | 1 - F9 |
| 7314 | 77.333  | 16.000 | 147.550 | N    | 1 - F9 |
| 7315 | 77.333  | 16.000 | 151.300 | N    | None   |
| 7316 | 206.750 | 22.500 | 151.550 | N    | None   |
| 7317 | 206.750 | 28.271 | 151.550 | N    | None   |
| 7318 | 206.750 | 28.271 | 147.550 | N    | 1 - F9 |
| 7319 | 206.750 | 22.500 | 155.550 | N    | None   |
| 7320 | 206.750 | 28.271 | 155.550 | N    | None   |
| 7321 | 206.750 | 22.500 | 159.550 | N    | None   |
| 7322 | 206.750 | 28.271 | 159.550 | N    | None   |
| 7323 | 206.750 | 34.042 | 151.550 | N    | None   |
| 7324 | 206.750 | 34.042 | 147.550 | N    | 1 - F9 |
| 7325 | 206.750 | 34.042 | 155.550 | N    | None   |
| 7326 | 206.750 | 34.042 | 159.550 | N    | None   |
| 7327 | 206.750 | 39.813 | 151.550 | N    | None   |
| 7328 | 206.750 | 39.813 | 147.550 | N    | 1 - F9 |
| 7329 | 206.750 | 39.813 | 155.550 | N    | None   |
| 7330 | 206.750 | 39.813 | 159.550 | N    | None   |
| 7331 | 206.750 | 45.584 | 151.550 | N    | None   |
| 7332 | 206.750 | 45.584 | 147.550 | N    | 1 - F9 |
| 7333 | 206.750 | 45.584 | 155.550 | N    | None   |
| 7334 | 206.750 | 45.584 | 159.550 | N    | None   |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 7335 | 206.750 | 51.354 | 151.550 | N    | None   |
| 7336 | 206.750 | 51.354 | 147.550 | N    | 1 - F9 |
| 7337 | 206.750 | 51.354 | 155.550 | N    | None   |
| 7338 | 206.750 | 51.354 | 159.550 | N    | None   |
| 7339 | 206.750 | 57.125 | 151.550 | N    | None   |
| 7340 | 206.750 | 57.125 | 147.550 | N    | 1 - F9 |
| 7341 | 206.750 | 57.125 | 155.550 | N    | None   |
| 7342 | 206.750 | 57.125 | 159.550 | N    | None   |
| 7343 | 206.750 | 62.896 | 151.550 | N    | None   |
| 7344 | 206.750 | 62.896 | 147.550 | N    | 1 - F9 |
| 7345 | 206.750 | 62.896 | 155.550 | N    | None   |
| 7346 | 206.750 | 62.896 | 159.550 | N    | None   |
| 7347 | 206.750 | 68.667 | 151.550 | N    | None   |
| 7348 | 206.750 | 68.667 | 155.550 | N    | None   |
| 7349 | 206.750 | 68.667 | 159.550 | N    | None   |
| 7350 | 21.583  | 1.667  | 151.550 | N    | None   |
| 7351 | 25.604  | 1.667  | 151.550 | N    | None   |
| 7352 | 25.604  | 1.667  | 147.550 | N    | 1 - F9 |
| 7353 | 21.583  | 1.667  | 155.550 | N    | None   |
| 7354 | 25.604  | 1.667  | 155.550 | N    | None   |
| 7355 | 21.583  | 1.667  | 159.550 | N    | None   |
| 7356 | 25.604  | 1.667  | 159.550 | N    | None   |
| 7357 | 29.625  | 1.667  | 151.550 | N    | None   |
| 7358 | 29.625  | 1.667  | 147.550 | N    | 1 - F9 |
| 7359 | 29.625  | 1.667  | 155.550 | N    | None   |
| 7360 | 29.625  | 1.667  | 159.550 | N    | None   |
| 7361 | 33.646  | 1.667  | 151.550 | N    | None   |
| 7362 | 33.646  | 1.667  | 147.550 | N    | 1 - F9 |
| 7363 | 33.646  | 1.667  | 155.550 | N    | None   |
| 7364 | 33.646  | 1.667  | 159.550 | N    | None   |
| 7365 | 58.854  | 37.167 | 159.550 | N    | None   |
| 7366 | 54.625  | 37.167 | 159.550 | N    | None   |
| 7367 | 63.083  | 37.167 | 159.550 | N    | None   |
| 7368 | 58.854  | 37.167 | 155.550 | N    | None   |
| 7369 | 54.625  | 37.167 | 155.550 | N    | None   |
| 7370 | 63.083  | 37.167 | 155.550 | N    | None   |
| 7371 | 58.854  | 37.167 | 151.550 | N    | None   |
| 7372 | 54.625  | 37.167 | 151.550 | N    | None   |
| 7373 | 63.083  | 37.167 | 151.550 | N    | None   |
| 7374 | 58.854  | 37.167 | 147.550 | N    | 1 - F9 |
| 7375 | 34.163  | 69.407 | 140.270 | N    | None   |
| 7376 | 34.163  | 64.654 | 140.050 | N    | None   |
| 7377 | 34.163  | 70.069 | 136.224 | N    | None   |
| 7378 | 34.163  | 66.983 | 135.726 | N    | None   |
| 7379 | 34.163  | 69.370 | 143.840 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7380 | 34.163 | 64.654 | 143.800 | N    | None   |
| 7381 | 34.163 | 65.662 | 134.992 | N    | None   |
| 7382 | 34.163 | 64.654 | 136.300 | N    | None   |
| 7383 | 34.163 | 69.756 | 132.550 | N    | 1 - F8 |
| 7384 | 34.163 | 74.024 | 136.300 | N    | None   |
| 7385 | 34.163 | 74.024 | 140.050 | N    | None   |
| 7386 | 34.163 | 74.024 | 143.800 | N    | None   |
| 7387 | 34.163 | 65.071 | 132.550 | N    | 1 - F8 |
| 7388 | 55.690 | 64.654 | 144.392 | N    | None   |
| 7389 | 54.665 | 64.654 | 141.058 | N    | None   |
| 7390 | 58.243 | 64.654 | 144.396 | N    | None   |
| 7391 | 57.907 | 64.654 | 140.961 | N    | None   |
| 7392 | 60.737 | 64.654 | 144.346 | N    | None   |
| 7393 | 61.005 | 64.654 | 140.968 | N    | None   |
| 7394 | 63.556 | 64.654 | 144.271 | N    | None   |
| 7395 | 64.416 | 64.654 | 141.379 | N    | None   |
| 7396 | 37.422 | 64.654 | 145.748 | N    | None   |
| 7397 | 35.834 | 64.654 | 144.729 | N    | None   |
| 7398 | 74.093 | 64.654 | 143.800 | N    | None   |
| 7399 | 71.623 | 64.654 | 143.816 | N    | None   |
| 7400 | 45.800 | 64.654 | 136.609 | N    | None   |
| 7401 | 44.146 | 64.654 | 132.550 | N    | 1 - F8 |
| 7402 | 50.084 | 64.654 | 136.952 | N    | None   |
| 7403 | 49.137 | 64.654 | 132.550 | N    | 1 - F8 |
| 7404 | 38.913 | 64.654 | 147.550 | N    | 1 - F9 |
| 7405 | 39.076 | 64.654 | 144.884 | N    | None   |
| 7406 | 59.120 | 64.654 | 132.550 | N    | 1 - F8 |
| 7407 | 64.111 | 64.654 | 132.550 | N    | 1 - F8 |
| 7408 | 58.244 | 64.654 | 136.559 | N    | None   |
| 7409 | 61.890 | 64.654 | 136.767 | N    | None   |
| 7410 | 38.348 | 64.654 | 136.818 | N    | None   |
| 7411 | 40.767 | 64.654 | 140.709 | N    | None   |
| 7412 | 36.853 | 64.654 | 139.042 | N    | None   |
| 7413 | 39.083 | 64.654 | 141.879 | N    | None   |
| 7414 | 43.733 | 64.654 | 144.264 | N    | None   |
| 7415 | 41.244 | 64.654 | 144.269 | N    | None   |
| 7416 | 74.093 | 64.654 | 136.300 | N    | None   |
| 7417 | 74.093 | 64.654 | 140.050 | N    | None   |
| 7418 | 70.192 | 64.654 | 135.922 | N    | None   |
| 7419 | 70.707 | 64.654 | 140.341 | N    | None   |
| 7420 | 52.383 | 64.654 | 143.994 | N    | None   |
| 7421 | 41.879 | 64.654 | 136.572 | N    | None   |
| 7422 | 39.155 | 64.654 | 132.550 | N    | 1 - F8 |
| 7423 | 64.429 | 64.654 | 138.495 | N    | None   |
| 7424 | 66.084 | 64.654 | 144.335 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7425 | 67.271 | 64.654 | 141.995 | N    | None   |
| 7426 | 68.092 | 64.654 | 145.498 | N    | None   |
| 7427 | 69.533 | 64.654 | 144.498 | N    | None   |
| 7428 | 46.255 | 64.654 | 144.587 | N    | None   |
| 7429 | 47.443 | 64.654 | 141.412 | N    | None   |
| 7430 | 48.197 | 64.654 | 145.557 | N    | None   |
| 7431 | 49.662 | 64.654 | 144.011 | N    | None   |
| 7432 | 58.613 | 64.654 | 147.550 | N    | 1 - F9 |
| 7433 | 36.087 | 64.654 | 141.555 | N    | None   |
| 7434 | 37.571 | 64.654 | 143.101 | N    | None   |
| 7435 | 54.128 | 64.654 | 132.550 | N    | 1 - F8 |
| 7436 | 54.311 | 64.654 | 136.803 | N    | None   |
| 7437 | 51.071 | 64.654 | 140.853 | N    | None   |
| 7438 | 43.650 | 64.654 | 140.706 | N    | None   |
| 7439 | 67.014 | 64.654 | 136.673 | N    | None   |
| 7440 | 69.102 | 64.654 | 132.550 | N    | 1 - F8 |
| 7441 | 68.313 | 64.654 | 147.550 | N    | 1 - F9 |
| 7442 | 48.613 | 64.654 | 147.550 | N    | 1 - F9 |
| 7443 | 39.155 | 74.024 | 136.300 | N    | None   |
| 7444 | 39.155 | 74.024 | 132.550 | N    | 1 - F8 |
| 7445 | 39.155 | 74.024 | 140.050 | N    | None   |
| 7446 | 39.155 | 74.024 | 143.800 | N    | None   |
| 7447 | 44.146 | 74.024 | 136.300 | N    | None   |
| 7448 | 44.146 | 74.024 | 132.550 | N    | 1 - F8 |
| 7449 | 44.146 | 74.024 | 140.050 | N    | None   |
| 7450 | 44.146 | 74.024 | 143.800 | N    | None   |
| 7451 | 49.137 | 74.024 | 136.300 | N    | None   |
| 7452 | 49.137 | 74.024 | 132.550 | N    | 1 - F8 |
| 7453 | 49.137 | 74.024 | 140.050 | N    | None   |
| 7454 | 49.137 | 74.024 | 143.800 | N    | None   |
| 7455 | 54.128 | 74.024 | 136.300 | N    | None   |
| 7456 | 54.128 | 74.024 | 132.550 | N    | 1 - F8 |
| 7457 | 54.128 | 74.024 | 140.050 | N    | None   |
| 7458 | 54.128 | 74.024 | 143.800 | N    | None   |
| 7459 | 59.120 | 74.024 | 136.300 | N    | None   |
| 7460 | 59.120 | 74.024 | 132.550 | N    | 1 - F8 |
| 7461 | 59.120 | 74.024 | 140.050 | N    | None   |
| 7462 | 59.120 | 74.024 | 143.800 | N    | None   |
| 7463 | 64.111 | 74.024 | 136.300 | N    | None   |
| 7464 | 64.111 | 74.024 | 132.550 | N    | 1 - F8 |
| 7465 | 64.111 | 74.024 | 140.050 | N    | None   |
| 7466 | 64.111 | 74.024 | 143.800 | N    | None   |
| 7467 | 69.102 | 74.024 | 136.300 | N    | None   |
| 7468 | 69.102 | 74.024 | 132.550 | N    | 1 - F8 |
| 7469 | 69.102 | 74.024 | 140.050 | N    | None   |



RAM Structural System



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7470 | 69.102 | 74.024 | 143.800 | N    | None   |
| 7471 | 74.093 | 74.024 | 136.300 | N    | None   |
| 7472 | 74.093 | 74.024 | 140.050 | N    | None   |
| 7473 | 74.093 | 74.024 | 143.800 | N    | None   |
| 7474 | 37.667 | 1.667  | 136.300 | N    | None   |
| 7475 | 41.903 | 1.667  | 136.300 | N    | None   |
| 7476 | 41.903 | 1.667  | 132.550 | N    | 1 - F8 |
| 7477 | 37.667 | 1.667  | 140.050 | N    | None   |
| 7478 | 41.903 | 1.667  | 140.050 | N    | None   |
| 7479 | 37.667 | 1.667  | 143.800 | N    | None   |
| 7480 | 41.903 | 1.667  | 143.800 | N    | None   |
| 7481 | 46.139 | 1.667  | 136.300 | N    | None   |
| 7482 | 46.139 | 1.667  | 132.550 | N    | 1 - F8 |
| 7483 | 46.139 | 1.667  | 140.050 | N    | None   |
| 7484 | 46.139 | 1.667  | 143.800 | N    | None   |
| 7485 | 50.375 | 1.667  | 136.300 | N    | None   |
| 7486 | 50.375 | 1.667  | 132.550 | N    | 1 - F8 |
| 7487 | 50.375 | 1.667  | 140.050 | N    | None   |
| 7488 | 50.375 | 1.667  | 143.800 | N    | None   |
| 7489 | 54.611 | 1.667  | 136.300 | N    | None   |
| 7490 | 54.611 | 1.667  | 132.550 | N    | 1 - F8 |
| 7491 | 54.611 | 1.667  | 140.050 | N    | None   |
| 7492 | 54.611 | 1.667  | 143.800 | N    | None   |
| 7493 | 58.847 | 1.667  | 136.300 | N    | None   |
| 7494 | 58.847 | 1.667  | 132.550 | N    | 1 - F8 |
| 7495 | 58.847 | 1.667  | 140.050 | N    | None   |
| 7496 | 58.847 | 1.667  | 143.800 | N    | None   |
| 7497 | 63.083 | 1.667  | 136.300 | N    | None   |
| 7498 | 63.083 | 1.667  | 140.050 | N    | None   |
| 7499 | 63.083 | 1.667  | 143.800 | N    | None   |
| 7500 | 63.083 | 6.000  | 136.300 | N    | None   |
| 7501 | 63.083 | 6.000  | 132.550 | N    | 1 - F8 |
| 7502 | 63.083 | 6.000  | 140.050 | N    | None   |
| 7503 | 63.083 | 6.000  | 143.800 | N    | None   |
| 7504 | 63.083 | 10.334 | 136.300 | N    | None   |
| 7505 | 63.083 | 10.334 | 132.550 | N    | 1 - F8 |
| 7506 | 63.083 | 10.334 | 140.050 | N    | None   |
| 7507 | 63.083 | 10.334 | 143.800 | N    | None   |
| 7508 | 63.083 | 14.667 | 136.300 | N    | None   |
| 7509 | 63.083 | 14.667 | 132.550 | N    | 1 - F8 |
| 7510 | 63.083 | 14.667 | 140.050 | N    | None   |
| 7511 | 63.083 | 14.667 | 143.800 | N    | None   |
| 7512 | 63.083 | 19.000 | 136.300 | N    | None   |
| 7513 | 63.083 | 19.000 | 140.050 | N    | None   |
| 7514 | 63.083 | 19.000 | 143.800 | N    | None   |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7515 | 66.646 | 1.667  | 136.300 | N    | None   |
| 7516 | 66.646 | 1.667  | 132.550 | N    | 1 - F8 |
| 7517 | 66.646 | 1.667  | 140.050 | N    | None   |
| 7518 | 66.646 | 1.667  | 143.800 | N    | None   |
| 7519 | 70.208 | 1.667  | 136.300 | N    | None   |
| 7520 | 70.208 | 1.667  | 132.550 | N    | 1 - F8 |
| 7521 | 70.208 | 1.667  | 140.050 | N    | None   |
| 7522 | 70.208 | 1.667  | 143.800 | N    | None   |
| 7523 | 73.771 | 1.667  | 136.300 | N    | None   |
| 7524 | 73.771 | 1.667  | 132.550 | N    | 1 - F8 |
| 7525 | 73.771 | 1.667  | 140.050 | N    | None   |
| 7526 | 73.771 | 1.667  | 143.800 | N    | None   |
| 7527 | 77.333 | 1.667  | 136.300 | N    | None   |
| 7528 | 77.333 | 1.667  | 140.050 | N    | None   |
| 7529 | 77.333 | 1.667  | 143.800 | N    | None   |
| 7530 | 74.093 | 69.339 | 136.300 | N    | None   |
| 7531 | 74.093 | 69.339 | 132.550 | N    | 1 - F8 |
| 7532 | 74.093 | 69.339 | 140.050 | N    | None   |
| 7533 | 74.093 | 69.339 | 143.800 | N    | None   |
| 7534 | 77.333 | 7.084  | 136.300 | N    | None   |
| 7535 | 77.333 | 7.084  | 132.550 | N    | 1 - F8 |
| 7536 | 77.333 | 7.084  | 140.050 | N    | None   |
| 7537 | 77.333 | 7.084  | 143.800 | N    | None   |
| 7538 | 77.333 | 12.500 | 136.300 | N    | None   |
| 7539 | 77.333 | 12.500 | 140.050 | N    | None   |
| 7540 | 77.333 | 12.500 | 143.800 | N    | None   |
| 7541 | 77.333 | 14.000 | 136.300 | N    | None   |
| 7542 | 77.333 | 14.000 | 140.050 | N    | None   |
| 7543 | 77.333 | 13.248 | 136.286 | N    | None   |
| 7544 | 77.333 | 13.261 | 140.051 | N    | None   |
| 7545 | 77.333 | 13.556 | 143.182 | N    | None   |
| 7546 | 77.333 | 22.500 | 143.800 | N    | None   |
| 7547 | 77.333 | 20.615 | 143.247 | N    | None   |
| 7548 | 77.333 | 20.690 | 145.593 | N    | None   |
| 7549 | 77.333 | 18.500 | 136.300 | N    | None   |
| 7550 | 77.333 | 18.500 | 132.550 | N    | 1 - F8 |
| 7551 | 77.333 | 20.472 | 136.300 | N    | None   |
| 7552 | 77.333 | 20.500 | 132.550 | N    | 1 - F8 |
| 7553 | 77.333 | 14.947 | 142.496 | N    | None   |
| 7554 | 77.333 | 16.695 | 142.373 | N    | None   |
| 7555 | 77.333 | 16.250 | 140.050 | N    | None   |
| 7556 | 77.333 | 16.674 | 144.759 | N    | None   |
| 7557 | 77.333 | 18.343 | 145.112 | N    | None   |
| 7558 | 77.333 | 15.502 | 145.992 | N    | None   |
| 7559 | 77.333 | 16.901 | 146.214 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 7560 | 77.333  | 17.866 | 146.811 | N    | None   |
| 7561 | 77.333  | 18.940 | 146.500 | N    | None   |
| 7562 | 77.333  | 20.128 | 146.663 | N    | None   |
| 7563 | 77.333  | 13.250 | 132.550 | N    | 1 - F8 |
| 7564 | 77.333  | 14.000 | 132.550 | N    | 1 - F8 |
| 7565 | 77.333  | 15.036 | 144.552 | N    | None   |
| 7566 | 77.333  | 13.681 | 146.028 | N    | None   |
| 7567 | 77.333  | 18.458 | 142.663 | N    | None   |
| 7568 | 77.333  | 18.500 | 140.050 | N    | None   |
| 7569 | 77.333  | 20.389 | 140.050 | N    | None   |
| 7570 | 77.333  | 22.500 | 140.050 | N    | None   |
| 7571 | 77.333  | 22.500 | 136.300 | N    | None   |
| 7572 | 77.333  | 17.665 | 147.550 | N    | 1 - F9 |
| 7573 | 206.750 | 22.500 | 136.300 | N    | None   |
| 7574 | 206.750 | 28.271 | 136.300 | N    | None   |
| 7575 | 206.750 | 28.271 | 132.550 | N    | None   |
| 7576 | 206.750 | 22.500 | 140.050 | N    | None   |
| 7577 | 206.750 | 28.271 | 140.050 | N    | None   |
| 7578 | 206.750 | 22.500 | 143.800 | N    | None   |
| 7579 | 206.750 | 28.271 | 143.800 | N    | None   |
| 7580 | 206.750 | 34.042 | 136.300 | N    | None   |
| 7581 | 206.750 | 34.042 | 132.550 | N    | None   |
| 7582 | 206.750 | 34.042 | 140.050 | N    | None   |
| 7583 | 206.750 | 34.042 | 143.800 | N    | None   |
| 7584 | 206.750 | 39.813 | 136.300 | N    | None   |
| 7585 | 206.750 | 39.813 | 132.550 | N    | None   |
| 7586 | 206.750 | 39.813 | 140.050 | N    | None   |
| 7587 | 206.750 | 39.813 | 143.800 | N    | None   |
| 7588 | 206.750 | 45.584 | 136.300 | N    | None   |
| 7589 | 206.750 | 45.584 | 132.550 | N    | None   |
| 7590 | 206.750 | 45.584 | 140.050 | N    | None   |
| 7591 | 206.750 | 45.584 | 143.800 | N    | None   |
| 7592 | 206.750 | 51.354 | 136.300 | N    | None   |
| 7593 | 206.750 | 51.354 | 132.550 | N    | None   |
| 7594 | 206.750 | 51.354 | 140.050 | N    | None   |
| 7595 | 206.750 | 51.354 | 143.800 | N    | None   |
| 7596 | 206.750 | 57.125 | 136.300 | N    | None   |
| 7597 | 206.750 | 57.125 | 132.550 | N    | None   |
| 7598 | 206.750 | 57.125 | 140.050 | N    | None   |
| 7599 | 206.750 | 57.125 | 143.800 | N    | None   |
| 7600 | 206.750 | 62.896 | 136.300 | N    | None   |
| 7601 | 206.750 | 62.896 | 132.550 | N    | None   |
| 7602 | 206.750 | 62.896 | 140.050 | N    | None   |
| 7603 | 206.750 | 62.896 | 143.800 | N    | None   |
| 7604 | 206.750 | 68.667 | 136.300 | N    | None   |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

ES306692540 Scan Code

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 7605 | 206.750 | 68.667 | 140.050 | N    | None   |
| 7606 | 206.750 | 68.667 | 143.800 | N    | None   |
| 7607 | 21.583  | 1.667  | 136.300 | N    | None   |
| 7608 | 25.604  | 1.667  | 136.300 | N    | None   |
| 7609 | 25.604  | 1.667  | 132.550 | N    | 1 - F8 |
| 7610 | 21.583  | 1.667  | 140.050 | N    | None   |
| 7611 | 25.604  | 1.667  | 140.050 | N    | None   |
| 7612 | 21.583  | 1.667  | 143.800 | N    | None   |
| 7613 | 25.604  | 1.667  | 143.800 | N    | None   |
| 7614 | 29.625  | 1.667  | 136.300 | N    | None   |
| 7615 | 29.625  | 1.667  | 132.550 | N    | 1 - F8 |
| 7616 | 29.625  | 1.667  | 140.050 | N    | None   |
| 7617 | 29.625  | 1.667  | 143.800 | N    | None   |
| 7618 | 33.646  | 1.667  | 136.300 | N    | None   |
| 7619 | 33.646  | 1.667  | 132.550 | N    | 1 - F8 |
| 7620 | 33.646  | 1.667  | 140.050 | N    | None   |
| 7621 | 33.646  | 1.667  | 143.800 | N    | None   |
| 7622 | 34.163  | 64.654 | 123.430 | N    | None   |
| 7623 | 34.163  | 69.339 | 123.430 | N    | None   |
| 7624 | 34.163  | 69.339 | 120.390 | N    | 1 - F7 |
| 7625 | 34.163  | 66.242 | 129.378 | N    | None   |
| 7626 | 34.163  | 64.654 | 126.470 | N    | None   |
| 7627 | 34.163  | 69.755 | 129.316 | N    | None   |
| 7628 | 34.163  | 69.310 | 126.322 | N    | None   |
| 7629 | 34.163  | 64.654 | 129.510 | N    | None   |
| 7630 | 34.163  | 65.306 | 130.297 | N    | None   |
| 7631 | 34.163  | 74.024 | 123.430 | N    | None   |
| 7632 | 34.163  | 74.024 | 126.470 | N    | None   |
| 7633 | 34.163  | 74.024 | 129.510 | N    | None   |
| 7634 | 39.155  | 64.654 | 123.430 | N    | None   |
| 7635 | 39.155  | 64.654 | 120.390 | N    | 1 - F7 |
| 7636 | 39.155  | 64.654 | 126.470 | N    | None   |
| 7637 | 39.155  | 64.654 | 129.510 | N    | None   |
| 7638 | 44.146  | 64.654 | 123.430 | N    | None   |
| 7639 | 44.146  | 64.654 | 120.390 | N    | 1 - F7 |
| 7640 | 44.146  | 64.654 | 126.470 | N    | None   |
| 7641 | 44.146  | 64.654 | 129.510 | N    | None   |
| 7642 | 49.137  | 64.654 | 123.430 | N    | None   |
| 7643 | 49.137  | 64.654 | 120.390 | N    | 1 - F7 |
| 7644 | 49.137  | 64.654 | 126.470 | N    | None   |
| 7645 | 49.137  | 64.654 | 129.510 | N    | None   |
| 7646 | 54.128  | 64.654 | 123.430 | N    | None   |
| 7647 | 54.128  | 64.654 | 120.390 | N    | 1 - F7 |
| 7648 | 54.128  | 64.654 | 126.470 | N    | None   |
| 7649 | 54.128  | 64.654 | 129.510 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7650 | 59.120 | 64.654 | 123.430 | N    | None   |
| 7651 | 59.120 | 64.654 | 120.390 | N    | 1 - F7 |
| 7652 | 59.120 | 64.654 | 126.470 | N    | None   |
| 7653 | 59.120 | 64.654 | 129.510 | N    | None   |
| 7654 | 64.111 | 64.654 | 123.430 | N    | None   |
| 7655 | 64.111 | 64.654 | 120.390 | N    | 1 - F7 |
| 7656 | 64.111 | 64.654 | 126.470 | N    | None   |
| 7657 | 64.111 | 64.654 | 129.510 | N    | None   |
| 7658 | 69.102 | 64.654 | 123.430 | N    | None   |
| 7659 | 69.102 | 64.654 | 120.390 | N    | 1 - F7 |
| 7660 | 69.102 | 64.654 | 126.470 | N    | None   |
| 7661 | 69.102 | 64.654 | 129.510 | N    | None   |
| 7662 | 74.093 | 64.654 | 123.430 | N    | None   |
| 7663 | 74.093 | 64.654 | 126.470 | N    | None   |
| 7664 | 74.093 | 64.654 | 129.510 | N    | None   |
| 7665 | 39.155 | 74.024 | 123.430 | N    | None   |
| 7666 | 39.155 | 74.024 | 120.390 | N    | 1 - F7 |
| 7667 | 39.155 | 74.024 | 126.470 | N    | None   |
| 7668 | 39.155 | 74.024 | 129.510 | N    | None   |
| 7669 | 44.146 | 74.024 | 123.430 | N    | None   |
| 7670 | 44.146 | 74.024 | 120.390 | N    | 1 - F7 |
| 7671 | 44.146 | 74.024 | 126.470 | N    | None   |
| 7672 | 44.146 | 74.024 | 129.510 | N    | None   |
| 7673 | 49.137 | 74.024 | 123.430 | N    | None   |
| 7674 | 49.137 | 74.024 | 120.390 | N    | 1 - F7 |
| 7675 | 49.137 | 74.024 | 126.470 | N    | None   |
| 7676 | 49.137 | 74.024 | 129.510 | N    | None   |
| 7677 | 54.128 | 74.024 | 123.430 | N    | None   |
| 7678 | 54.128 | 74.024 | 120.390 | N    | 1 - F7 |
| 7679 | 54.128 | 74.024 | 126.470 | N    | None   |
| 7680 | 54.128 | 74.024 | 129.510 | N    | None   |
| 7681 | 59.120 | 74.024 | 123.430 | N    | None   |
| 7682 | 59.120 | 74.024 | 120.390 | N    | 1 - F7 |
| 7683 | 59.120 | 74.024 | 126.470 | N    | None   |
| 7684 | 59.120 | 74.024 | 129.510 | N    | None   |
| 7685 | 64.111 | 74.024 | 123.430 | N    | None   |
| 7686 | 64.111 | 74.024 | 120.390 | N    | 1 - F7 |
| 7687 | 64.111 | 74.024 | 126.470 | N    | None   |
| 7688 | 64.111 | 74.024 | 129.510 | N    | None   |
| 7689 | 69.102 | 74.024 | 123.430 | N    | None   |
| 7690 | 69.102 | 74.024 | 120.390 | N    | 1 - F7 |
| 7691 | 69.102 | 74.024 | 126.470 | N    | None   |
| 7692 | 69.102 | 74.024 | 129.510 | N    | None   |
| 7693 | 74.093 | 74.024 | 123.430 | N    | None   |
| 7694 | 74.093 | 74.024 | 126.470 | N    | None   |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7695 | 74.093 | 74.024 | 129.510 | N    | None   |
| 7696 | 37.667 | 1.667  | 123.430 | N    | None   |
| 7697 | 41.903 | 1.667  | 123.430 | N    | None   |
| 7698 | 41.903 | 1.667  | 120.390 | N    | 1 - F7 |
| 7699 | 37.667 | 1.667  | 126.470 | N    | None   |
| 7700 | 41.903 | 1.667  | 126.470 | N    | None   |
| 7701 | 37.667 | 1.667  | 129.510 | N    | None   |
| 7702 | 41.903 | 1.667  | 129.510 | N    | None   |
| 7703 | 46.139 | 1.667  | 123.430 | N    | None   |
| 7704 | 46.139 | 1.667  | 120.390 | N    | 1 - F7 |
| 7705 | 46.139 | 1.667  | 126.470 | N    | None   |
| 7706 | 46.139 | 1.667  | 129.510 | N    | None   |
| 7707 | 50.375 | 1.667  | 123.430 | N    | None   |
| 7708 | 50.375 | 1.667  | 120.390 | N    | 1 - F7 |
| 7709 | 50.375 | 1.667  | 126.470 | N    | None   |
| 7710 | 50.375 | 1.667  | 129.510 | N    | None   |
| 7711 | 54.611 | 1.667  | 123.430 | N    | None   |
| 7712 | 54.611 | 1.667  | 120.390 | N    | 1 - F7 |
| 7713 | 54.611 | 1.667  | 126.470 | N    | None   |
| 7714 | 54.611 | 1.667  | 129.510 | N    | None   |
| 7715 | 58.847 | 1.667  | 123.430 | N    | None   |
| 7716 | 58.847 | 1.667  | 120.390 | N    | 1 - F7 |
| 7717 | 58.847 | 1.667  | 126.470 | N    | None   |
| 7718 | 58.847 | 1.667  | 129.510 | N    | None   |
| 7719 | 63.083 | 1.667  | 123.430 | N    | None   |
| 7720 | 63.083 | 1.667  | 126.470 | N    | None   |
| 7721 | 63.083 | 1.667  | 129.510 | N    | None   |
| 7722 | 63.083 | 6.000  | 123.430 | N    | None   |
| 7723 | 63.083 | 6.000  | 120.390 | N    | None   |
| 7724 | 63.083 | 6.000  | 126.470 | N    | None   |
| 7725 | 63.083 | 6.000  | 129.510 | N    | None   |
| 7726 | 63.083 | 10.334 | 123.430 | N    | None   |
| 7727 | 63.083 | 10.334 | 120.390 | N    | None   |
| 7728 | 63.083 | 10.334 | 126.470 | N    | None   |
| 7729 | 63.083 | 10.334 | 129.510 | N    | None   |
| 7730 | 63.083 | 14.667 | 123.430 | N    | None   |
| 7731 | 63.083 | 14.667 | 120.390 | N    | 1 - F7 |
| 7732 | 63.083 | 14.667 | 126.470 | N    | None   |
| 7733 | 63.083 | 14.667 | 129.510 | N    | None   |
| 7734 | 63.083 | 19.000 | 123.430 | N    | None   |
| 7735 | 63.083 | 19.000 | 126.470 | N    | None   |
| 7736 | 63.083 | 19.000 | 129.510 | N    | None   |
| 7737 | 66.646 | 1.667  | 123.430 | N    | None   |
| 7738 | 66.646 | 1.667  | 120.390 | N    | 1 - F7 |
| 7739 | 66.646 | 1.667  | 126.470 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7740 | 66.646 | 1.667  | 129.510 | N    | None   |
| 7741 | 70.208 | 1.667  | 123.430 | N    | None   |
| 7742 | 70.208 | 1.667  | 120.390 | N    | 1 - F7 |
| 7743 | 70.208 | 1.667  | 126.470 | N    | None   |
| 7744 | 70.208 | 1.667  | 129.510 | N    | None   |
| 7745 | 73.771 | 1.667  | 123.430 | N    | None   |
| 7746 | 73.771 | 1.667  | 120.390 | N    | 1 - F7 |
| 7747 | 73.771 | 1.667  | 126.470 | N    | None   |
| 7748 | 73.771 | 1.667  | 129.510 | N    | None   |
| 7749 | 77.333 | 1.667  | 123.430 | N    | None   |
| 7750 | 77.333 | 1.667  | 126.470 | N    | None   |
| 7751 | 77.333 | 1.667  | 129.510 | N    | None   |
| 7752 | 74.093 | 69.339 | 123.430 | N    | None   |
| 7753 | 74.093 | 69.339 | 120.390 | N    | 1 - F7 |
| 7754 | 74.093 | 69.339 | 126.470 | N    | None   |
| 7755 | 74.093 | 69.339 | 129.510 | N    | None   |
| 7756 | 77.333 | 7.084  | 123.430 | N    | None   |
| 7757 | 77.333 | 7.084  | 120.390 | N    | 1 - F7 |
| 7758 | 77.333 | 7.084  | 126.470 | N    | None   |
| 7759 | 77.333 | 7.084  | 129.510 | N    | None   |
| 7760 | 77.333 | 12.500 | 123.430 | N    | None   |
| 7761 | 77.333 | 12.500 | 126.470 | N    | None   |
| 7762 | 77.333 | 12.500 | 129.510 | N    | None   |
| 7763 | 77.333 | 14.000 | 124.140 | N    | None   |
| 7764 | 77.333 | 14.000 | 127.890 | N    | None   |
| 7765 | 77.333 | 13.251 | 123.786 | N    | None   |
| 7766 | 77.333 | 13.252 | 127.182 | N    | None   |
| 7767 | 77.333 | 20.498 | 129.916 | N    | None   |
| 7768 | 77.333 | 18.500 | 130.420 | N    | None   |
| 7769 | 77.333 | 13.251 | 129.966 | N    | None   |
| 7770 | 77.333 | 16.250 | 130.370 | N    | None   |
| 7771 | 77.333 | 16.250 | 132.550 | N    | 1 - F8 |
| 7772 | 77.333 | 20.500 | 120.390 | N    | 1 - F7 |
| 7773 | 77.333 | 20.498 | 123.786 | N    | None   |
| 7774 | 77.333 | 22.500 | 123.430 | N    | None   |
| 7775 | 77.333 | 13.250 | 120.390 | N    | 1 - F7 |
| 7776 | 77.333 | 14.000 | 120.390 | N    | 1 - F7 |
| 7777 | 77.333 | 18.500 | 127.890 | N    | None   |
| 7778 | 77.333 | 20.493 | 127.182 | N    | None   |
| 7779 | 77.333 | 22.500 | 126.470 | N    | None   |
| 7780 | 77.333 | 22.500 | 129.510 | N    | None   |
| 7781 | 77.333 | 14.000 | 130.620 | N    | None   |
| 7782 | 77.333 | 16.250 | 127.890 | N    | None   |
| 7783 | 77.333 | 18.500 | 124.140 | N    | None   |
| 7784 | 77.333 | 18.500 | 120.390 | N    | 1 - F7 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 7785 | 206.750 | 22.500 | 123.430 | N    | None   |
| 7786 | 206.750 | 28.271 | 123.430 | N    | None   |
| 7787 | 206.750 | 28.271 | 120.390 | N    | None   |
| 7788 | 206.750 | 22.500 | 126.470 | N    | None   |
| 7789 | 206.750 | 28.271 | 126.470 | N    | None   |
| 7790 | 206.750 | 22.500 | 129.510 | N    | None   |
| 7791 | 206.750 | 28.271 | 129.510 | N    | None   |
| 7792 | 206.750 | 34.042 | 123.430 | N    | None   |
| 7793 | 206.750 | 34.042 | 120.390 | N    | None   |
| 7794 | 206.750 | 34.042 | 126.470 | N    | None   |
| 7795 | 206.750 | 34.042 | 129.510 | N    | None   |
| 7796 | 206.750 | 39.813 | 123.430 | N    | None   |
| 7797 | 206.750 | 39.813 | 120.390 | N    | None   |
| 7798 | 206.750 | 39.813 | 126.470 | N    | None   |
| 7799 | 206.750 | 39.813 | 129.510 | N    | None   |
| 7800 | 206.750 | 45.584 | 123.430 | N    | None   |
| 7801 | 206.750 | 45.584 | 120.390 | N    | None   |
| 7802 | 206.750 | 45.584 | 126.470 | N    | None   |
| 7803 | 206.750 | 45.584 | 129.510 | N    | None   |
| 7804 | 206.750 | 51.354 | 123.430 | N    | None   |
| 7805 | 206.750 | 51.354 | 120.390 | N    | None   |
| 7806 | 206.750 | 51.354 | 126.470 | N    | None   |
| 7807 | 206.750 | 51.354 | 129.510 | N    | None   |
| 7808 | 206.750 | 57.125 | 123.430 | N    | None   |
| 7809 | 206.750 | 57.125 | 120.390 | N    | None   |
| 7810 | 206.750 | 57.125 | 126.470 | N    | None   |
| 7811 | 206.750 | 57.125 | 129.510 | N    | None   |
| 7812 | 206.750 | 62.896 | 123.430 | N    | None   |
| 7813 | 206.750 | 62.896 | 120.390 | N    | None   |
| 7814 | 206.750 | 62.896 | 126.470 | N    | None   |
| 7815 | 206.750 | 62.896 | 129.510 | N    | None   |
| 7816 | 206.750 | 68.667 | 123.430 | N    | None   |
| 7817 | 206.750 | 68.667 | 126.470 | N    | None   |
| 7818 | 206.750 | 68.667 | 129.510 | N    | None   |
| 7819 | 21.583  | 1.667  | 123.430 | N    | None   |
| 7820 | 25.604  | 1.667  | 123.430 | N    | None   |
| 7821 | 25.604  | 1.667  | 120.390 | N    | 1 - F7 |
| 7822 | 21.583  | 1.667  | 126.470 | N    | None   |
| 7823 | 25.604  | 1.667  | 126.470 | N    | None   |
| 7824 | 21.583  | 1.667  | 129.510 | N    | None   |
| 7825 | 25.604  | 1.667  | 129.510 | N    | None   |
| 7826 | 29.625  | 1.667  | 123.430 | N    | None   |
| 7827 | 29.625  | 1.667  | 120.390 | N    | 1 - F7 |
| 7828 | 29.625  | 1.667  | 126.470 | N    | None   |
| 7829 | 29.625  | 1.667  | 129.510 | N    | None   |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7830 | 33.646 | 1.667  | 123.430 | N    | None   |
| 7831 | 33.646 | 1.667  | 120.390 | N    | 1 - F7 |
| 7832 | 33.646 | 1.667  | 126.470 | N    | None   |
| 7833 | 33.646 | 1.667  | 129.510 | N    | None   |
| 7834 | 34.163 | 64.654 | 111.270 | N    | None   |
| 7835 | 34.163 | 69.339 | 111.270 | N    | None   |
| 7836 | 34.163 | 69.339 | 108.230 | N    | 1 - F6 |
| 7837 | 34.163 | 64.654 | 114.310 | N    | None   |
| 7838 | 34.163 | 69.339 | 114.310 | N    | None   |
| 7839 | 34.163 | 64.654 | 117.350 | N    | None   |
| 7840 | 34.163 | 69.339 | 117.350 | N    | None   |
| 7841 | 34.163 | 74.024 | 111.270 | N    | None   |
| 7842 | 34.163 | 74.024 | 114.310 | N    | None   |
| 7843 | 34.163 | 74.024 | 117.350 | N    | None   |
| 7844 | 59.516 | 64.654 | 115.862 | N    | None   |
| 7845 | 54.304 | 64.654 | 114.375 | N    | None   |
| 7846 | 50.478 | 64.654 | 108.230 | N    | 1 - F6 |
| 7847 | 55.917 | 64.654 | 108.230 | N    | 1 - F6 |
| 7848 | 49.800 | 64.654 | 114.375 | N    | None   |
| 7849 | 40.012 | 64.654 | 112.734 | N    | None   |
| 7850 | 39.602 | 64.654 | 108.230 | N    | 1 - F6 |
| 7851 | 70.780 | 64.654 | 114.110 | N    | None   |
| 7852 | 66.571 | 64.654 | 113.591 | N    | None   |
| 7853 | 71.498 | 64.654 | 111.497 | N    | None   |
| 7854 | 69.293 | 64.654 | 111.257 | N    | None   |
| 7855 | 74.093 | 64.654 | 114.310 | N    | None   |
| 7856 | 69.896 | 64.654 | 117.204 | N    | None   |
| 7857 | 74.093 | 64.654 | 117.350 | N    | None   |
| 7858 | 37.494 | 64.654 | 118.108 | N    | None   |
| 7859 | 39.767 | 64.654 | 115.994 | N    | None   |
| 7860 | 68.123 | 64.654 | 109.900 | N    | None   |
| 7861 | 66.161 | 64.654 | 110.635 | N    | None   |
| 7862 | 63.096 | 64.654 | 110.186 | N    | None   |
| 7863 | 60.481 | 64.654 | 112.456 | N    | None   |
| 7864 | 65.266 | 64.654 | 116.747 | N    | None   |
| 7865 | 44.583 | 64.654 | 114.440 | N    | None   |
| 7866 | 45.040 | 64.654 | 108.230 | N    | 1 - F6 |
| 7867 | 72.193 | 64.654 | 108.230 | N    | 1 - F6 |
| 7868 | 74.093 | 64.654 | 111.270 | N    | None   |
| 7869 | 68.543 | 64.654 | 108.230 | N    | 1 - F6 |
| 7870 | 61.355 | 64.654 | 108.230 | N    | 1 - F6 |
| 7871 | 39.155 | 74.024 | 111.270 | N    | None   |
| 7872 | 39.155 | 74.024 | 108.230 | N    | 1 - F6 |
| 7873 | 39.155 | 74.024 | 114.310 | N    | None   |
| 7874 | 39.155 | 74.024 | 117.350 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7875 | 44.146 | 74.024 | 111.270 | N    | None   |
| 7876 | 44.146 | 74.024 | 108.230 | N    | 1 - F6 |
| 7877 | 44.146 | 74.024 | 114.310 | N    | None   |
| 7878 | 44.146 | 74.024 | 117.350 | N    | None   |
| 7879 | 49.137 | 74.024 | 111.270 | N    | None   |
| 7880 | 49.137 | 74.024 | 108.230 | N    | 1 - F6 |
| 7881 | 49.137 | 74.024 | 114.310 | N    | None   |
| 7882 | 49.137 | 74.024 | 117.350 | N    | None   |
| 7883 | 54.128 | 74.024 | 111.270 | N    | None   |
| 7884 | 54.128 | 74.024 | 108.230 | N    | 1 - F6 |
| 7885 | 54.128 | 74.024 | 114.310 | N    | None   |
| 7886 | 54.128 | 74.024 | 117.350 | N    | None   |
| 7887 | 59.120 | 74.024 | 111.270 | N    | None   |
| 7888 | 59.120 | 74.024 | 108.230 | N    | 1 - F6 |
| 7889 | 59.120 | 74.024 | 114.310 | N    | None   |
| 7890 | 59.120 | 74.024 | 117.350 | N    | None   |
| 7891 | 64.111 | 74.024 | 111.270 | N    | None   |
| 7892 | 64.111 | 74.024 | 108.230 | N    | 1 - F6 |
| 7893 | 64.111 | 74.024 | 114.310 | N    | None   |
| 7894 | 64.111 | 74.024 | 117.350 | N    | None   |
| 7895 | 69.102 | 74.024 | 111.270 | N    | None   |
| 7896 | 69.102 | 74.024 | 108.230 | N    | 1 - F6 |
| 7897 | 69.102 | 74.024 | 114.310 | N    | None   |
| 7898 | 69.102 | 74.024 | 117.350 | N    | None   |
| 7899 | 74.093 | 74.024 | 111.270 | N    | None   |
| 7900 | 74.093 | 74.024 | 114.310 | N    | None   |
| 7901 | 74.093 | 74.024 | 117.350 | N    | None   |
| 7902 | 37.667 | 1.667  | 111.270 | N    | None   |
| 7903 | 41.903 | 1.667  | 111.270 | N    | None   |
| 7904 | 41.903 | 1.667  | 108.230 | N    | 1 - F6 |
| 7905 | 37.667 | 1.667  | 114.310 | N    | None   |
| 7906 | 41.903 | 1.667  | 114.310 | N    | None   |
| 7907 | 37.667 | 1.667  | 117.350 | N    | None   |
| 7908 | 41.903 | 1.667  | 117.350 | N    | None   |
| 7909 | 46.139 | 1.667  | 111.270 | N    | None   |
| 7910 | 46.139 | 1.667  | 108.230 | N    | 1 - F6 |
| 7911 | 46.139 | 1.667  | 114.310 | N    | None   |
| 7912 | 46.139 | 1.667  | 117.350 | N    | None   |
| 7913 | 50.375 | 1.667  | 111.270 | N    | None   |
| 7914 | 50.375 | 1.667  | 108.230 | N    | 1 - F6 |
| 7915 | 50.375 | 1.667  | 114.310 | N    | None   |
| 7916 | 50.375 | 1.667  | 117.350 | N    | None   |
| 7917 | 54.611 | 1.667  | 111.270 | N    | None   |
| 7918 | 54.611 | 1.667  | 108.230 | N    | 1 - F6 |
| 7919 | 54.611 | 1.667  | 114.310 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 7920 | 54.611 | 1.667  | 117.350 | N    | None   |
| 7921 | 58.847 | 1.667  | 111.270 | N    | None   |
| 7922 | 58.847 | 1.667  | 108.230 | N    | 1 - F6 |
| 7923 | 58.847 | 1.667  | 114.310 | N    | None   |
| 7924 | 58.847 | 1.667  | 117.350 | N    | None   |
| 7925 | 63.083 | 1.667  | 111.270 | N    | None   |
| 7926 | 63.083 | 1.667  | 114.310 | N    | None   |
| 7927 | 63.083 | 1.667  | 117.350 | N    | None   |
| 7928 | 63.083 | 6.000  | 111.270 | N    | None   |
| 7929 | 63.083 | 6.000  | 108.230 | N    | None   |
| 7930 | 63.083 | 6.000  | 114.310 | N    | None   |
| 7931 | 63.083 | 6.000  | 117.350 | N    | None   |
| 7932 | 63.083 | 10.334 | 111.270 | N    | None   |
| 7933 | 63.083 | 10.334 | 108.230 | N    | None   |
| 7934 | 63.083 | 10.334 | 114.310 | N    | None   |
| 7935 | 63.083 | 10.334 | 117.350 | N    | None   |
| 7936 | 63.083 | 14.667 | 111.270 | N    | None   |
| 7937 | 63.083 | 14.667 | 108.230 | N    | 1 - F6 |
| 7938 | 63.083 | 14.667 | 114.310 | N    | None   |
| 7939 | 63.083 | 14.667 | 117.350 | N    | None   |
| 7940 | 63.083 | 19.000 | 111.270 | N    | None   |
| 7941 | 63.083 | 19.000 | 114.310 | N    | None   |
| 7942 | 63.083 | 19.000 | 117.350 | N    | None   |
| 7943 | 66.646 | 1.667  | 111.270 | N    | None   |
| 7944 | 66.646 | 1.667  | 108.230 | N    | 1 - F6 |
| 7945 | 66.646 | 1.667  | 114.310 | N    | None   |
| 7946 | 66.646 | 1.667  | 117.350 | N    | None   |
| 7947 | 70.208 | 1.667  | 111.270 | N    | None   |
| 7948 | 70.208 | 1.667  | 108.230 | N    | 1 - F6 |
| 7949 | 70.208 | 1.667  | 114.310 | N    | None   |
| 7950 | 70.208 | 1.667  | 117.350 | N    | None   |
| 7951 | 73.771 | 1.667  | 111.270 | N    | None   |
| 7952 | 73.771 | 1.667  | 108.230 | N    | 1 - F6 |
| 7953 | 73.771 | 1.667  | 114.310 | N    | None   |
| 7954 | 73.771 | 1.667  | 117.350 | N    | None   |
| 7955 | 77.333 | 1.667  | 111.270 | N    | None   |
| 7956 | 77.333 | 1.667  | 114.310 | N    | None   |
| 7957 | 77.333 | 1.667  | 117.350 | N    | None   |
| 7958 | 74.093 | 69.339 | 111.270 | N    | None   |
| 7959 | 74.093 | 69.339 | 108.230 | N    | 1 - F6 |
| 7960 | 74.093 | 69.339 | 114.310 | N    | None   |
| 7961 | 74.093 | 69.339 | 117.350 | N    | None   |
| 7962 | 77.333 | 7.084  | 111.270 | N    | None   |
| 7963 | 77.333 | 7.084  | 108.230 | N    | 1 - F6 |
| 7964 | 77.333 | 7.084  | 114.310 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 7965 | 77.333  | 7.084  | 117.350 | N    | None   |
| 7966 | 77.333  | 12.500 | 111.270 | N    | None   |
| 7967 | 77.333  | 12.500 | 114.310 | N    | None   |
| 7968 | 77.333  | 12.500 | 117.350 | N    | None   |
| 7969 | 77.333  | 14.000 | 111.980 | N    | None   |
| 7970 | 77.333  | 14.000 | 115.730 | N    | None   |
| 7971 | 77.333  | 13.251 | 111.626 | N    | None   |
| 7972 | 77.333  | 13.252 | 115.022 | N    | None   |
| 7973 | 77.333  | 20.498 | 117.756 | N    | None   |
| 7974 | 77.333  | 18.500 | 118.260 | N    | None   |
| 7975 | 77.333  | 13.251 | 117.806 | N    | None   |
| 7976 | 77.333  | 16.250 | 118.210 | N    | None   |
| 7977 | 77.333  | 16.250 | 120.390 | N    | 1 - F7 |
| 7978 | 77.333  | 20.500 | 108.230 | N    | 1 - F6 |
| 7979 | 77.333  | 20.498 | 111.626 | N    | None   |
| 7980 | 77.333  | 22.500 | 111.270 | N    | None   |
| 7981 | 77.333  | 13.250 | 108.230 | N    | 1 - F6 |
| 7982 | 77.333  | 14.000 | 108.230 | N    | 1 - F6 |
| 7983 | 77.333  | 18.500 | 115.730 | N    | None   |
| 7984 | 77.333  | 20.493 | 115.022 | N    | None   |
| 7985 | 77.333  | 22.500 | 114.310 | N    | None   |
| 7986 | 77.333  | 22.500 | 117.350 | N    | None   |
| 7987 | 77.333  | 14.000 | 118.460 | N    | None   |
| 7988 | 77.333  | 16.250 | 115.730 | N    | None   |
| 7989 | 77.333  | 18.500 | 111.980 | N    | None   |
| 7990 | 77.333  | 18.500 | 108.230 | N    | 1 - F6 |
| 7991 | 206.750 | 22.500 | 111.270 | N    | None   |
| 7992 | 206.750 | 28.271 | 111.270 | N    | None   |
| 7993 | 206.750 | 28.271 | 108.230 | N    | None   |
| 7994 | 206.750 | 22.500 | 114.310 | N    | None   |
| 7995 | 206.750 | 28.271 | 114.310 | N    | None   |
| 7996 | 206.750 | 22.500 | 117.350 | N    | None   |
| 7997 | 206.750 | 28.271 | 117.350 | N    | None   |
| 7998 | 206.750 | 34.042 | 111.270 | N    | None   |
| 7999 | 206.750 | 34.042 | 108.230 | N    | None   |
| 8000 | 206.750 | 34.042 | 114.310 | N    | None   |
| 8001 | 206.750 | 34.042 | 117.350 | N    | None   |
| 8002 | 206.750 | 39.813 | 111.270 | N    | None   |
| 8003 | 206.750 | 39.813 | 108.230 | N    | None   |
| 8004 | 206.750 | 39.813 | 114.310 | N    | None   |
| 8005 | 206.750 | 39.813 | 117.350 | N    | None   |
| 8006 | 206.750 | 45.584 | 111.270 | N    | None   |
| 8007 | 206.750 | 45.584 | 108.230 | N    | None   |
| 8008 | 206.750 | 45.584 | 114.310 | N    | None   |
| 8009 | 206.750 | 45.584 | 117.350 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 8010 | 206.750 | 51.354 | 111.270 | N    | None   |
| 8011 | 206.750 | 51.354 | 108.230 | N    | None   |
| 8012 | 206.750 | 51.354 | 114.310 | N    | None   |
| 8013 | 206.750 | 51.354 | 117.350 | N    | None   |
| 8014 | 206.750 | 57.125 | 111.270 | N    | None   |
| 8015 | 206.750 | 57.125 | 108.230 | N    | None   |
| 8016 | 206.750 | 57.125 | 114.310 | N    | None   |
| 8017 | 206.750 | 57.125 | 117.350 | N    | None   |
| 8018 | 206.750 | 62.896 | 111.270 | N    | None   |
| 8019 | 206.750 | 62.896 | 108.230 | N    | None   |
| 8020 | 206.750 | 62.896 | 114.310 | N    | None   |
| 8021 | 206.750 | 62.896 | 117.350 | N    | None   |
| 8022 | 206.750 | 68.667 | 111.270 | N    | None   |
| 8023 | 206.750 | 68.667 | 114.310 | N    | None   |
| 8024 | 206.750 | 68.667 | 117.350 | N    | None   |
| 8025 | 21.583  | 1.667  | 111.270 | N    | None   |
| 8026 | 25.604  | 1.667  | 111.270 | N    | None   |
| 8027 | 25.604  | 1.667  | 108.230 | N    | 1 - F6 |
| 8028 | 21.583  | 1.667  | 114.310 | N    | None   |
| 8029 | 25.604  | 1.667  | 114.310 | N    | None   |
| 8030 | 21.583  | 1.667  | 117.350 | N    | None   |
| 8031 | 25.604  | 1.667  | 117.350 | N    | None   |
| 8032 | 29.625  | 1.667  | 111.270 | N    | None   |
| 8033 | 29.625  | 1.667  | 108.230 | N    | 1 - F6 |
| 8034 | 29.625  | 1.667  | 114.310 | N    | None   |
| 8035 | 29.625  | 1.667  | 117.350 | N    | None   |
| 8036 | 33.646  | 1.667  | 111.270 | N    | None   |
| 8037 | 33.646  | 1.667  | 108.230 | N    | 1 - F6 |
| 8038 | 33.646  | 1.667  | 114.310 | N    | None   |
| 8039 | 33.646  | 1.667  | 117.350 | N    | None   |
| 8040 | 34.163  | 64.654 | 96.823  | N    | None   |
| 8041 | 34.163  | 69.339 | 96.823  | N    | None   |
| 8042 | 34.163  | 69.339 | 93.020  | N    | 1 - F5 |
| 8043 | 34.163  | 64.654 | 100.625 | N    | None   |
| 8044 | 34.163  | 69.339 | 100.625 | N    | None   |
| 8045 | 34.163  | 64.654 | 104.428 | N    | None   |
| 8046 | 34.163  | 69.339 | 104.428 | N    | None   |
| 8047 | 34.163  | 74.024 | 96.823  | N    | None   |
| 8048 | 34.163  | 74.024 | 100.625 | N    | None   |
| 8049 | 34.163  | 74.024 | 104.428 | N    | None   |
| 8050 | 39.602  | 64.654 | 96.823  | N    | None   |
| 8051 | 39.602  | 64.654 | 93.020  | N    | 1 - F5 |
| 8052 | 39.602  | 64.654 | 100.625 | N    | None   |
| 8053 | 39.602  | 64.654 | 104.428 | N    | None   |
| 8054 | 45.040  | 64.654 | 96.823  | N    | None   |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 8055 | 45.040 | 64.654 | 93.020  | N    | 1 - F5 |
| 8056 | 45.040 | 64.654 | 100.625 | N    | None   |
| 8057 | 45.040 | 64.654 | 104.428 | N    | None   |
| 8058 | 50.478 | 64.654 | 96.823  | N    | None   |
| 8059 | 50.478 | 64.654 | 93.020  | N    | 1 - F5 |
| 8060 | 50.478 | 64.654 | 100.625 | N    | None   |
| 8061 | 50.478 | 64.654 | 104.428 | N    | None   |
| 8062 | 55.917 | 64.654 | 96.823  | N    | None   |
| 8063 | 55.917 | 64.654 | 93.020  | N    | 1 - F5 |
| 8064 | 55.917 | 64.654 | 100.625 | N    | None   |
| 8065 | 55.917 | 64.654 | 104.428 | N    | None   |
| 8066 | 61.355 | 64.654 | 96.823  | N    | None   |
| 8067 | 61.355 | 64.654 | 93.020  | N    | 1 - F5 |
| 8068 | 61.355 | 64.654 | 100.625 | N    | None   |
| 8069 | 61.355 | 64.654 | 104.428 | N    | None   |
| 8070 | 66.793 | 64.654 | 96.823  | N    | None   |
| 8071 | 66.793 | 64.654 | 100.625 | N    | None   |
| 8072 | 66.793 | 64.654 | 104.428 | N    | None   |
| 8073 | 39.155 | 74.024 | 96.823  | N    | None   |
| 8074 | 39.155 | 74.024 | 93.020  | N    | 1 - F5 |
| 8075 | 39.155 | 74.024 | 100.625 | N    | None   |
| 8076 | 39.155 | 74.024 | 104.428 | N    | None   |
| 8077 | 44.146 | 74.024 | 96.823  | N    | None   |
| 8078 | 44.146 | 74.024 | 93.020  | N    | 1 - F5 |
| 8079 | 44.146 | 74.024 | 100.625 | N    | None   |
| 8080 | 44.146 | 74.024 | 104.428 | N    | None   |
| 8081 | 49.137 | 74.024 | 96.823  | N    | None   |
| 8082 | 49.137 | 74.024 | 93.020  | N    | 1 - F5 |
| 8083 | 49.137 | 74.024 | 100.625 | N    | None   |
| 8084 | 49.137 | 74.024 | 104.428 | N    | None   |
| 8085 | 54.128 | 74.024 | 96.823  | N    | None   |
| 8086 | 54.128 | 74.024 | 93.020  | N    | 1 - F5 |
| 8087 | 54.128 | 74.024 | 100.625 | N    | None   |
| 8088 | 54.128 | 74.024 | 104.428 | N    | None   |
| 8089 | 59.120 | 74.024 | 96.823  | N    | None   |
| 8090 | 59.120 | 74.024 | 93.020  | N    | 1 - F5 |
| 8091 | 59.120 | 74.024 | 100.625 | N    | None   |
| 8092 | 59.120 | 74.024 | 104.428 | N    | None   |
| 8093 | 64.111 | 74.024 | 96.823  | N    | None   |
| 8094 | 64.111 | 74.024 | 93.020  | N    | 1 - F5 |
| 8095 | 64.111 | 74.024 | 100.625 | N    | None   |
| 8096 | 64.111 | 74.024 | 104.428 | N    | None   |
| 8097 | 69.102 | 74.024 | 96.823  | N    | None   |
| 8098 | 69.102 | 74.024 | 93.020  | N    | 1 - F5 |
| 8099 | 69.102 | 74.024 | 100.625 | N    | None   |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 8100 | 69.102 | 74.024 | 104.428 | N    | None   |
| 8101 | 74.093 | 74.024 | 96.823  | N    | None   |
| 8102 | 74.093 | 74.024 | 100.625 | N    | None   |
| 8103 | 74.093 | 74.024 | 104.428 | N    | None   |
| 8104 | 37.667 | 1.667  | 96.823  | N    | None   |
| 8105 | 41.903 | 1.667  | 96.823  | N    | None   |
| 8106 | 41.903 | 1.667  | 93.020  | N    | 1 - F5 |
| 8107 | 37.667 | 1.667  | 100.625 | N    | None   |
| 8108 | 41.903 | 1.667  | 100.625 | N    | None   |
| 8109 | 37.667 | 1.667  | 104.428 | N    | None   |
| 8110 | 41.903 | 1.667  | 104.428 | N    | None   |
| 8111 | 46.139 | 1.667  | 96.823  | N    | None   |
| 8112 | 46.139 | 1.667  | 93.020  | N    | 1 - F5 |
| 8113 | 46.139 | 1.667  | 100.625 | N    | None   |
| 8114 | 46.139 | 1.667  | 104.428 | N    | None   |
| 8115 | 50.375 | 1.667  | 96.823  | N    | None   |
| 8116 | 50.375 | 1.667  | 93.020  | N    | 1 - F5 |
| 8117 | 50.375 | 1.667  | 100.625 | N    | None   |
| 8118 | 50.375 | 1.667  | 104.428 | N    | None   |
| 8119 | 54.611 | 1.667  | 96.823  | N    | None   |
| 8120 | 54.611 | 1.667  | 93.020  | N    | 1 - F5 |
| 8121 | 54.611 | 1.667  | 100.625 | N    | None   |
| 8122 | 54.611 | 1.667  | 104.428 | N    | None   |
| 8123 | 58.847 | 1.667  | 96.823  | N    | None   |
| 8124 | 58.847 | 1.667  | 93.020  | N    | 1 - F5 |
| 8125 | 58.847 | 1.667  | 100.625 | N    | None   |
| 8126 | 58.847 | 1.667  | 104.428 | N    | None   |
| 8127 | 63.083 | 1.667  | 96.823  | N    | None   |
| 8128 | 63.083 | 1.667  | 100.625 | N    | None   |
| 8129 | 63.083 | 1.667  | 104.428 | N    | None   |
| 8130 | 63.083 | 6.000  | 96.823  | N    | None   |
| 8131 | 63.083 | 6.000  | 93.020  | N    | 1 - F5 |
| 8132 | 63.083 | 6.000  | 100.625 | N    | None   |
| 8133 | 63.083 | 6.000  | 104.428 | N    | None   |
| 8134 | 63.083 | 10.334 | 96.823  | N    | None   |
| 8135 | 63.083 | 10.334 | 93.020  | N    | 1 - F5 |
| 8136 | 63.083 | 10.334 | 100.625 | N    | None   |
| 8137 | 63.083 | 10.334 | 104.428 | N    | None   |
| 8138 | 63.083 | 14.667 | 96.823  | N    | None   |
| 8139 | 63.083 | 14.667 | 93.020  | N    | 1 - F5 |
| 8140 | 63.083 | 14.667 | 100.625 | N    | None   |
| 8141 | 63.083 | 14.667 | 104.428 | N    | None   |
| 8142 | 63.083 | 19.000 | 96.823  | N    | None   |
| 8143 | 63.083 | 19.000 | 100.625 | N    | None   |
| 8144 | 63.083 | 19.000 | 104.428 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z       | Fdtn | Diaphr |
|------|--------|--------|---------|------|--------|
| 8145 | 66.646 | 1.667  | 96.823  | N    | None   |
| 8146 | 66.646 | 1.667  | 93.020  | N    | 1 - F5 |
| 8147 | 66.646 | 1.667  | 100.625 | N    | None   |
| 8148 | 66.646 | 1.667  | 104.428 | N    | None   |
| 8149 | 70.208 | 1.667  | 96.823  | N    | None   |
| 8150 | 70.208 | 1.667  | 93.020  | N    | 1 - F5 |
| 8151 | 70.208 | 1.667  | 100.625 | N    | None   |
| 8152 | 70.208 | 1.667  | 104.428 | N    | None   |
| 8153 | 73.771 | 1.667  | 96.823  | N    | None   |
| 8154 | 73.771 | 1.667  | 93.020  | N    | 1 - F5 |
| 8155 | 73.771 | 1.667  | 100.625 | N    | None   |
| 8156 | 73.771 | 1.667  | 104.428 | N    | None   |
| 8157 | 77.333 | 1.667  | 96.823  | N    | None   |
| 8158 | 77.333 | 1.667  | 100.625 | N    | None   |
| 8159 | 77.333 | 1.667  | 104.428 | N    | None   |
| 8160 | 70.293 | 64.654 | 96.823  | N    | None   |
| 8161 | 72.193 | 64.654 | 96.823  | N    | None   |
| 8162 | 72.193 | 64.654 | 93.020  | N    | 1 - F5 |
| 8163 | 70.293 | 64.654 | 100.625 | N    | None   |
| 8164 | 72.193 | 64.654 | 100.625 | N    | None   |
| 8165 | 70.293 | 64.654 | 104.428 | N    | None   |
| 8166 | 72.193 | 64.654 | 104.428 | N    | None   |
| 8167 | 74.093 | 64.654 | 96.823  | N    | None   |
| 8168 | 74.093 | 64.654 | 100.625 | N    | None   |
| 8169 | 74.093 | 64.654 | 104.428 | N    | None   |
| 8170 | 74.093 | 69.339 | 96.823  | N    | None   |
| 8171 | 74.093 | 69.339 | 93.020  | N    | 1 - F5 |
| 8172 | 74.093 | 69.339 | 100.625 | N    | None   |
| 8173 | 74.093 | 69.339 | 104.428 | N    | None   |
| 8174 | 77.333 | 7.084  | 96.823  | N    | None   |
| 8175 | 77.333 | 7.084  | 93.020  | N    | 1 - F5 |
| 8176 | 77.333 | 7.084  | 100.625 | N    | None   |
| 8177 | 77.333 | 7.084  | 104.428 | N    | None   |
| 8178 | 77.333 | 12.500 | 96.823  | N    | None   |
| 8179 | 77.333 | 12.500 | 100.625 | N    | None   |
| 8180 | 77.333 | 12.500 | 104.428 | N    | None   |
| 8181 | 77.333 | 13.617 | 104.788 | N    | None   |
| 8182 | 77.333 | 13.615 | 93.020  | N    | 1 - F5 |
| 8183 | 77.333 | 14.730 | 93.020  | N    | 1 - F5 |
| 8184 | 77.333 | 13.615 | 96.831  | N    | None   |
| 8185 | 77.333 | 14.730 | 96.770  | N    | None   |
| 8186 | 77.333 | 16.250 | 108.230 | N    | 1 - F6 |
| 8187 | 77.333 | 16.546 | 104.530 | N    | None   |
| 8188 | 77.333 | 14.766 | 104.781 | N    | None   |
| 8189 | 77.333 | 22.500 | 104.428 | N    | None   |



RAM Structural System



DEPT OF BLDGS121191236

Job Number



ES189780602

Scan Code

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 8190 | 77.333  | 20.303 | 104.455 | N    | None   |
| 8191 | 77.333  | 17.900 | 96.770  | N    | None   |
| 8192 | 77.333  | 17.900 | 93.020  | N    | 1 - F5 |
| 8193 | 77.333  | 20.149 | 96.795  | N    | None   |
| 8194 | 77.333  | 20.200 | 93.020  | N    | 1 - F5 |
| 8195 | 77.333  | 13.623 | 100.778 | N    | None   |
| 8196 | 77.333  | 14.730 | 100.520 | N    | None   |
| 8197 | 77.333  | 16.315 | 100.520 | N    | None   |
| 8198 | 77.333  | 17.900 | 100.520 | N    | None   |
| 8199 | 77.333  | 18.217 | 104.594 | N    | None   |
| 8200 | 77.333  | 19.997 | 100.568 | N    | None   |
| 8201 | 77.333  | 22.500 | 100.625 | N    | None   |
| 8202 | 77.333  | 22.500 | 96.823  | N    | None   |
| 8203 | 206.750 | 22.500 | 96.823  | N    | None   |
| 8204 | 206.750 | 28.271 | 96.823  | N    | None   |
| 8205 | 206.750 | 28.271 | 93.020  | N    | None   |
| 8206 | 206.750 | 22.500 | 100.625 | N    | None   |
| 8207 | 206.750 | 28.271 | 100.625 | N    | None   |
| 8208 | 206.750 | 22.500 | 104.428 | N    | None   |
| 8209 | 206.750 | 28.271 | 104.428 | N    | None   |
| 8210 | 206.750 | 34.042 | 96.823  | N    | None   |
| 8211 | 206.750 | 34.042 | 93.020  | N    | None   |
| 8212 | 206.750 | 34.042 | 100.625 | N    | None   |
| 8213 | 206.750 | 34.042 | 104.428 | N    | None   |
| 8214 | 206.750 | 39.813 | 96.823  | N    | None   |
| 8215 | 206.750 | 39.813 | 93.020  | N    | None   |
| 8216 | 206.750 | 39.813 | 100.625 | N    | None   |
| 8217 | 206.750 | 39.813 | 104.428 | N    | None   |
| 8218 | 206.750 | 45.584 | 96.823  | N    | None   |
| 8219 | 206.750 | 45.584 | 93.020  | N    | None   |
| 8220 | 206.750 | 45.584 | 100.625 | N    | None   |
| 8221 | 206.750 | 45.584 | 104.428 | N    | None   |
| 8222 | 206.750 | 51.354 | 96.823  | N    | None   |
| 8223 | 206.750 | 51.354 | 93.020  | N    | None   |
| 8224 | 206.750 | 51.354 | 100.625 | N    | None   |
| 8225 | 206.750 | 51.354 | 104.428 | N    | None   |
| 8226 | 206.750 | 57.125 | 96.823  | N    | None   |
| 8227 | 206.750 | 57.125 | 93.020  | N    | None   |
| 8228 | 206.750 | 57.125 | 100.625 | N    | None   |
| 8229 | 206.750 | 57.125 | 104.428 | N    | None   |
| 8230 | 206.750 | 62.896 | 96.823  | N    | None   |
| 8231 | 206.750 | 62.896 | 93.020  | N    | None   |
| 8232 | 206.750 | 62.896 | 100.625 | N    | None   |
| 8233 | 206.750 | 62.896 | 104.428 | N    | None   |
| 8234 | 206.750 | 68.667 | 96.823  | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 8235 | 206.750 | 68.667 | 100.625 | N    | None   |
| 8236 | 206.750 | 68.667 | 104.428 | N    | None   |
| 8237 | 21.583  | 1.667  | 96.823  | N    | None   |
| 8238 | 25.604  | 1.667  | 96.823  | N    | None   |
| 8239 | 25.604  | 1.667  | 93.020  | N    | 1 - F5 |
| 8240 | 21.583  | 1.667  | 100.625 | N    | None   |
| 8241 | 25.604  | 1.667  | 100.625 | N    | None   |
| 8242 | 21.583  | 1.667  | 104.428 | N    | None   |
| 8243 | 25.604  | 1.667  | 104.428 | N    | None   |
| 8244 | 29.625  | 1.667  | 96.823  | N    | None   |
| 8245 | 29.625  | 1.667  | 93.020  | N    | 1 - F5 |
| 8246 | 29.625  | 1.667  | 100.625 | N    | None   |
| 8247 | 29.625  | 1.667  | 104.428 | N    | None   |
| 8248 | 33.646  | 1.667  | 96.823  | N    | None   |
| 8249 | 33.646  | 1.667  | 93.020  | N    | 1 - F5 |
| 8250 | 33.646  | 1.667  | 100.625 | N    | None   |
| 8251 | 33.646  | 1.667  | 104.428 | N    | None   |
| 8252 | 34.163  | 64.654 | 80.990  | N    | None   |
| 8253 | 34.163  | 69.339 | 80.990  | N    | None   |
| 8254 | 34.163  | 69.339 | 76.980  | N    | 1 - F4 |
| 8255 | 34.163  | 64.654 | 85.000  | N    | None   |
| 8256 | 34.163  | 69.339 | 85.000  | N    | None   |
| 8257 | 34.163  | 64.654 | 89.010  | N    | None   |
| 8258 | 34.163  | 69.339 | 89.010  | N    | None   |
| 8259 | 34.163  | 74.024 | 80.990  | N    | None   |
| 8260 | 34.163  | 74.024 | 85.000  | N    | None   |
| 8261 | 34.163  | 74.024 | 89.010  | N    | None   |
| 8262 | 39.602  | 64.654 | 80.990  | N    | None   |
| 8263 | 39.602  | 64.654 | 76.980  | N    | 1 - F4 |
| 8264 | 39.602  | 64.654 | 85.000  | N    | None   |
| 8265 | 39.602  | 64.654 | 89.010  | N    | None   |
| 8266 | 45.040  | 64.654 | 80.990  | N    | None   |
| 8267 | 45.040  | 64.654 | 76.980  | N    | 1 - F4 |
| 8268 | 45.040  | 64.654 | 85.000  | N    | None   |
| 8269 | 45.040  | 64.654 | 89.010  | N    | None   |
| 8270 | 50.478  | 64.654 | 80.990  | N    | None   |
| 8271 | 50.478  | 64.654 | 76.980  | N    | 1 - F4 |
| 8272 | 50.478  | 64.654 | 85.000  | N    | None   |
| 8273 | 50.478  | 64.654 | 89.010  | N    | None   |
| 8274 | 55.917  | 64.654 | 80.990  | N    | None   |
| 8275 | 55.917  | 64.654 | 76.980  | N    | 1 - F4 |
| 8276 | 55.917  | 64.654 | 85.000  | N    | None   |
| 8277 | 55.917  | 64.654 | 89.010  | N    | None   |
| 8278 | 61.355  | 64.654 | 80.990  | N    | None   |
| 8279 | 61.355  | 64.654 | 76.980  | N    | 1 - F4 |



RAM Structural System  
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RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr |
|------|--------|--------|--------|------|--------|
| 8280 | 61.355 | 64.654 | 85.000 | N    | None   |
| 8281 | 61.355 | 64.654 | 89.010 | N    | None   |
| 8282 | 66.793 | 64.654 | 80.990 | N    | None   |
| 8283 | 66.793 | 64.654 | 85.000 | N    | None   |
| 8284 | 66.793 | 64.654 | 89.010 | N    | None   |
| 8285 | 39.155 | 74.024 | 80.990 | N    | None   |
| 8286 | 39.155 | 74.024 | 76.980 | N    | 1 - F4 |
| 8287 | 39.155 | 74.024 | 85.000 | N    | None   |
| 8288 | 39.155 | 74.024 | 89.010 | N    | None   |
| 8289 | 44.146 | 74.024 | 80.990 | N    | None   |
| 8290 | 44.146 | 74.024 | 76.980 | N    | 1 - F4 |
| 8291 | 44.146 | 74.024 | 85.000 | N    | None   |
| 8292 | 44.146 | 74.024 | 89.010 | N    | None   |
| 8293 | 49.137 | 74.024 | 80.990 | N    | None   |
| 8294 | 49.137 | 74.024 | 76.980 | N    | 1 - F4 |
| 8295 | 49.137 | 74.024 | 85.000 | N    | None   |
| 8296 | 49.137 | 74.024 | 89.010 | N    | None   |
| 8297 | 54.128 | 74.024 | 80.990 | N    | None   |
| 8298 | 54.128 | 74.024 | 76.980 | N    | 1 - F4 |
| 8299 | 54.128 | 74.024 | 85.000 | N    | None   |
| 8300 | 54.128 | 74.024 | 89.010 | N    | None   |
| 8301 | 59.120 | 74.024 | 80.990 | N    | None   |
| 8302 | 59.120 | 74.024 | 76.980 | N    | 1 - F4 |
| 8303 | 59.120 | 74.024 | 85.000 | N    | None   |
| 8304 | 59.120 | 74.024 | 89.010 | N    | None   |
| 8305 | 64.111 | 74.024 | 80.990 | N    | None   |
| 8306 | 64.111 | 74.024 | 76.980 | N    | 1 - F4 |
| 8307 | 64.111 | 74.024 | 85.000 | N    | None   |
| 8308 | 64.111 | 74.024 | 89.010 | N    | None   |
| 8309 | 69.102 | 74.024 | 80.990 | N    | None   |
| 8310 | 69.102 | 74.024 | 76.980 | N    | 1 - F4 |
| 8311 | 69.102 | 74.024 | 85.000 | N    | None   |
| 8312 | 69.102 | 74.024 | 89.010 | N    | None   |
| 8313 | 74.093 | 74.024 | 80.990 | N    | None   |
| 8314 | 74.093 | 74.024 | 85.000 | N    | None   |
| 8315 | 74.093 | 74.024 | 89.010 | N    | None   |
| 8316 | 37.667 | 1.667  | 80.990 | N    | None   |
| 8317 | 41.903 | 1.667  | 80.990 | N    | None   |
| 8318 | 41.903 | 1.667  | 76.980 | N    | 1 - F4 |
| 8319 | 37.667 | 1.667  | 85.000 | N    | None   |
| 8320 | 41.903 | 1.667  | 85.000 | N    | None   |
| 8321 | 37.667 | 1.667  | 89.010 | N    | None   |
| 8322 | 41.903 | 1.667  | 89.010 | N    | None   |
| 8323 | 46.139 | 1.667  | 80.990 | N    | None   |
| 8324 | 46.139 | 1.667  | 76.980 | N    | 1 - F4 |



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| #    | X      | Y      | Z      | Fdtn | Diaphr |
|------|--------|--------|--------|------|--------|
| 8325 | 46.139 | 1.667  | 85.000 | N    | None   |
| 8326 | 46.139 | 1.667  | 89.010 | N    | None   |
| 8327 | 50.375 | 1.667  | 80.990 | N    | None   |
| 8328 | 50.375 | 1.667  | 76.980 | N    | 1 - F4 |
| 8329 | 50.375 | 1.667  | 85.000 | N    | None   |
| 8330 | 50.375 | 1.667  | 89.010 | N    | None   |
| 8331 | 54.611 | 1.667  | 80.990 | N    | None   |
| 8332 | 54.611 | 1.667  | 76.980 | N    | 1 - F4 |
| 8333 | 54.611 | 1.667  | 85.000 | N    | None   |
| 8334 | 54.611 | 1.667  | 89.010 | N    | None   |
| 8335 | 58.847 | 1.667  | 80.990 | N    | None   |
| 8336 | 58.847 | 1.667  | 76.980 | N    | 1 - F4 |
| 8337 | 58.847 | 1.667  | 85.000 | N    | None   |
| 8338 | 58.847 | 1.667  | 89.010 | N    | None   |
| 8339 | 63.083 | 1.667  | 80.990 | N    | None   |
| 8340 | 63.083 | 1.667  | 85.000 | N    | None   |
| 8341 | 63.083 | 1.667  | 89.010 | N    | None   |
| 8342 | 63.083 | 6.000  | 80.990 | N    | None   |
| 8343 | 63.083 | 6.000  | 76.980 | N    | 1 - F4 |
| 8344 | 63.083 | 6.000  | 85.000 | N    | None   |
| 8345 | 63.083 | 6.000  | 89.010 | N    | None   |
| 8346 | 63.083 | 10.334 | 80.990 | N    | None   |
| 8347 | 63.083 | 10.334 | 76.980 | N    | 1 - F4 |
| 8348 | 63.083 | 10.334 | 85.000 | N    | None   |
| 8349 | 63.083 | 10.334 | 89.010 | N    | None   |
| 8350 | 63.083 | 14.667 | 80.990 | N    | None   |
| 8351 | 63.083 | 14.667 | 76.980 | N    | 1 - F4 |
| 8352 | 63.083 | 14.667 | 85.000 | N    | None   |
| 8353 | 63.083 | 14.667 | 89.010 | N    | None   |
| 8354 | 63.083 | 19.000 | 80.990 | N    | None   |
| 8355 | 63.083 | 19.000 | 85.000 | N    | None   |
| 8356 | 63.083 | 19.000 | 89.010 | N    | None   |
| 8357 | 66.646 | 1.667  | 80.990 | N    | None   |
| 8358 | 66.646 | 1.667  | 76.980 | N    | 1 - F4 |
| 8359 | 66.646 | 1.667  | 85.000 | N    | None   |
| 8360 | 66.646 | 1.667  | 89.010 | N    | None   |
| 8361 | 70.208 | 1.667  | 80.990 | N    | None   |
| 8362 | 70.208 | 1.667  | 76.980 | N    | 1 - F4 |
| 8363 | 70.208 | 1.667  | 85.000 | N    | None   |
| 8364 | 70.208 | 1.667  | 89.010 | N    | None   |
| 8365 | 73.771 | 1.667  | 80.990 | N    | None   |
| 8366 | 73.771 | 1.667  | 76.980 | N    | 1 - F4 |
| 8367 | 73.771 | 1.667  | 85.000 | N    | None   |
| 8368 | 73.771 | 1.667  | 89.010 | N    | None   |
| 8369 | 77.333 | 1.667  | 80.990 | N    | None   |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr |
|------|--------|--------|--------|------|--------|
| 8370 | 77.333 | 1.667  | 85.000 | N    | None   |
| 8371 | 77.333 | 1.667  | 89.010 | N    | None   |
| 8372 | 70.293 | 64.654 | 80.990 | N    | None   |
| 8373 | 72.193 | 64.654 | 80.990 | N    | None   |
| 8374 | 72.193 | 64.654 | 76.980 | N    | 1 - F4 |
| 8375 | 70.293 | 64.654 | 85.000 | N    | None   |
| 8376 | 72.193 | 64.654 | 85.000 | N    | None   |
| 8377 | 70.293 | 64.654 | 89.010 | N    | None   |
| 8378 | 72.193 | 64.654 | 89.010 | N    | None   |
| 8379 | 74.093 | 64.654 | 80.990 | N    | None   |
| 8380 | 74.093 | 64.654 | 85.000 | N    | None   |
| 8381 | 74.093 | 64.654 | 89.010 | N    | None   |
| 8382 | 74.093 | 69.339 | 80.990 | N    | None   |
| 8383 | 74.093 | 69.339 | 76.980 | N    | 1 - F4 |
| 8384 | 74.093 | 69.339 | 85.000 | N    | None   |
| 8385 | 74.093 | 69.339 | 89.010 | N    | None   |
| 8386 | 77.333 | 7.084  | 80.990 | N    | None   |
| 8387 | 77.333 | 7.084  | 76.980 | N    | 1 - F4 |
| 8388 | 77.333 | 7.084  | 85.000 | N    | None   |
| 8389 | 77.333 | 7.084  | 89.010 | N    | None   |
| 8390 | 77.333 | 12.500 | 80.990 | N    | None   |
| 8391 | 77.333 | 12.500 | 85.000 | N    | None   |
| 8392 | 77.333 | 12.500 | 89.010 | N    | None   |
| 8393 | 77.333 | 22.500 | 80.990 | N    | None   |
| 8394 | 77.333 | 22.500 | 85.000 | N    | None   |
| 8395 | 77.333 | 20.201 | 80.854 | N    | None   |
| 8396 | 77.333 | 20.055 | 84.717 | N    | None   |
| 8397 | 77.333 | 13.407 | 84.717 | N    | None   |
| 8398 | 77.333 | 13.353 | 80.854 | N    | None   |
| 8399 | 77.333 | 14.170 | 84.480 | N    | None   |
| 8400 | 77.333 | 13.374 | 88.070 | N    | None   |
| 8401 | 77.333 | 14.205 | 87.212 | N    | None   |
| 8402 | 77.333 | 22.500 | 89.010 | N    | None   |
| 8403 | 77.333 | 20.259 | 88.337 | N    | None   |
| 8404 | 77.333 | 20.258 | 90.899 | N    | None   |
| 8405 | 77.333 | 15.935 | 87.264 | N    | None   |
| 8406 | 77.333 | 16.085 | 84.480 | N    | None   |
| 8407 | 77.333 | 15.814 | 89.902 | N    | None   |
| 8408 | 77.333 | 17.445 | 90.284 | N    | None   |
| 8409 | 77.333 | 14.738 | 91.262 | N    | None   |
| 8410 | 77.333 | 15.786 | 91.537 | N    | None   |
| 8411 | 77.333 | 16.602 | 92.151 | N    | None   |
| 8412 | 77.333 | 17.830 | 91.838 | N    | None   |
| 8413 | 77.333 | 19.268 | 92.000 | N    | None   |
| 8414 | 77.333 | 18.000 | 84.480 | N    | None   |





RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr |
|------|---------|--------|--------|------|--------|
| 8415 | 77.333  | 18.000 | 80.730 | N    | None   |
| 8416 | 77.333  | 18.000 | 76.980 | N    | 1 - F4 |
| 8417 | 77.333  | 20.250 | 76.980 | N    | 1 - F4 |
| 8418 | 77.333  | 13.335 | 76.980 | N    | 1 - F4 |
| 8419 | 77.333  | 14.170 | 76.980 | N    | 1 - F4 |
| 8420 | 77.333  | 14.170 | 80.730 | N    | None   |
| 8421 | 77.333  | 14.236 | 89.718 | N    | None   |
| 8422 | 77.333  | 13.384 | 91.339 | N    | None   |
| 8423 | 77.333  | 17.954 | 87.748 | N    | None   |
| 8424 | 77.333  | 16.315 | 93.020 | N    | 1 - F5 |
| 8425 | 206.750 | 22.500 | 80.990 | N    | None   |
| 8426 | 206.750 | 28.271 | 80.990 | N    | None   |
| 8427 | 206.750 | 28.271 | 76.980 | N    | None   |
| 8428 | 206.750 | 22.500 | 85.000 | N    | None   |
| 8429 | 206.750 | 28.271 | 85.000 | N    | None   |
| 8430 | 206.750 | 22.500 | 89.010 | N    | None   |
| 8431 | 206.750 | 28.271 | 89.010 | N    | None   |
| 8432 | 206.750 | 34.042 | 80.990 | N    | None   |
| 8433 | 206.750 | 34.042 | 76.980 | N    | None   |
| 8434 | 206.750 | 34.042 | 85.000 | N    | None   |
| 8435 | 206.750 | 34.042 | 89.010 | N    | None   |
| 8436 | 206.750 | 39.813 | 80.990 | N    | None   |
| 8437 | 206.750 | 39.813 | 76.980 | N    | None   |
| 8438 | 206.750 | 39.813 | 85.000 | N    | None   |
| 8439 | 206.750 | 39.813 | 89.010 | N    | None   |
| 8440 | 206.750 | 45.584 | 80.990 | N    | None   |
| 8441 | 206.750 | 45.584 | 76.980 | N    | None   |
| 8442 | 206.750 | 45.584 | 85.000 | N    | None   |
| 8443 | 206.750 | 45.584 | 89.010 | N    | None   |
| 8444 | 206.750 | 51.354 | 80.990 | N    | None   |
| 8445 | 206.750 | 51.354 | 76.980 | N    | None   |
| 8446 | 206.750 | 51.354 | 85.000 | N    | None   |
| 8447 | 206.750 | 51.354 | 89.010 | N    | None   |
| 8448 | 206.750 | 57.125 | 80.990 | N    | None   |
| 8449 | 206.750 | 57.125 | 76.980 | N    | None   |
| 8450 | 206.750 | 57.125 | 85.000 | N    | None   |
| 8451 | 206.750 | 57.125 | 89.010 | N    | None   |
| 8452 | 206.750 | 62.896 | 80.990 | N    | None   |
| 8453 | 206.750 | 62.896 | 76.980 | N    | None   |
| 8454 | 206.750 | 62.896 | 85.000 | N    | None   |
| 8455 | 206.750 | 62.896 | 89.010 | N    | None   |
| 8456 | 206.750 | 68.667 | 80.990 | N    | None   |
| 8457 | 206.750 | 68.667 | 85.000 | N    | None   |
| 8458 | 206.750 | 68.667 | 89.010 | N    | None   |
| 8459 | 21.583  | 1.667  | 80.990 | N    | None   |



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RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr |
|------|--------|--------|--------|------|--------|
| 8460 | 25.604 | 1.667  | 80.990 | N    | None   |
| 8461 | 25.604 | 1.667  | 76.980 | N    | 1 - F4 |
| 8462 | 21.583 | 1.667  | 85.000 | N    | None   |
| 8463 | 25.604 | 1.667  | 85.000 | N    | None   |
| 8464 | 21.583 | 1.667  | 89.010 | N    | None   |
| 8465 | 25.604 | 1.667  | 89.010 | N    | None   |
| 8466 | 29.625 | 1.667  | 80.990 | N    | None   |
| 8467 | 29.625 | 1.667  | 76.980 | N    | 1 - F4 |
| 8468 | 29.625 | 1.667  | 85.000 | N    | None   |
| 8469 | 29.625 | 1.667  | 89.010 | N    | None   |
| 8470 | 33.646 | 1.667  | 80.990 | N    | None   |
| 8471 | 33.646 | 1.667  | 76.980 | N    | 1 - F4 |
| 8472 | 33.646 | 1.667  | 85.000 | N    | None   |
| 8473 | 33.646 | 1.667  | 89.010 | N    | None   |
| 8474 | 34.163 | 64.654 | 64.995 | N    | None   |
| 8475 | 34.163 | 69.339 | 64.995 | N    | None   |
| 8476 | 34.163 | 69.339 | 61.000 | N    | 1 - F3 |
| 8477 | 34.163 | 64.654 | 68.990 | N    | None   |
| 8478 | 34.163 | 69.339 | 68.990 | N    | None   |
| 8479 | 34.163 | 64.654 | 72.985 | N    | None   |
| 8480 | 34.163 | 69.339 | 72.985 | N    | None   |
| 8481 | 34.163 | 74.024 | 64.995 | N    | None   |
| 8482 | 34.163 | 74.024 | 68.990 | N    | None   |
| 8483 | 34.163 | 74.024 | 72.985 | N    | None   |
| 8484 | 39.602 | 64.654 | 64.995 | N    | None   |
| 8485 | 39.602 | 64.654 | 61.000 | N    | 1 - F3 |
| 8486 | 39.602 | 64.654 | 68.990 | N    | None   |
| 8487 | 39.602 | 64.654 | 72.985 | N    | None   |
| 8488 | 45.040 | 64.654 | 64.995 | N    | None   |
| 8489 | 45.040 | 64.654 | 61.000 | N    | 1 - F3 |
| 8490 | 45.040 | 64.654 | 68.990 | N    | None   |
| 8491 | 45.040 | 64.654 | 72.985 | N    | None   |
| 8492 | 50.478 | 64.654 | 64.995 | N    | None   |
| 8493 | 50.478 | 64.654 | 61.000 | N    | 1 - F3 |
| 8494 | 50.478 | 64.654 | 68.990 | N    | None   |
| 8495 | 50.478 | 64.654 | 72.985 | N    | None   |
| 8496 | 55.917 | 64.654 | 64.995 | N    | None   |
| 8497 | 55.917 | 64.654 | 61.000 | N    | 1 - F3 |
| 8498 | 55.917 | 64.654 | 68.990 | N    | None   |
| 8499 | 55.917 | 64.654 | 72.985 | N    | None   |
| 8500 | 61.355 | 64.654 | 64.995 | N    | None   |
| 8501 | 61.355 | 64.654 | 61.000 | N    | 1 - F3 |
| 8502 | 61.355 | 64.654 | 68.990 | N    | None   |
| 8503 | 61.355 | 64.654 | 72.985 | N    | None   |
| 8504 | 66.793 | 64.654 | 64.995 | N    | None   |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr |
|------|--------|--------|--------|------|--------|
| 8505 | 66.793 | 64.654 | 68.990 | N    | None   |
| 8506 | 66.793 | 64.654 | 72.985 | N    | None   |
| 8507 | 39.155 | 74.024 | 64.995 | N    | None   |
| 8508 | 39.155 | 74.024 | 61.000 | N    | 1 - F3 |
| 8509 | 39.155 | 74.024 | 68.990 | N    | None   |
| 8510 | 39.155 | 74.024 | 72.985 | N    | None   |
| 8511 | 44.146 | 74.024 | 64.995 | N    | None   |
| 8512 | 44.146 | 74.024 | 61.000 | N    | 1 - F3 |
| 8513 | 44.146 | 74.024 | 68.990 | N    | None   |
| 8514 | 44.146 | 74.024 | 72.985 | N    | None   |
| 8515 | 49.137 | 74.024 | 64.995 | N    | None   |
| 8516 | 49.137 | 74.024 | 61.000 | N    | 1 - F3 |
| 8517 | 49.137 | 74.024 | 68.990 | N    | None   |
| 8518 | 49.137 | 74.024 | 72.985 | N    | None   |
| 8519 | 54.128 | 74.024 | 64.995 | N    | None   |
| 8520 | 54.128 | 74.024 | 61.000 | N    | 1 - F3 |
| 8521 | 54.128 | 74.024 | 68.990 | N    | None   |
| 8522 | 54.128 | 74.024 | 72.985 | N    | None   |
| 8523 | 59.120 | 74.024 | 64.995 | N    | None   |
| 8524 | 59.120 | 74.024 | 61.000 | N    | 1 - F3 |
| 8525 | 59.120 | 74.024 | 68.990 | N    | None   |
| 8526 | 59.120 | 74.024 | 72.985 | N    | None   |
| 8527 | 64.111 | 74.024 | 64.995 | N    | None   |
| 8528 | 64.111 | 74.024 | 61.000 | N    | 1 - F3 |
| 8529 | 64.111 | 74.024 | 68.990 | N    | None   |
| 8530 | 64.111 | 74.024 | 72.985 | N    | None   |
| 8531 | 69.102 | 74.024 | 64.995 | N    | None   |
| 8532 | 69.102 | 74.024 | 61.000 | N    | 1 - F3 |
| 8533 | 69.102 | 74.024 | 68.990 | N    | None   |
| 8534 | 69.102 | 74.024 | 72.985 | N    | None   |
| 8535 | 74.093 | 74.024 | 64.995 | N    | None   |
| 8536 | 74.093 | 74.024 | 68.990 | N    | None   |
| 8537 | 74.093 | 74.024 | 72.985 | N    | None   |
| 8538 | 37.667 | 1.667  | 64.995 | N    | None   |
| 8539 | 41.903 | 1.667  | 64.995 | N    | None   |
| 8540 | 41.903 | 1.667  | 61.000 | N    | 1 - F3 |
| 8541 | 37.667 | 1.667  | 68.990 | N    | None   |
| 8542 | 41.903 | 1.667  | 68.990 | N    | None   |
| 8543 | 37.667 | 1.667  | 72.985 | N    | None   |
| 8544 | 41.903 | 1.667  | 72.985 | N    | None   |
| 8545 | 46.139 | 1.667  | 64.995 | N    | None   |
| 8546 | 46.139 | 1.667  | 61.000 | N    | 1 - F3 |
| 8547 | 46.139 | 1.667  | 68.990 | N    | None   |
| 8548 | 46.139 | 1.667  | 72.985 | N    | None   |
| 8549 | 50.375 | 1.667  | 64.995 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr |
|------|--------|--------|--------|------|--------|
| 8550 | 50.375 | 1.667  | 61.000 | N    | 1 - F3 |
| 8551 | 50.375 | 1.667  | 68.990 | N    | None   |
| 8552 | 50.375 | 1.667  | 72.985 | N    | None   |
| 8553 | 54.611 | 1.667  | 64.995 | N    | None   |
| 8554 | 54.611 | 1.667  | 61.000 | N    | 1 - F3 |
| 8555 | 54.611 | 1.667  | 68.990 | N    | None   |
| 8556 | 54.611 | 1.667  | 72.985 | N    | None   |
| 8557 | 58.847 | 1.667  | 64.995 | N    | None   |
| 8558 | 58.847 | 1.667  | 61.000 | N    | 1 - F3 |
| 8559 | 58.847 | 1.667  | 68.990 | N    | None   |
| 8560 | 58.847 | 1.667  | 72.985 | N    | None   |
| 8561 | 63.083 | 1.667  | 64.995 | N    | None   |
| 8562 | 63.083 | 1.667  | 68.990 | N    | None   |
| 8563 | 63.083 | 1.667  | 72.985 | N    | None   |
| 8564 | 63.083 | 6.000  | 64.995 | N    | None   |
| 8565 | 63.083 | 6.000  | 61.000 | N    | None   |
| 8566 | 63.083 | 6.000  | 68.990 | N    | None   |
| 8567 | 63.083 | 6.000  | 72.985 | N    | None   |
| 8568 | 63.083 | 10.334 | 64.995 | N    | None   |
| 8569 | 63.083 | 10.334 | 61.000 | N    | None   |
| 8570 | 63.083 | 10.334 | 68.990 | N    | None   |
| 8571 | 63.083 | 10.334 | 72.985 | N    | None   |
| 8572 | 63.083 | 14.667 | 64.995 | N    | None   |
| 8573 | 63.083 | 14.667 | 61.000 | N    | 1 - F3 |
| 8574 | 63.083 | 14.667 | 68.990 | N    | None   |
| 8575 | 63.083 | 14.667 | 72.985 | N    | None   |
| 8576 | 63.083 | 19.000 | 64.995 | N    | None   |
| 8577 | 63.083 | 19.000 | 68.990 | N    | None   |
| 8578 | 63.083 | 19.000 | 72.985 | N    | None   |
| 8579 | 66.646 | 1.667  | 64.995 | N    | None   |
| 8580 | 66.646 | 1.667  | 61.000 | N    | 1 - F3 |
| 8581 | 66.646 | 1.667  | 68.990 | N    | None   |
| 8582 | 66.646 | 1.667  | 72.985 | N    | None   |
| 8583 | 70.208 | 1.667  | 64.995 | N    | None   |
| 8584 | 70.208 | 1.667  | 61.000 | N    | 1 - F3 |
| 8585 | 70.208 | 1.667  | 68.990 | N    | None   |
| 8586 | 70.208 | 1.667  | 72.985 | N    | None   |
| 8587 | 73.771 | 1.667  | 64.995 | N    | None   |
| 8588 | 73.771 | 1.667  | 61.000 | N    | 1 - F3 |
| 8589 | 73.771 | 1.667  | 68.990 | N    | None   |
| 8590 | 73.771 | 1.667  | 72.985 | N    | None   |
| 8591 | 77.333 | 1.667  | 64.995 | N    | None   |
| 8592 | 77.333 | 1.667  | 68.990 | N    | None   |
| 8593 | 77.333 | 1.667  | 72.985 | N    | None   |
| 8594 | 70.293 | 64.654 | 64.995 | N    | None   |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

ES432706479 Scan Code

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X      | Y      | Z      | Fdtn | Diaphr |
|------|--------|--------|--------|------|--------|
| 8595 | 72.193 | 64.654 | 64.995 | N    | None   |
| 8596 | 72.193 | 64.654 | 61.000 | N    | 1 - F3 |
| 8597 | 70.293 | 64.654 | 68.990 | N    | None   |
| 8598 | 72.193 | 64.654 | 68.990 | N    | None   |
| 8599 | 70.293 | 64.654 | 72.985 | N    | None   |
| 8600 | 72.193 | 64.654 | 72.985 | N    | None   |
| 8601 | 74.093 | 64.654 | 64.995 | N    | None   |
| 8602 | 74.093 | 64.654 | 68.990 | N    | None   |
| 8603 | 74.093 | 64.654 | 72.985 | N    | None   |
| 8604 | 74.093 | 69.339 | 64.995 | N    | None   |
| 8605 | 74.093 | 69.339 | 61.000 | N    | 1 - F3 |
| 8606 | 74.093 | 69.339 | 68.990 | N    | None   |
| 8607 | 74.093 | 69.339 | 72.985 | N    | None   |
| 8608 | 77.333 | 7.084  | 64.995 | N    | None   |
| 8609 | 77.333 | 7.084  | 61.000 | N    | 1 - F3 |
| 8610 | 77.333 | 7.084  | 68.990 | N    | None   |
| 8611 | 77.333 | 7.084  | 72.985 | N    | None   |
| 8612 | 77.333 | 12.500 | 64.995 | N    | None   |
| 8613 | 77.333 | 12.500 | 68.990 | N    | None   |
| 8614 | 77.333 | 12.500 | 72.985 | N    | None   |
| 8615 | 77.333 | 22.500 | 64.995 | N    | None   |
| 8616 | 77.333 | 22.500 | 68.990 | N    | None   |
| 8617 | 77.333 | 20.226 | 64.609 | N    | None   |
| 8618 | 77.333 | 20.100 | 67.739 | N    | None   |
| 8619 | 77.333 | 20.106 | 71.088 | N    | None   |
| 8620 | 77.333 | 20.078 | 73.727 | N    | None   |
| 8621 | 77.333 | 22.500 | 72.985 | N    | None   |
| 8622 | 77.333 | 13.407 | 68.724 | N    | None   |
| 8623 | 77.333 | 13.353 | 64.867 | N    | None   |
| 8624 | 77.333 | 14.395 | 74.546 | N    | None   |
| 8625 | 77.333 | 13.348 | 73.844 | N    | None   |
| 8626 | 77.333 | 13.392 | 70.517 | N    | None   |
| 8627 | 77.333 | 14.487 | 70.491 | N    | None   |
| 8628 | 77.333 | 15.666 | 71.847 | N    | None   |
| 8629 | 77.333 | 17.167 | 71.562 | N    | None   |
| 8630 | 77.333 | 15.910 | 74.531 | N    | None   |
| 8631 | 77.333 | 17.666 | 74.524 | N    | None   |
| 8632 | 77.333 | 17.718 | 70.002 | N    | None   |
| 8633 | 77.333 | 18.000 | 68.500 | N    | None   |
| 8634 | 77.333 | 19.209 | 69.860 | N    | None   |
| 8635 | 77.333 | 16.085 | 68.500 | N    | None   |
| 8636 | 77.333 | 16.478 | 69.533 | N    | None   |
| 8637 | 77.333 | 18.000 | 64.750 | N    | None   |
| 8638 | 77.333 | 18.000 | 61.000 | N    | 1 - F3 |
| 8639 | 77.333 | 20.250 | 61.000 | N    | 1 - F3 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr |
|------|---------|--------|--------|------|--------|
| 8640 | 77.333  | 13.335 | 61.000 | N    | 1 - F3 |
| 8641 | 77.333  | 14.170 | 61.000 | N    | 1 - F3 |
| 8642 | 77.333  | 14.170 | 64.750 | N    | None   |
| 8643 | 77.333  | 14.170 | 68.500 | N    | None   |
| 8644 | 77.333  | 14.450 | 71.954 | N    | None   |
| 8645 | 77.333  | 15.499 | 70.059 | N    | None   |
| 8646 | 77.333  | 16.085 | 76.980 | N    | 1 - F4 |
| 8647 | 206.750 | 22.500 | 64.995 | N    | None   |
| 8648 | 206.750 | 28.271 | 64.995 | N    | None   |
| 8649 | 206.750 | 28.271 | 61.000 | N    | None   |
| 8650 | 206.750 | 22.500 | 68.990 | N    | None   |
| 8651 | 206.750 | 28.271 | 68.990 | N    | None   |
| 8652 | 206.750 | 22.500 | 72.985 | N    | None   |
| 8653 | 206.750 | 28.271 | 72.985 | N    | None   |
| 8654 | 206.750 | 34.042 | 64.995 | N    | None   |
| 8655 | 206.750 | 34.042 | 61.000 | N    | None   |
| 8656 | 206.750 | 34.042 | 68.990 | N    | None   |
| 8657 | 206.750 | 34.042 | 72.985 | N    | None   |
| 8658 | 206.750 | 39.813 | 64.995 | N    | None   |
| 8659 | 206.750 | 39.813 | 61.000 | N    | None   |
| 8660 | 206.750 | 39.813 | 68.990 | N    | None   |
| 8661 | 206.750 | 39.813 | 72.985 | N    | None   |
| 8662 | 206.750 | 45.584 | 64.995 | N    | None   |
| 8663 | 206.750 | 45.584 | 61.000 | N    | None   |
| 8664 | 206.750 | 45.584 | 68.990 | N    | None   |
| 8665 | 206.750 | 45.584 | 72.985 | N    | None   |
| 8666 | 206.750 | 51.354 | 64.995 | N    | None   |
| 8667 | 206.750 | 51.354 | 61.000 | N    | None   |
| 8668 | 206.750 | 51.354 | 68.990 | N    | None   |
| 8669 | 206.750 | 51.354 | 72.985 | N    | None   |
| 8670 | 206.750 | 57.125 | 64.995 | N    | None   |
| 8671 | 206.750 | 57.125 | 61.000 | N    | None   |
| 8672 | 206.750 | 57.125 | 68.990 | N    | None   |
| 8673 | 206.750 | 57.125 | 72.985 | N    | None   |
| 8674 | 206.750 | 62.896 | 64.995 | N    | None   |
| 8675 | 206.750 | 62.896 | 61.000 | N    | None   |
| 8676 | 206.750 | 62.896 | 68.990 | N    | None   |
| 8677 | 206.750 | 62.896 | 72.985 | N    | None   |
| 8678 | 206.750 | 68.667 | 64.995 | N    | None   |
| 8679 | 206.750 | 68.667 | 68.990 | N    | None   |
| 8680 | 206.750 | 68.667 | 72.985 | N    | None   |
| 8681 | 21.583  | 1.667  | 64.995 | N    | None   |
| 8682 | 25.604  | 1.667  | 64.995 | N    | None   |
| 8683 | 25.604  | 1.667  | 61.000 | N    | 1 - F3 |
| 8684 | 21.583  | 1.667  | 68.990 | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr |
|------|--------|--------|--------|------|--------|
| 8685 | 25.604 | 1.667  | 68.990 | N    | None   |
| 8686 | 21.583 | 1.667  | 72.985 | N    | None   |
| 8687 | 25.604 | 1.667  | 72.985 | N    | None   |
| 8688 | 29.625 | 1.667  | 64.995 | N    | None   |
| 8689 | 29.625 | 1.667  | 61.000 | N    | 1 - F3 |
| 8690 | 29.625 | 1.667  | 68.990 | N    | None   |
| 8691 | 29.625 | 1.667  | 72.985 | N    | None   |
| 8692 | 33.646 | 1.667  | 64.995 | N    | None   |
| 8693 | 33.646 | 1.667  | 61.000 | N    | 1 - F3 |
| 8694 | 33.646 | 1.667  | 68.990 | N    | None   |
| 8695 | 33.646 | 1.667  | 72.985 | N    | None   |
| 8696 | 34.163 | 64.654 | 55.000 | N    | None   |
| 8697 | 34.163 | 69.339 | 55.000 | N    | None   |
| 8698 | 34.163 | 69.339 | 49.000 | N    | 1 - F2 |
| 8699 | 34.163 | 74.024 | 55.000 | N    | None   |
| 8700 | 39.602 | 64.654 | 55.000 | N    | None   |
| 8701 | 39.602 | 64.654 | 49.000 | N    | 1 - F2 |
| 8702 | 45.040 | 64.654 | 55.000 | N    | None   |
| 8703 | 45.040 | 64.654 | 49.000 | N    | 1 - F2 |
| 8704 | 50.478 | 64.654 | 55.000 | N    | None   |
| 8705 | 50.478 | 64.654 | 49.000 | N    | 1 - F2 |
| 8706 | 55.917 | 64.654 | 55.000 | N    | None   |
| 8707 | 55.917 | 64.654 | 49.000 | N    | 1 - F2 |
| 8708 | 61.355 | 64.654 | 55.000 | N    | None   |
| 8709 | 61.355 | 64.654 | 49.000 | N    | 1 - F2 |
| 8710 | 66.793 | 64.654 | 55.000 | N    | None   |
| 8711 | 35.874 | 74.024 | 53.372 | N    | None   |
| 8712 | 35.788 | 74.024 | 49.000 | N    | 1 - F2 |
| 8713 | 37.490 | 74.024 | 51.541 | N    | None   |
| 8714 | 39.503 | 74.024 | 51.890 | N    | None   |
| 8715 | 38.913 | 74.024 | 49.000 | N    | 1 - F2 |
| 8716 | 52.067 | 74.024 | 57.485 | N    | None   |
| 8717 | 47.857 | 74.024 | 57.867 | N    | None   |
| 8718 | 70.386 | 74.024 | 57.603 | N    | None   |
| 8719 | 67.535 | 74.024 | 54.693 | N    | None   |
| 8720 | 71.439 | 74.024 | 53.354 | N    | None   |
| 8721 | 69.497 | 74.024 | 52.269 | N    | None   |
| 8722 | 61.343 | 74.024 | 57.586 | N    | None   |
| 8723 | 56.729 | 74.024 | 57.616 | N    | None   |
| 8724 | 51.441 | 74.024 | 51.711 | N    | None   |
| 8725 | 54.276 | 74.024 | 51.836 | N    | None   |
| 8726 | 53.863 | 74.024 | 49.000 | N    | 1 - F2 |
| 8727 | 59.262 | 74.024 | 54.346 | N    | None   |
| 8728 | 66.004 | 74.024 | 57.806 | N    | None   |
| 8729 | 63.640 | 74.024 | 54.755 | N    | None   |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr |
|------|--------|--------|--------|------|--------|
| 8730 | 40.270 | 74.024 | 55.437 | N    | None   |
| 8731 | 42.980 | 74.024 | 55.428 | N    | None   |
| 8732 | 39.751 | 74.024 | 58.103 | N    | None   |
| 8733 | 43.524 | 74.024 | 58.028 | N    | None   |
| 8734 | 60.652 | 74.024 | 51.813 | N    | None   |
| 8735 | 63.412 | 74.024 | 51.823 | N    | None   |
| 8736 | 63.613 | 74.024 | 49.000 | N    | 1 - F2 |
| 8737 | 47.920 | 74.024 | 51.726 | N    | None   |
| 8738 | 50.368 | 74.024 | 54.202 | N    | None   |
| 8739 | 45.100 | 74.024 | 52.217 | N    | None   |
| 8740 | 46.700 | 74.024 | 54.956 | N    | None   |
| 8741 | 57.020 | 74.024 | 51.756 | N    | None   |
| 8742 | 58.631 | 74.024 | 50.795 | N    | None   |
| 8743 | 58.713 | 74.024 | 49.000 | N    | 1 - F2 |
| 8744 | 49.013 | 74.024 | 49.000 | N    | 1 - F2 |
| 8745 | 49.367 | 74.024 | 50.807 | N    | None   |
| 8746 | 68.238 | 74.024 | 50.947 | N    | None   |
| 8747 | 66.217 | 74.024 | 51.941 | N    | None   |
| 8748 | 37.859 | 74.024 | 55.383 | N    | None   |
| 8749 | 36.056 | 74.024 | 57.946 | N    | None   |
| 8750 | 41.673 | 74.024 | 51.947 | N    | None   |
| 8751 | 72.053 | 74.024 | 49.000 | N    | 1 - F2 |
| 8752 | 74.093 | 74.024 | 55.000 | N    | None   |
| 8753 | 54.702 | 74.024 | 54.549 | N    | None   |
| 8754 | 43.963 | 74.024 | 49.000 | N    | 1 - F2 |
| 8755 | 68.513 | 74.024 | 49.000 | N    | 1 - F2 |
| 8756 | 37.667 | 1.667  | 55.000 | N    | None   |
| 8757 | 41.903 | 1.667  | 55.000 | N    | None   |
| 8758 | 41.903 | 1.667  | 49.000 | N    | 1 - F2 |
| 8759 | 46.139 | 1.667  | 55.000 | N    | None   |
| 8760 | 46.139 | 1.667  | 49.000 | N    | 1 - F2 |
| 8761 | 50.375 | 1.667  | 55.000 | N    | None   |
| 8762 | 50.375 | 1.667  | 49.000 | N    | 1 - F2 |
| 8763 | 54.611 | 1.667  | 55.000 | N    | None   |
| 8764 | 54.611 | 1.667  | 49.000 | N    | 1 - F2 |
| 8765 | 58.847 | 1.667  | 55.000 | N    | None   |
| 8766 | 58.847 | 1.667  | 49.000 | N    | 1 - F2 |
| 8767 | 63.083 | 1.667  | 55.000 | N    | None   |
| 8768 | 63.083 | 6.000  | 55.000 | N    | None   |
| 8769 | 63.083 | 6.000  | 49.000 | N    | 1 - F2 |
| 8770 | 63.083 | 10.334 | 55.000 | N    | None   |
| 8771 | 63.083 | 10.334 | 49.000 | N    | 1 - F2 |
| 8772 | 63.083 | 14.667 | 55.000 | N    | None   |
| 8773 | 63.083 | 14.667 | 49.000 | N    | 1 - F2 |
| 8774 | 63.083 | 19.000 | 55.000 | N    | None   |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr |
|------|---------|--------|--------|------|--------|
| 8775 | 66.646  | 1.667  | 55.000 | N    | None   |
| 8776 | 66.646  | 1.667  | 49.000 | N    | 1 - F2 |
| 8777 | 70.208  | 1.667  | 55.000 | N    | None   |
| 8778 | 70.208  | 1.667  | 49.000 | N    | 1 - F2 |
| 8779 | 73.771  | 1.667  | 55.000 | N    | None   |
| 8780 | 73.771  | 1.667  | 49.000 | N    | 1 - F2 |
| 8781 | 77.333  | 1.667  | 55.000 | N    | None   |
| 8782 | 70.293  | 64.654 | 55.000 | N    | None   |
| 8783 | 72.193  | 64.654 | 55.000 | N    | None   |
| 8784 | 72.193  | 64.654 | 49.000 | N    | 1 - F2 |
| 8785 | 74.093  | 64.654 | 55.000 | N    | None   |
| 8786 | 74.093  | 69.339 | 55.000 | N    | None   |
| 8787 | 74.093  | 69.339 | 49.000 | N    | 1 - F2 |
| 8788 | 77.333  | 7.084  | 55.000 | N    | None   |
| 8789 | 77.333  | 7.084  | 49.000 | N    | 1 - F2 |
| 8790 | 77.333  | 12.500 | 55.000 | N    | None   |
| 8791 | 77.333  | 17.500 | 49.000 | N    | 1 - F2 |
| 8792 | 77.333  | 16.960 | 54.437 | N    | None   |
| 8793 | 77.333  | 18.843 | 54.404 | N    | None   |
| 8794 | 77.333  | 20.648 | 57.204 | N    | None   |
| 8795 | 77.333  | 13.221 | 57.652 | N    | None   |
| 8796 | 77.333  | 16.085 | 61.000 | N    | 1 - F3 |
| 8797 | 77.333  | 14.464 | 55.960 | N    | None   |
| 8798 | 77.333  | 22.500 | 55.000 | N    | None   |
| 8799 | 206.750 | 22.500 | 55.000 | N    | None   |
| 8800 | 206.750 | 28.271 | 55.000 | N    | None   |
| 8801 | 206.750 | 28.271 | 49.000 | N    | 1 - F2 |
| 8802 | 206.750 | 34.042 | 55.000 | N    | None   |
| 8803 | 206.750 | 34.042 | 49.000 | N    | 1 - F2 |
| 8804 | 206.750 | 39.813 | 55.000 | N    | None   |
| 8805 | 206.750 | 39.813 | 49.000 | N    | 1 - F2 |
| 8806 | 206.750 | 45.584 | 55.000 | N    | None   |
| 8807 | 206.750 | 45.584 | 49.000 | N    | 1 - F2 |
| 8808 | 206.750 | 51.354 | 55.000 | N    | None   |
| 8809 | 206.750 | 51.354 | 49.000 | N    | 1 - F2 |
| 8810 | 206.750 | 57.125 | 55.000 | N    | None   |
| 8811 | 206.750 | 57.125 | 49.000 | N    | 1 - F2 |
| 8812 | 206.750 | 62.896 | 55.000 | N    | None   |
| 8813 | 206.750 | 62.896 | 49.000 | N    | 1 - F2 |
| 8814 | 206.750 | 68.667 | 55.000 | N    | None   |
| 8815 | 21.583  | 1.667  | 55.000 | N    | None   |
| 8816 | 25.604  | 1.667  | 55.000 | N    | None   |
| 8817 | 25.604  | 1.667  | 49.000 | N    | 1 - F2 |
| 8818 | 29.625  | 1.667  | 55.000 | N    | None   |
| 8819 | 29.625  | 1.667  | 49.000 | N    | 1 - F2 |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

ES627062603 Scan Code

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X      | Y      | Z      | Fdtn | Diaphr      |
|------|--------|--------|--------|------|-------------|
| 8820 | 33.646 | 1.667  | 55.000 | N    | None        |
| 8821 | 33.646 | 1.667  | 49.000 | N    | 1 - F2      |
| 8822 | 34.163 | 64.654 | 34.750 | N    | None        |
| 8823 | 34.163 | 69.339 | 34.750 | N    | None        |
| 8824 | 34.163 | 69.339 | 30.000 | N    | 1 - Fground |
| 8825 | 34.163 | 64.654 | 39.500 | N    | None        |
| 8826 | 34.163 | 69.339 | 39.500 | N    | None        |
| 8827 | 34.163 | 64.654 | 44.250 | N    | None        |
| 8828 | 34.163 | 69.339 | 44.250 | N    | None        |
| 8829 | 34.163 | 74.024 | 34.750 | N    | None        |
| 8830 | 34.163 | 74.024 | 39.500 | N    | None        |
| 8831 | 34.163 | 74.024 | 44.250 | N    | None        |
| 8832 | 74.093 | 64.654 | 34.750 | N    | None        |
| 8833 | 74.093 | 64.654 | 39.500 | N    | None        |
| 8834 | 71.815 | 64.654 | 33.491 | N    | None        |
| 8835 | 71.178 | 64.654 | 37.020 | N    | None        |
| 8836 | 41.834 | 64.654 | 35.776 | N    | None        |
| 8837 | 39.552 | 64.654 | 34.664 | N    | None        |
| 8838 | 43.710 | 64.654 | 33.134 | N    | None        |
| 8839 | 41.117 | 64.654 | 32.836 | N    | None        |
| 8840 | 65.962 | 64.654 | 34.633 | N    | None        |
| 8841 | 63.244 | 64.654 | 34.217 | N    | None        |
| 8842 | 64.722 | 64.654 | 32.196 | N    | None        |
| 8843 | 62.197 | 64.654 | 32.334 | N    | None        |
| 8844 | 70.593 | 64.654 | 41.822 | N    | None        |
| 8845 | 67.567 | 64.654 | 43.863 | N    | None        |
| 8846 | 68.977 | 64.654 | 39.336 | N    | None        |
| 8847 | 66.784 | 64.654 | 41.379 | N    | None        |
| 8848 | 39.437 | 64.654 | 40.214 | N    | None        |
| 8849 | 44.102 | 64.654 | 38.448 | N    | None        |
| 8850 | 39.584 | 64.654 | 43.740 | N    | None        |
| 8851 | 44.842 | 64.654 | 42.998 | N    | None        |
| 8852 | 64.692 | 64.654 | 43.493 | N    | None        |
| 8853 | 63.015 | 64.654 | 46.137 | N    | None        |
| 8854 | 66.166 | 64.654 | 46.231 | N    | None        |
| 8855 | 48.504 | 64.654 | 38.340 | N    | None        |
| 8856 | 48.899 | 64.654 | 33.808 | N    | None        |
| 8857 | 46.346 | 64.654 | 33.672 | N    | None        |
| 8858 | 55.936 | 64.654 | 37.596 | N    | None        |
| 8859 | 51.967 | 64.654 | 38.045 | N    | None        |
| 8860 | 55.038 | 64.654 | 33.629 | N    | None        |
| 8861 | 51.385 | 64.654 | 33.603 | N    | None        |
| 8862 | 71.528 | 64.654 | 45.410 | N    | None        |
| 8863 | 69.620 | 64.654 | 46.220 | N    | None        |
| 8864 | 49.353 | 64.654 | 43.254 | N    | None        |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr      |
|------|--------|--------|--------|------|-------------|
| 8865 | 53.750 | 64.654 | 42.992 | N    | None        |
| 8866 | 36.942 | 64.654 | 36.347 | N    | None        |
| 8867 | 36.533 | 64.654 | 33.538 | N    | None        |
| 8868 | 61.658 | 64.654 | 35.727 | N    | None        |
| 8869 | 59.678 | 64.654 | 37.173 | N    | None        |
| 8870 | 60.332 | 64.654 | 32.776 | N    | None        |
| 8871 | 58.424 | 64.654 | 33.355 | N    | None        |
| 8872 | 68.452 | 64.654 | 34.667 | N    | None        |
| 8873 | 64.466 | 64.654 | 36.530 | N    | None        |
| 8874 | 67.218 | 64.654 | 37.073 | N    | None        |
| 8875 | 60.254 | 64.654 | 40.158 | N    | None        |
| 8876 | 63.545 | 64.654 | 40.803 | N    | None        |
| 8877 | 62.711 | 64.654 | 38.153 | N    | None        |
| 8878 | 58.615 | 64.654 | 45.943 | N    | None        |
| 8879 | 57.139 | 64.654 | 41.672 | N    | None        |
| 8880 | 68.357 | 64.654 | 47.186 | N    | None        |
| 8881 | 69.908 | 64.654 | 32.565 | N    | None        |
| 8882 | 68.496 | 64.654 | 31.488 | N    | None        |
| 8883 | 66.992 | 64.654 | 32.281 | N    | None        |
| 8884 | 39.593 | 64.654 | 37.027 | N    | None        |
| 8885 | 39.546 | 64.654 | 31.866 | N    | None        |
| 8886 | 38.240 | 64.654 | 32.644 | N    | None        |
| 8887 | 72.253 | 64.654 | 30.000 | N    | 1 - Fground |
| 8888 | 44.413 | 64.654 | 30.000 | N    | 1 - Fground |
| 8889 | 63.782 | 64.654 | 30.000 | N    | 1 - Fground |
| 8890 | 65.709 | 64.654 | 38.856 | N    | None        |
| 8891 | 61.084 | 64.654 | 43.263 | N    | None        |
| 8892 | 49.413 | 64.654 | 30.000 | N    | 1 - Fground |
| 8893 | 54.263 | 64.654 | 30.000 | N    | 1 - Fground |
| 8894 | 74.093 | 64.654 | 44.250 | N    | None        |
| 8895 | 36.038 | 64.654 | 30.000 | N    | 1 - Fground |
| 8896 | 59.113 | 64.654 | 30.000 | N    | 1 - Fground |
| 8897 | 68.543 | 64.654 | 49.000 | N    | 1 - F2      |
| 8898 | 68.682 | 64.654 | 30.000 | N    | 1 - Fground |
| 8899 | 39.413 | 64.654 | 30.000 | N    | 1 - Fground |
| 8900 | 35.788 | 74.024 | 34.750 | N    | None        |
| 8901 | 35.788 | 74.024 | 30.000 | N    | 1 - Fground |
| 8902 | 35.788 | 74.024 | 39.500 | N    | None        |
| 8903 | 35.788 | 74.024 | 44.250 | N    | None        |
| 8904 | 37.413 | 74.024 | 34.750 | N    | None        |
| 8905 | 37.413 | 74.024 | 39.500 | N    | None        |
| 8906 | 37.413 | 74.024 | 44.250 | N    | None        |
| 8907 | 37.667 | 1.667  | 34.750 | N    | None        |
| 8908 | 41.903 | 1.667  | 34.750 | N    | None        |
| 8909 | 41.903 | 1.667  | 30.000 | N    | 1 - Fground |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr      |
|------|--------|--------|--------|------|-------------|
| 8910 | 37.667 | 1.667  | 39.500 | N    | None        |
| 8911 | 41.903 | 1.667  | 39.500 | N    | None        |
| 8912 | 37.667 | 1.667  | 44.250 | N    | None        |
| 8913 | 41.903 | 1.667  | 44.250 | N    | None        |
| 8914 | 46.139 | 1.667  | 34.750 | N    | None        |
| 8915 | 46.139 | 1.667  | 30.000 | N    | 1 - Fground |
| 8916 | 46.139 | 1.667  | 39.500 | N    | None        |
| 8917 | 46.139 | 1.667  | 44.250 | N    | None        |
| 8918 | 50.375 | 1.667  | 34.750 | N    | None        |
| 8919 | 50.375 | 1.667  | 30.000 | N    | 1 - Fground |
| 8920 | 50.375 | 1.667  | 39.500 | N    | None        |
| 8921 | 50.375 | 1.667  | 44.250 | N    | None        |
| 8922 | 54.611 | 1.667  | 34.750 | N    | None        |
| 8923 | 54.611 | 1.667  | 30.000 | N    | 1 - Fground |
| 8924 | 54.611 | 1.667  | 39.500 | N    | None        |
| 8925 | 54.611 | 1.667  | 44.250 | N    | None        |
| 8926 | 58.847 | 1.667  | 34.750 | N    | None        |
| 8927 | 58.847 | 1.667  | 30.000 | N    | 1 - Fground |
| 8928 | 58.847 | 1.667  | 39.500 | N    | None        |
| 8929 | 58.847 | 1.667  | 44.250 | N    | None        |
| 8930 | 63.083 | 1.667  | 34.750 | N    | None        |
| 8931 | 63.083 | 1.667  | 39.500 | N    | None        |
| 8932 | 63.083 | 1.667  | 44.250 | N    | None        |
| 8933 | 47.513 | 74.024 | 44.250 | N    | None        |
| 8934 | 43.963 | 74.024 | 44.250 | N    | None        |
| 8935 | 47.513 | 74.024 | 39.500 | N    | None        |
| 8936 | 43.963 | 74.024 | 39.500 | N    | None        |
| 8937 | 47.513 | 74.024 | 34.750 | N    | None        |
| 8938 | 43.963 | 74.024 | 34.750 | N    | None        |
| 8939 | 43.963 | 74.024 | 30.000 | N    | 1 - Fground |
| 8940 | 40.413 | 74.024 | 44.250 | N    | None        |
| 8941 | 40.413 | 74.024 | 39.500 | N    | None        |
| 8942 | 40.413 | 74.024 | 34.750 | N    | None        |
| 8943 | 53.938 | 74.024 | 30.000 | N    | 1 - Fground |
| 8944 | 53.851 | 74.024 | 34.372 | N    | None        |
| 8945 | 57.213 | 74.024 | 34.750 | N    | None        |
| 8946 | 50.513 | 74.024 | 44.250 | N    | None        |
| 8947 | 50.513 | 74.024 | 39.500 | N    | None        |
| 8948 | 53.863 | 74.024 | 44.250 | N    | None        |
| 8949 | 53.863 | 74.024 | 39.500 | N    | None        |
| 8950 | 50.890 | 74.024 | 33.806 | N    | None        |
| 8951 | 50.617 | 74.024 | 32.822 | N    | None        |
| 8952 | 50.513 | 74.024 | 34.750 | N    | None        |
| 8953 | 57.213 | 74.024 | 39.500 | N    | None        |
| 8954 | 57.213 | 74.024 | 44.250 | N    | None        |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr      |
|------|--------|--------|--------|------|-------------|
| 8955 | 50.588 | 74.024 | 30.000 | N    | 1 - Fground |
| 8956 | 63.688 | 74.024 | 30.000 | N    | 1 - Fground |
| 8957 | 63.596 | 74.024 | 34.373 | N    | None        |
| 8958 | 67.013 | 74.024 | 34.750 | N    | None        |
| 8959 | 60.213 | 74.024 | 44.250 | N    | None        |
| 8960 | 60.213 | 74.024 | 39.500 | N    | None        |
| 8961 | 63.613 | 74.024 | 44.250 | N    | None        |
| 8962 | 63.613 | 74.024 | 39.500 | N    | None        |
| 8963 | 60.591 | 74.024 | 33.806 | N    | None        |
| 8964 | 60.317 | 74.024 | 32.822 | N    | None        |
| 8965 | 60.213 | 74.024 | 34.750 | N    | None        |
| 8966 | 67.013 | 74.024 | 39.500 | N    | None        |
| 8967 | 67.013 | 74.024 | 44.250 | N    | None        |
| 8968 | 60.288 | 74.024 | 30.000 | N    | 1 - Fground |
| 8969 | 63.083 | 6.000  | 34.750 | N    | None        |
| 8970 | 63.083 | 6.000  | 30.000 | N    | 1 - Fground |
| 8971 | 63.083 | 6.000  | 39.500 | N    | None        |
| 8972 | 63.083 | 6.000  | 44.250 | N    | None        |
| 8973 | 63.083 | 10.334 | 34.750 | N    | None        |
| 8974 | 63.083 | 10.334 | 30.000 | N    | 1 - Fground |
| 8975 | 63.083 | 10.334 | 39.500 | N    | None        |
| 8976 | 63.083 | 10.334 | 44.250 | N    | None        |
| 8977 | 63.083 | 14.667 | 34.750 | N    | None        |
| 8978 | 63.083 | 14.667 | 30.000 | N    | 1 - Fground |
| 8979 | 63.083 | 14.667 | 39.500 | N    | None        |
| 8980 | 63.083 | 14.667 | 44.250 | N    | None        |
| 8981 | 63.083 | 19.000 | 34.750 | N    | None        |
| 8982 | 63.083 | 19.000 | 39.500 | N    | None        |
| 8983 | 63.083 | 19.000 | 44.250 | N    | None        |
| 8984 | 66.646 | 1.667  | 34.750 | N    | None        |
| 8985 | 66.646 | 1.667  | 30.000 | N    | 1 - Fground |
| 8986 | 66.646 | 1.667  | 39.500 | N    | None        |
| 8987 | 66.646 | 1.667  | 44.250 | N    | None        |
| 8988 | 70.208 | 1.667  | 34.750 | N    | None        |
| 8989 | 70.208 | 1.667  | 30.000 | N    | 1 - Fground |
| 8990 | 70.208 | 1.667  | 39.500 | N    | None        |
| 8991 | 70.208 | 1.667  | 44.250 | N    | None        |
| 8992 | 73.771 | 1.667  | 34.750 | N    | None        |
| 8993 | 73.771 | 1.667  | 30.000 | N    | 1 - Fground |
| 8994 | 73.771 | 1.667  | 39.500 | N    | None        |
| 8995 | 73.771 | 1.667  | 44.250 | N    | None        |
| 8996 | 77.333 | 1.667  | 34.750 | N    | None        |
| 8997 | 77.333 | 1.667  | 39.500 | N    | None        |
| 8998 | 77.333 | 1.667  | 44.250 | N    | None        |
| 8999 | 70.013 | 74.024 | 34.750 | N    | None        |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr      |
|------|---------|--------|--------|------|-------------|
| 9000 | 72.053  | 74.024 | 34.750 | N    | None        |
| 9001 | 72.053  | 74.024 | 30.000 | N    | 1 - Fground |
| 9002 | 70.013  | 74.024 | 39.500 | N    | None        |
| 9003 | 72.053  | 74.024 | 39.500 | N    | None        |
| 9004 | 70.013  | 74.024 | 44.250 | N    | None        |
| 9005 | 72.053  | 74.024 | 44.250 | N    | None        |
| 9006 | 74.093  | 74.024 | 34.750 | N    | None        |
| 9007 | 74.093  | 74.024 | 39.500 | N    | None        |
| 9008 | 74.093  | 74.024 | 44.250 | N    | None        |
| 9009 | 74.093  | 69.339 | 34.750 | N    | None        |
| 9010 | 74.093  | 69.339 | 30.000 | N    | 1 - Fground |
| 9011 | 74.093  | 69.339 | 39.500 | N    | None        |
| 9012 | 74.093  | 69.339 | 44.250 | N    | None        |
| 9013 | 77.333  | 7.084  | 34.750 | N    | None        |
| 9014 | 77.333  | 7.084  | 30.000 | N    | 1 - Fground |
| 9015 | 77.333  | 7.084  | 39.500 | N    | None        |
| 9016 | 77.333  | 7.084  | 44.250 | N    | None        |
| 9017 | 77.333  | 12.500 | 34.750 | N    | None        |
| 9018 | 77.333  | 12.500 | 39.500 | N    | None        |
| 9019 | 77.333  | 12.500 | 44.250 | N    | None        |
| 9020 | 77.333  | 17.500 | 34.750 | N    | None        |
| 9021 | 77.333  | 17.500 | 30.000 | N    | 1 - Fground |
| 9022 | 77.333  | 17.500 | 39.500 | N    | None        |
| 9023 | 77.333  | 17.500 | 44.250 | N    | None        |
| 9024 | 77.333  | 22.500 | 34.750 | N    | None        |
| 9025 | 77.333  | 22.500 | 39.500 | N    | None        |
| 9026 | 77.333  | 22.500 | 44.250 | N    | None        |
| 9027 | 206.750 | 22.500 | 34.750 | N    | None        |
| 9028 | 206.750 | 28.271 | 34.750 | N    | None        |
| 9029 | 206.750 | 28.271 | 30.000 | N    | 1 - Fground |
| 9030 | 206.750 | 22.500 | 39.500 | N    | None        |
| 9031 | 206.750 | 28.271 | 39.500 | N    | None        |
| 9032 | 206.750 | 22.500 | 44.250 | N    | None        |
| 9033 | 206.750 | 28.271 | 44.250 | N    | None        |
| 9034 | 206.750 | 34.042 | 34.750 | N    | None        |
| 9035 | 206.750 | 34.042 | 30.000 | N    | 1 - Fground |
| 9036 | 206.750 | 34.042 | 39.500 | N    | None        |
| 9037 | 206.750 | 34.042 | 44.250 | N    | None        |
| 9038 | 206.750 | 39.813 | 34.750 | N    | None        |
| 9039 | 206.750 | 39.813 | 30.000 | N    | 1 - Fground |
| 9040 | 206.750 | 39.813 | 39.500 | N    | None        |
| 9041 | 206.750 | 39.813 | 44.250 | N    | None        |
| 9042 | 206.750 | 45.584 | 34.750 | N    | None        |
| 9043 | 206.750 | 45.584 | 30.000 | N    | 1 - Fground |
| 9044 | 206.750 | 45.584 | 39.500 | N    | None        |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr      |
|------|---------|--------|--------|------|-------------|
| 9045 | 206.750 | 45.584 | 44.250 | N    | None        |
| 9046 | 206.750 | 51.354 | 34.750 | N    | None        |
| 9047 | 206.750 | 51.354 | 30.000 | N    | 1 - Fground |
| 9048 | 206.750 | 51.354 | 39.500 | N    | None        |
| 9049 | 206.750 | 51.354 | 44.250 | N    | None        |
| 9050 | 206.750 | 57.125 | 34.750 | N    | None        |
| 9051 | 206.750 | 57.125 | 30.000 | N    | 1 - Fground |
| 9052 | 206.750 | 57.125 | 39.500 | N    | None        |
| 9053 | 206.750 | 57.125 | 44.250 | N    | None        |
| 9054 | 206.750 | 62.896 | 34.750 | N    | None        |
| 9055 | 206.750 | 62.896 | 30.000 | N    | 1 - Fground |
| 9056 | 206.750 | 62.896 | 39.500 | N    | None        |
| 9057 | 206.750 | 62.896 | 44.250 | N    | None        |
| 9058 | 206.750 | 68.667 | 34.750 | N    | None        |
| 9059 | 206.750 | 68.667 | 39.500 | N    | None        |
| 9060 | 206.750 | 68.667 | 44.250 | N    | None        |
| 9061 | 21.583  | 1.667  | 34.750 | N    | None        |
| 9062 | 25.604  | 1.667  | 34.750 | N    | None        |
| 9063 | 25.604  | 1.667  | 30.000 | N    | 1 - Fground |
| 9064 | 21.583  | 1.667  | 39.500 | N    | None        |
| 9065 | 25.604  | 1.667  | 39.500 | N    | None        |
| 9066 | 21.583  | 1.667  | 44.250 | N    | None        |
| 9067 | 25.604  | 1.667  | 44.250 | N    | None        |
| 9068 | 29.625  | 1.667  | 34.750 | N    | None        |
| 9069 | 29.625  | 1.667  | 30.000 | N    | 1 - Fground |
| 9070 | 29.625  | 1.667  | 39.500 | N    | None        |
| 9071 | 29.625  | 1.667  | 44.250 | N    | None        |
| 9072 | 33.646  | 1.667  | 34.750 | N    | None        |
| 9073 | 33.646  | 1.667  | 30.000 | N    | 1 - Fground |
| 9074 | 33.646  | 1.667  | 39.500 | N    | None        |
| 9075 | 33.646  | 1.667  | 44.250 | N    | None        |
| 9076 | 1.583   | 1.667  | 34.750 | N    | None        |
| 9077 | 6.583   | 1.667  | 34.750 | N    | None        |
| 9078 | 6.583   | 1.667  | 30.000 | N    | 1 - Fground |
| 9079 | 1.583   | 1.667  | 39.500 | N    | None        |
| 9080 | 6.583   | 1.667  | 39.500 | N    | None        |
| 9081 | 1.583   | 1.667  | 44.250 | N    | None        |
| 9082 | 6.583   | 1.667  | 44.250 | N    | None        |
| 9083 | 6.583   | 1.667  | 49.000 | N    | 1 - F2      |
| 9084 | 11.583  | 1.667  | 34.750 | N    | None        |
| 9085 | 11.583  | 1.667  | 30.000 | N    | 1 - Fground |
| 9086 | 11.583  | 1.667  | 39.500 | N    | None        |
| 9087 | 11.583  | 1.667  | 44.250 | N    | None        |
| 9088 | 11.583  | 1.667  | 49.000 | N    | 1 - F2      |
| 9089 | 16.583  | 1.667  | 34.750 | N    | None        |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr      |
|------|--------|--------|--------|------|-------------|
| 9090 | 16.583 | 1.667  | 30.000 | N    | 1 - Fground |
| 9091 | 16.583 | 1.667  | 39.500 | N    | None        |
| 9092 | 16.583 | 1.667  | 44.250 | N    | None        |
| 9093 | 16.583 | 1.667  | 49.000 | N    | 1 - F2      |
| 9094 | 34.163 | 64.654 | 18.750 | N    | None        |
| 9095 | 34.163 | 69.339 | 18.750 | N    | None        |
| 9096 | 34.163 | 69.339 | 15.000 | N    | 1 - Cellar  |
| 9097 | 34.163 | 64.654 | 22.500 | N    | None        |
| 9098 | 34.163 | 69.339 | 22.500 | N    | None        |
| 9099 | 34.163 | 64.654 | 26.250 | N    | None        |
| 9100 | 34.163 | 69.339 | 26.250 | N    | None        |
| 9101 | 34.163 | 74.024 | 18.750 | N    | None        |
| 9102 | 34.163 | 74.024 | 22.500 | N    | None        |
| 9103 | 34.163 | 74.024 | 26.250 | N    | None        |
| 9104 | 36.038 | 64.654 | 18.750 | N    | None        |
| 9105 | 36.038 | 64.654 | 15.000 | N    | 1 - Cellar  |
| 9106 | 36.038 | 64.654 | 22.500 | N    | None        |
| 9107 | 36.038 | 64.654 | 26.250 | N    | None        |
| 9108 | 37.913 | 64.654 | 18.750 | N    | None        |
| 9109 | 37.913 | 64.654 | 22.500 | N    | None        |
| 9110 | 37.913 | 64.654 | 26.250 | N    | None        |
| 9111 | 44.288 | 74.024 | 15.000 | N    | 1 - Cellar  |
| 9112 | 43.966 | 74.024 | 19.263 | N    | None        |
| 9113 | 47.663 | 74.024 | 18.750 | N    | None        |
| 9114 | 36.155 | 74.024 | 26.639 | N    | None        |
| 9115 | 44.271 | 74.024 | 27.131 | N    | None        |
| 9116 | 41.162 | 74.024 | 27.719 | N    | None        |
| 9117 | 37.502 | 74.024 | 19.368 | N    | None        |
| 9118 | 37.538 | 74.024 | 15.000 | N    | 1 - Cellar  |
| 9119 | 47.196 | 74.024 | 26.744 | N    | None        |
| 9120 | 47.663 | 74.024 | 22.500 | N    | None        |
| 9121 | 47.569 | 74.024 | 27.700 | N    | None        |
| 9122 | 47.663 | 74.024 | 26.250 | N    | None        |
| 9123 | 38.019 | 74.024 | 27.409 | N    | None        |
| 9124 | 39.455 | 74.024 | 25.285 | N    | None        |
| 9125 | 39.452 | 74.024 | 28.447 | N    | None        |
| 9126 | 43.800 | 74.024 | 23.724 | N    | None        |
| 9127 | 40.272 | 74.024 | 20.263 | N    | None        |
| 9128 | 40.913 | 74.024 | 15.000 | N    | 1 - Cellar  |
| 9129 | 36.931 | 74.024 | 23.463 | N    | None        |
| 9130 | 47.588 | 74.024 | 30.000 | N    | 1 - Fground |
| 9131 | 38.913 | 74.024 | 30.000 | N    | 1 - Fground |
| 9132 | 37.667 | 1.667  | 18.750 | N    | None        |
| 9133 | 41.903 | 1.667  | 18.750 | N    | None        |
| 9134 | 41.903 | 1.667  | 15.000 | N    | 1 - Cellar  |





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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr     |
|------|--------|--------|--------|------|------------|
| 9135 | 37.667 | 1.667  | 22.500 | N    | None       |
| 9136 | 41.903 | 1.667  | 22.500 | N    | None       |
| 9137 | 37.667 | 1.667  | 26.250 | N    | None       |
| 9138 | 41.903 | 1.667  | 26.250 | N    | None       |
| 9139 | 46.139 | 1.667  | 18.750 | N    | None       |
| 9140 | 46.139 | 1.667  | 15.000 | N    | 1 - Cellar |
| 9141 | 46.139 | 1.667  | 22.500 | N    | None       |
| 9142 | 46.139 | 1.667  | 26.250 | N    | None       |
| 9143 | 50.375 | 1.667  | 18.750 | N    | None       |
| 9144 | 50.375 | 1.667  | 15.000 | N    | 1 - Cellar |
| 9145 | 50.375 | 1.667  | 22.500 | N    | None       |
| 9146 | 50.375 | 1.667  | 26.250 | N    | None       |
| 9147 | 54.611 | 1.667  | 18.750 | N    | None       |
| 9148 | 54.611 | 1.667  | 15.000 | N    | 1 - Cellar |
| 9149 | 54.611 | 1.667  | 22.500 | N    | None       |
| 9150 | 54.611 | 1.667  | 26.250 | N    | None       |
| 9151 | 58.847 | 1.667  | 18.750 | N    | None       |
| 9152 | 58.847 | 1.667  | 15.000 | N    | 1 - Cellar |
| 9153 | 58.847 | 1.667  | 22.500 | N    | None       |
| 9154 | 58.847 | 1.667  | 26.250 | N    | None       |
| 9155 | 63.083 | 1.667  | 18.750 | N    | None       |
| 9156 | 63.083 | 1.667  | 22.500 | N    | None       |
| 9157 | 63.083 | 1.667  | 26.250 | N    | None       |
| 9158 | 47.913 | 64.654 | 26.250 | N    | None       |
| 9159 | 44.413 | 64.654 | 26.250 | N    | None       |
| 9160 | 47.913 | 64.654 | 22.500 | N    | None       |
| 9161 | 44.413 | 64.654 | 22.500 | N    | None       |
| 9162 | 47.913 | 64.654 | 18.750 | N    | None       |
| 9163 | 44.413 | 64.654 | 18.750 | N    | None       |
| 9164 | 44.413 | 64.654 | 15.000 | N    | 1 - Cellar |
| 9165 | 40.913 | 64.654 | 26.250 | N    | None       |
| 9166 | 40.913 | 64.654 | 22.500 | N    | None       |
| 9167 | 40.913 | 64.654 | 18.750 | N    | None       |
| 9168 | 54.023 | 74.024 | 22.521 | N    | None       |
| 9169 | 57.363 | 74.024 | 22.500 | N    | None       |
| 9170 | 53.851 | 74.024 | 26.439 | N    | None       |
| 9171 | 56.728 | 74.024 | 26.775 | N    | None       |
| 9172 | 50.663 | 74.024 | 18.750 | N    | None       |
| 9173 | 54.013 | 74.024 | 18.750 | N    | None       |
| 9174 | 54.013 | 74.024 | 15.000 | N    | 1 - Cellar |
| 9175 | 57.267 | 74.024 | 27.725 | N    | None       |
| 9176 | 57.363 | 74.024 | 26.250 | N    | None       |
| 9177 | 50.663 | 74.024 | 26.250 | N    | None       |
| 9178 | 50.663 | 74.024 | 22.500 | N    | None       |
| 9179 | 57.363 | 74.024 | 18.750 | N    | None       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr      |
|------|--------|--------|--------|------|-------------|
| 9180 | 57.288 | 74.024 | 30.000 | N    | 1 - Fground |
| 9181 | 50.913 | 64.654 | 18.750 | N    | None        |
| 9182 | 54.263 | 64.654 | 18.750 | N    | None        |
| 9183 | 54.263 | 64.654 | 15.000 | N    | 1 - Cellar  |
| 9184 | 50.913 | 64.654 | 22.500 | N    | None        |
| 9185 | 54.263 | 64.654 | 22.500 | N    | None        |
| 9186 | 50.913 | 64.654 | 26.250 | N    | None        |
| 9187 | 54.263 | 64.654 | 26.250 | N    | None        |
| 9188 | 57.613 | 64.654 | 18.750 | N    | None        |
| 9189 | 57.613 | 64.654 | 22.500 | N    | None        |
| 9190 | 57.613 | 64.654 | 26.250 | N    | None        |
| 9191 | 60.363 | 74.024 | 18.750 | N    | None        |
| 9192 | 63.206 | 74.024 | 18.512 | N    | None        |
| 9193 | 63.478 | 74.024 | 15.000 | N    | 1 - Cellar  |
| 9194 | 60.363 | 74.024 | 22.500 | N    | None        |
| 9195 | 63.583 | 74.024 | 22.500 | N    | None        |
| 9196 | 60.363 | 74.024 | 26.250 | N    | None        |
| 9197 | 63.393 | 74.024 | 26.487 | N    | None        |
| 9198 | 65.978 | 74.024 | 18.484 | N    | None        |
| 9199 | 65.982 | 74.024 | 22.505 | N    | None        |
| 9200 | 66.151 | 74.024 | 26.552 | N    | None        |
| 9201 | 68.081 | 74.024 | 18.484 | N    | None        |
| 9202 | 68.093 | 74.024 | 15.000 | N    | 1 - Cellar  |
| 9203 | 68.087 | 74.024 | 22.537 | N    | None        |
| 9204 | 68.258 | 74.024 | 26.553 | N    | None        |
| 9205 | 68.513 | 74.024 | 30.000 | N    | 1 - Fground |
| 9206 | 69.921 | 74.024 | 18.547 | N    | None        |
| 9207 | 70.018 | 74.024 | 22.498 | N    | None        |
| 9208 | 69.961 | 74.024 | 26.385 | N    | None        |
| 9209 | 71.943 | 74.024 | 18.635 | N    | None        |
| 9210 | 71.843 | 74.024 | 15.000 | N    | 1 - Cellar  |
| 9211 | 71.993 | 74.024 | 22.451 | N    | None        |
| 9212 | 71.980 | 74.024 | 26.337 | N    | None        |
| 9213 | 74.093 | 74.024 | 18.750 | N    | None        |
| 9214 | 74.093 | 74.024 | 22.500 | N    | None        |
| 9215 | 74.093 | 74.024 | 26.250 | N    | None        |
| 9216 | 60.613 | 64.654 | 18.750 | N    | None        |
| 9217 | 63.782 | 64.654 | 18.750 | N    | None        |
| 9218 | 63.782 | 64.654 | 15.000 | N    | 1 - Cellar  |
| 9219 | 60.613 | 64.654 | 22.500 | N    | None        |
| 9220 | 63.782 | 64.654 | 22.500 | N    | None        |
| 9221 | 60.613 | 64.654 | 26.250 | N    | None        |
| 9222 | 63.782 | 64.654 | 26.250 | N    | None        |
| 9223 | 66.950 | 64.654 | 18.750 | N    | None        |
| 9224 | 66.950 | 64.654 | 22.500 | N    | None        |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr     |
|------|--------|--------|--------|------|------------|
| 9225 | 66.950 | 64.654 | 26.250 | N    | None       |
| 9226 | 63.083 | 6.000  | 18.750 | N    | None       |
| 9227 | 63.083 | 6.000  | 15.000 | N    | 1 - Cellar |
| 9228 | 63.083 | 6.000  | 22.500 | N    | None       |
| 9229 | 63.083 | 6.000  | 26.250 | N    | None       |
| 9230 | 63.083 | 10.334 | 18.750 | N    | None       |
| 9231 | 63.083 | 10.334 | 15.000 | N    | 1 - Cellar |
| 9232 | 63.083 | 10.334 | 22.500 | N    | None       |
| 9233 | 63.083 | 10.334 | 26.250 | N    | None       |
| 9234 | 63.083 | 14.667 | 18.750 | N    | None       |
| 9235 | 63.083 | 14.667 | 15.000 | N    | 1 - Cellar |
| 9236 | 63.083 | 14.667 | 22.500 | N    | None       |
| 9237 | 63.083 | 14.667 | 26.250 | N    | None       |
| 9238 | 63.083 | 19.000 | 18.750 | N    | None       |
| 9239 | 63.083 | 19.000 | 22.500 | N    | None       |
| 9240 | 63.083 | 19.000 | 26.250 | N    | None       |
| 9241 | 66.646 | 1.667  | 18.750 | N    | None       |
| 9242 | 66.646 | 1.667  | 15.000 | N    | 1 - Cellar |
| 9243 | 66.646 | 1.667  | 22.500 | N    | None       |
| 9244 | 66.646 | 1.667  | 26.250 | N    | None       |
| 9245 | 70.208 | 1.667  | 18.750 | N    | None       |
| 9246 | 70.208 | 1.667  | 15.000 | N    | 1 - Cellar |
| 9247 | 70.208 | 1.667  | 22.500 | N    | None       |
| 9248 | 70.208 | 1.667  | 26.250 | N    | None       |
| 9249 | 73.771 | 1.667  | 18.750 | N    | None       |
| 9250 | 73.771 | 1.667  | 15.000 | N    | 1 - Cellar |
| 9251 | 73.771 | 1.667  | 22.500 | N    | None       |
| 9252 | 73.771 | 1.667  | 26.250 | N    | None       |
| 9253 | 77.333 | 1.667  | 18.750 | N    | None       |
| 9254 | 77.333 | 1.667  | 22.500 | N    | None       |
| 9255 | 77.333 | 1.667  | 26.250 | N    | None       |
| 9256 | 70.413 | 64.654 | 18.750 | N    | None       |
| 9257 | 72.253 | 64.654 | 18.750 | N    | None       |
| 9258 | 72.253 | 64.654 | 15.000 | N    | 1 - Cellar |
| 9259 | 70.413 | 64.654 | 22.500 | N    | None       |
| 9260 | 72.253 | 64.654 | 22.500 | N    | None       |
| 9261 | 70.413 | 64.654 | 26.250 | N    | None       |
| 9262 | 72.253 | 64.654 | 26.250 | N    | None       |
| 9263 | 74.093 | 64.654 | 18.750 | N    | None       |
| 9264 | 74.093 | 64.654 | 22.500 | N    | None       |
| 9265 | 74.093 | 64.654 | 26.250 | N    | None       |
| 9266 | 74.093 | 69.339 | 18.750 | N    | None       |
| 9267 | 74.093 | 69.339 | 15.000 | N    | 1 - Cellar |
| 9268 | 74.093 | 69.339 | 22.500 | N    | None       |
| 9269 | 74.093 | 69.339 | 26.250 | N    | None       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr     |
|------|---------|--------|--------|------|------------|
| 9270 | 77.333  | 7.084  | 18.750 | N    | None       |
| 9271 | 77.333  | 7.084  | 15.000 | N    | 1 - Cellar |
| 9272 | 77.333  | 7.084  | 22.500 | N    | None       |
| 9273 | 77.333  | 7.084  | 26.250 | N    | None       |
| 9274 | 77.333  | 12.500 | 18.750 | N    | None       |
| 9275 | 77.333  | 12.500 | 22.500 | N    | None       |
| 9276 | 77.333  | 12.500 | 26.250 | N    | None       |
| 9277 | 77.333  | 17.500 | 18.750 | N    | None       |
| 9278 | 77.333  | 17.500 | 15.000 | N    | 1 - Cellar |
| 9279 | 77.333  | 17.500 | 22.500 | N    | None       |
| 9280 | 77.333  | 17.500 | 26.250 | N    | None       |
| 9281 | 77.333  | 22.500 | 18.750 | N    | None       |
| 9282 | 77.333  | 22.500 | 22.500 | N    | None       |
| 9283 | 77.333  | 22.500 | 26.250 | N    | None       |
| 9284 | 206.750 | 22.500 | 18.750 | N    | None       |
| 9285 | 206.750 | 28.271 | 18.750 | N    | None       |
| 9286 | 206.750 | 28.271 | 15.000 | N    | 1 - Cellar |
| 9287 | 206.750 | 22.500 | 22.500 | N    | None       |
| 9288 | 206.750 | 28.271 | 22.500 | N    | None       |
| 9289 | 206.750 | 22.500 | 26.250 | N    | None       |
| 9290 | 206.750 | 28.271 | 26.250 | N    | None       |
| 9291 | 206.750 | 34.042 | 18.750 | N    | None       |
| 9292 | 206.750 | 34.042 | 15.000 | N    | 1 - Cellar |
| 9293 | 206.750 | 34.042 | 22.500 | N    | None       |
| 9294 | 206.750 | 34.042 | 26.250 | N    | None       |
| 9295 | 206.750 | 39.813 | 18.750 | N    | None       |
| 9296 | 206.750 | 39.813 | 15.000 | N    | 1 - Cellar |
| 9297 | 206.750 | 39.813 | 22.500 | N    | None       |
| 9298 | 206.750 | 39.813 | 26.250 | N    | None       |
| 9299 | 206.750 | 45.584 | 18.750 | N    | None       |
| 9300 | 206.750 | 45.584 | 15.000 | N    | 1 - Cellar |
| 9301 | 206.750 | 45.584 | 22.500 | N    | None       |
| 9302 | 206.750 | 45.584 | 26.250 | N    | None       |
| 9303 | 206.750 | 51.354 | 18.750 | N    | None       |
| 9304 | 206.750 | 51.354 | 15.000 | N    | 1 - Cellar |
| 9305 | 206.750 | 51.354 | 22.500 | N    | None       |
| 9306 | 206.750 | 51.354 | 26.250 | N    | None       |
| 9307 | 206.750 | 57.125 | 18.750 | N    | None       |
| 9308 | 206.750 | 57.125 | 15.000 | N    | 1 - Cellar |
| 9309 | 206.750 | 57.125 | 22.500 | N    | None       |
| 9310 | 206.750 | 57.125 | 26.250 | N    | None       |
| 9311 | 206.750 | 62.896 | 18.750 | N    | None       |
| 9312 | 206.750 | 62.896 | 15.000 | N    | 1 - Cellar |
| 9313 | 206.750 | 62.896 | 22.500 | N    | None       |
| 9314 | 206.750 | 62.896 | 26.250 | N    | None       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr     |
|------|---------|--------|--------|------|------------|
| 9315 | 206.750 | 68.667 | 18.750 | N    | None       |
| 9316 | 206.750 | 68.667 | 22.500 | N    | None       |
| 9317 | 206.750 | 68.667 | 26.250 | N    | None       |
| 9318 | 21.583  | 1.667  | 18.750 | N    | None       |
| 9319 | 25.604  | 1.667  | 18.750 | N    | None       |
| 9320 | 25.604  | 1.667  | 15.000 | N    | 1 - Cellar |
| 9321 | 21.583  | 1.667  | 22.500 | N    | None       |
| 9322 | 25.604  | 1.667  | 22.500 | N    | None       |
| 9323 | 21.583  | 1.667  | 26.250 | N    | None       |
| 9324 | 25.604  | 1.667  | 26.250 | N    | None       |
| 9325 | 29.625  | 1.667  | 18.750 | N    | None       |
| 9326 | 29.625  | 1.667  | 15.000 | N    | 1 - Cellar |
| 9327 | 29.625  | 1.667  | 22.500 | N    | None       |
| 9328 | 29.625  | 1.667  | 26.250 | N    | None       |
| 9329 | 33.646  | 1.667  | 18.750 | N    | None       |
| 9330 | 33.646  | 1.667  | 15.000 | N    | 1 - Cellar |
| 9331 | 33.646  | 1.667  | 22.500 | N    | None       |
| 9332 | 33.646  | 1.667  | 26.250 | N    | None       |
| 9333 | 1.583   | 1.667  | 18.750 | N    | None       |
| 9334 | 6.583   | 1.667  | 18.750 | N    | None       |
| 9335 | 6.583   | 1.667  | 15.000 | N    | 1 - Cellar |
| 9336 | 1.583   | 1.667  | 22.500 | N    | None       |
| 9337 | 6.583   | 1.667  | 22.500 | N    | None       |
| 9338 | 1.583   | 1.667  | 26.250 | N    | None       |
| 9339 | 6.583   | 1.667  | 26.250 | N    | None       |
| 9340 | 11.583  | 1.667  | 18.750 | N    | None       |
| 9341 | 11.583  | 1.667  | 15.000 | N    | 1 - Cellar |
| 9342 | 11.583  | 1.667  | 22.500 | N    | None       |
| 9343 | 11.583  | 1.667  | 26.250 | N    | None       |
| 9344 | 16.583  | 1.667  | 18.750 | N    | None       |
| 9345 | 16.583  | 1.667  | 15.000 | N    | 1 - Cellar |
| 9346 | 16.583  | 1.667  | 22.500 | N    | None       |
| 9347 | 16.583  | 1.667  | 26.250 | N    | None       |
| 9348 | -13.500 | 2.167  | 3.750  | N    | None       |
| 9349 | -13.500 | 6.584  | 3.750  | N    | None       |
| 9350 | -13.500 | 6.584  | 0.000  | Y    | --         |
| 9351 | -13.500 | 2.167  | 7.500  | N    | None       |
| 9352 | -13.500 | 6.584  | 7.500  | N    | None       |
| 9353 | -13.500 | 2.167  | 11.250 | N    | None       |
| 9354 | -13.500 | 6.584  | 11.250 | N    | None       |
| 9355 | -13.500 | 6.584  | 15.000 | N    | 1 - Cellar |
| 9356 | -13.500 | 11.000 | 3.750  | N    | None       |
| 9357 | -13.500 | 11.000 | 0.000  | Y    | --         |
| 9358 | -13.500 | 11.000 | 7.500  | N    | None       |
| 9359 | -13.500 | 11.000 | 11.250 | N    | None       |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z      | Fdtn | Diaphr     |
|------|---------|--------|--------|------|------------|
| 9360 | -13.500 | 11.000 | 15.000 | N    | 1 - Cellar |
| 9361 | -13.500 | 15.417 | 3.750  | N    | None       |
| 9362 | -13.500 | 15.417 | 0.000  | Y    | --         |
| 9363 | -13.500 | 15.417 | 7.500  | N    | None       |
| 9364 | -13.500 | 15.417 | 11.250 | N    | None       |
| 9365 | -13.500 | 15.417 | 15.000 | N    | 1 - Cellar |
| 9366 | -13.500 | 19.833 | 3.750  | N    | None       |
| 9367 | -13.500 | 19.833 | 7.500  | N    | None       |
| 9368 | -13.500 | 19.833 | 11.250 | N    | None       |
| 9369 | -13.500 | 24.687 | 3.750  | N    | None       |
| 9370 | -13.500 | 24.687 | 0.000  | Y    | --         |
| 9371 | -13.500 | 24.687 | 7.500  | N    | None       |
| 9372 | -13.500 | 24.687 | 11.250 | N    | None       |
| 9373 | -13.500 | 24.687 | 15.000 | N    | 1 - Cellar |
| 9374 | -13.500 | 29.541 | 3.750  | N    | None       |
| 9375 | -13.500 | 29.541 | 0.000  | Y    | --         |
| 9376 | -13.500 | 29.541 | 7.500  | N    | None       |
| 9377 | -13.500 | 29.541 | 11.250 | N    | None       |
| 9378 | -13.500 | 29.541 | 15.000 | N    | 1 - Cellar |
| 9379 | -13.500 | 34.395 | 3.750  | N    | None       |
| 9380 | -13.500 | 34.395 | 0.000  | Y    | --         |
| 9381 | -13.500 | 34.395 | 7.500  | N    | None       |
| 9382 | -13.500 | 34.395 | 11.250 | N    | None       |
| 9383 | -13.500 | 34.395 | 15.000 | N    | 1 - Cellar |
| 9384 | -13.500 | 39.250 | 3.750  | N    | None       |
| 9385 | -13.500 | 39.250 | 0.000  | Y    | --         |
| 9386 | -13.500 | 39.250 | 7.500  | N    | None       |
| 9387 | -13.500 | 39.250 | 11.250 | N    | None       |
| 9388 | -13.500 | 39.250 | 15.000 | N    | 1 - Cellar |
| 9389 | -13.500 | 44.104 | 3.750  | N    | None       |
| 9390 | -13.500 | 44.104 | 0.000  | Y    | --         |
| 9391 | -13.500 | 44.104 | 7.500  | N    | None       |
| 9392 | -13.500 | 44.104 | 11.250 | N    | None       |
| 9393 | -13.500 | 44.104 | 15.000 | N    | 1 - Cellar |
| 9394 | -13.500 | 48.958 | 3.750  | N    | None       |
| 9395 | -13.500 | 48.958 | 0.000  | Y    | --         |
| 9396 | -13.500 | 48.958 | 7.500  | N    | None       |
| 9397 | -13.500 | 48.958 | 11.250 | N    | None       |
| 9398 | -13.500 | 48.958 | 15.000 | N    | 1 - Cellar |
| 9399 | -13.500 | 53.812 | 3.750  | N    | None       |
| 9400 | -13.500 | 53.812 | 0.000  | Y    | --         |
| 9401 | -13.500 | 53.812 | 7.500  | N    | None       |
| 9402 | -13.500 | 53.812 | 11.250 | N    | None       |
| 9403 | -13.500 | 53.812 | 15.000 | N    | 1 - Cellar |
| 9404 | -13.500 | 58.666 | 3.750  | N    | None       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y       | Z      | Fdtn | Diaphr     |
|------|---------|---------|--------|------|------------|
| 9405 | -13.500 | 58.666  | 7.500  | N    | None       |
| 9406 | -13.500 | 58.666  | 11.250 | N    | None       |
| 9407 | -12.709 | 58.666  | 3.750  | N    | None       |
| 9408 | -12.709 | 58.666  | 0.000  | Y    | --         |
| 9409 | -12.709 | 58.666  | 7.500  | N    | None       |
| 9410 | -12.709 | 58.666  | 11.250 | N    | None       |
| 9411 | -12.709 | 58.666  | 15.000 | N    | 1 - Cellar |
| 9412 | -11.917 | 58.666  | 3.750  | N    | None       |
| 9413 | -11.917 | 58.666  | 7.500  | N    | None       |
| 9414 | -11.917 | 58.666  | 11.250 | N    | None       |
| 9415 | -11.917 | 64.593  | 3.750  | N    | None       |
| 9416 | -11.917 | 64.593  | 0.000  | Y    | --         |
| 9417 | -11.917 | 64.593  | 7.500  | N    | None       |
| 9418 | -11.917 | 64.593  | 11.250 | N    | None       |
| 9419 | -11.917 | 64.593  | 15.000 | N    | 1 - Cellar |
| 9420 | -11.917 | 70.521  | 3.750  | N    | None       |
| 9421 | -11.917 | 70.521  | 0.000  | Y    | --         |
| 9422 | -11.917 | 70.521  | 7.500  | N    | None       |
| 9423 | -11.917 | 70.521  | 11.250 | N    | None       |
| 9424 | -11.917 | 70.521  | 15.000 | N    | 1 - Cellar |
| 9425 | -11.917 | 76.448  | 3.750  | N    | None       |
| 9426 | -11.917 | 76.448  | 0.000  | Y    | --         |
| 9427 | -11.917 | 76.448  | 7.500  | N    | None       |
| 9428 | -11.917 | 76.448  | 11.250 | N    | None       |
| 9429 | -11.917 | 76.448  | 15.000 | N    | 1 - Cellar |
| 9430 | -11.917 | 82.375  | 3.750  | N    | None       |
| 9431 | -11.917 | 82.375  | 7.500  | N    | None       |
| 9432 | -11.917 | 82.375  | 11.250 | N    | None       |
| 9433 | -5.959  | 82.375  | 3.750  | N    | None       |
| 9434 | -5.959  | 82.375  | 0.000  | Y    | --         |
| 9435 | -5.959  | 82.375  | 7.500  | N    | None       |
| 9436 | -5.959  | 82.375  | 11.250 | N    | None       |
| 9437 | -5.959  | 82.375  | 15.000 | N    | 1 - Cellar |
| 9438 | 0.000   | 82.375  | 3.750  | N    | None       |
| 9439 | 0.000   | 82.375  | 7.500  | N    | None       |
| 9440 | 0.000   | 82.375  | 11.250 | N    | None       |
| 9441 | 0.000   | 86.803  | 3.723  | N    | None       |
| 9442 | 0.000   | 86.875  | 0.000  | Y    | --         |
| 9443 | 0.000   | 91.804  | 11.184 | N    | None       |
| 9444 | 0.000   | 91.462  | 7.334  | N    | None       |
| 9445 | 0.000   | 96.092  | 11.194 | N    | None       |
| 9446 | 0.000   | 95.959  | 7.401  | N    | None       |
| 9447 | 0.000   | 95.875  | 0.000  | Y    | --         |
| 9448 | 0.000   | 95.939  | 3.758  | N    | None       |
| 9449 | 0.000   | 100.375 | 3.750  | N    | None       |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

ES203212297 Scan Code

RAM Frame 15.03.00.000

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| #    | X      | Y       | Z      | Fdtn | Diaphr     |
|------|--------|---------|--------|------|------------|
| 9450 | 0.000  | 91.875  | 15.000 | N    | 1 - Cellar |
| 9451 | 0.000  | 87.866  | 11.244 | N    | None       |
| 9452 | 0.000  | 87.625  | 15.000 | N    | 1 - Cellar |
| 9453 | 0.000  | 84.715  | 11.862 | N    | None       |
| 9454 | 0.000  | 83.375  | 15.000 | N    | 1 - Cellar |
| 9455 | 0.000  | 83.157  | 12.512 | N    | None       |
| 9456 | 0.000  | 82.875  | 15.000 | N    | 1 - Cellar |
| 9457 | 0.000  | 91.375  | 0.000  | Y    | --         |
| 9458 | 0.000  | 91.390  | 3.699  | N    | None       |
| 9459 | 0.000  | 86.781  | 7.333  | N    | None       |
| 9460 | 0.000  | 100.375 | 7.500  | N    | None       |
| 9461 | 0.000  | 100.375 | 11.250 | N    | None       |
| 9462 | 0.000  | 96.125  | 15.000 | N    | 1 - Cellar |
| 9463 | 21.583 | 1.667   | 3.750  | N    | None       |
| 9464 | 25.604 | 1.667   | 3.750  | N    | None       |
| 9465 | 25.604 | 1.667   | 0.000  | Y    | --         |
| 9466 | 21.583 | 1.667   | 7.500  | N    | None       |
| 9467 | 25.604 | 1.667   | 7.500  | N    | None       |
| 9468 | 21.583 | 1.667   | 11.250 | N    | None       |
| 9469 | 25.604 | 1.667   | 11.250 | N    | None       |
| 9470 | 29.625 | 1.667   | 3.750  | N    | None       |
| 9471 | 29.625 | 1.667   | 0.000  | Y    | --         |
| 9472 | 29.625 | 1.667   | 7.500  | N    | None       |
| 9473 | 29.625 | 1.667   | 11.250 | N    | None       |
| 9474 | 33.646 | 1.667   | 3.750  | N    | None       |
| 9475 | 33.646 | 1.667   | 0.000  | Y    | --         |
| 9476 | 33.646 | 1.667   | 7.500  | N    | None       |
| 9477 | 33.646 | 1.667   | 11.250 | N    | None       |
| 9478 | 37.667 | 1.667   | 3.750  | N    | None       |
| 9479 | 37.667 | 1.667   | 7.500  | N    | None       |
| 9480 | 37.667 | 1.667   | 11.250 | N    | None       |
| 9481 | 34.163 | 64.654  | 3.750  | N    | None       |
| 9482 | 34.163 | 69.339  | 3.750  | N    | None       |
| 9483 | 34.163 | 69.339  | 0.000  | Y    | --         |
| 9484 | 34.163 | 64.654  | 7.500  | N    | None       |
| 9485 | 34.163 | 69.339  | 7.500  | N    | None       |
| 9486 | 34.163 | 64.654  | 11.250 | N    | None       |
| 9487 | 34.163 | 69.339  | 11.250 | N    | None       |
| 9488 | 34.163 | 74.024  | 3.750  | N    | None       |
| 9489 | 34.163 | 74.024  | 7.500  | N    | None       |
| 9490 | 34.163 | 74.024  | 11.250 | N    | None       |
| 9491 | 59.120 | 64.654  | 0.000  | Y    | --         |
| 9492 | 64.111 | 64.654  | 0.000  | Y    | --         |
| 9493 | 58.427 | 64.654  | 3.990  | N    | None       |
| 9494 | 61.909 | 64.654  | 4.229  | N    | None       |





RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr     |
|------|--------|--------|--------|------|------------|
| 9495 | 50.851 | 64.654 | 12.563 | N    | None       |
| 9496 | 48.558 | 64.654 | 10.689 | N    | None       |
| 9497 | 53.445 | 64.654 | 11.728 | N    | None       |
| 9498 | 51.729 | 64.654 | 8.906  | N    | None       |
| 9499 | 60.971 | 64.654 | 11.861 | N    | None       |
| 9500 | 58.699 | 64.654 | 11.856 | N    | None       |
| 9501 | 59.113 | 64.654 | 15.000 | N    | 1 - Cellar |
| 9502 | 74.093 | 64.654 | 11.250 | N    | None       |
| 9503 | 71.769 | 64.654 | 11.324 | N    | None       |
| 9504 | 74.093 | 64.654 | 3.750  | N    | None       |
| 9505 | 74.093 | 64.654 | 7.500  | N    | None       |
| 9506 | 70.149 | 64.654 | 3.651  | N    | None       |
| 9507 | 70.812 | 64.654 | 7.919  | N    | None       |
| 9508 | 47.547 | 64.654 | 5.430  | N    | None       |
| 9509 | 44.146 | 64.654 | 0.000  | Y    | --         |
| 9510 | 50.698 | 64.654 | 4.421  | N    | None       |
| 9511 | 49.137 | 64.654 | 0.000  | Y    | --         |
| 9512 | 44.393 | 64.654 | 12.404 | N    | None       |
| 9513 | 41.631 | 64.654 | 12.188 | N    | None       |
| 9514 | 37.383 | 64.654 | 8.282  | N    | None       |
| 9515 | 40.412 | 64.654 | 9.348  | N    | None       |
| 9516 | 36.532 | 64.654 | 11.349 | N    | None       |
| 9517 | 38.437 | 64.654 | 11.967 | N    | None       |
| 9518 | 63.636 | 64.654 | 11.775 | N    | None       |
| 9519 | 38.166 | 64.654 | 4.124  | N    | None       |
| 9520 | 49.413 | 64.654 | 15.000 | N    | 1 - Cellar |
| 9521 | 49.433 | 64.654 | 13.543 | N    | None       |
| 9522 | 47.821 | 64.654 | 12.677 | N    | None       |
| 9523 | 40.014 | 64.654 | 13.093 | N    | None       |
| 9524 | 44.345 | 64.654 | 6.615  | N    | None       |
| 9525 | 44.329 | 64.654 | 9.863  | N    | None       |
| 9526 | 64.380 | 64.654 | 9.088  | N    | None       |
| 9527 | 61.256 | 64.654 | 8.402  | N    | None       |
| 9528 | 64.426 | 64.654 | 6.042  | N    | None       |
| 9529 | 66.355 | 64.654 | 11.811 | N    | None       |
| 9530 | 67.632 | 64.654 | 9.336  | N    | None       |
| 9531 | 68.415 | 64.654 | 12.999 | N    | None       |
| 9532 | 69.811 | 64.654 | 11.971 | N    | None       |
| 9533 | 58.248 | 64.654 | 8.393  | N    | None       |
| 9534 | 55.228 | 64.654 | 8.384  | N    | None       |
| 9535 | 54.644 | 64.654 | 4.333  | N    | None       |
| 9536 | 54.128 | 64.654 | 0.000  | Y    | --         |
| 9537 | 56.385 | 64.654 | 11.850 | N    | None       |
| 9538 | 66.980 | 64.654 | 4.195  | N    | None       |
| 9539 | 69.102 | 64.654 | 0.000  | Y    | --         |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y      | Z      | Fdtn | Diaphr     |
|------|--------|--------|--------|------|------------|
| 9540 | 39.155 | 64.654 | 0.000  | Y    | --         |
| 9541 | 41.310 | 64.654 | 4.200  | N    | None       |
| 9542 | 39.413 | 64.654 | 15.000 | N    | 1 - Cellar |
| 9543 | 68.682 | 64.654 | 15.000 | N    | 1 - Cellar |
| 9544 | 60.476 | 74.024 | 11.865 | N    | None       |
| 9545 | 58.177 | 74.024 | 9.432  | N    | None       |
| 9546 | 63.272 | 74.024 | 11.338 | N    | None       |
| 9547 | 62.477 | 74.024 | 8.482  | N    | None       |
| 9548 | 56.866 | 74.024 | 4.433  | N    | None       |
| 9549 | 52.196 | 74.024 | 4.372  | N    | None       |
| 9550 | 53.593 | 74.024 | 9.166  | N    | None       |
| 9551 | 41.405 | 74.024 | 11.493 | N    | None       |
| 9552 | 42.208 | 74.024 | 8.400  | N    | None       |
| 9553 | 44.799 | 74.024 | 11.680 | N    | None       |
| 9554 | 45.841 | 74.024 | 9.020  | N    | None       |
| 9555 | 50.939 | 74.024 | 12.359 | N    | None       |
| 9556 | 49.182 | 74.024 | 9.569  | N    | None       |
| 9557 | 53.870 | 74.024 | 12.143 | N    | None       |
| 9558 | 55.783 | 74.024 | 0.000  | Y    | --         |
| 9559 | 61.804 | 74.024 | 4.255  | N    | None       |
| 9560 | 61.188 | 74.024 | 0.000  | Y    | --         |
| 9561 | 39.568 | 74.024 | 0.000  | Y    | --         |
| 9562 | 44.973 | 74.024 | 0.000  | Y    | --         |
| 9563 | 38.815 | 74.024 | 3.993  | N    | None       |
| 9564 | 42.479 | 74.024 | 4.331  | N    | None       |
| 9565 | 37.911 | 74.024 | 11.513 | N    | None       |
| 9566 | 47.435 | 74.024 | 11.957 | N    | None       |
| 9567 | 49.215 | 74.024 | 13.149 | N    | None       |
| 9568 | 56.979 | 74.024 | 12.271 | N    | None       |
| 9569 | 58.810 | 74.024 | 13.109 | N    | None       |
| 9570 | 45.683 | 74.024 | 6.097  | N    | None       |
| 9571 | 66.593 | 74.024 | 7.500  | N    | None       |
| 9572 | 66.593 | 74.024 | 11.250 | N    | None       |
| 9573 | 48.254 | 74.024 | 4.332  | N    | None       |
| 9574 | 50.378 | 74.024 | 0.000  | Y    | --         |
| 9575 | 66.593 | 74.024 | 3.750  | N    | None       |
| 9576 | 38.290 | 74.024 | 7.979  | N    | None       |
| 9577 | 49.163 | 74.024 | 15.000 | N    | 1 - Cellar |
| 9578 | 58.863 | 74.024 | 15.000 | N    | 1 - Cellar |
| 9579 | 41.903 | 1.667  | 3.750  | N    | None       |
| 9580 | 41.903 | 1.667  | 0.000  | Y    | --         |
| 9581 | 41.903 | 1.667  | 7.500  | N    | None       |
| 9582 | 41.903 | 1.667  | 11.250 | N    | None       |
| 9583 | 46.139 | 1.667  | 3.750  | N    | None       |
| 9584 | 46.139 | 1.667  | 0.000  | Y    | --         |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X      | Y       | Z      | Fdtn | Diaphr     |
|------|--------|---------|--------|------|------------|
| 9585 | 46.139 | 1.667   | 7.500  | N    | None       |
| 9586 | 46.139 | 1.667   | 11.250 | N    | None       |
| 9587 | 50.375 | 1.667   | 3.750  | N    | None       |
| 9588 | 50.375 | 1.667   | 0.000  | Y    | --         |
| 9589 | 50.375 | 1.667   | 7.500  | N    | None       |
| 9590 | 50.375 | 1.667   | 11.250 | N    | None       |
| 9591 | 54.611 | 1.667   | 3.750  | N    | None       |
| 9592 | 54.611 | 1.667   | 0.000  | Y    | --         |
| 9593 | 54.611 | 1.667   | 7.500  | N    | None       |
| 9594 | 54.611 | 1.667   | 11.250 | N    | None       |
| 9595 | 58.847 | 1.667   | 3.750  | N    | None       |
| 9596 | 58.847 | 1.667   | 0.000  | Y    | --         |
| 9597 | 58.847 | 1.667   | 7.500  | N    | None       |
| 9598 | 58.847 | 1.667   | 11.250 | N    | None       |
| 9599 | 63.083 | 1.667   | 3.750  | N    | None       |
| 9600 | 63.083 | 1.667   | 7.500  | N    | None       |
| 9601 | 63.083 | 1.667   | 11.250 | N    | None       |
| 9602 | 45.500 | 114.208 | 11.250 | N    | None       |
| 9603 | 45.500 | 110.267 | 11.254 | N    | None       |
| 9604 | 45.500 | 110.573 | 15.000 | N    | 1 - Cellar |
| 9605 | 45.500 | 106.302 | 11.341 | N    | None       |
| 9606 | 45.500 | 106.937 | 15.000 | N    | 1 - Cellar |
| 9607 | 45.500 | 102.478 | 11.255 | N    | None       |
| 9608 | 45.500 | 103.302 | 15.000 | N    | 1 - Cellar |
| 9609 | 45.500 | 101.643 | 7.580  | N    | None       |
| 9610 | 45.500 | 97.540  | 7.467  | N    | None       |
| 9611 | 45.500 | 101.345 | 3.789  | N    | None       |
| 9612 | 45.500 | 97.121  | 3.711  | N    | None       |
| 9613 | 45.500 | 109.833 | 0.000  | Y    | --         |
| 9614 | 45.500 | 109.888 | 3.811  | N    | None       |
| 9615 | 45.500 | 114.208 | 3.750  | N    | None       |
| 9616 | 45.500 | 92.486  | 3.736  | N    | None       |
| 9617 | 45.500 | 92.535  | 7.484  | N    | None       |
| 9618 | 45.500 | 87.957  | 11.250 | N    | None       |
| 9619 | 45.500 | 87.957  | 7.500  | N    | None       |
| 9620 | 45.500 | 93.223  | 11.228 | N    | None       |
| 9621 | 45.500 | 105.575 | 7.689  | N    | None       |
| 9622 | 45.500 | 109.992 | 7.592  | N    | None       |
| 9623 | 45.500 | 114.208 | 7.500  | N    | None       |
| 9624 | 45.500 | 99.667  | 15.000 | N    | 1 - Cellar |
| 9625 | 45.500 | 98.588  | 11.179 | N    | None       |
| 9626 | 45.500 | 96.707  | 0.000  | Y    | --         |
| 9627 | 45.500 | 101.083 | 0.000  | Y    | --         |
| 9628 | 45.500 | 105.458 | 0.000  | Y    | --         |
| 9629 | 45.500 | 105.517 | 3.903  | N    | None       |



RAM Structural System



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| #    | X      | Y       | Z      | Fdtn | Diaphr     |
|------|--------|---------|--------|------|------------|
| 9630 | 45.500 | 87.957  | 3.750  | N    | None       |
| 9631 | 45.500 | 92.332  | 0.000  | Y    | --         |
| 9632 | 45.500 | 93.812  | 15.000 | N    | 1 - Cellar |
| 9633 | 51.111 | 114.208 | 3.750  | N    | None       |
| 9634 | 51.111 | 114.208 | 0.000  | Y    | --         |
| 9635 | 51.111 | 114.208 | 7.500  | N    | None       |
| 9636 | 51.111 | 114.208 | 11.250 | N    | None       |
| 9637 | 51.111 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9638 | 56.722 | 114.208 | 3.750  | N    | None       |
| 9639 | 56.722 | 114.208 | 0.000  | Y    | --         |
| 9640 | 56.722 | 114.208 | 7.500  | N    | None       |
| 9641 | 56.722 | 114.208 | 11.250 | N    | None       |
| 9642 | 56.722 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9643 | 62.334 | 114.208 | 3.750  | N    | None       |
| 9644 | 62.334 | 114.208 | 0.000  | Y    | --         |
| 9645 | 62.334 | 114.208 | 7.500  | N    | None       |
| 9646 | 62.334 | 114.208 | 11.250 | N    | None       |
| 9647 | 62.334 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9648 | 67.945 | 114.208 | 3.750  | N    | None       |
| 9649 | 67.945 | 114.208 | 0.000  | Y    | --         |
| 9650 | 67.945 | 114.208 | 7.500  | N    | None       |
| 9651 | 67.945 | 114.208 | 11.250 | N    | None       |
| 9652 | 67.945 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9653 | 73.556 | 114.208 | 3.750  | N    | None       |
| 9654 | 73.556 | 114.208 | 0.000  | Y    | --         |
| 9655 | 73.556 | 114.208 | 7.500  | N    | None       |
| 9656 | 73.556 | 114.208 | 11.250 | N    | None       |
| 9657 | 73.556 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9658 | 79.167 | 114.208 | 3.750  | N    | None       |
| 9659 | 79.167 | 114.208 | 7.500  | N    | None       |
| 9660 | 79.167 | 114.208 | 11.250 | N    | None       |
| 9661 | 63.083 | 6.000   | 3.750  | N    | None       |
| 9662 | 63.083 | 6.000   | 0.000  | Y    | --         |
| 9663 | 63.083 | 6.000   | 7.500  | N    | None       |
| 9664 | 63.083 | 6.000   | 11.250 | N    | None       |
| 9665 | 63.083 | 10.334  | 3.750  | N    | None       |
| 9666 | 63.083 | 10.334  | 0.000  | Y    | --         |
| 9667 | 63.083 | 10.334  | 7.500  | N    | None       |
| 9668 | 63.083 | 10.334  | 11.250 | N    | None       |
| 9669 | 63.083 | 14.667  | 3.750  | N    | None       |
| 9670 | 63.083 | 14.667  | 0.000  | Y    | --         |
| 9671 | 63.083 | 14.667  | 7.500  | N    | None       |
| 9672 | 63.083 | 14.667  | 11.250 | N    | None       |
| 9673 | 63.083 | 19.000  | 3.750  | N    | None       |
| 9674 | 63.083 | 19.000  | 7.500  | N    | None       |



RAM Structural System



DEPT OF BLDGS121191236

Job Number



ES265961267

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| #    | X      | Y       | Z      | Fdtn | Diaphr |
|------|--------|---------|--------|------|--------|
| 9675 | 63.083 | 19.000  | 11.250 | N    | None   |
| 9676 | 66.646 | 1.667   | 3.750  | N    | None   |
| 9677 | 66.646 | 1.667   | 0.000  | Y    | --     |
| 9678 | 66.646 | 1.667   | 7.500  | N    | None   |
| 9679 | 66.646 | 1.667   | 11.250 | N    | None   |
| 9680 | 70.208 | 1.667   | 3.750  | N    | None   |
| 9681 | 70.208 | 1.667   | 0.000  | Y    | --     |
| 9682 | 70.208 | 1.667   | 7.500  | N    | None   |
| 9683 | 70.208 | 1.667   | 11.250 | N    | None   |
| 9684 | 73.771 | 1.667   | 3.750  | N    | None   |
| 9685 | 73.771 | 1.667   | 0.000  | Y    | --     |
| 9686 | 73.771 | 1.667   | 7.500  | N    | None   |
| 9687 | 73.771 | 1.667   | 11.250 | N    | None   |
| 9688 | 77.333 | 1.667   | 3.750  | N    | None   |
| 9689 | 77.333 | 1.667   | 7.500  | N    | None   |
| 9690 | 77.333 | 1.667   | 11.250 | N    | None   |
| 9691 | 69.593 | 74.024  | 3.750  | N    | None   |
| 9692 | 71.843 | 74.024  | 3.750  | N    | None   |
| 9693 | 71.843 | 74.024  | 0.000  | Y    | --     |
| 9694 | 69.593 | 74.024  | 7.500  | N    | None   |
| 9695 | 71.843 | 74.024  | 7.500  | N    | None   |
| 9696 | 69.593 | 74.024  | 11.250 | N    | None   |
| 9697 | 71.843 | 74.024  | 11.250 | N    | None   |
| 9698 | 74.093 | 74.024  | 3.750  | N    | None   |
| 9699 | 74.093 | 74.024  | 7.500  | N    | None   |
| 9700 | 74.093 | 74.024  | 11.250 | N    | None   |
| 9701 | 74.093 | 69.339  | 3.750  | N    | None   |
| 9702 | 74.093 | 69.339  | 0.000  | Y    | --     |
| 9703 | 74.093 | 69.339  | 7.500  | N    | None   |
| 9704 | 74.093 | 69.339  | 11.250 | N    | None   |
| 9705 | 77.333 | 7.084   | 3.750  | N    | None   |
| 9706 | 77.333 | 7.084   | 0.000  | Y    | --     |
| 9707 | 77.333 | 7.084   | 7.500  | N    | None   |
| 9708 | 77.333 | 7.084   | 11.250 | N    | None   |
| 9709 | 77.333 | 12.500  | 3.750  | N    | None   |
| 9710 | 77.333 | 12.500  | 7.500  | N    | None   |
| 9711 | 77.333 | 12.500  | 11.250 | N    | None   |
| 9712 | 77.333 | 17.500  | 3.750  | N    | None   |
| 9713 | 77.333 | 17.500  | 0.000  | Y    | --     |
| 9714 | 77.333 | 17.500  | 7.500  | N    | None   |
| 9715 | 77.333 | 17.500  | 11.250 | N    | None   |
| 9716 | 77.333 | 22.500  | 3.750  | N    | None   |
| 9717 | 77.333 | 22.500  | 7.500  | N    | None   |
| 9718 | 77.333 | 22.500  | 11.250 | N    | None   |
| 9719 | 84.893 | 114.208 | 3.750  | N    | None   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y       | Z      | Fdtn | Diaphr     |
|------|---------|---------|--------|------|------------|
| 9720 | 84.893  | 114.208 | 0.000  | Y    | --         |
| 9721 | 84.893  | 114.208 | 7.500  | N    | None       |
| 9722 | 84.893  | 114.208 | 11.250 | N    | None       |
| 9723 | 84.893  | 114.208 | 15.000 | N    | 1 - Cellar |
| 9724 | 90.618  | 114.208 | 3.750  | N    | None       |
| 9725 | 90.618  | 114.208 | 0.000  | Y    | --         |
| 9726 | 90.618  | 114.208 | 7.500  | N    | None       |
| 9727 | 90.618  | 114.208 | 11.250 | N    | None       |
| 9728 | 90.618  | 114.208 | 15.000 | N    | 1 - Cellar |
| 9729 | 96.344  | 114.208 | 3.750  | N    | None       |
| 9730 | 96.344  | 114.208 | 0.000  | Y    | --         |
| 9731 | 96.344  | 114.208 | 7.500  | N    | None       |
| 9732 | 96.344  | 114.208 | 11.250 | N    | None       |
| 9733 | 96.344  | 114.208 | 15.000 | N    | 1 - Cellar |
| 9734 | 102.070 | 114.208 | 3.750  | N    | None       |
| 9735 | 102.070 | 114.208 | 0.000  | Y    | --         |
| 9736 | 102.070 | 114.208 | 7.500  | N    | None       |
| 9737 | 102.070 | 114.208 | 11.250 | N    | None       |
| 9738 | 102.070 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9739 | 107.795 | 114.208 | 3.750  | N    | None       |
| 9740 | 107.795 | 114.208 | 0.000  | Y    | --         |
| 9741 | 107.795 | 114.208 | 7.500  | N    | None       |
| 9742 | 107.795 | 114.208 | 11.250 | N    | None       |
| 9743 | 107.795 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9744 | 113.521 | 114.208 | 3.750  | N    | None       |
| 9745 | 113.521 | 114.208 | 0.000  | Y    | --         |
| 9746 | 113.521 | 114.208 | 7.500  | N    | None       |
| 9747 | 113.521 | 114.208 | 11.250 | N    | None       |
| 9748 | 113.521 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9749 | 119.247 | 114.208 | 3.750  | N    | None       |
| 9750 | 119.247 | 114.208 | 0.000  | Y    | --         |
| 9751 | 119.247 | 114.208 | 7.500  | N    | None       |
| 9752 | 119.247 | 114.208 | 11.250 | N    | None       |
| 9753 | 119.247 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9754 | 124.972 | 114.208 | 3.750  | N    | None       |
| 9755 | 124.972 | 114.208 | 0.000  | Y    | --         |
| 9756 | 124.972 | 114.208 | 7.500  | N    | None       |
| 9757 | 124.972 | 114.208 | 11.250 | N    | None       |
| 9758 | 124.972 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9759 | 130.698 | 114.208 | 3.750  | N    | None       |
| 9760 | 130.698 | 114.208 | 0.000  | Y    | --         |
| 9761 | 130.698 | 114.208 | 7.500  | N    | None       |
| 9762 | 130.698 | 114.208 | 11.250 | N    | None       |
| 9763 | 130.698 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9764 | 136.424 | 114.208 | 3.750  | N    | None       |



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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y       | Z      | Fdtn | Diaphr     |
|------|---------|---------|--------|------|------------|
| 9765 | 136.424 | 114.208 | 0.000  | Y    | --         |
| 9766 | 136.424 | 114.208 | 7.500  | N    | None       |
| 9767 | 136.424 | 114.208 | 11.250 | N    | None       |
| 9768 | 136.424 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9769 | 142.149 | 114.208 | 3.750  | N    | None       |
| 9770 | 142.149 | 114.208 | 0.000  | Y    | --         |
| 9771 | 142.149 | 114.208 | 7.500  | N    | None       |
| 9772 | 142.149 | 114.208 | 11.250 | N    | None       |
| 9773 | 142.149 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9774 | 147.875 | 114.208 | 3.750  | N    | None       |
| 9775 | 147.875 | 114.208 | 0.000  | Y    | --         |
| 9776 | 147.875 | 114.208 | 7.500  | N    | None       |
| 9777 | 147.875 | 114.208 | 11.250 | N    | None       |
| 9778 | 147.875 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9779 | 153.601 | 114.208 | 3.750  | N    | None       |
| 9780 | 153.601 | 114.208 | 0.000  | Y    | --         |
| 9781 | 153.601 | 114.208 | 7.500  | N    | None       |
| 9782 | 153.601 | 114.208 | 11.250 | N    | None       |
| 9783 | 153.601 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9784 | 159.327 | 114.208 | 3.750  | N    | None       |
| 9785 | 159.327 | 114.208 | 0.000  | Y    | --         |
| 9786 | 159.327 | 114.208 | 7.500  | N    | None       |
| 9787 | 159.327 | 114.208 | 11.250 | N    | None       |
| 9788 | 159.327 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9789 | 165.052 | 114.208 | 3.750  | N    | None       |
| 9790 | 165.052 | 114.208 | 0.000  | Y    | --         |
| 9791 | 165.052 | 114.208 | 7.500  | N    | None       |
| 9792 | 165.052 | 114.208 | 11.250 | N    | None       |
| 9793 | 165.052 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9794 | 170.778 | 114.208 | 3.750  | N    | None       |
| 9795 | 170.778 | 114.208 | 0.000  | Y    | --         |
| 9796 | 170.778 | 114.208 | 7.500  | N    | None       |
| 9797 | 170.778 | 114.208 | 11.250 | N    | None       |
| 9798 | 170.778 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9799 | 176.504 | 114.208 | 3.750  | N    | None       |
| 9800 | 176.504 | 114.208 | 0.000  | Y    | --         |
| 9801 | 176.504 | 114.208 | 7.500  | N    | None       |
| 9802 | 176.504 | 114.208 | 11.250 | N    | None       |
| 9803 | 176.504 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9804 | 182.229 | 114.208 | 3.750  | N    | None       |
| 9805 | 182.229 | 114.208 | 0.000  | Y    | --         |
| 9806 | 182.229 | 114.208 | 7.500  | N    | None       |
| 9807 | 182.229 | 114.208 | 11.250 | N    | None       |
| 9808 | 182.229 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9809 | 187.955 | 114.208 | 3.750  | N    | None       |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y       | Z      | Fdtn | Diaphr     |
|------|---------|---------|--------|------|------------|
| 9810 | 187.955 | 114.208 | 0.000  | Y    | --         |
| 9811 | 187.955 | 114.208 | 7.500  | N    | None       |
| 9812 | 187.955 | 114.208 | 11.250 | N    | None       |
| 9813 | 187.955 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9814 | 193.681 | 114.208 | 3.750  | N    | None       |
| 9815 | 193.681 | 114.208 | 0.000  | Y    | --         |
| 9816 | 193.681 | 114.208 | 7.500  | N    | None       |
| 9817 | 193.681 | 114.208 | 11.250 | N    | None       |
| 9818 | 193.681 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9819 | 199.406 | 114.208 | 3.750  | N    | None       |
| 9820 | 199.406 | 114.208 | 0.000  | Y    | --         |
| 9821 | 199.406 | 114.208 | 7.500  | N    | None       |
| 9822 | 199.406 | 114.208 | 11.250 | N    | None       |
| 9823 | 199.406 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9824 | 205.132 | 114.208 | 3.750  | N    | None       |
| 9825 | 205.132 | 114.208 | 0.000  | Y    | --         |
| 9826 | 205.132 | 114.208 | 7.500  | N    | None       |
| 9827 | 205.132 | 114.208 | 11.250 | N    | None       |
| 9828 | 205.132 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9829 | 210.858 | 114.208 | 3.750  | N    | None       |
| 9830 | 210.858 | 114.208 | 0.000  | Y    | --         |
| 9831 | 210.858 | 114.208 | 7.500  | N    | None       |
| 9832 | 210.858 | 114.208 | 11.250 | N    | None       |
| 9833 | 210.858 | 114.208 | 15.000 | N    | 1 - Cellar |
| 9834 | 216.583 | 114.208 | 3.750  | N    | None       |
| 9835 | 216.583 | 114.208 | 7.500  | N    | None       |
| 9836 | 216.583 | 114.208 | 11.250 | N    | None       |
| 9837 | 206.750 | 22.500  | 3.750  | N    | None       |
| 9838 | 206.750 | 28.271  | 3.750  | N    | None       |
| 9839 | 206.750 | 28.271  | 0.000  | Y    | --         |
| 9840 | 206.750 | 22.500  | 7.500  | N    | None       |
| 9841 | 206.750 | 28.271  | 7.500  | N    | None       |
| 9842 | 206.750 | 22.500  | 11.250 | N    | None       |
| 9843 | 206.750 | 28.271  | 11.250 | N    | None       |
| 9844 | 206.750 | 34.042  | 3.750  | N    | None       |
| 9845 | 206.750 | 34.042  | 0.000  | Y    | --         |
| 9846 | 206.750 | 34.042  | 7.500  | N    | None       |
| 9847 | 206.750 | 34.042  | 11.250 | N    | None       |
| 9848 | 206.750 | 39.813  | 3.750  | N    | None       |
| 9849 | 206.750 | 39.813  | 0.000  | Y    | --         |
| 9850 | 206.750 | 39.813  | 7.500  | N    | None       |
| 9851 | 206.750 | 39.813  | 11.250 | N    | None       |
| 9852 | 206.750 | 45.584  | 3.750  | N    | None       |
| 9853 | 206.750 | 45.584  | 0.000  | Y    | --         |
| 9854 | 206.750 | 45.584  | 7.500  | N    | None       |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y       | Z      | Fdtn | Diaphr     |
|------|---------|---------|--------|------|------------|
| 9855 | 206.750 | 45.584  | 11.250 | N    | None       |
| 9856 | 206.750 | 51.354  | 3.750  | N    | None       |
| 9857 | 206.750 | 51.354  | 0.000  | Y    | --         |
| 9858 | 206.750 | 51.354  | 7.500  | N    | None       |
| 9859 | 206.750 | 51.354  | 11.250 | N    | None       |
| 9860 | 206.750 | 57.125  | 3.750  | N    | None       |
| 9861 | 206.750 | 57.125  | 0.000  | Y    | --         |
| 9862 | 206.750 | 57.125  | 7.500  | N    | None       |
| 9863 | 206.750 | 57.125  | 11.250 | N    | None       |
| 9864 | 206.750 | 62.896  | 3.750  | N    | None       |
| 9865 | 206.750 | 62.896  | 0.000  | Y    | --         |
| 9866 | 206.750 | 62.896  | 7.500  | N    | None       |
| 9867 | 206.750 | 62.896  | 11.250 | N    | None       |
| 9868 | 206.750 | 68.667  | 3.750  | N    | None       |
| 9869 | 206.750 | 68.667  | 7.500  | N    | None       |
| 9870 | 206.750 | 68.667  | 11.250 | N    | None       |
| 9871 | 216.583 | 94.155  | 15.000 | N    | 1 - Cellar |
| 9872 | 216.583 | 88.643  | 15.000 | N    | 1 - Cellar |
| 9873 | 216.583 | 95.060  | 9.570  | N    | None       |
| 9874 | 216.583 | 89.365  | 7.639  | N    | None       |
| 9875 | 216.583 | 33.742  | 7.573  | N    | None       |
| 9876 | 216.583 | 33.524  | 15.000 | N    | 1 - Cellar |
| 9877 | 216.583 | 28.757  | 5.704  | N    | None       |
| 9878 | 216.583 | 28.627  | 10.051 | N    | None       |
| 9879 | 216.583 | 74.086  | 0.000  | Y    | --         |
| 9880 | 216.583 | 79.818  | 0.000  | Y    | --         |
| 9881 | 216.583 | 73.065  | 7.460  | N    | None       |
| 9882 | 216.583 | 78.644  | 7.449  | N    | None       |
| 9883 | 216.583 | 85.549  | 0.000  | Y    | --         |
| 9884 | 216.583 | 91.281  | 0.000  | Y    | --         |
| 9885 | 216.583 | 84.088  | 7.445  | N    | None       |
| 9886 | 216.583 | 111.031 | 7.362  | N    | None       |
| 9887 | 216.583 | 110.873 | 11.265 | N    | None       |
| 9888 | 216.583 | 62.622  | 0.000  | Y    | --         |
| 9889 | 216.583 | 68.354  | 0.000  | Y    | --         |
| 9890 | 216.583 | 61.849  | 7.537  | N    | None       |
| 9891 | 216.583 | 67.456  | 7.461  | N    | None       |
| 9892 | 216.583 | 39.036  | 15.000 | N    | 1 - Cellar |
| 9893 | 216.583 | 39.364  | 7.537  | N    | None       |
| 9894 | 216.583 | 105.528 | 3.732  | N    | None       |
| 9895 | 216.583 | 102.745 | 0.000  | Y    | --         |
| 9896 | 216.583 | 109.934 | 3.768  | N    | None       |
| 9897 | 216.583 | 108.476 | 0.000  | Y    | --         |
| 9898 | 216.583 | 50.060  | 15.000 | N    | 1 - Cellar |
| 9899 | 216.583 | 44.548  | 15.000 | N    | 1 - Cellar |



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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y       | Z      | Fdtn | Diaphr     |
|------|---------|---------|--------|------|------------|
| 9900 | 216.583 | 50.607  | 7.537  | N    | None       |
| 9901 | 216.583 | 44.983  | 7.573  | N    | None       |
| 9902 | 216.583 | 107.482 | 11.303 | N    | None       |
| 9903 | 216.583 | 106.937 | 15.000 | N    | 1 - Cellar |
| 9904 | 216.583 | 103.587 | 11.370 | N    | None       |
| 9905 | 216.583 | 103.302 | 15.000 | N    | 1 - Cellar |
| 9906 | 216.583 | 104.119 | 7.660  | N    | None       |
| 9907 | 216.583 | 100.185 | 8.104  | N    | None       |
| 9908 | 216.583 | 100.824 | 3.929  | N    | None       |
| 9909 | 216.583 | 96.256  | 4.769  | N    | None       |
| 9910 | 216.583 | 28.012  | 15.000 | N    | 1 - Cellar |
| 9911 | 216.583 | 26.118  | 12.111 | N    | None       |
| 9912 | 216.583 | 22.500  | 11.250 | N    | None       |
| 9913 | 216.583 | 99.500  | 11.168 | N    | None       |
| 9914 | 216.583 | 99.667  | 15.000 | N    | 1 - Cellar |
| 9915 | 216.583 | 22.500  | 7.500  | N    | None       |
| 9916 | 216.583 | 22.500  | 3.750  | N    | None       |
| 9917 | 216.583 | 28.232  | 0.000  | Y    | --         |
| 9918 | 216.583 | 33.964  | 0.000  | Y    | --         |
| 9919 | 216.583 | 77.619  | 15.000 | N    | 1 - Cellar |
| 9920 | 216.583 | 72.107  | 15.000 | N    | 1 - Cellar |
| 9921 | 216.583 | 66.595  | 15.000 | N    | 1 - Cellar |
| 9922 | 216.583 | 83.131  | 15.000 | N    | 1 - Cellar |
| 9923 | 216.583 | 110.573 | 15.000 | N    | 1 - Cellar |
| 9924 | 216.583 | 107.699 | 7.368  | N    | None       |
| 9925 | 216.583 | 61.083  | 15.000 | N    | 1 - Cellar |
| 9926 | 216.583 | 55.572  | 15.000 | N    | 1 - Cellar |
| 9927 | 216.583 | 56.225  | 7.573  | N    | None       |
| 9928 | 216.583 | 56.891  | 0.000  | Y    | --         |
| 9929 | 216.583 | 39.695  | 0.000  | Y    | --         |
| 9930 | 216.583 | 45.427  | 0.000  | Y    | --         |
| 9931 | 216.583 | 51.159  | 0.000  | Y    | --         |
| 9932 | 216.583 | 97.013  | 0.000  | Y    | --         |
| 9933 | 1.583   | 1.667   | 3.750  | N    | None       |
| 9934 | 6.583   | 1.667   | 3.750  | N    | None       |
| 9935 | 6.583   | 1.667   | 0.000  | Y    | --         |
| 9936 | 1.583   | 1.667   | 7.500  | N    | None       |
| 9937 | 6.583   | 1.667   | 7.500  | N    | None       |
| 9938 | 1.583   | 1.667   | 11.250 | N    | None       |
| 9939 | 6.583   | 1.667   | 11.250 | N    | None       |
| 9940 | 11.583  | 1.667   | 3.750  | N    | None       |
| 9941 | 11.583  | 1.667   | 0.000  | Y    | --         |
| 9942 | 11.583  | 1.667   | 7.500  | N    | None       |
| 9943 | 11.583  | 1.667   | 11.250 | N    | None       |
| 9944 | 16.583  | 1.667   | 3.750  | N    | None       |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr     |
|------|---------|--------|---------|------|------------|
| 9945 | 16.583  | 1.667  | 0.000   | Y    | --         |
| 9946 | 16.583  | 1.667  | 7.500   | N    | None       |
| 9947 | 16.583  | 1.667  | 11.250  | N    | None       |
| 9948 | 77.333  | 28.271 | 15.000  | N    | 1 - Cellar |
| 9951 | 77.333  | 34.042 | 15.000  | N    | 1 - Cellar |
| 1001 | 21.583  | 15.673 | 15.000  | N    | 1 - Cellar |
| 8    |         |        |         |      |            |
| 1006 | 21.583  | 79.342 | 15.000  | N    | 1 - Cellar |
| 0    |         |        |         |      |            |
| 1006 | 77.333  | 51.354 | 15.000  | N    | 1 - Cellar |
| 1    |         |        |         |      |            |
| 1006 | 77.333  | 57.125 | 15.000  | N    | 1 - Cellar |
| 4    |         |        |         |      |            |
| 1013 | 21.583  | 36.953 | 15.000  | N    | 1 - Cellar |
| 5    |         |        |         |      |            |
| 1013 | 21.583  | 31.247 | 15.000  | N    | 1 - Cellar |
| 6    |         |        |         |      |            |
| 1022 | 21.583  | 7.560  | 15.000  | N    | 1 - Cellar |
| 4    |         |        |         |      |            |
| 1042 | 21.583  | 25.540 | 15.000  | N    | 1 - Cellar |
| 0    |         |        |         |      |            |
| 1065 | 77.333  | 62.896 | 15.000  | N    | 1 - Cellar |
| 0    |         |        |         |      |            |
| 1067 | 21.583  | 42.660 | 15.000  | N    | 1 - Cellar |
| 7    |         |        |         |      |            |
| 1113 | 77.333  | 45.584 | 15.000  | N    | 1 - Cellar |
| 4    |         |        |         |      |            |
| 1113 | 77.333  | 39.813 | 15.000  | N    | 1 - Cellar |
| 7    |         |        |         |      |            |
| 1116 | 21.583  | 70.439 | 15.000  | N    | 1 - Cellar |
| 1    |         |        |         |      |            |
| 1116 | 21.583  | 59.780 | 15.000  | N    | 1 - Cellar |
| 7    |         |        |         |      |            |
| 1116 | 21.583  | 54.073 | 15.000  | N    | 1 - Cellar |
| 8    |         |        |         |      |            |
| 1124 | 21.583  | 48.367 | 15.000  | N    | 1 - Cellar |
| 7    |         |        |         |      |            |
| 1140 | 143.083 | 98.747 | 132.550 | N    | 1 - F8     |
| 5    |         |        |         |      |            |
| 1143 | 162.083 | 23.420 | 132.550 | N    | 1 - F8     |
| 8    |         |        |         |      |            |
| 1144 | 89.083  | 73.680 | 132.550 | N    | 1 - F8     |
| 7    |         |        |         |      |            |
| 1145 | 161.083 | 52.611 | 132.550 | N    | 1 - F8     |
| 3    |         |        |         |      |            |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #     | X       | Y      | Z       | Fdtn | Diaphr |
|-------|---------|--------|---------|------|--------|
| 11460 | 89.083  | 17.000 | 132.550 | N    | 1 - F8 |
| 11468 | 95.083  | 98.747 | 132.550 | N    | 1 - F8 |
| 11470 | 89.083  | 93.734 | 132.550 | N    | 1 - F8 |
| 11482 | 77.333  | 60.042 | 132.550 | N    | 1 - F8 |
| 11511 | 21.583  | 62.076 | 132.550 | N    | 1 - F8 |
| 11518 | 24.728  | 65.487 | 132.550 | N    | 1 - F8 |
| 11521 | 27.873  | 65.487 | 132.550 | N    | 1 - F8 |
| 11537 | 89.083  | 83.707 | 132.550 | N    | 1 - F8 |
| 11540 | 89.083  | 78.694 | 132.550 | N    | 1 - F8 |
| 11550 | 21.583  | 53.907 | 132.550 | N    | 1 - F8 |
| 11600 | 89.083  | 25.500 | 132.550 | N    | 1 - F8 |
| 11614 | 161.083 | 40.562 | 132.550 | N    | 1 - F8 |
| 11615 | 161.083 | 36.542 | 132.550 | N    | 1 - F8 |
| 11640 | 161.083 | 32.521 | 132.550 | N    | 1 - F8 |
| 11643 | 77.333  | 47.104 | 132.550 | N    | 1 - F8 |
| 11649 | 77.833  | 12.685 | 132.550 | N    | 1 - F8 |
| 11704 | 84.430  | 98.747 | 132.550 | N    | 1 - F8 |
| 11707 | 88.090  | 98.747 | 132.550 | N    | 1 - F8 |
| 11732 | 21.583  | 44.389 | 132.550 | N    | 1 - F8 |
| 11749 | 21.583  | 70.437 | 132.550 | N    | 1 - F8 |
| 11755 | 77.333  | 37.719 | 132.550 | N    | 1 - F8 |
| 11784 | 170.916 | 68.667 | 132.550 | N    | 1 - F8 |
| 11787 | 131.083 | 98.747 | 132.550 | N    | 1 - F8 |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #         | X       | Y      | Z       | Fdtn | Diaphr |
|-----------|---------|--------|---------|------|--------|
| 1179<br>0 | 125.083 | 98.747 | 132.550 | N    | 1 - F8 |
| 1179<br>7 | 155.683 | 14.750 | 132.550 | N    | 1 - F8 |
| 1180<br>4 | 21.583  | 79.339 | 132.550 | N    | 1 - F8 |
| 1182<br>3 | 166.500 | 68.667 | 132.550 | N    | 1 - F8 |
| 1182<br>6 | 162.083 | 68.667 | 132.550 | N    | 1 - F8 |
| 1185<br>6 | 144.883 | 19.250 | 132.550 | N    | 1 - F8 |
| 1185<br>7 | 150.283 | 17.000 | 132.550 | N    | 1 - F8 |
| 1186<br>0 | 77.583  | 22.086 | 132.550 | N    | 1 - F8 |
| 1186<br>3 | 77.833  | 21.673 | 132.550 | N    | 1 - F8 |
| 1187<br>4 | 88.666  | 22.000 | 132.550 | N    | 1 - F8 |
| 1187<br>5 | 88.249  | 21.500 | 132.550 | N    | 1 - F8 |
| 1187<br>7 | 161.083 | 73.680 | 132.550 | N    | 1 - F8 |
| 1187<br>8 | 161.083 | 83.707 | 132.550 | N    | 1 - F8 |
| 1188<br>1 | 161.083 | 78.694 | 132.550 | N    | 1 - F8 |
| 1190<br>2 | 119.083 | 98.747 | 132.550 | N    | 1 - F8 |
| 1191<br>3 | 77.583  | 12.593 | 132.550 | N    | 1 - F8 |
| 1192<br>5 | 77.333  | 64.354 | 132.550 | N    | 1 - F8 |
| 1193<br>1 | 161.083 | 56.625 | 132.550 | N    | 1 - F8 |
| 1193<br>9 | 21.583  | 24.166 | 132.550 | N    | 1 - F8 |
| 1194<br>0 | 155.083 | 98.747 | 132.550 | N    | 1 - F8 |
| 1195<br>0 | 21.583  | 32.833 | 132.550 | N    | 1 - F8 |
| 1195<br>1 | 21.583  | 28.500 | 132.550 | N    | 1 - F8 |
| 1197<br>5 | 21.583  | 7.538  | 132.550 | N    | 1 - F8 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #         | X       | Y      | Z       | Fdtn | Diaphr |
|-----------|---------|--------|---------|------|--------|
| 1200<br>0 | 161.583 | 98.747 | 132.550 | N    | 1 - F8 |
| 1200<br>2 | 161.083 | 93.734 | 132.550 | N    | 1 - F8 |
| 1201<br>5 | 161.583 | 22.500 | 132.550 | N    | 1 - F8 |
| 1201<br>7 | 161.083 | 22.000 | 132.550 | N    | 1 - F8 |
| 1205<br>5 | 89.083  | 88.720 | 132.550 | N    | 1 - F8 |
| 1208<br>5 | 77.333  | 55.729 | 132.550 | N    | 1 - F8 |
| 1208<br>6 | 77.333  | 51.417 | 132.550 | N    | 1 - F8 |
| 1210<br>2 | 89.083  | 32.521 | 132.550 | N    | 1 - F8 |
| 1214<br>8 | 161.083 | 48.597 | 132.550 | N    | 1 - F8 |
| 1214<br>9 | 85.677  | 13.415 | 132.550 | N    | 1 - F8 |
| 1215<br>1 | 80.052  | 13.508 | 132.550 | N    | 1 - F8 |
| 1216<br>0 | 161.583 | 44.583 | 132.550 | N    | 1 - F8 |
| 1217<br>5 | 80.052  | 18.001 | 132.550 | N    | 1 - F8 |
| 1219<br>0 | 88.586  | 98.747 | 132.550 | N    | 1 - F8 |
| 1220<br>5 | 161.583 | 70.370 | 132.550 | N    | 1 - F8 |
| 1221<br>1 | 161.083 | 60.639 | 132.550 | N    | 1 - F8 |
| 1221<br>5 | 161.583 | 68.667 | 132.550 | N    | 1 - F8 |
| 1221<br>7 | 161.583 | 68.165 | 132.550 | N    | 1 - F8 |
| 1222<br>0 | 166.500 | 27.484 | 132.550 | N    | 1 - F8 |
| 1222<br>2 | 170.916 | 31.548 | 132.550 | N    | 1 - F8 |
| 1222<br>3 | 163.389 | 76.518 | 132.550 | N    | 1 - F8 |
| 1222<br>5 | 164.694 | 80.964 | 132.550 | N    | 1 - F8 |
| 1223<br>4 | 89.083  | 22.000 | 132.550 | N    | 1 - F8 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr |
|------|---------|--------|---------|------|--------|
| 1223 | 89.083  | 21.500 | 132.550 | N    | 1 - F8 |
| 5    |         |        |         |      |        |
| 1225 | 168.708 | 61.015 | 132.550 | N    | 1 - F8 |
| 1    |         |        |         |      |        |
| 1225 | 166.500 | 63.231 | 132.550 | N    | 1 - F8 |
| 2    |         |        |         |      |        |
| 1226 | 166.000 | 98.747 | 132.550 | N    | 1 - F8 |
| 7    |         |        |         |      |        |
| 1227 | 162.083 | 98.747 | 132.550 | N    | 1 - F8 |
| 0    |         |        |         |      |        |
| 1228 | 21.583  | 38.399 | 132.550 | N    | 1 - F8 |
| 0    |         |        |         |      |        |
| 1228 | 161.083 | 25.500 | 132.550 | N    | 1 - F8 |
| 9    |         |        |         |      |        |
| 1229 | 161.583 | 22.960 | 132.550 | N    | 1 - F8 |
| 1    |         |        |         |      |        |
| 1229 | 162.083 | 22.500 | 132.550 | N    | 1 - F8 |
| 3    |         |        |         |      |        |
| 1229 | 161.083 | 64.653 | 132.550 | N    | 1 - F8 |
| 9    |         |        |         |      |        |
| 1232 | 138.283 | 22.000 | 132.550 | N    | 1 - F8 |
| 2    |         |        |         |      |        |
| 1233 | 107.083 | 98.747 | 132.550 | N    | 1 - F8 |
| 0    |         |        |         |      |        |
| 1233 | 101.083 | 98.747 | 132.550 | N    | 1 - F8 |
| 1    |         |        |         |      |        |
| 1233 | 149.083 | 98.747 | 132.550 | N    | 1 - F8 |
| 4    |         |        |         |      |        |
| 1233 | 161.083 | 17.000 | 132.550 | N    | 1 - F8 |
| 8    |         |        |         |      |        |
| 1233 | 161.083 | 21.500 | 132.550 | N    | 1 - F8 |
| 9    |         |        |         |      |        |
| 1234 | 166.500 | 22.500 | 132.550 | N    | 1 - F8 |
| 9    |         |        |         |      |        |
| 1235 | 21.583  | 15.650 | 132.550 | N    | 1 - F8 |
| 4    |         |        |         |      |        |
| 1235 | 166.500 | 44.583 | 132.550 | N    | 1 - F8 |
| 5    |         |        |         |      |        |
| 1235 | 162.083 | 44.583 | 132.550 | N    | 1 - F8 |
| 6    |         |        |         |      |        |
| 1235 | 170.916 | 44.583 | 132.550 | N    | 1 - F8 |
| 8    |         |        |         |      |        |
| 1236 | 85.260  | 17.915 | 132.550 | N    | 1 - F8 |
| 0    |         |        |         |      |        |
| 1237 | 27.156  | 37.167 | 132.550 | N    | 1 - F8 |
| 9    |         |        |         |      |        |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #         | X       | Y      | Z       | Fdtn | Diaphr |
|-----------|---------|--------|---------|------|--------|
| 1238<br>0 | 32.729  | 37.167 | 132.550 | N    | 1 - F8 |
| 1238<br>3 | 38.302  | 37.167 | 132.550 | N    | 1 - F8 |
| 1239<br>4 | 166.000 | 14.549 | 132.550 | N    | 1 - F8 |
| 1239<br>5 | 170.916 | 16.597 | 132.550 | N    | 1 - F8 |
| 1240<br>6 | 21.583  | 49.148 | 132.550 | N    | 1 - F8 |
| 1242<br>0 | 170.916 | 58.799 | 132.550 | N    | 1 - F8 |
| 1243<br>5 | 89.083  | 56.625 | 132.550 | N    | 1 - F8 |
| 1243<br>6 | 89.083  | 52.611 | 132.550 | N    | 1 - F8 |
| 1243<br>7 | 89.083  | 60.639 | 132.550 | N    | 1 - F8 |
| 1244<br>0 | 161.083 | 88.720 | 132.550 | N    | 1 - F8 |
| 1245<br>5 | 89.083  | 64.653 | 132.550 | N    | 1 - F8 |
| 1245<br>8 | 77.333  | 32.646 | 132.550 | N    | 1 - F8 |
| 1247<br>5 | 170.916 | 22.500 | 132.550 | N    | 1 - F8 |
| 1247<br>9 | 89.083  | 48.597 | 132.550 | N    | 1 - F8 |
| 1249<br>0 | 89.083  | 40.562 | 132.550 | N    | 1 - F8 |
| 1249<br>1 | 89.083  | 36.542 | 132.550 | N    | 1 - F8 |
| 1251<br>4 | 139.483 | 21.500 | 132.550 | N    | 1 - F8 |
| 1252<br>0 | 77.333  | 27.573 | 132.550 | N    | 1 - F8 |
| 1252<br>2 | 162.083 | 72.072 | 132.550 | N    | 1 - F8 |
| 1253<br>6 | 164.291 | 65.447 | 132.550 | N    | 1 - F8 |
| 1253<br>7 | 162.083 | 67.663 | 132.550 | N    | 1 - F8 |
| 1255<br>2 | 31.018  | 65.487 | 132.550 | N    | 1 - F8 |
| 1255<br>4 | 166.000 | 85.410 | 132.550 | N    | 1 - F8 |





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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #         | X       | Y      | Z       | Fdtn | Diaphr  |
|-----------|---------|--------|---------|------|---------|
| 1255<br>6 | 167.305 | 89.855 | 132.550 | N    | 1 - F8  |
| 1257<br>2 | 170.416 | 97.755 | 132.550 | N    | 1 - F8  |
| 1257<br>3 | 170.916 | 96.764 | 132.550 | N    | 1 - F8  |
| 1257<br>4 | 168.611 | 94.301 | 132.550 | N    | 1 - F8  |
| 1275<br>2 | 68.313  | 64.654 | 180.970 | N    | 1 - F11 |
| 1283<br>8 | 77.333  | 64.354 | 180.970 | N    | 1 - F11 |
| 1283<br>9 | 77.333  | 60.042 | 180.970 | N    | 1 - F11 |
| 1284<br>1 | 77.333  | 55.729 | 180.970 | N    | 1 - F11 |
| 1284<br>2 | 77.333  | 51.417 | 180.970 | N    | 1 - F11 |
| 1300<br>1 | 38.913  | 64.654 | 180.970 | N    | 1 - F11 |
| 1308<br>5 | 58.613  | 64.654 | 180.970 | N    | 1 - F11 |
| 1315<br>8 | 48.613  | 64.654 | 180.970 | N    | 1 - F11 |
| 1317<br>7 | 77.333  | 27.573 | 180.970 | N    | 1 - F11 |
| 1317<br>8 | 77.333  | 32.646 | 180.970 | N    | 1 - F11 |
| 1327<br>5 | 77.333  | 37.719 | 180.970 | N    | 1 - F11 |
| 1328<br>1 | 77.333  | 47.104 | 180.970 | N    | 1 - F11 |
| 1334<br>5 | 77.333  | 27.573 | 198.370 | N    | 1 - F12 |
| 1355<br>9 | 77.333  | 37.719 | 198.370 | N    | 1 - F12 |
| 1356<br>2 | 77.333  | 32.646 | 198.370 | N    | 1 - F12 |
| 1359<br>8 | 77.333  | 55.729 | 198.370 | N    | 1 - F12 |
| 1360<br>1 | 77.333  | 60.042 | 198.370 | N    | 1 - F12 |
| 1364<br>2 | 77.333  | 64.354 | 198.370 | N    | 1 - F12 |
| 1382<br>3 | 48.613  | 64.654 | 198.370 | N    | 1 - F12 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #         | X      | Y      | Z       | Fdtn | Diaphr  |
|-----------|--------|--------|---------|------|---------|
| 1382<br>9 | 68.313 | 64.654 | 198.370 | N    | 1 - F12 |
| 1383<br>0 | 77.333 | 47.104 | 198.370 | N    | 1 - F12 |
| 1383<br>3 | 77.333 | 51.417 | 198.370 | N    | 1 - F12 |
| 1383<br>6 | 58.613 | 64.654 | 198.370 | N    | 1 - F12 |
| 1394<br>3 | 38.913 | 64.654 | 198.370 | N    | 1 - F12 |
| 1409<br>1 | 42.083 | 65.654 | 207.070 | N    | 1 - F13 |
| 1415<br>6 | 77.333 | 27.573 | 207.070 | N    | 1 - F13 |
| 1415<br>9 | 77.333 | 37.719 | 207.070 | N    | 1 - F13 |
| 1431<br>4 | 65.083 | 73.524 | 207.070 | N    | 1 - F13 |
| 1431<br>7 | 65.083 | 73.024 | 207.070 | N    | 1 - F13 |
| 1437<br>9 | 42.083 | 65.154 | 207.070 | N    | 1 - F13 |
| 1449<br>9 | 58.613 | 64.654 | 207.070 | N    | 1 - F13 |
| 1450<br>6 | 77.333 | 64.354 | 207.070 | N    | 1 - F13 |
| 1452<br>2 | 38.913 | 64.654 | 207.070 | N    | 1 - F13 |
| 1452<br>7 | 68.313 | 64.654 | 207.070 | N    | 1 - F13 |
| 1458<br>5 | 77.333 | 55.729 | 207.070 | N    | 1 - F13 |
| 1458<br>8 | 77.333 | 60.042 | 207.070 | N    | 1 - F13 |
| 1459<br>5 | 65.083 | 65.154 | 207.070 | N    | 1 - F13 |
| 1459<br>6 | 65.083 | 65.654 | 207.070 | N    | 1 - F13 |
| 1461<br>0 | 48.613 | 64.654 | 207.070 | N    | 1 - F13 |
| 1462<br>0 | 42.083 | 73.524 | 207.070 | N    | 1 - F13 |
| 1462<br>2 | 42.083 | 73.024 | 207.070 | N    | 1 - F13 |
| 1471<br>4 | 77.333 | 47.104 | 207.070 | N    | 1 - F13 |



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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1471 | 77.333  | 51.417 | 207.070 | N    | 1 - F13 |
| 5    |         |        |         |      |         |
| 1477 | 89.083  | 26.021 | 215.770 | N    | 1 - F14 |
| 9    |         |        |         |      |         |
| 1478 | 89.083  | 29.542 | 215.770 | N    | 1 - F14 |
| 2    |         |        |         |      |         |
| 1481 | 113.083 | 40.583 | 215.770 | N    | 1 - F14 |
| 8    |         |        |         |      |         |
| 1482 | 113.083 | 62.668 | 215.770 | N    | 1 - F14 |
| 1    |         |        |         |      |         |
| 1482 | 137.083 | 62.668 | 215.770 | N    | 1 - F14 |
| 4    |         |        |         |      |         |
| 1485 | 42.083  | 60.660 | 215.770 | N    | 1 - F14 |
| 6    |         |        |         |      |         |
| 1486 | 185.083 | 53.648 | 215.770 | N    | 1 - F14 |
| 1    |         |        |         |      |         |
| 1487 | 161.083 | 33.062 | 215.770 | N    | 1 - F14 |
| 5    |         |        |         |      |         |
| 1487 | 161.083 | 29.542 | 215.770 | N    | 1 - F14 |
| 6    |         |        |         |      |         |
| 1489 | 65.083  | 69.375 | 215.770 | N    | 1 - F14 |
| 3    |         |        |         |      |         |
| 1489 | 161.083 | 47.605 | 215.770 | N    | 1 - F14 |
| 8    |         |        |         |      |         |
| 1490 | 161.083 | 50.627 | 215.770 | N    | 1 - F14 |
| 1    |         |        |         |      |         |
| 1490 | 185.083 | 62.668 | 215.770 | N    | 1 - F14 |
| 4    |         |        |         |      |         |
| 1491 | 137.083 | 53.648 | 215.770 | N    | 1 - F14 |
| 2    |         |        |         |      |         |
| 1491 | 137.083 | 50.627 | 215.770 | N    | 1 - F14 |
| 5    |         |        |         |      |         |
| 1493 | 113.083 | 26.021 | 215.770 | N    | 1 - F14 |
| 4    |         |        |         |      |         |
| 1493 | 161.083 | 40.583 | 215.770 | N    | 1 - F14 |
| 6    |         |        |         |      |         |
| 1494 | 65.083  | 60.660 | 215.770 | N    | 1 - F14 |
| 3    |         |        |         |      |         |
| 1497 | 113.083 | 53.648 | 215.770 | N    | 1 - F14 |
| 4    |         |        |         |      |         |
| 1497 | 113.083 | 50.627 | 215.770 | N    | 1 - F14 |
| 7    |         |        |         |      |         |
| 1498 | 137.083 | 26.021 | 215.770 | N    | 1 - F14 |
| 4    |         |        |         |      |         |
| 1498 | 137.083 | 29.542 | 215.770 | N    | 1 - F14 |
| 5    |         |        |         |      |         |



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RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1498 | 77.333  | 27.573 | 215.770 | N    | 1 - F14 |
| 6    |         |        |         |      |         |
| 1499 | 42.083  | 69.375 | 215.770 | N    | 1 - F14 |
| 5    |         |        |         |      |         |
| 1499 | 137.083 | 33.062 | 215.770 | N    | 1 - F14 |
| 6    |         |        |         |      |         |
| 1499 | 137.083 | 40.583 | 215.770 | N    | 1 - F14 |
| 9    |         |        |         |      |         |
| 1501 | 113.083 | 29.542 | 215.770 | N    | 1 - F14 |
| 8    |         |        |         |      |         |
| 1501 | 137.083 | 47.605 | 215.770 | N    | 1 - F14 |
| 9    |         |        |         |      |         |
| 1502 | 161.083 | 62.668 | 215.770 | N    | 1 - F14 |
| 7    |         |        |         |      |         |
| 1504 | 185.083 | 26.021 | 215.770 | N    | 1 - F14 |
| 5    |         |        |         |      |         |
| 1507 | 113.083 | 33.062 | 215.770 | N    | 1 - F14 |
| 2    |         |        |         |      |         |
| 1507 | 89.083  | 53.648 | 215.770 | N    | 1 - F14 |
| 7    |         |        |         |      |         |
| 1510 | 89.083  | 40.583 | 215.770 | N    | 1 - F14 |
| 6    |         |        |         |      |         |
| 1512 | 77.333  | 55.729 | 215.770 | N    | 1 - F14 |
| 2    |         |        |         |      |         |
| 1512 | 77.333  | 60.042 | 215.770 | N    | 1 - F14 |
| 3    |         |        |         |      |         |
| 1514 | 185.083 | 40.583 | 215.770 | N    | 1 - F14 |
| 9    |         |        |         |      |         |
| 1515 | 161.083 | 53.648 | 215.770 | N    | 1 - F14 |
| 6    |         |        |         |      |         |
| 1518 | 65.083  | 66.660 | 215.770 | N    | 1 - F14 |
| 5    |         |        |         |      |         |
| 1520 | 89.083  | 47.605 | 215.770 | N    | 1 - F14 |
| 4    |         |        |         |      |         |
| 1520 | 89.083  | 50.627 | 215.770 | N    | 1 - F14 |
| 5    |         |        |         |      |         |
| 1522 | 42.083  | 66.660 | 215.770 | N    | 1 - F14 |
| 6    |         |        |         |      |         |
| 1524 | 77.333  | 37.719 | 215.770 | N    | 1 - F14 |
| 7    |         |        |         |      |         |
| 1524 | 77.333  | 32.646 | 215.770 | N    | 1 - F14 |
| 8    |         |        |         |      |         |
| 1529 | 77.333  | 47.104 | 215.770 | N    | 1 - F14 |
| 7    |         |        |         |      |         |
| 1532 | 161.083 | 26.021 | 215.770 | N    | 1 - F14 |
| 1    |         |        |         |      |         |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1532 | 185.083 | 47.605 | 215.770 | N    | 1 - F14 |
| 5    |         |        |         |      |         |
| 1532 | 185.083 | 50.627 | 215.770 | N    | 1 - F14 |
| 7    |         |        |         |      |         |
| 1533 | 185.083 | 33.062 | 215.770 | N    | 1 - F14 |
| 0    |         |        |         |      |         |
| 1533 | 185.083 | 29.542 | 215.770 | N    | 1 - F14 |
| 1    |         |        |         |      |         |
| 1534 | 89.083  | 33.062 | 215.770 | N    | 1 - F14 |
| 3    |         |        |         |      |         |
| 1535 | 89.083  | 62.668 | 215.770 | N    | 1 - F14 |
| 5    |         |        |         |      |         |
| 1536 | 77.333  | 51.417 | 215.770 | N    | 1 - F14 |
| 2    |         |        |         |      |         |
| 1536 | 65.083  | 70.084 | 215.770 | N    | 1 - F14 |
| 7    |         |        |         |      |         |
| 1540 | 113.083 | 47.605 | 215.770 | N    | 1 - F14 |
| 0    |         |        |         |      |         |
| 1540 | 42.083  | 70.084 | 215.770 | N    | 1 - F14 |
| 9    |         |        |         |      |         |
| 1544 | 77.333  | 64.354 | 215.770 | N    | 1 - F14 |
| 4    |         |        |         |      |         |
| 1554 | 77.333  | 27.573 | 224.470 | N    | 1 - F15 |
| 0    |         |        |         |      |         |
| 1569 | 77.333  | 47.104 | 224.470 | N    | 1 - F15 |
| 9    |         |        |         |      |         |
| 1579 | 77.333  | 37.719 | 224.470 | N    | 1 - F15 |
| 2    |         |        |         |      |         |
| 1590 | 77.333  | 51.417 | 224.470 | N    | 1 - F15 |
| 5    |         |        |         |      |         |
| 1593 | 77.333  | 64.354 | 224.470 | N    | 1 - F15 |
| 2    |         |        |         |      |         |
| 1593 | 77.333  | 60.042 | 224.470 | N    | 1 - F15 |
| 3    |         |        |         |      |         |
| 1599 | 77.333  | 55.729 | 224.470 | N    | 1 - F15 |
| 3    |         |        |         |      |         |
| 1611 | 77.333  | 47.104 | 233.170 | N    | 1 - F16 |
| 3    |         |        |         |      |         |
| 1611 | 77.333  | 51.417 | 233.170 | N    | 1 - F16 |
| 4    |         |        |         |      |         |
| 1611 | 89.083  | 43.149 | 233.170 | N    | 1 - F16 |
| 5    |         |        |         |      |         |
| 1611 | 89.083  | 47.656 | 233.170 | N    | 1 - F16 |
| 8    |         |        |         |      |         |
| 1612 | 137.083 | 41.605 | 233.170 | N    | 1 - F16 |
| 3    |         |        |         |      |         |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #         | X       | Y      | Z       | Fdtn | Diaphr  |
|-----------|---------|--------|---------|------|---------|
| 1612<br>4 | 137.083 | 46.627 | 233.170 | N    | 1 - F16 |
| 1620<br>1 | 113.083 | 41.583 | 233.170 | N    | 1 - F16 |
| 1620<br>2 | 113.083 | 46.583 | 233.170 | N    | 1 - F16 |
| 1621<br>1 | 113.083 | 51.583 | 233.170 | N    | 1 - F16 |
| 1621<br>9 | 89.083  | 52.163 | 233.170 | N    | 1 - F16 |
| 1622<br>9 | 161.083 | 51.648 | 233.170 | N    | 1 - F16 |
| 1625<br>9 | 161.083 | 26.021 | 233.170 | N    | 1 - F16 |
| 1626<br>2 | 161.083 | 29.542 | 233.170 | N    | 1 - F16 |
| 1626<br>5 | 137.083 | 51.648 | 233.170 | N    | 1 - F16 |
| 1629<br>3 | 161.083 | 41.605 | 233.170 | N    | 1 - F16 |
| 1629<br>4 | 161.083 | 46.627 | 233.170 | N    | 1 - F16 |
| 1629<br>8 | 113.083 | 62.668 | 233.170 | N    | 1 - F16 |
| 1630<br>3 | 113.083 | 33.062 | 233.170 | N    | 1 - F16 |
| 1630<br>4 | 113.083 | 29.542 | 233.170 | N    | 1 - F16 |
| 1632<br>6 | 77.333  | 37.561 | 233.170 | N    | 1 - F16 |
| 1646<br>2 | 77.333  | 30.915 | 233.170 | N    | 1 - F16 |
| 1646<br>3 | 77.333  | 32.330 | 233.170 | N    | 1 - F16 |
| 1653<br>2 | 77.333  | 60.042 | 233.170 | N    | 1 - F16 |
| 1653<br>3 | 77.333  | 64.354 | 233.170 | N    | 1 - F16 |
| 1653<br>9 | 89.083  | 38.642 | 233.170 | N    | 1 - F16 |
| 1654<br>7 | 161.083 | 62.668 | 233.170 | N    | 1 - F16 |
| 1656<br>9 | 77.333  | 55.729 | 233.170 | N    | 1 - F16 |
| 1657<br>4 | 161.083 | 33.062 | 233.170 | N    | 1 - F16 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 1657 | 113.083 | 26.021 | 233.170 | N    | 1 - F16 |
| 6    |         |        |         |      |         |
| 1664 | 113.083 | 56.626 | 233.170 | N    | 1 - F16 |
| 3    |         |        |         |      |         |
| 1664 | 89.083  | 37.612 | 233.170 | N    | 1 - F16 |
| 5    |         |        |         |      |         |
| 1669 | 137.083 | 51.648 | 241.870 | N    | 1 - F17 |
| 8    |         |        |         |      |         |
| 1673 | 137.083 | 46.627 | 241.870 | N    | 1 - F17 |
| 8    |         |        |         |      |         |
| 1676 | 137.083 | 41.605 | 241.870 | N    | 1 - F17 |
| 4    |         |        |         |      |         |
| 1704 | 89.083  | 41.605 | 241.870 | N    | 1 - F17 |
| 3    |         |        |         |      |         |
| 1704 | 89.083  | 46.627 | 241.870 | N    | 1 - F17 |
| 5    |         |        |         |      |         |
| 1717 | 89.083  | 51.648 | 241.870 | N    | 1 - F17 |
| 9    |         |        |         |      |         |
| 1732 | 89.083  | 51.648 | 250.570 | N    | 1 - F18 |
| 4    |         |        |         |      |         |
| 1732 | 89.083  | 46.627 | 250.570 | N    | 1 - F18 |
| 7    |         |        |         |      |         |
| 1746 | 137.083 | 51.648 | 250.570 | N    | 1 - F18 |
| 2    |         |        |         |      |         |
| 1746 | 137.083 | 46.627 | 250.570 | N    | 1 - F18 |
| 5    |         |        |         |      |         |
| 1760 | 89.083  | 41.605 | 250.570 | N    | 1 - F18 |
| 9    |         |        |         |      |         |
| 1761 | 137.083 | 41.605 | 250.570 | N    | 1 - F18 |
| 8    |         |        |         |      |         |
| 1796 | 89.083  | 51.648 | 259.270 | N    | 1 - F19 |
| 2    |         |        |         |      |         |
| 1796 | 89.083  | 46.627 | 259.270 | N    | 1 - F19 |
| 5    |         |        |         |      |         |
| 1810 | 137.083 | 51.648 | 259.270 | N    | 1 - F19 |
| 0    |         |        |         |      |         |
| 1810 | 137.083 | 46.627 | 259.270 | N    | 1 - F19 |
| 3    |         |        |         |      |         |
| 1824 | 89.083  | 41.605 | 259.270 | N    | 1 - F19 |
| 7    |         |        |         |      |         |
| 1825 | 137.083 | 41.605 | 259.270 | N    | 1 - F19 |
| 6    |         |        |         |      |         |
| 1860 | 89.083  | 51.648 | 267.970 | N    | 1 - F20 |
| 0    |         |        |         |      |         |
| 1860 | 89.083  | 46.627 | 267.970 | N    | 1 - F20 |
| 3    |         |        |         |      |         |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #         | X       | Y      | Z       | Fdtn | Diaphr  |
|-----------|---------|--------|---------|------|---------|
| 1873<br>8 | 137.083 | 51.648 | 267.970 | N    | 1 - F20 |
| 1874<br>1 | 137.083 | 46.627 | 267.970 | N    | 1 - F20 |
| 1888<br>5 | 89.083  | 41.605 | 267.970 | N    | 1 - F20 |
| 1889<br>4 | 137.083 | 41.605 | 267.970 | N    | 1 - F20 |
| 1923<br>8 | 89.083  | 51.648 | 276.670 | N    | 1 - F21 |
| 1924<br>1 | 89.083  | 46.627 | 276.670 | N    | 1 - F21 |
| 1937<br>6 | 137.083 | 51.648 | 276.670 | N    | 1 - F21 |
| 1937<br>9 | 137.083 | 46.627 | 276.670 | N    | 1 - F21 |
| 1952<br>3 | 89.083  | 41.605 | 276.670 | N    | 1 - F21 |
| 1953<br>2 | 137.083 | 41.605 | 276.670 | N    | 1 - F21 |
| 1987<br>6 | 89.083  | 51.648 | 285.370 | N    | 1 - F22 |
| 1987<br>9 | 89.083  | 46.627 | 285.370 | N    | 1 - F22 |
| 2001<br>4 | 137.083 | 51.648 | 285.370 | N    | 1 - F22 |
| 2001<br>7 | 137.083 | 46.627 | 285.370 | N    | 1 - F22 |
| 2016<br>1 | 89.083  | 41.605 | 285.370 | N    | 1 - F22 |
| 2017<br>0 | 137.083 | 41.605 | 285.370 | N    | 1 - F22 |
| 2051<br>4 | 89.083  | 51.648 | 294.070 | N    | 1 - F23 |
| 2051<br>7 | 89.083  | 46.627 | 294.070 | N    | 1 - F23 |
| 2065<br>2 | 137.083 | 51.648 | 294.070 | N    | 1 - F23 |
| 2065<br>5 | 137.083 | 46.627 | 294.070 | N    | 1 - F23 |
| 2079<br>9 | 89.083  | 41.605 | 294.070 | N    | 1 - F23 |
| 2080<br>8 | 137.083 | 41.605 | 294.070 | N    | 1 - F23 |
| 2115<br>2 | 89.083  | 51.648 | 302.770 | N    | 1 - F24 |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 2115 | 89.083  | 46.627 | 302.770 | N    | 1 - F24 |
| 5    |         |        |         |      |         |
| 2129 | 137.083 | 51.648 | 302.770 | N    | 1 - F24 |
| 0    |         |        |         |      |         |
| 2129 | 137.083 | 46.627 | 302.770 | N    | 1 - F24 |
| 3    |         |        |         |      |         |
| 2143 | 89.083  | 41.605 | 302.770 | N    | 1 - F24 |
| 7    |         |        |         |      |         |
| 2144 | 137.083 | 41.605 | 302.770 | N    | 1 - F24 |
| 6    |         |        |         |      |         |
| 2179 | 89.083  | 51.648 | 311.470 | N    | 1 - F25 |
| 0    |         |        |         |      |         |
| 2179 | 89.083  | 46.627 | 311.470 | N    | 1 - F25 |
| 3    |         |        |         |      |         |
| 2192 | 137.083 | 51.648 | 311.470 | N    | 1 - F25 |
| 8    |         |        |         |      |         |
| 2193 | 137.083 | 46.627 | 311.470 | N    | 1 - F25 |
| 1    |         |        |         |      |         |
| 2207 | 89.083  | 41.605 | 311.470 | N    | 1 - F25 |
| 5    |         |        |         |      |         |
| 2208 | 137.083 | 41.605 | 311.470 | N    | 1 - F25 |
| 4    |         |        |         |      |         |
| 2242 | 89.083  | 51.648 | 320.170 | N    | 1 - F26 |
| 8    |         |        |         |      |         |
| 2243 | 89.083  | 46.627 | 320.170 | N    | 1 - F26 |
| 1    |         |        |         |      |         |
| 2256 | 137.083 | 51.648 | 320.170 | N    | 1 - F26 |
| 6    |         |        |         |      |         |
| 2256 | 137.083 | 46.627 | 320.170 | N    | 1 - F26 |
| 9    |         |        |         |      |         |
| 2271 | 89.083  | 41.605 | 320.170 | N    | 1 - F26 |
| 3    |         |        |         |      |         |
| 2272 | 137.083 | 41.605 | 320.170 | N    | 1 - F26 |
| 2    |         |        |         |      |         |
| 2306 | 89.083  | 51.648 | 328.870 | N    | 1 - F27 |
| 6    |         |        |         |      |         |
| 2306 | 89.083  | 46.627 | 328.870 | N    | 1 - F27 |
| 9    |         |        |         |      |         |
| 2320 | 137.083 | 51.648 | 328.870 | N    | 1 - F27 |
| 4    |         |        |         |      |         |
| 2320 | 137.083 | 46.627 | 328.870 | N    | 1 - F27 |
| 7    |         |        |         |      |         |
| 2335 | 89.083  | 41.605 | 328.870 | N    | 1 - F27 |
| 1    |         |        |         |      |         |
| 2336 | 137.083 | 41.605 | 328.870 | N    | 1 - F27 |
| 0    |         |        |         |      |         |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #         | X       | Y      | Z       | Fdtn | Diaphr  |
|-----------|---------|--------|---------|------|---------|
| 2370<br>4 | 89.083  | 51.648 | 337.570 | N    | 1 - F28 |
| 2370<br>7 | 89.083  | 46.627 | 337.570 | N    | 1 - F28 |
| 2384<br>2 | 137.083 | 51.648 | 337.570 | N    | 1 - F28 |
| 2384<br>5 | 137.083 | 46.627 | 337.570 | N    | 1 - F28 |
| 2398<br>9 | 89.083  | 41.605 | 337.570 | N    | 1 - F28 |
| 2399<br>8 | 137.083 | 41.605 | 337.570 | N    | 1 - F28 |
| 2434<br>2 | 89.083  | 51.648 | 346.270 | N    | 1 - F29 |
| 2434<br>5 | 89.083  | 46.627 | 346.270 | N    | 1 - F29 |
| 2448<br>0 | 137.083 | 51.648 | 346.270 | N    | 1 - F29 |
| 2448<br>3 | 137.083 | 46.627 | 346.270 | N    | 1 - F29 |
| 2462<br>7 | 89.083  | 41.605 | 346.270 | N    | 1 - F29 |
| 2463<br>6 | 137.083 | 41.605 | 346.270 | N    | 1 - F29 |
| 2498<br>0 | 89.083  | 51.648 | 354.970 | N    | 1 - F30 |
| 2498<br>3 | 89.083  | 46.627 | 354.970 | N    | 1 - F30 |
| 2511<br>8 | 137.083 | 51.648 | 354.970 | N    | 1 - F30 |
| 2512<br>1 | 137.083 | 46.627 | 354.970 | N    | 1 - F30 |
| 2526<br>5 | 89.083  | 41.605 | 354.970 | N    | 1 - F30 |
| 2527<br>4 | 137.083 | 41.605 | 354.970 | N    | 1 - F30 |
| 2561<br>8 | 89.083  | 51.648 | 363.670 | N    | 1 - F31 |
| 2562<br>1 | 89.083  | 46.627 | 363.670 | N    | 1 - F31 |
| 2575<br>6 | 137.083 | 51.648 | 363.670 | N    | 1 - F31 |
| 2575<br>9 | 137.083 | 46.627 | 363.670 | N    | 1 - F31 |
| 2590<br>3 | 89.083  | 41.605 | 363.670 | N    | 1 - F31 |



RAM Structural System



DEPT OF BLDGS121191236

Job Number



ES072850083

Scan Code

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 2591 | 137.083 | 41.605 | 363.670 | N    | 1 - F31 |
| 2    |         |        |         |      |         |
| 2625 | 89.083  | 51.648 | 372.370 | N    | 1 - F32 |
| 6    |         |        |         |      |         |
| 2625 | 89.083  | 46.627 | 372.370 | N    | 1 - F32 |
| 9    |         |        |         |      |         |
| 2639 | 137.083 | 51.648 | 372.370 | N    | 1 - F32 |
| 4    |         |        |         |      |         |
| 2639 | 137.083 | 46.627 | 372.370 | N    | 1 - F32 |
| 7    |         |        |         |      |         |
| 2654 | 89.083  | 41.605 | 372.370 | N    | 1 - F32 |
| 1    |         |        |         |      |         |
| 2655 | 137.083 | 41.605 | 372.370 | N    | 1 - F32 |
| 0    |         |        |         |      |         |
| 2689 | 89.083  | 51.648 | 381.070 | N    | 1 - F33 |
| 4    |         |        |         |      |         |
| 2689 | 89.083  | 46.627 | 381.070 | N    | 1 - F33 |
| 7    |         |        |         |      |         |
| 2703 | 137.083 | 51.648 | 381.070 | N    | 1 - F33 |
| 2    |         |        |         |      |         |
| 2703 | 137.083 | 46.627 | 381.070 | N    | 1 - F33 |
| 5    |         |        |         |      |         |
| 2717 | 89.083  | 41.605 | 381.070 | N    | 1 - F33 |
| 9    |         |        |         |      |         |
| 2718 | 137.083 | 41.605 | 381.070 | N    | 1 - F33 |
| 8    |         |        |         |      |         |
| 2753 | 89.083  | 51.648 | 389.770 | N    | 1 - F34 |
| 2    |         |        |         |      |         |
| 2753 | 89.083  | 46.627 | 389.770 | N    | 1 - F34 |
| 5    |         |        |         |      |         |
| 2767 | 137.083 | 51.648 | 389.770 | N    | 1 - F34 |
| 0    |         |        |         |      |         |
| 2767 | 137.083 | 46.627 | 389.770 | N    | 1 - F34 |
| 3    |         |        |         |      |         |
| 2781 | 89.083  | 41.605 | 389.770 | N    | 1 - F34 |
| 7    |         |        |         |      |         |
| 2782 | 137.083 | 41.605 | 389.770 | N    | 1 - F34 |
| 6    |         |        |         |      |         |
| 2817 | 89.083  | 51.648 | 398.470 | N    | 1 - F35 |
| 0    |         |        |         |      |         |
| 2817 | 89.083  | 46.627 | 398.470 | N    | 1 - F35 |
| 3    |         |        |         |      |         |
| 2830 | 137.083 | 51.648 | 398.470 | N    | 1 - F35 |
| 8    |         |        |         |      |         |
| 2831 | 137.083 | 46.627 | 398.470 | N    | 1 - F35 |
| 1    |         |        |         |      |         |



RAM Structural System



DEPT OF BLDGS121191236 Job Number

ES236149250 Scan Code

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 2845 | 89.083  | 41.605 | 398.470 | N    | 1 - F35 |
| 5    |         |        |         |      |         |
| 2846 | 137.083 | 41.605 | 398.470 | N    | 1 - F35 |
| 4    |         |        |         |      |         |
| 2880 | 89.083  | 51.648 | 407.170 | N    | 1 - F36 |
| 8    |         |        |         |      |         |
| 2881 | 89.083  | 46.627 | 407.170 | N    | 1 - F36 |
| 1    |         |        |         |      |         |
| 2894 | 137.083 | 51.648 | 407.170 | N    | 1 - F36 |
| 6    |         |        |         |      |         |
| 2894 | 137.083 | 46.627 | 407.170 | N    | 1 - F36 |
| 9    |         |        |         |      |         |
| 2909 | 89.083  | 41.605 | 407.170 | N    | 1 - F36 |
| 3    |         |        |         |      |         |
| 2910 | 137.083 | 41.605 | 407.170 | N    | 1 - F36 |
| 2    |         |        |         |      |         |
| 2944 | 89.083  | 51.648 | 415.870 | N    | 1 - F37 |
| 6    |         |        |         |      |         |
| 2944 | 89.083  | 46.627 | 415.870 | N    | 1 - F37 |
| 9    |         |        |         |      |         |
| 2958 | 137.083 | 51.648 | 415.870 | N    | 1 - F37 |
| 4    |         |        |         |      |         |
| 2958 | 137.083 | 46.627 | 415.870 | N    | 1 - F37 |
| 7    |         |        |         |      |         |
| 2973 | 89.083  | 41.605 | 415.870 | N    | 1 - F37 |
| 1    |         |        |         |      |         |
| 2974 | 137.083 | 41.605 | 415.870 | N    | 1 - F37 |
| 0    |         |        |         |      |         |
| 3008 | 89.083  | 51.648 | 424.570 | N    | 1 - F38 |
| 4    |         |        |         |      |         |
| 3008 | 89.083  | 46.627 | 424.570 | N    | 1 - F38 |
| 7    |         |        |         |      |         |
| 3022 | 137.083 | 51.648 | 424.570 | N    | 1 - F38 |
| 2    |         |        |         |      |         |
| 3022 | 137.083 | 46.627 | 424.570 | N    | 1 - F38 |
| 5    |         |        |         |      |         |
| 3036 | 89.083  | 41.605 | 424.570 | N    | 1 - F38 |
| 9    |         |        |         |      |         |
| 3037 | 137.083 | 41.605 | 424.570 | N    | 1 - F38 |
| 8    |         |        |         |      |         |
| 3072 | 89.083  | 51.648 | 433.270 | N    | 1 - F39 |
| 2    |         |        |         |      |         |
| 3072 | 89.083  | 46.627 | 433.270 | N    | 1 - F39 |
| 5    |         |        |         |      |         |
| 3086 | 137.083 | 51.648 | 433.270 | N    | 1 - F39 |
| 0    |         |        |         |      |         |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| #         | X       | Y      | Z       | Fdtn | Diaphr  |
|-----------|---------|--------|---------|------|---------|
| 3086<br>3 | 137.083 | 46.627 | 433.270 | N    | 1 - F39 |
| 3100<br>7 | 89.083  | 41.605 | 433.270 | N    | 1 - F39 |
| 3101<br>6 | 137.083 | 41.605 | 433.270 | N    | 1 - F39 |
| 3136<br>0 | 89.083  | 51.648 | 441.970 | N    | 1 - F40 |
| 3136<br>3 | 89.083  | 46.627 | 441.970 | N    | 1 - F40 |
| 3149<br>8 | 137.083 | 51.648 | 441.970 | N    | 1 - F40 |
| 3150<br>1 | 137.083 | 46.627 | 441.970 | N    | 1 - F40 |
| 3164<br>5 | 89.083  | 41.605 | 441.970 | N    | 1 - F40 |
| 3165<br>4 | 137.083 | 41.605 | 441.970 | N    | 1 - F40 |
| 3199<br>8 | 89.083  | 51.648 | 452.010 | N    | 1 - F41 |
| 3200<br>1 | 89.083  | 46.627 | 452.010 | N    | 1 - F41 |
| 3213<br>6 | 137.083 | 51.648 | 452.010 | N    | 1 - F41 |
| 3213<br>9 | 137.083 | 46.627 | 452.010 | N    | 1 - F41 |
| 3228<br>3 | 89.083  | 41.605 | 452.010 | N    | 1 - F41 |
| 3229<br>2 | 137.083 | 41.605 | 452.010 | N    | 1 - F41 |
| 3263<br>6 | 89.083  | 51.648 | 460.710 | N    | 1 - F42 |
| 3263<br>9 | 89.083  | 46.627 | 460.710 | N    | 1 - F42 |
| 3277<br>4 | 137.083 | 51.648 | 460.710 | N    | 1 - F42 |
| 3277<br>7 | 137.083 | 46.627 | 460.710 | N    | 1 - F42 |
| 3292<br>1 | 89.083  | 41.605 | 460.710 | N    | 1 - F42 |
| 3293<br>0 | 137.083 | 41.605 | 460.710 | N    | 1 - F42 |
| 3332<br>3 | 137.083 | 51.648 | 469.410 | N    | 1 - F43 |
| 3332<br>6 | 137.083 | 46.627 | 469.410 | N    | 1 - F43 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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| #    | X       | Y      | Z       | Fdtn | Diaphr  |
|------|---------|--------|---------|------|---------|
| 3333 | 89.083  | 41.605 | 469.410 | N    | 1 - F43 |
| 3    |         |        |         |      |         |
| 3333 | 89.083  | 46.627 | 469.410 | N    | 1 - F43 |
| 4    |         |        |         |      |         |
| 3335 | 137.083 | 41.605 | 469.410 | N    | 1 - F43 |
| 5    |         |        |         |      |         |
| 3343 | 89.083  | 51.648 | 469.410 | N    | 1 - F43 |
| 1    |         |        |         |      |         |

**Severud Associates**

1568 Broadway

Structural Calculations

# **CHAPTER 7**

## **RAM Frame Reactions**



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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Building Code: IBC

**CRITERIA:**

Rigid End Zones: Ignore Effects  
 Member Force Output: At Face of Joint  
 P-Delta: Yes Scale Factor (DL): 1.20 Scale Factor (LL): 0.50  
 Scale Factor (Roof): 1.00 Scale Factor (Snow): 1.00

Ground Level: Base

Mesh Criteria :

Max. Distance Between Nodes on Mesh Line (ft) : 6.00  
 Merge Node Tolerance (in) : 0.2000  
 Geometry Tolerance (in) : 0.0050

Walls Out-of-plane Stiffness Included in Analysis.  
 Sign considered for Dynamic Load Case Results.  
 Rigid Links Included at Fixed Beam-to-Wall Locations  
 Eigenvalue Analysis : Ritz Vectors (Load Dependent)

**LOAD CASE DEFINITIONS:**

|     |             |                      |
|-----|-------------|----------------------|
| D   | DeadLoad    | RAMUSER              |
| Lp  | PosLiveLoad | RAMUSER              |
| Ln  | NegLiveLoad | RAMUSER              |
| W1  | W           | Wind_IBC09_1_X       |
| W2  | W           | Wind_IBC09_1_Y       |
| W3  | W           | Wind_IBC09_2_X+E     |
| W4  | W           | Wind_IBC09_2_X-E     |
| W5  | W           | Wind_IBC09_2_Y+E     |
| W6  | W           | Wind_IBC09_2_Y-E     |
| W7  | W           | Wind_IBC09_3_X+Y     |
| W8  | W           | Wind_IBC09_3_X-Y     |
| W9  | W           | Wind_IBC09_4_X+Y_CW  |
| W10 | W           | Wind_IBC09_4_X+Y_CCW |
| W11 | W           | Wind_IBC09_4_X-Y_CW  |
| W12 | W           | Wind_IBC09_4_X-Y_CCW |
| E1  | E           | EQ_ASCE710_X_+E_F    |
| E2  | E           | EQ_ASCE710_X_-E_F    |
| E3  | E           | EQ_ASCE710_Y_+E_F    |
| E4  | E           | EQ_ASCE710_Y_-E_F    |
| O1  | Shear Test  | User_User            |

**Frame #0:**

| Node | LdC | Rx     | Ry      | Rz      | Mxx     | Myy     | Tzz    |
|------|-----|--------|---------|---------|---------|---------|--------|
|      |     | kip    | kip     | kip     | kip-ft  | kip-ft  | kip-ft |
| 1766 | D   | -28.59 | -38.42  | 629.36  | 487.58  | -233.99 | 0.08   |
|      | Lp  | -2.52  | -25.96  | 165.88  | 296.33  | -26.76  | 0.10   |
|      | Ln  | -0.52  | 2.51    | 0.73    | -25.78  | -4.47   | -0.02  |
|      | W1  | -48.77 | 4.67    | 36.10   | -56.82  | -392.93 | 0.12   |
|      | W2  | 22.64  | -300.28 | -117.64 | 3064.44 | 198.19  | 0.68   |
|      | W3  | -35.92 | -0.95   | 26.01   | 2.89    | -289.28 | 0.17   |





RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx     | Ry      | Rz      | Mxx      | Myy     | Tzz   |
|------|-----|--------|---------|---------|----------|---------|-------|
|      | W4  | -37.23 | 7.95    | 28.14   | -88.13   | -300.12 | 0.02  |
|      | W5  | 12.42  | -194.05 | -80.56  | 1979.45  | 111.05  | -0.00 |
|      | W6  | 21.54  | -256.38 | -95.90  | 2617.21  | 186.24  | 1.03  |
|      | W7  | -19.60 | -221.71 | -61.15  | 2255.71  | -146.06 | 0.61  |
|      | W8  | -53.56 | 228.72  | 115.31  | -2340.95 | -443.34 | -0.42 |
|      | W9  | -10.79 | -192.99 | -52.42  | 1965.08  | -77.28  | 0.89  |
|      | W10 | -18.61 | -139.57 | -39.31  | 1418.49  | -141.80 | 0.01  |
|      | W11 | -36.26 | 144.83  | 79.93   | -1482.41 | -300.25 | 0.13  |
|      | W12 | -44.08 | 198.25  | 93.03   | -2029.01 | -364.77 | -0.75 |
|      | E1  | -63.67 | 4.30    | 51.63   | -55.07   | -514.27 | 0.23  |
|      | E2  | -64.38 | 8.87    | 52.89   | -101.96  | -519.99 | 0.15  |
|      | E3  | 10.06  | -136.30 | -61.44  | 1392.51  | 87.38   | 0.24  |
|      | E4  | 11.74  | -147.13 | -64.44  | 1503.59  | 100.94  | 0.42  |
|      | O1  | 0.00   | 0.00    | 0.00    | 0.00     | 0.00    | 0.00  |
| 2251 | D   | 113.05 | 0.06    | 825.05  | -1.57    | 42.35   | -0.00 |
|      | Lp  | 25.58  | 0.23    | 221.98  | -1.55    | 9.51    | -0.00 |
|      | Ln  | -0.06  | -0.01   | -2.97   | 0.08     | -0.03   | -0.00 |
|      | W1  | -83.19 | 0.04    | -483.89 | 1.56     | -36.77  | -0.00 |
|      | W2  | -4.27  | -2.00   | -24.17  | 48.41    | 1.01    | -0.00 |
|      | W3  | -60.15 | -0.07   | -352.98 | 3.14     | -26.56  | -0.00 |
|      | W4  | -64.63 | 0.14    | -372.86 | -0.80    | -28.59  | 0.00  |
|      | W5  | -17.99 | -0.80   | -83.64  | 23.23    | -5.95   | -0.00 |
|      | W6  | 11.58  | -2.20   | 47.39   | 49.38    | 7.46    | -0.00 |
|      | W7  | -65.60 | -1.47   | -381.04 | 37.48    | -26.82  | -0.00 |
|      | W8  | -59.19 | 1.54    | -344.79 | -35.14   | -28.33  | 0.00  |
|      | W9  | -36.43 | -1.71   | -229.19 | 39.39    | -14.32  | -0.00 |
|      | W10 | -61.97 | -0.50   | -342.37 | 16.83    | -25.90  | -0.00 |
|      | W11 | -31.62 | 0.55    | -202.01 | -15.07   | -15.46  | 0.00  |
|      | W12 | -57.16 | 1.76    | -315.19 | -37.64   | -27.04  | 0.00  |
|      | E1  | -96.02 | 0.06    | -596.22 | 2.05     | -42.26  | -0.00 |
|      | E2  | -97.60 | 0.13    | -604.02 | 0.64     | -42.99  | -0.00 |
|      | E3  | -10.59 | -0.43   | -54.68  | 14.37    | -3.27   | -0.00 |
|      | E4  | -6.88  | -0.58   | -36.36  | 17.66    | -1.57   | -0.00 |
|      | O1  | 0.00   | 0.00    | 0.00    | 0.00     | 0.00    | 0.00  |
| 2252 | D   | -0.01  | 1.46    | 621.06  | -7.37    | -1.11   | -0.00 |
|      | Lp  | 0.02   | 1.31    | 531.97  | -6.52    | -0.21   | -0.00 |
|      | Ln  | 0.00   | -0.00   | -0.00   | 0.01     | 0.01    | 0.00  |
|      | W1  | -0.19  | 0.03    | -0.11   | 0.06     | -3.77   | 0.00  |
|      | W2  | 0.03   | -0.54   | 0.26    | 7.21     | 1.29    | 0.00  |
|      | W3  | -0.14  | 0.00    | -0.07   | 0.34     | -2.77   | 0.00  |
|      | W4  | -0.15  | 0.05    | -0.09   | -0.26    | -2.89   | 0.00  |
|      | W5  | -0.01  | -0.25   | 0.12    | 3.42     | 0.55    | -0.00 |
|      | W6  | 0.05   | -0.57   | 0.27    | 7.39     | 1.38    | 0.00  |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry    | Rz     | Mxx   | Myy   | Tzz   |
|------|-----|-------|-------|--------|-------|-------|-------|
|      | W7  | -0.12 | -0.38 | 0.12   | 5.45  | -1.87 | 0.00  |
|      | W8  | -0.16 | 0.43  | -0.27  | -5.36 | -3.80 | -0.00 |
|      | W9  | -0.06 | -0.42 | 0.15   | 5.80  | -1.04 | 0.00  |
|      | W10 | -0.12 | -0.15 | 0.02   | 2.37  | -1.75 | 0.00  |
|      | W11 | -0.09 | 0.18  | -0.14  | -2.31 | -2.49 | 0.00  |
|      | W12 | -0.15 | 0.46  | -0.27  | -5.74 | -3.20 | -0.00 |
|      | E1  | -0.19 | 0.04  | -0.13  | 0.09  | -4.05 | 0.00  |
|      | E2  | -0.19 | 0.06  | -0.14  | -0.12 | -4.09 | 0.00  |
|      | E3  | -0.00 | -0.15 | 0.08   | 2.15  | 0.39  | 0.00  |
|      | E4  | 0.00  | -0.18 | 0.10   | 2.65  | 0.49  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  |
| 2253 | D   | -0.21 | -0.44 | 575.73 | 2.06  | -1.73 | -0.00 |
|      | Lp  | -0.20 | -0.37 | 507.85 | 1.80  | -1.15 | -0.00 |
|      | Ln  | -0.00 | -0.00 | -2.69  | 0.02  | -0.01 | 0.00  |
|      | W1  | -0.19 | -0.00 | -0.00  | 0.17  | -3.58 | 0.00  |
|      | W2  | 0.01  | -0.26 | -0.19  | 4.43  | 0.14  | 0.00  |
|      | W3  | -0.14 | -0.01 | -0.01  | 0.31  | -2.77 | 0.00  |
|      | W4  | -0.14 | 0.01  | 0.00   | -0.06 | -2.60 | 0.00  |
|      | W5  | 0.03  | -0.12 | -0.09  | 2.10  | 0.68  | -0.00 |
|      | W6  | -0.01 | -0.27 | -0.19  | 4.54  | -0.47 | 0.00  |
|      | W7  | -0.13 | -0.20 | -0.15  | 3.45  | -2.58 | 0.00  |
|      | W8  | -0.15 | 0.19  | 0.14   | -3.19 | -2.79 | -0.00 |
|      | W9  | -0.11 | -0.22 | -0.15  | 3.63  | -2.43 | 0.00  |
|      | W10 | -0.08 | -0.08 | -0.06  | 1.54  | -1.44 | 0.00  |
|      | W11 | -0.13 | 0.08  | 0.06   | -1.35 | -2.59 | 0.00  |
|      | W12 | -0.10 | 0.21  | 0.15   | -3.44 | -1.60 | -0.00 |
|      | E1  | -0.19 | -0.00 | -0.01  | 0.22  | -3.92 | 0.00  |
|      | E2  | -0.19 | 0.00  | -0.00  | 0.09  | -3.85 | 0.00  |
|      | E3  | 0.01  | -0.07 | -0.06  | 1.32  | 0.19  | 0.00  |
|      | E4  | 0.00  | -0.09 | -0.07  | 1.63  | 0.03  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  | 0.00  |
| 2254 | D   | 0.68  | -1.87 | 636.27 | 9.11  | 2.57  | 0.00  |
|      | Lp  | 0.55  | -1.60 | 504.89 | 7.86  | 2.44  | 0.00  |
|      | Ln  | -0.05 | 0.04  | -28.09 | -0.21 | -0.22 | -0.00 |
|      | W1  | -0.21 | -0.02 | 0.00   | 0.25  | -3.77 | -0.00 |
|      | W2  | -0.06 | -0.46 | 0.27   | 5.40  | -0.62 | -0.00 |
|      | W3  | -0.17 | -0.03 | 0.01   | 0.40  | -3.00 | -0.00 |
|      | W4  | -0.15 | 0.01  | -0.01  | -0.03 | -2.65 | -0.00 |
|      | W5  | 0.02  | -0.22 | 0.14   | 2.60  | 0.68  | 0.00  |
|      | W6  | -0.11 | -0.47 | 0.27   | 5.51  | -1.61 | -0.00 |
|      | W7  | -0.20 | -0.36 | 0.21   | 4.23  | -3.29 | -0.00 |
|      | W8  | -0.11 | 0.33  | -0.20  | -3.87 | -2.36 | 0.00  |
|      | W9  | -0.21 | -0.38 | 0.21   | 4.43  | -3.46 | -0.00 |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx      | Ry    | Rz      | Mxx     | Myy    | Tzz   |
|------|-----|---------|-------|---------|---------|--------|-------|
|      | W10 | -0.09   | -0.16 | 0.10    | 1.92    | -1.48  | -0.00 |
|      | W11 | -0.14   | 0.14  | -0.09   | -1.64   | -2.76  | -0.00 |
|      | W12 | -0.03   | 0.36  | -0.21   | -4.16   | -0.78  | 0.00  |
|      | E1  | -0.22   | -0.02 | 0.01    | 0.32    | -4.16  | -0.00 |
|      | E2  | -0.21   | -0.01 | -0.00   | 0.16    | -4.03  | -0.00 |
|      | E3  | -0.01   | -0.13 | 0.09    | 1.65    | 0.05   | -0.00 |
|      | E4  | -0.02   | -0.17 | 0.11    | 2.03    | -0.27  | -0.00 |
|      | O1  | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00  |
| 2255 | D   | 129.89  | -0.15 | 2397.02 | -2.67   | 50.21  | 0.00  |
|      | Lp  | 23.45   | 0.06  | 612.14  | -1.66   | 8.47   | 0.00  |
|      | Ln  | 0.55    | -0.02 | -4.82   | 0.23    | 0.24   | -0.00 |
|      | W1  | -117.39 | -0.06 | -669.58 | 4.93    | -61.16 | -0.00 |
|      | W2  | -9.94   | -7.89 | -499.23 | 151.85  | 2.52   | -0.02 |
|      | W3  | -84.57  | -0.37 | -494.07 | 9.28    | -44.02 | -0.00 |
|      | W4  | -91.51  | 0.29  | -510.31 | -1.89   | -47.72 | -0.00 |
|      | W5  | -30.39  | -3.74 | -425.42 | 76.79   | -10.40 | -0.01 |
|      | W6  | 15.47   | -8.09 | -323.42 | 150.98  | 14.18  | -0.01 |
|      | W7  | -95.50  | -5.96 | -876.61 | 117.58  | -43.98 | -0.01 |
|      | W8  | -80.58  | 5.87  | -127.76 | -110.19 | -47.76 | 0.01  |
|      | W9  | -51.82  | -6.35 | -613.12 | 120.20  | -22.38 | -0.01 |
|      | W10 | -91.42  | -2.59 | -701.79 | 56.18   | -43.59 | -0.01 |
|      | W11 | -40.64  | 2.53  | -51.48  | -50.63  | -25.21 | 0.01  |
|      | W12 | -80.24  | 6.28  | -140.16 | -114.66 | -46.43 | 0.01  |
|      | E1  | -126.69 | -0.06 | -868.16 | 6.42    | -66.12 | -0.00 |
|      | E2  | -128.95 | 0.16  | -873.76 | 2.42    | -67.36 | -0.00 |
|      | E3  | -17.88  | -2.06 | -300.06 | 46.42   | -5.50  | -0.01 |
|      | E4  | -12.58  | -2.56 | -287.02 | 55.80   | -2.57  | -0.01 |
|      | O1  | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00  |
| 2263 | D   | 0.10    | -0.00 | 937.35  | -0.08   | -0.75  | -0.00 |
|      | Lp  | 0.00    | 0.00  | 410.99  | -0.05   | -0.33  | -0.00 |
|      | Ln  | 0.00    | -0.00 | -0.27   | 0.01    | 0.01   | 0.00  |
|      | W1  | -0.22   | 0.00  | -52.49  | 0.15    | -4.28  | 0.00  |
|      | W2  | 0.04    | -0.26 | 104.70  | 5.87    | 1.50   | 0.00  |
|      | W3  | -0.16   | -0.01 | -35.55  | 0.30    | -3.14  | 0.00  |
|      | W4  | -0.17   | 0.01  | -43.18  | -0.07   | -3.28  | 0.00  |
|      | W5  | -0.01   | -0.14 | 50.17   | 3.15    | 0.67   | -0.00 |
|      | W6  | 0.07    | -0.26 | 106.88  | 5.65    | 1.58   | 0.00  |
|      | W7  | -0.13   | -0.20 | 39.16   | 4.52    | -2.09  | 0.00  |
|      | W8  | -0.19   | 0.20  | -117.89 | -4.29   | -4.34  | -0.00 |
|      | W9  | -0.07   | -0.20 | 53.50   | 4.47    | -1.17  | 0.00  |
|      | W10 | -0.13   | -0.09 | 5.25    | 2.31    | -1.96  | 0.00  |
|      | W11 | -0.11   | 0.09  | -64.29  | -2.14   | -2.86  | 0.00  |
|      | W12 | -0.18   | 0.20  | -112.55 | -4.29   | -3.65  | -0.00 |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx      | Ry      | Rz       | Mxx     | Myy    | Tzz   |
|------|-----|---------|---------|----------|---------|--------|-------|
|      | E1  | -0.22   | 0.00    | -87.25   | 0.19    | -4.61  | 0.00  |
|      | E2  | -0.22   | 0.01    | -92.93   | 0.06    | -4.66  | 0.00  |
|      | E3  | -0.00   | -0.06   | 54.40    | 1.80    | 0.46   | 0.00  |
|      | E4  | 0.01    | -0.07   | 67.99    | 2.11    | 0.57   | 0.00  |
|      | O1  | 0.00    | 0.00    | 0.00     | 0.00    | 0.00   | 0.00  |
| 2264 | D   | 0.06    | -0.06   | 2026.02  | -0.38   | -0.79  | -0.00 |
|      | Lp  | -0.02   | 0.01    | 783.95   | -0.26   | -0.42  | -0.00 |
|      | Ln  | 0.00    | -0.01   | -4.65    | 0.07    | 0.01   | 0.00  |
|      | W1  | -0.24   | 0.01    | -17.40   | 1.08    | -4.59  | 0.00  |
|      | W2  | 0.02    | -1.66   | 113.58   | 40.19   | 0.88   | 0.01  |
|      | W3  | -0.18   | -0.06   | -10.71   | 2.09    | -3.46  | 0.00  |
|      | W4  | -0.18   | 0.06    | -15.39   | -0.47   | -3.43  | 0.00  |
|      | W5  | 0.01    | -0.86   | 67.83    | 21.67   | 0.76   | -0.00 |
|      | W6  | 0.02    | -1.64   | 102.53   | 38.61   | 0.57   | 0.02  |
|      | W7  | -0.16   | -1.24   | 72.13    | 30.95   | -2.78  | 0.01  |
|      | W8  | -0.19   | 1.25    | -98.23   | -29.33  | -4.11  | -0.01 |
|      | W9  | -0.12   | -1.27   | 68.87    | 30.52   | -2.17  | 0.02  |
|      | W10 | -0.13   | -0.59   | 39.33    | 15.90   | -2.00  | 0.00  |
|      | W11 | -0.14   | 0.60    | -58.91   | -14.69  | -3.16  | 0.00  |
|      | W12 | -0.15   | 1.28    | -88.44   | -29.31  | -3.00  | -0.01 |
|      | E1  | -0.24   | 0.02    | -29.33   | 1.35    | -4.96  | 0.00  |
|      | E2  | -0.24   | 0.05    | -32.85   | 0.46    | -4.94  | 0.00  |
|      | E3  | 0.00    | -0.39   | 61.02    | 12.44   | 0.36   | 0.00  |
|      | E4  | 0.00    | -0.46   | 69.43    | 14.54   | 0.32   | 0.00  |
|      | O1  | 0.00    | 0.00    | 0.00     | 0.00    | 0.00   | 0.00  |
| 2267 | D   | -71.15  | 116.60  | 6193.42  | -204.10 | -40.73 | -0.01 |
|      | Lp  | -21.72  | 33.69   | 1508.69  | -55.48  | -12.01 | -0.00 |
|      | Ln  | 1.08    | -0.69   | 5.63     | 0.90    | 0.46   | 0.00  |
|      | W1  | -135.56 | -2.44   | 111.54   | 3.64    | -70.61 | -0.00 |
|      | W2  | 22.37   | -113.09 | -2585.80 | 354.13  | 19.95  | 0.00  |
|      | W3  | -97.91  | -4.75   | 46.52    | 11.84   | -50.90 | -0.00 |
|      | W4  | -105.43 | 1.09    | 120.79   | -6.39   | -55.02 | -0.00 |
|      | W5  | -8.57   | -65.79  | -1684.15 | 205.43  | 1.10   | 0.00  |
|      | W6  | 42.12   | -103.84 | -2194.55 | 325.76  | 28.82  | 0.00  |
|      | W7  | -84.90  | -86.65  | -1855.70 | 268.33  | -37.99 | 0.00  |
|      | W8  | -118.44 | 82.99   | 2023.01  | -262.87 | -67.92 | -0.00 |
|      | W9  | -41.84  | -81.44  | -1611.02 | 253.20  | -16.55 | 0.00  |
|      | W10 | -85.50  | -48.53  | -1172.52 | 149.28  | -40.44 | -0.00 |
|      | W11 | -67.01  | 45.78   | 1298.01  | -145.19 | -39.00 | -0.00 |
|      | W12 | -110.66 | 78.70   | 1736.51  | -249.11 | -62.88 | -0.00 |
|      | E1  | -130.79 | -2.01   | 72.40    | 4.10    | -69.81 | -0.00 |
|      | E2  | -133.35 | -0.29   | 107.24   | -2.08   | -71.25 | -0.00 |
|      | E3  | 5.25    | -33.92  | -1199.25 | 116.08  | 5.85   | 0.00  |





RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry    | Rz    | Mxx    | Myy   | Tzz   |
|------|-----|-------|-------|-------|--------|-------|-------|
| 2279 | D   | 0.00  | 0.00  | 2.01  | -0.00  | 0.00  | -0.00 |
|      | Lp  | 0.00  | 0.00  | 0.25  | -0.00  | 0.00  | -0.00 |
|      | Ln  | 0.00  | -0.00 | -0.00 | 0.00   | 0.00  | 0.00  |
|      | W1  | 0.00  | -0.00 | -0.17 | 0.00   | -0.00 | 0.00  |
|      | W2  | -0.00 | 0.00  | 1.06  | -0.00  | -0.00 | 0.00  |
|      | W3  | 0.00  | -0.00 | -0.13 | 0.00   | -0.00 | 0.00  |
|      | W4  | 0.00  | -0.00 | -0.13 | 0.00   | -0.00 | 0.00  |
|      | W5  | -0.00 | 0.00  | 0.82  | -0.00  | -0.00 | -0.00 |
|      | W6  | -0.00 | 0.00  | 0.77  | 0.00   | -0.00 | 0.00  |
|      | W7  | -0.00 | 0.00  | 0.66  | 0.00   | -0.00 | 0.00  |
|      | W8  | 0.00  | -0.00 | -0.92 | 0.00   | 0.00  | -0.00 |
|      | W9  | -0.00 | 0.00  | 0.48  | 0.00   | -0.00 | 0.00  |
|      | W10 | -0.00 | 0.00  | 0.52  | -0.00  | -0.00 | 0.00  |
|      | W11 | 0.00  | -0.00 | -0.71 | 0.00   | 0.00  | 0.00  |
|      | W12 | 0.00  | -0.00 | -0.67 | -0.00  | 0.00  | -0.00 |
|      | E1  | 0.00  | -0.00 | -0.26 | 0.00   | 0.00  | 0.00  |
|      | E2  | 0.00  | -0.00 | -0.26 | 0.00   | 0.00  | 0.00  |
|      | E3  | -0.00 | 0.00  | 0.57  | -0.00  | -0.00 | 0.00  |
|      | E4  | -0.00 | 0.00  | 0.56  | -0.00  | -0.00 | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  |
| 2280 | D   | 0.19  | -0.08 | 30.94 | 0.40   | -0.69 | -0.00 |
|      | Lp  | 0.04  | 0.00  | 0.22  | 0.08   | -0.28 | -0.00 |
|      | Ln  | 0.00  | -0.01 | 0.00  | 0.08   | 0.01  | 0.00  |
|      | W1  | -0.31 | 0.01  | 0.01  | 0.63   | -5.89 | 0.00  |
|      | W2  | 0.06  | -2.05 | -0.04 | 49.34  | 2.31  | 0.02  |
|      | W3  | -0.22 | -0.04 | 0.01  | 1.53   | -4.29 | 0.01  |
|      | W4  | -0.24 | 0.05  | 0.01  | -0.57  | -4.55 | 0.00  |
|      | W5  | -0.02 | -1.25 | -0.03 | 30.09  | 0.85  | -0.00 |
|      | W6  | 0.11  | -1.83 | -0.03 | 43.91  | 2.62  | 0.03  |
|      | W7  | -0.18 | -1.54 | -0.02 | 37.48  | -2.68 | 0.02  |
|      | W8  | -0.28 | 1.55  | 0.04  | -36.53 | -6.15 | -0.01 |
|      | W9  | -0.08 | -1.40 | -0.02 | 34.08  | -1.25 | 0.03  |
|      | W10 | -0.19 | -0.90 | -0.01 | 22.14  | -2.77 | 0.00  |
|      | W11 | -0.15 | 0.91  | 0.03  | -21.43 | -3.85 | 0.00  |
|      | W12 | -0.26 | 1.41  | 0.03  | -33.37 | -5.37 | -0.02 |
|      | E1  | -0.31 | 0.02  | 0.02  | 0.70   | -6.31 | 0.01  |
|      | E2  | -0.31 | 0.05  | 0.02  | 0.00   | -6.40 | 0.00  |
|      | E3  | -0.00 | -0.51 | -0.02 | 15.99  | 0.65  | 0.00  |
|      | E4  | 0.01  | -0.56 | -0.02 | 17.62  | 0.87  | 0.01  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  |
| 2281 | D   | 0.04  | 0.32  | 34.58 | -1.40  | -0.74 | -0.00 |
|      | Lp  | -0.02 | 0.33  | -0.06 | -1.43  | -0.27 | -0.00 |
|      | Ln  | 0.00  | -0.01 | -0.01 | 0.08   | 0.01  | 0.00  |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



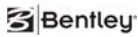
Building Code: IBC

| Node | LdC | Rx    | Ry    | Rz    | Mxx    | Myy   | Tzz   |
|------|-----|-------|-------|-------|--------|-------|-------|
|      | W1  | -0.30 | 0.00  | -0.30 | 0.66   | -6.51 | 0.00  |
|      | W2  | -0.14 | -2.04 | 2.29  | 49.27  | -2.21 | 0.02  |
|      | W3  | -0.25 | -0.05 | -0.23 | 1.55   | -5.31 | 0.01  |
|      | W4  | -0.21 | 0.05  | -0.22 | -0.56  | -4.46 | 0.00  |
|      | W5  | 0.03  | -1.24 | 1.75  | 30.03  | 1.17  | -0.00 |
|      | W6  | -0.24 | -1.82 | 1.69  | 43.87  | -4.48 | 0.03  |
|      | W7  | -0.33 | -1.53 | 1.49  | 37.45  | -6.54 | 0.02  |
|      | W8  | -0.13 | 1.53  | -1.95 | -36.45 | -3.23 | -0.01 |
|      | W9  | -0.36 | -1.40 | 1.09  | 34.06  | -7.34 | 0.03  |
|      | W10 | -0.13 | -0.89 | 1.15  | 22.11  | -2.47 | 0.00  |
|      | W11 | -0.21 | 0.89  | -1.49 | -21.36 | -4.86 | 0.00  |
|      | W12 | 0.02  | 1.40  | -1.43 | -33.32 | 0.02  | -0.02 |
|      | E1  | -0.30 | 0.02  | -0.48 | 0.73   | -7.15 | 0.01  |
|      | E2  | -0.28 | 0.04  | -0.47 | 0.04   | -6.83 | 0.00  |
|      | E3  | -0.02 | -0.50 | 1.25  | 15.95  | -0.18 | 0.00  |
|      | E4  | -0.06 | -0.55 | 1.23  | 17.58  | -0.95 | 0.01  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  |
| 2282 | D   | 0.00  | -0.00 | 7.72  | 0.00   | 0.00  | -0.00 |
|      | Lp  | 0.00  | -0.00 | 4.49  | 0.00   | 0.00  | -0.00 |
|      | Ln  | 0.00  | -0.00 | 0.01  | 0.00   | 0.00  | 0.00  |
|      | W1  | -0.00 | -0.00 | 0.17  | 0.00   | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | -0.76 | 0.00   | -0.00 | 0.00  |
|      | W3  | -0.00 | -0.00 | 0.12  | 0.00   | -0.00 | 0.00  |
|      | W4  | -0.00 | 0.00  | 0.13  | -0.00  | -0.00 | 0.00  |
|      | W5  | -0.00 | -0.00 | -0.54 | 0.00   | -0.00 | -0.00 |
|      | W6  | -0.00 | -0.00 | -0.60 | 0.00   | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | -0.44 | 0.00   | -0.00 | 0.00  |
|      | W8  | 0.00  | 0.00  | 0.70  | -0.00  | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | -0.36 | 0.00   | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | -0.30 | 0.00   | -0.00 | 0.00  |
|      | W11 | 0.00  | 0.00  | 0.50  | -0.00  | -0.00 | 0.00  |
|      | W12 | 0.00  | 0.00  | 0.55  | -0.00  | -0.00 | -0.00 |
|      | E1  | -0.00 | -0.00 | 0.27  | 0.00   | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | 0.27  | 0.00   | -0.00 | 0.00  |
|      | E3  | -0.00 | -0.00 | -0.40 | 0.00   | -0.00 | 0.00  |
|      | E4  | -0.00 | -0.00 | -0.41 | 0.00   | -0.00 | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  |
| 2283 | D   | 0.00  | 0.00  | 5.09  | -0.00  | 0.00  | -0.00 |
|      | Lp  | 0.00  | -0.00 | 1.54  | 0.00   | 0.00  | -0.00 |
|      | Ln  | 0.00  | -0.00 | 0.00  | 0.00   | 0.00  | 0.00  |
|      | W1  | -0.00 | -0.00 | 0.16  | 0.00   | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | -0.30 | 0.00   | -0.00 | 0.00  |
|      | W3  | -0.00 | -0.00 | 0.12  | 0.00   | -0.00 | 0.00  |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry    | Rz    | Mxx   | Myy   | Tzz   |
|------|-----|-------|-------|-------|-------|-------|-------|
|      | W4  | -0.00 | 0.00  | 0.12  | -0.00 | -0.00 | 0.00  |
|      | W5  | -0.00 | -0.00 | -0.22 | 0.00  | -0.00 | -0.00 |
|      | W6  | -0.00 | -0.00 | -0.23 | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | -0.10 | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | 0.34  | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | -0.08 | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | -0.08 | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | 0.26  | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | 0.26  | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | -0.00 | 0.25  | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | 0.25  | 0.00  | -0.00 | 0.00  |
|      | E3  | -0.00 | -0.00 | -0.16 | 0.00  | -0.00 | 0.00  |
|      | E4  | -0.00 | -0.00 | -0.16 | 0.00  | -0.00 | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2284 | D   | -0.00 | 0.00  | 5.66  | -0.00 | -0.00 | -0.00 |
|      | Lp  | -0.00 | 0.00  | 1.76  | -0.00 | -0.00 | -0.00 |
|      | Ln  | -0.00 | -0.00 | 0.00  | 0.00  | -0.00 | 0.00  |
|      | W1  | -0.00 | -0.00 | 0.14  | 0.00  | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | -0.08 | 0.00  | -0.00 | 0.00  |
|      | W3  | -0.00 | -0.00 | 0.11  | 0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | 0.11  | -0.00 | -0.00 | 0.00  |
|      | W5  | -0.00 | -0.00 | -0.05 | 0.00  | -0.00 | -0.00 |
|      | W6  | -0.00 | -0.00 | -0.06 | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 0.05  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | 0.16  | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 0.03  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 0.04  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | 0.12  | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | 0.13  | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | -0.00 | 0.23  | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | 0.23  | 0.00  | -0.00 | 0.00  |
|      | E3  | -0.00 | -0.00 | -0.04 | 0.00  | -0.00 | 0.00  |
|      | E4  | -0.00 | -0.00 | -0.04 | 0.00  | -0.00 | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2285 | D   | -0.00 | 0.00  | 6.75  | -0.00 | -0.00 | -0.00 |
|      | Lp  | -0.00 | 0.00  | 2.49  | -0.00 | -0.00 | -0.00 |
|      | Ln  | -0.00 | -0.00 | -0.00 | 0.00  | -0.00 | 0.00  |
|      | W1  | -0.00 | -0.00 | 0.10  | 0.00  | -0.00 | 0.00  |
|      | W2  | 0.00  | -0.00 | 0.58  | 0.00  | 0.00  | 0.00  |
|      | W3  | -0.00 | -0.00 | 0.08  | 0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | 0.07  | 0.00  | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | 0.43  | 0.00  | 0.00  | -0.00 |
|      | W6  | 0.00  | -0.00 | 0.45  | 0.00  | 0.00  | 0.00  |





RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry    | Rz    | Mxx   | Myy   | Tzz   |
|------|-----|-------|-------|-------|-------|-------|-------|
|      | W7  | -0.00 | -0.00 | 0.51  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -0.36 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 0.39  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 0.38  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -0.27 | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | -0.28 | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | -0.00 | 0.16  | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | 0.16  | 0.00  | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | 0.32  | 0.00  | 0.00  | 0.00  |
|      | E4  | 0.00  | -0.00 | 0.33  | 0.00  | 0.00  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2286 | D   | 0.00  | 0.00  | 7.19  | -0.00 | 0.00  | -0.00 |
|      | Lp  | 0.00  | 0.00  | 2.64  | -0.00 | 0.00  | -0.00 |
|      | Ln  | 0.00  | -0.00 | -0.01 | 0.00  | 0.00  | -0.00 |
|      | W1  | -0.00 | -0.00 | -0.01 | 0.00  | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | 1.40  | 0.00  | -0.00 | 0.00  |
|      | W3  | -0.00 | -0.00 | -0.01 | 0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | -0.01 | 0.00  | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | 1.07  | 0.00  | 0.00  | 0.00  |
|      | W6  | -0.00 | -0.00 | 1.03  | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 1.04  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -1.06 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 0.76  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 0.79  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -0.81 | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | -0.78 | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | -0.00 | -0.04 | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | -0.03 | 0.00  | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | 0.77  | 0.00  | 0.00  | 0.00  |
|      | E4  | 0.00  | -0.00 | 0.76  | 0.00  | 0.00  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2287 | D   | 0.00  | 0.00  | 11.07 | -0.01 | 0.00  | -0.00 |
|      | Lp  | 0.00  | 0.00  | 6.08  | -0.01 | 0.00  | -0.00 |
|      | Ln  | -0.00 | 0.00  | -0.01 | -0.00 | -0.00 | 0.00  |
|      | W1  | -0.00 | -0.00 | -0.23 | 0.00  | -0.00 | 0.00  |
|      | W2  | 0.00  | -0.00 | 2.27  | 0.00  | 0.00  | 0.00  |
|      | W3  | -0.00 | -0.00 | -0.17 | 0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | -0.17 | 0.00  | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | 1.72  | 0.00  | 0.00  | -0.00 |
|      | W6  | -0.00 | -0.00 | 1.69  | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 1.53  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -1.88 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 1.14  | 0.00  | -0.00 | 0.00  |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry    | Rz    | Mxx   | Myy   | Tzz   |
|------|-----|-------|-------|-------|-------|-------|-------|
|      | W10 | -0.00 | -0.00 | 1.16  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | -0.00 | -1.42 | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | -1.40 | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | -0.00 | -0.36 | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | -0.36 | 0.00  | -0.00 | 0.00  |
|      | E3  | 0.00  | 0.00  | 1.24  | 0.00  | 0.00  | 0.00  |
|      | E4  | 0.00  | -0.00 | 1.23  | 0.00  | 0.00  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2288 | D   | -0.00 | -0.00 | 5.79  | 0.00  | -0.00 | -0.00 |
|      | Lp  | -0.00 | -0.00 | 1.58  | 0.00  | -0.00 | -0.00 |
|      | Ln  | -0.00 | -0.00 | -0.00 | 0.00  | -0.00 | 0.00  |
|      | W1  | -0.00 | -0.00 | 0.16  | 0.00  | -0.00 | 0.00  |
|      | W2  | 0.00  | -0.00 | -0.61 | 0.00  | 0.00  | 0.00  |
|      | W3  | -0.00 | -0.00 | 0.13  | 0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | 0.12  | 0.00  | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | -0.48 | 0.00  | 0.00  | -0.00 |
|      | W6  | 0.00  | -0.00 | -0.42 | 0.00  | 0.00  | 0.00  |
|      | W7  | -0.00 | -0.00 | -0.33 | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | 0.58  | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | -0.22 | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | -0.27 | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | 0.46  | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | 0.41  | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | -0.00 | 0.29  | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | 0.28  | 0.00  | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | -0.34 | 0.00  | 0.00  | 0.00  |
|      | E4  | 0.00  | -0.00 | -0.33 | 0.00  | 0.00  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2289 | D   | 0.00  | 0.00  | 8.49  | -0.00 | 0.00  | -0.00 |
|      | Lp  | 0.00  | 0.00  | 3.09  | -0.00 | 0.00  | -0.00 |
|      | Ln  | -0.00 | -0.00 | -0.03 | 0.00  | -0.00 | 0.00  |
|      | W1  | -0.00 | -0.00 | 0.10  | 0.00  | -0.00 | 0.00  |
|      | W2  | 0.00  | -0.00 | 0.37  | 0.00  | 0.00  | 0.00  |
|      | W3  | -0.00 | -0.00 | 0.07  | 0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | 0.07  | 0.00  | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | 0.28  | 0.00  | 0.00  | -0.00 |
|      | W6  | -0.00 | -0.00 | 0.28  | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 0.35  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -0.20 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 0.26  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 0.27  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -0.15 | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | -0.15 | -0.00 | -0.00 | -0.00 |



| Node | LdC | Rx    | Ry    | Rz    | Mxx   | Myy   | Tzz   |
|------|-----|-------|-------|-------|-------|-------|-------|
|      | E1  | -0.00 | -0.00 | 0.16  | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | 0.16  | 0.00  | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | 0.21  | 0.00  | 0.00  | 0.00  |
|      | E4  | -0.00 | -0.00 | 0.21  | 0.00  | 0.00  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2290 | D   | -0.00 | -0.00 | 3.92  | 0.01  | -0.00 | -0.00 |
|      | Lp  | -0.00 | -0.00 | -0.20 | 0.01  | -0.00 | -0.00 |
|      | Ln  | -0.00 | 0.00  | -0.01 | -0.00 | -0.00 | 0.00  |
|      | W1  | -0.00 | -0.00 | 0.00  | 0.00  | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | 1.39  | 0.00  | -0.00 | 0.00  |
|      | W3  | -0.00 | -0.00 | -0.00 | 0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | 0.00  | 0.01  | -0.00 | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | 1.08  | 0.00  | 0.00  | -0.00 |
|      | W6  | -0.00 | -0.00 | 1.00  | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 1.04  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -1.04 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 0.75  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 0.82  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -0.81 | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | -0.74 | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | -0.00 | -0.01 | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | -0.01 | 0.00  | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | 0.78  | 0.00  | 0.00  | 0.00  |
|      | E4  | -0.00 | -0.00 | 0.76  | 0.00  | -0.00 | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2291 | D   | 0.00  | 0.01  | 49.97 | -0.04 | 0.01  | -0.00 |
|      | Lp  | 0.00  | 0.01  | 39.05 | -0.04 | 0.01  | -0.00 |
|      | Ln  | -0.00 | 0.00  | -0.01 | 0.00  | -0.00 | 0.00  |
|      | W1  | -0.00 | -0.00 | -0.13 | 0.00  | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | 2.64  | 0.00  | -0.00 | 0.00  |
|      | W3  | -0.00 | -0.00 | -0.10 | 0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | -0.10 | 0.00  | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | 1.99  | 0.00  | 0.00  | -0.00 |
|      | W6  | -0.00 | -0.00 | 1.98  | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 1.88  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -2.08 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 1.41  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 1.41  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -1.56 | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | -1.56 | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | -0.00 | -0.22 | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | -0.22 | 0.00  | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | 1.44  | 0.00  | 0.00  | 0.00  |





RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry    | Rz    | Mxx   | Myy   | Tzz   |
|------|-----|-------|-------|-------|-------|-------|-------|
| 2294 | D   | 0.00  | -0.00 | 2.92  | 0.01  | 0.00  | -0.00 |
|      | Lp  | 0.00  | -0.00 | -0.95 | 0.01  | 0.00  | -0.00 |
|      | Ln  | 0.00  | 0.00  | -0.01 | -0.00 | 0.00  | 0.00  |
|      | W1  | -0.00 | 0.00  | 0.02  | -0.00 | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | 1.35  | 0.00  | -0.00 | 0.00  |
|      | W3  | -0.00 | 0.00  | 0.01  | -0.00 | -0.00 | 0.00  |
|      | W4  | -0.00 | 0.00  | 0.02  | -0.00 | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | 1.06  | 0.00  | 0.00  | -0.00 |
|      | W6  | -0.00 | -0.00 | 0.97  | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 1.03  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -1.00 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 0.74  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 0.80  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -0.79 | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | -0.72 | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | 0.00  | 0.00  | -0.00 | -0.00 | 0.00  |
|      | E2  | -0.00 | 0.00  | 0.01  | -0.00 | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | 0.76  | 0.00  | 0.00  | 0.00  |
|      | E4  | -0.00 | -0.00 | 0.74  | 0.00  | -0.00 | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2295 | D   | 0.00  | 0.01  | 49.61 | -0.05 | 0.00  | -0.00 |
|      | Lp  | 0.00  | 0.01  | 38.76 | -0.05 | 0.00  | -0.00 |
|      | Ln  | -0.00 | -0.00 | -0.02 | 0.00  | -0.00 | 0.00  |
|      | W1  | -0.00 | -0.00 | 0.09  | 0.00  | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | 2.64  | 0.00  | -0.00 | 0.00  |
|      | W3  | -0.00 | -0.00 | 0.08  | 0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | 0.06  | 0.00  | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | 1.94  | 0.00  | 0.00  | -0.00 |
|      | W6  | -0.00 | -0.00 | 2.03  | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 2.05  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -1.91 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 1.58  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 1.50  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -1.40 | -0.00 | -0.00 | 0.00  |
|      | W12 | 0.00  | 0.00  | -1.48 | -0.00 | 0.00  | -0.00 |
|      | E1  | -0.00 | -0.00 | 0.11  | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | 0.11  | 0.00  | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | 1.43  | 0.00  | -0.00 | 0.00  |
|      | E4  | -0.00 | -0.00 | 1.44  | 0.00  | -0.00 | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2296 | D   | -0.00 | -0.00 | 4.61  | 0.00  | -0.00 | -0.00 |
|      | Lp  | -0.00 | -0.00 | 1.25  | 0.00  | -0.00 | -0.00 |
|      | Ln  | -0.00 | -0.00 | 0.00  | 0.00  | -0.00 | 0.00  |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry    | Rz    | Mxx   | Myy   | Tzz   |
|------|-----|-------|-------|-------|-------|-------|-------|
|      | W1  | -0.00 | 0.00  | 0.20  | -0.00 | -0.00 | 0.00  |
|      | W2  | 0.00  | -0.00 | -1.35 | 0.00  | 0.00  | 0.00  |
|      | W3  | -0.00 | 0.00  | 0.16  | -0.00 | -0.00 | 0.00  |
|      | W4  | -0.00 | 0.00  | 0.14  | -0.00 | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | -1.06 | 0.00  | 0.00  | -0.00 |
|      | W6  | 0.00  | -0.00 | -0.96 | 0.00  | 0.00  | 0.00  |
|      | W7  | -0.00 | -0.00 | -0.86 | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | 1.16  | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | -0.60 | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | -0.69 | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | 0.91  | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | 0.83  | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | 0.00  | 0.36  | -0.00 | -0.00 | 0.00  |
|      | E2  | -0.00 | 0.00  | 0.35  | -0.00 | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | -0.74 | 0.00  | 0.00  | 0.00  |
|      | E4  | 0.00  | -0.00 | -0.72 | 0.00  | 0.00  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2297 | D   | -0.00 | 0.00  | 4.98  | -0.00 | -0.00 | -0.00 |
|      | Lp  | 0.00  | 0.00  | 1.45  | -0.00 | -0.00 | -0.00 |
|      | Ln  | -0.00 | -0.00 | -0.00 | 0.00  | -0.00 | 0.00  |
|      | W1  | -0.00 | 0.00  | 0.18  | -0.00 | -0.00 | 0.00  |
|      | W2  | 0.00  | -0.00 | -0.90 | 0.00  | 0.00  | 0.00  |
|      | W3  | -0.00 | 0.00  | 0.14  | -0.00 | -0.00 | 0.00  |
|      | W4  | -0.00 | 0.00  | 0.13  | -0.00 | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | -0.72 | 0.00  | 0.00  | -0.00 |
|      | W6  | 0.00  | -0.00 | -0.64 | 0.00  | 0.00  | 0.00  |
|      | W7  | -0.00 | -0.00 | -0.54 | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | 0.81  | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | -0.37 | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | -0.44 | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | 0.64  | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | 0.58  | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | 0.00  | 0.32  | -0.00 | -0.00 | 0.00  |
|      | E2  | -0.00 | 0.00  | 0.31  | -0.00 | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | -0.50 | 0.00  | 0.00  | 0.00  |
|      | E4  | 0.00  | -0.00 | -0.48 | 0.00  | 0.00  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2298 | D   | -0.00 | -0.00 | 5.17  | 0.00  | -0.00 | -0.00 |
|      | Lp  | 0.00  | -0.00 | 1.48  | 0.00  | 0.00  | -0.00 |
|      | Ln  | 0.00  | -0.00 | -0.00 | 0.00  | 0.00  | 0.00  |
|      | W1  | -0.00 | 0.00  | 0.16  | -0.00 | -0.00 | 0.00  |
|      | W2  | 0.00  | -0.00 | -0.60 | 0.00  | 0.00  | 0.00  |
|      | W3  | -0.00 | 0.00  | 0.12  | -0.00 | -0.00 | 0.00  |



| Node | LdC | Rx    | Ry    | Rz    | Mxx   | Myy   | Tzz   |
|------|-----|-------|-------|-------|-------|-------|-------|
|      | W4  | -0.00 | 0.00  | 0.12  | -0.00 | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | -0.48 | 0.00  | 0.00  | -0.00 |
|      | W6  | 0.00  | -0.00 | -0.42 | 0.00  | 0.00  | 0.00  |
|      | W7  | -0.00 | -0.00 | -0.33 | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | 0.57  | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | -0.22 | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | -0.27 | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | 0.46  | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | 0.41  | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | 0.00  | 0.28  | -0.00 | -0.00 | 0.00  |
|      | E2  | -0.00 | 0.00  | 0.27  | -0.00 | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | -0.33 | 0.00  | 0.00  | 0.00  |
|      | E4  | 0.00  | -0.00 | -0.32 | 0.00  | 0.00  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2299 | D   | -0.00 | 0.00  | 7.01  | -0.00 | -0.00 | -0.00 |
|      | Lp  | -0.00 | 0.00  | 2.85  | -0.00 | -0.00 | -0.00 |
|      | Ln  | -0.00 | -0.00 | -0.00 | 0.00  | -0.00 | 0.00  |
|      | W1  | -0.00 | 0.00  | 0.12  | -0.00 | -0.00 | 0.00  |
|      | W2  | 0.00  | -0.00 | 0.15  | 0.00  | 0.00  | 0.00  |
|      | W3  | -0.00 | 0.00  | 0.09  | -0.00 | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | 0.09  | -0.00 | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | 0.10  | 0.00  | 0.00  | -0.00 |
|      | W6  | -0.00 | -0.00 | 0.12  | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 0.20  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -0.02 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 0.16  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 0.14  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -0.01 | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | -0.02 | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | 0.00  | 0.20  | -0.00 | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | 0.20  | -0.00 | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | 0.08  | 0.00  | 0.00  | 0.00  |
|      | E4  | 0.00  | -0.00 | 0.08  | 0.00  | 0.00  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2300 | D   | 0.00  | -0.00 | 4.54  | 0.01  | 0.00  | -0.00 |
|      | Lp  | 0.00  | -0.00 | 0.57  | 0.01  | 0.00  | -0.00 |
|      | Ln  | -0.00 | -0.00 | -0.01 | 0.00  | -0.00 | 0.00  |
|      | W1  | -0.00 | 0.00  | 0.08  | -0.00 | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | 1.30  | 0.00  | -0.00 | 0.00  |
|      | W3  | -0.00 | 0.00  | 0.06  | -0.00 | -0.00 | 0.00  |
|      | W4  | -0.00 | 0.00  | 0.06  | -0.00 | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | 0.98  | 0.00  | 0.00  | -0.00 |
|      | W6  | -0.00 | -0.00 | 0.96  | 0.00  | -0.00 | 0.00  |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry    | Rz    | Mxx   | Myy   | Tzz   |
|------|-----|-------|-------|-------|-------|-------|-------|
|      | W7  | -0.00 | -0.00 | 1.03  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -0.91 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 0.77  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 0.79  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -0.69 | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | -0.67 | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | 0.00  | 0.12  | -0.00 | -0.00 | 0.00  |
|      | E2  | -0.00 | 0.00  | 0.12  | -0.00 | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | 0.71  | 0.00  | 0.00  | 0.00  |
|      | E4  | -0.00 | -0.00 | 0.71  | 0.00  | -0.00 | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2301 | D   | -0.00 | 0.01  | 45.06 | -0.06 | -0.01 | -0.00 |
|      | Lp  | -0.00 | 0.01  | 35.57 | -0.05 | -0.01 | -0.00 |
|      | Ln  | 0.00  | -0.00 | -0.02 | 0.00  | 0.00  | 0.00  |
|      | W1  | -0.00 | -0.00 | 0.26  | 0.00  | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | 2.63  | 0.00  | -0.00 | 0.00  |
|      | W3  | -0.00 | -0.00 | 0.21  | 0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | 0.19  | 0.00  | -0.00 | 0.00  |
|      | W5  | -0.00 | -0.00 | 1.90  | 0.00  | 0.00  | -0.00 |
|      | W6  | -0.00 | -0.00 | 2.04  | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 2.17  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -1.77 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 1.69  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 1.56  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -1.27 | -0.00 | -0.00 | 0.00  |
|      | W12 | 0.00  | 0.00  | -1.39 | -0.00 | 0.00  | -0.00 |
|      | E1  | -0.00 | -0.00 | 0.37  | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | 0.36  | 0.00  | -0.00 | 0.00  |
|      | E3  | -0.00 | -0.00 | 1.41  | 0.00  | -0.00 | 0.00  |
|      | E4  | -0.00 | -0.00 | 1.44  | 0.00  | -0.00 | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2302 | D   | 0.00  | 0.01  | 43.58 | -0.06 | 0.01  | -0.00 |
|      | Lp  | 0.00  | 0.01  | 33.94 | -0.05 | 0.00  | -0.00 |
|      | Ln  | 0.00  | 0.00  | -0.02 | -0.00 | 0.00  | 0.00  |
|      | W1  | -0.00 | -0.00 | 0.34  | 0.00  | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | 2.53  | 0.00  | -0.00 | 0.00  |
|      | W3  | -0.00 | -0.00 | 0.27  | 0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | 0.24  | 0.00  | -0.00 | 0.00  |
|      | W5  | -0.00 | -0.00 | 1.80  | 0.00  | -0.00 | -0.00 |
|      | W6  | -0.00 | -0.00 | 1.99  | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 2.16  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -1.64 | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 1.70  | 0.00  | -0.00 | 0.00  |





RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry    | Rz    | Mxx   | Myy   | Tzz   |
|------|-----|-------|-------|-------|-------|-------|-------|
|      | W10 | -0.00 | -0.00 | 1.54  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -1.15 | -0.00 | -0.00 | 0.00  |
|      | W12 | 0.00  | 0.00  | -1.31 | -0.00 | 0.00  | -0.00 |
|      | E1  | -0.00 | -0.00 | 0.49  | 0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | 0.48  | 0.00  | -0.00 | 0.00  |
|      | E3  | -0.00 | -0.00 | 1.36  | 0.00  | -0.00 | 0.00  |
|      | E4  | -0.00 | -0.00 | 1.39  | 0.00  | -0.00 | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2303 | D   | -0.00 | -0.00 | 3.87  | 0.00  | -0.00 | -0.00 |
|      | Lp  | -0.00 | -0.00 | 0.94  | 0.00  | -0.00 | -0.00 |
|      | Ln  | 0.00  | -0.00 | 0.00  | 0.00  | 0.00  | 0.00  |
|      | W1  | -0.00 | 0.00  | 0.21  | -0.00 | -0.00 | 0.00  |
|      | W2  | 0.00  | -0.00 | -1.17 | 0.00  | 0.00  | 0.00  |
|      | W3  | -0.00 | 0.00  | 0.16  | -0.00 | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | 0.15  | -0.00 | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | -0.94 | 0.00  | 0.00  | -0.00 |
|      | W6  | 0.00  | -0.00 | -0.82 | 0.00  | 0.00  | 0.00  |
|      | W7  | -0.00 | -0.00 | -0.73 | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | 1.03  | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | -0.50 | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | -0.59 | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | 0.82  | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | 0.73  | -0.00 | -0.00 | -0.00 |
|      | E1  | -0.00 | 0.00  | 0.37  | -0.00 | -0.00 | 0.00  |
|      | E2  | -0.00 | 0.00  | 0.36  | -0.00 | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | -0.65 | 0.00  | 0.00  | 0.00  |
|      | E4  | 0.00  | -0.00 | -0.63 | 0.00  | 0.00  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| 2304 | D   | -0.00 | 0.00  | 5.55  | -0.00 | -0.00 | -0.00 |
|      | Lp  | -0.00 | 0.00  | 1.96  | -0.00 | -0.00 | -0.00 |
|      | Ln  | 0.00  | -0.00 | -0.02 | 0.00  | 0.00  | 0.00  |
|      | W1  | -0.00 | 0.00  | 0.12  | -0.00 | -0.00 | 0.00  |
|      | W2  | 0.00  | -0.00 | -0.01 | 0.00  | 0.00  | 0.00  |
|      | W3  | -0.00 | 0.00  | 0.09  | -0.00 | -0.00 | 0.00  |
|      | W4  | -0.00 | -0.00 | 0.09  | 0.00  | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | -0.03 | 0.00  | 0.00  | -0.00 |
|      | W6  | -0.00 | -0.00 | 0.01  | 0.00  | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 0.08  | 0.00  | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | 0.10  | -0.00 | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 0.08  | 0.00  | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 0.04  | 0.00  | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | 0.09  | -0.00 | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | 0.05  | -0.00 | -0.00 | -0.00 |



| Node | LdC | Rx    | Ry    | Rz    | Mxx    | Myy   | Tzz   |
|------|-----|-------|-------|-------|--------|-------|-------|
|      | E1  | -0.00 | -0.00 | 0.22  | -0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | -0.00 | 0.21  | -0.00  | -0.00 | 0.00  |
|      | E3  | 0.00  | -0.00 | -0.01 | 0.00   | 0.00  | 0.00  |
|      | E4  | 0.00  | -0.00 | 0.00  | 0.00   | 0.00  | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  |
| 2305 | D   | -0.00 | -0.00 | 3.34  | 0.00   | -0.00 | -0.00 |
|      | Lp  | 0.00  | -0.00 | 0.25  | 0.00   | 0.00  | -0.00 |
|      | Ln  | 0.00  | 0.00  | -0.00 | -0.00  | 0.00  | 0.00  |
|      | W1  | -0.00 | 0.00  | 0.02  | -0.00  | -0.00 | 0.00  |
|      | W2  | -0.00 | -0.00 | 1.31  | 0.00   | -0.00 | 0.00  |
|      | W3  | -0.00 | 0.00  | 0.01  | -0.00  | -0.00 | 0.00  |
|      | W4  | -0.00 | 0.00  | 0.02  | -0.00  | -0.00 | 0.00  |
|      | W5  | 0.00  | -0.00 | 1.03  | 0.00   | 0.00  | -0.00 |
|      | W6  | -0.00 | -0.00 | 0.94  | 0.00   | -0.00 | 0.00  |
|      | W7  | -0.00 | -0.00 | 1.00  | 0.00   | -0.00 | 0.00  |
|      | W8  | -0.00 | 0.00  | -0.97 | -0.00  | -0.00 | -0.00 |
|      | W9  | -0.00 | -0.00 | 0.71  | 0.00   | -0.00 | 0.00  |
|      | W10 | -0.00 | -0.00 | 0.79  | 0.00   | -0.00 | 0.00  |
|      | W11 | -0.00 | 0.00  | -0.77 | -0.00  | -0.00 | 0.00  |
|      | W12 | -0.00 | 0.00  | -0.69 | -0.00  | -0.00 | -0.00 |
|      | E1  | -0.00 | 0.00  | 0.02  | -0.00  | -0.00 | 0.00  |
|      | E2  | -0.00 | 0.00  | 0.03  | -0.00  | -0.00 | 0.00  |
|      | E3  | -0.00 | -0.00 | 0.73  | 0.00   | -0.00 | 0.00  |
|      | E4  | -0.00 | -0.00 | 0.71  | 0.00   | -0.00 | 0.00  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  |
| 2306 | D   | -0.04 | -0.06 | 30.51 | 3.72   | -2.57 | -0.01 |
|      | Lp  | -0.01 | -0.03 | 0.00  | 1.77   | -0.54 | -0.00 |
|      | Ln  | -0.00 | 0.00  | 0.00  | -0.05  | -0.02 | -0.00 |
|      | W1  | -0.06 | 0.04  | 0.00  | -2.74  | -3.45 | 0.01  |
|      | W2  | 0.03  | -0.41 | 0.00  | 24.81  | 2.09  | 0.05  |
|      | W3  | -0.04 | 0.04  | 0.00  | -2.71  | -2.53 | 0.01  |
|      | W4  | -0.04 | 0.02  | 0.00  | -1.40  | -2.64 | 0.00  |
|      | W5  | 0.02  | -0.38 | 0.00  | 22.90  | 1.22  | -0.00 |
|      | W6  | 0.03  | -0.23 | 0.00  | 14.32  | 1.92  | 0.07  |
|      | W7  | -0.02 | -0.27 | 0.00  | 16.55  | -1.02 | 0.04  |
|      | W8  | -0.07 | 0.34  | 0.00  | -20.66 | -4.15 | -0.03 |
|      | W9  | -0.01 | -0.14 | 0.00  | 8.71   | -0.46 | 0.06  |
|      | W10 | -0.02 | -0.26 | 0.00  | 16.12  | -1.07 | 0.00  |
|      | W11 | -0.05 | 0.31  | 0.00  | -19.20 | -2.81 | 0.01  |
|      | W12 | -0.06 | 0.19  | 0.00  | -11.79 | -3.42 | -0.05 |
|      | E1  | -0.07 | 0.07  | 0.00  | -3.98  | -4.14 | 0.02  |
|      | E2  | -0.07 | 0.06  | 0.00  | -3.44  | -4.18 | 0.01  |
|      | E3  | 0.01  | -0.18 | 0.00  | 11.07  | 0.87  | 0.01  |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry    | Rz    | Mxx    | Myy   | Tzz   |
|------|-----|-------|-------|-------|--------|-------|-------|
|      | E4  | 0.02  | -0.16 | 0.00  | 9.79   | 0.97  | 0.02  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  |
| 2307 | D   | -0.31 | 1.40  | 47.53 | -3.38  | -2.47 | -0.00 |
|      | Lp  | -0.38 | 1.28  | 14.58 | -4.49  | -2.07 | -0.00 |
|      | Ln  | 0.00  | -0.01 | -0.00 | 0.04   | 0.00  | 0.00  |
|      | W1  | -0.31 | 0.00  | 0.01  | -1.99  | -6.55 | 0.00  |
|      | W2  | -0.10 | -1.49 | 0.05  | 32.32  | -2.03 | 0.02  |
|      | W3  | -0.25 | 0.07  | 0.01  | -2.61  | -5.34 | 0.01  |
|      | W4  | -0.21 | -0.07 | 0.01  | -0.38  | -4.49 | 0.00  |
|      | W5  | 0.06  | -1.57 | 0.04  | 31.85  | 1.31  | -0.00 |
|      | W6  | -0.21 | -0.67 | 0.04  | 16.63  | -4.36 | 0.03  |
|      | W7  | -0.31 | -1.12 | 0.05  | 22.75  | -6.44 | 0.02  |
|      | W8  | -0.16 | 1.12  | -0.03 | -25.74 | -3.39 | -0.01 |
|      | W9  | -0.35 | -0.45 | 0.04  | 10.51  | -7.27 | 0.03  |
|      | W10 | -0.11 | -1.22 | 0.03  | 23.61  | -2.39 | 0.00  |
|      | W11 | -0.24 | 1.22  | -0.02 | -25.85 | -4.98 | 0.00  |
|      | W12 | 0.00  | 0.45  | -0.02 | -12.75 | -0.10 | -0.02 |
|      | E1  | -0.31 | 0.01  | 0.01  | -2.90  | -7.21 | 0.01  |
|      | E2  | -0.30 | -0.04 | 0.01  | -1.96  | -6.89 | 0.00  |
|      | E3  | -0.00 | -0.52 | 0.03  | 13.02  | -0.09 | 0.00  |
|      | E4  | -0.04 | -0.40 | 0.03  | 10.80  | -0.86 | 0.01  |
|      | O1  | 0.00  | 0.00  | 0.00  | 0.00   | 0.00  | 0.00  |

**Frame #187:**

| Node | LdC | Rx    | Ry      | Rz       | Mxx    | Myy    | Tzz    |
|------|-----|-------|---------|----------|--------|--------|--------|
|      |     | kip   | kip     | kip      | kip-ft | kip-ft | kip-ft |
| 2256 | D   | 0.30  | 429.18  | 1578.62  | -0.27  | -1.57  | -0.00  |
|      | Lp  | 0.05  | 185.66  | 590.93   | -0.21  | -0.68  | -0.00  |
|      | Ln  | 0.00  | -12.74  | -26.62   | 0.03   | 0.03   | 0.00   |
|      | W1  | -0.51 | -34.89  | -146.66  | 0.31   | -9.61  | 0.00   |
|      | W2  | 0.07  | -390.08 | -1129.29 | 13.76  | 4.49   | 0.01   |
|      | W3  | -0.36 | -37.58  | -137.28  | 0.74   | -6.87  | 0.00   |
|      | W4  | -0.40 | -14.75  | -82.72   | -0.28  | -7.54  | 0.00   |
|      | W5  | -0.10 | -215.93 | -661.38  | 6.93   | 1.10   | -0.00  |
|      | W6  | 0.20  | -369.19 | -1032.56 | 13.71  | 5.63   | 0.01   |
|      | W7  | -0.33 | -318.73 | -956.97  | 10.55  | -3.84  | 0.01   |
|      | W8  | -0.43 | 266.40  | 736.97   | -10.09 | -10.57 | -0.00  |
|      | W9  | -0.12 | -305.08 | -877.38  | 10.84  | -0.92  | 0.01   |
|      | W10 | -0.38 | -173.01 | -558.07  | 4.99   | -4.83  | 0.00   |
|      | W11 | -0.19 | 133.77  | 393.07   | -4.64  | -5.98  | 0.00   |
|      | W12 | -0.45 | 265.83  | 712.38   | -10.49 | -9.88  | -0.01  |
|      | E1  | -0.52 | -54.15  | -229.98  | 0.42   | -10.31 | 0.00   |
|      | E2  | -0.53 | -44.54  | -205.54  | 0.05   | -10.55 | 0.00   |
|      | E3  | -0.02 | -151.98 | -483.17  | 4.16   | 1.20   | 0.00   |







RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



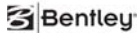
Building Code: IBC

| Node | LdC | Rx    | Ry      | Rz       | Mxx     | Myy     | Tzz   |
|------|-----|-------|---------|----------|---------|---------|-------|
| 2275 | D   | -3.00 | 125.17  | 3037.95  | -41.12  | -20.00  | -0.00 |
|      | Lp  | -0.91 | 38.49   | 783.55   | -12.74  | -6.09   | -0.00 |
|      | Ln  | 0.01  | -1.01   | 1.46     | 0.37    | 0.07    | -0.00 |
|      | W1  | -2.07 | -12.20  | 212.35   | 4.65    | -34.23  | 0.00  |
|      | W2  | 2.65  | -128.82 | -752.68  | 62.26   | 20.59   | 0.00  |
|      | W3  | -1.40 | -12.32  | 145.59   | 4.98    | -24.71  | 0.00  |
|      | W4  | -1.70 | -5.99   | 172.94   | 1.99    | -26.63  | 0.00  |
|      | W5  | 1.00  | -76.29  | -472.34  | 36.98   | 9.00    | 0.00  |
|      | W6  | 2.97  | -116.94 | -656.68  | 56.40   | 21.89   | 0.00  |
|      | W7  | 0.43  | -105.77 | -405.25  | 50.18   | -10.23  | 0.00  |
|      | W8  | -3.54 | 87.46   | 723.78   | -43.21  | -41.11  | 0.00  |
|      | W9  | 1.17  | -96.94  | -383.32  | 46.04   | -2.12   | 0.00  |
|      | W10 | -0.52 | -61.71  | -224.55  | 29.23   | -13.22  | 0.00  |
|      | W11 | -1.80 | 47.98   | 463.45   | -24.00  | -25.28  | 0.00  |
|      | W12 | -3.50 | 83.21   | 622.22   | -40.81  | -36.39  | 0.00  |
|      | E1  | -2.09 | -10.15  | 265.06   | 4.06    | -36.63  | 0.00  |
|      | E2  | -2.20 | -8.53   | 276.79   | 3.22    | -37.34  | 0.00  |
|      | E3  | 0.83  | -31.92  | -330.57  | 16.97   | 6.78    | 0.00  |
|      | E4  | 1.08  | -35.67  | -358.25  | 18.94   | 8.44    | 0.00  |
|      | O1  | 0.00  | 0.00    | 0.00     | 0.00    | 0.00    | 0.00  |
| 2276 | D   | 2.95  | -291.46 | 11899.55 | 494.73  | -14.32  | -0.68 |
|      | Lp  | 0.33  | -70.04  | 3134.63  | 119.61  | -6.68   | -0.21 |
|      | Ln  | 0.04  | -1.12   | 0.01     | 2.39    | 0.22    | 0.00  |
|      | W1  | -5.25 | -33.64  | 748.79   | 65.22   | -99.23  | -1.49 |
|      | W2  | 0.09  | -107.17 | 649.02   | 719.72  | 31.23   | 1.50  |
|      | W3  | -3.90 | -28.32  | 584.80   | 66.25   | -73.17  | -0.99 |
|      | W4  | -3.98 | -22.13  | 538.38   | 31.58   | -75.67  | -1.25 |
|      | W5  | -0.20 | -60.58  | 332.43   | 426.14  | 15.02   | 0.28  |
|      | W6  | 0.35  | -100.17 | 641.10   | 653.45  | 31.82   | 1.97  |
|      | W7  | -3.87 | -105.60 | 1048.36  | 588.71  | -51.00  | 0.01  |
|      | W8  | -4.01 | 55.15   | 74.83    | -490.88 | -97.84  | -2.25 |
|      | W9  | -2.67 | -96.37  | 919.43   | 539.77  | -31.01  | 0.74  |
|      | W10 | -3.14 | -62.04  | 653.11   | 343.29  | -45.49  | -0.73 |
|      | W11 | -2.77 | 24.20   | 189.28   | -269.92 | -66.14  | -0.95 |
|      | W12 | -3.24 | 58.53   | -77.04   | -466.40 | -80.62  | -2.42 |
|      | E1  | -5.31 | -38.92  | 975.65   | 76.45   | -106.71 | -1.61 |
|      | E2  | -5.32 | -37.51  | 960.14   | 65.46   | -107.55 | -1.71 |
|      | E3  | -0.24 | -16.84  | 66.49    | 211.35  | 9.61    | 0.39  |
|      | E4  | -0.20 | -20.10  | 102.77   | 237.10  | 11.59   | 0.62  |
|      | O1  | 0.00  | 0.00    | 0.00     | 0.00    | 0.00    | 0.00  |
| 2277 | D   | 1.69  | -6.89   | 9861.59  | 27.49   | -6.44   | -0.29 |
|      | Lp  | 0.09  | -4.37   | 3034.11  | 18.56   | -3.19   | -0.12 |
|      | Ln  | 0.02  | -0.11   | -26.43   | 0.93    | 0.09    | 0.00  |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry     | Rz       | Mxx     | Myy    | Tzz   |
|------|-----|-------|--------|----------|---------|--------|-------|
|      | W1  | -3.74 | 0.09   | 42.36    | 9.27    | -77.47 | 0.26  |
|      | W2  | -0.43 | -24.60 | 2876.38  | 608.86  | -5.72  | 1.44  |
|      | W3  | -2.92 | -0.52  | 43.10    | 20.77   | -60.89 | 0.37  |
|      | W4  | -2.68 | 0.65   | 20.45    | -6.86   | -55.32 | 0.03  |
|      | W5  | 0.47  | -14.69 | 2076.96  | 365.56  | 14.35  | -0.03 |
|      | W6  | -1.12 | -22.22 | 2237.62  | 547.73  | -22.93 | 2.20  |
|      | W7  | -3.13 | -18.39 | 2189.06  | 463.60  | -62.39 | 1.28  |
|      | W8  | -2.48 | 18.52  | -2125.51 | -449.69 | -53.82 | -0.88 |
|      | W9  | -3.03 | -17.05 | 1710.54  | 426.38  | -62.86 | 1.92  |
|      | W10 | -1.66 | -10.53 | 1573.05  | 269.03  | -30.72 | 0.00  |
|      | W11 | -2.54 | 10.63  | -1525.39 | -258.59 | -56.43 | 0.30  |
|      | W12 | -1.18 | 17.15  | -1662.88 | -415.95 | -24.29 | -1.62 |
|      | E1  | -3.74 | 0.30   | 37.71    | 10.66   | -84.61 | 0.36  |
|      | E2  | -3.65 | 0.59   | 26.75    | 1.33    | -82.43 | 0.24  |
|      | E3  | -0.01 | -6.21  | 1530.62  | 197.78  | 2.35   | 0.30  |
|      | E4  | -0.21 | -6.90  | 1556.54  | 219.66  | -2.78  | 0.61  |
|      | O1  | 0.00  | 0.00   | 0.00     | 0.00    | 0.00   | 0.00  |

**Frame #189:**

| Node | LdC | Rx<br>kips | Ry<br>kips | Rz<br>kips | Mxx<br>kip-ft | Myy<br>kip-ft | Tzz<br>kip-ft |
|------|-----|------------|------------|------------|---------------|---------------|---------------|
| 2267 | D   | -71.15     | 116.60     | 6193.42    | -204.10       | -40.73        | -0.01         |
|      | Lp  | -21.72     | 33.69      | 1508.69    | -55.48        | -12.01        | -0.00         |
|      | Ln  | 1.08       | -0.69      | 5.63       | 0.90          | 0.46          | 0.00          |
|      | W1  | -135.56    | -2.44      | 111.54     | 3.64          | -70.61        | -0.00         |
|      | W2  | 22.37      | -113.09    | -2585.80   | 354.13        | 19.95         | 0.00          |
|      | W3  | -97.91     | -4.75      | 46.52      | 11.84         | -50.90        | -0.00         |
|      | W4  | -105.43    | 1.09       | 120.79     | -6.39         | -55.02        | -0.00         |
|      | W5  | -8.57      | -65.79     | -1684.15   | 205.43        | 1.10          | 0.00          |
|      | W6  | 42.12      | -103.84    | -2194.55   | 325.76        | 28.82         | 0.00          |
|      | W7  | -84.90     | -86.65     | -1855.70   | 268.33        | -37.99        | 0.00          |
|      | W8  | -118.44    | 82.99      | 2023.01    | -262.87       | -67.92        | -0.00         |
|      | W9  | -41.84     | -81.44     | -1611.02   | 253.20        | -16.55        | 0.00          |
|      | W10 | -85.50     | -48.53     | -1172.52   | 149.28        | -40.44        | -0.00         |
|      | W11 | -67.01     | 45.78      | 1298.01    | -145.19       | -39.00        | -0.00         |
|      | W12 | -110.66    | 78.70      | 1736.51    | -249.11       | -62.88        | -0.00         |
|      | E1  | -130.79    | -2.01      | 72.40      | 4.10          | -69.81        | -0.00         |
|      | E2  | -133.35    | -0.29      | 107.24     | -2.08         | -71.25        | -0.00         |
|      | E3  | 5.25       | -33.92     | -1199.25   | 116.08        | 5.85          | 0.00          |
|      | E4  | 11.26      | -37.95     | -1281.64   | 130.59        | 9.24          | 0.00          |
|      | O1  | 0.00       | 0.00       | 0.00       | 0.00          | 0.00          | 0.00          |
| 2268 | D   | 0.18       | -114.16    | 2209.05    | 60.78         | -2.97         | -0.00         |
|      | Lp  | 0.01       | -24.82     | 566.45     | 13.54         | -1.06         | -0.00         |
|      | Ln  | 0.01       | -0.60      | -0.35      | 0.29          | 0.03          | 0.00          |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx    | Ry     | Rz      | Mxx    | Myy    | Tzz   |
|------|-----|-------|--------|---------|--------|--------|-------|
|      | W1  | -0.79 | -8.26  | 79.94   | 4.43   | -13.40 | -0.01 |
|      | W2  | 0.10  | -54.04 | 244.93  | 41.39  | 4.82   | 0.01  |
|      | W3  | -0.58 | -8.40  | 74.24   | 4.80   | -9.80  | -0.01 |
|      | W4  | -0.60 | -3.98  | 45.67   | 1.84   | -10.30 | -0.01 |
|      | W5  | -0.02 | -26.27 | 89.44   | 21.41  | 1.94   | 0.00  |
|      | W6  | 0.17  | -54.79 | 277.96  | 40.67  | 5.29   | 0.01  |
|      | W7  | -0.51 | -46.72 | 243.66  | 34.36  | -6.44  | -0.00 |
|      | W8  | -0.66 | 34.33  | -123.74 | -27.72 | -13.67 | -0.01 |
|      | W9  | -0.30 | -47.40 | 264.15  | 34.10  | -3.38  | 0.00  |
|      | W10 | -0.47 | -22.69 | 101.33  | 17.44  | -6.27  | -0.00 |
|      | W11 | -0.42 | 13.40  | -11.40  | -12.46 | -8.81  | -0.01 |
|      | W12 | -0.58 | 38.10  | -174.21 | -29.12 | -11.70 | -0.01 |
|      | E1  | -0.79 | -8.27  | 89.70   | 4.58   | -14.32 | -0.01 |
|      | E2  | -0.80 | -7.10  | 79.66   | 3.71   | -14.49 | -0.01 |
|      | E3  | -0.00 | -6.77  | 12.69   | 8.43   | 1.47   | 0.00  |
|      | E4  | 0.02  | -9.49  | 36.20   | 10.47  | 1.88   | 0.00  |
|      | O1  | 0.00  | 0.00   | 0.00    | 0.00   | 0.00   | 0.00  |
| 2269 | D   | 0.20  | 0.02   | 691.16  | -0.16  | 0.74   | -0.00 |
|      | Lp  | 0.13  | 0.02   | 333.79  | -0.13  | 0.55   | -0.00 |
|      | Ln  | -0.00 | -0.00  | -0.62   | 0.01   | -0.00  | 0.00  |
|      | W1  | -0.07 | -0.00  | -11.80  | 0.20   | -1.15  | 0.00  |
|      | W2  | 0.03  | -0.46  | 123.47  | 9.23   | 0.32   | 0.00  |
|      | W3  | -0.06 | -0.02  | -6.60   | 0.40   | -0.87  | 0.00  |
|      | W4  | -0.06 | 0.01   | -11.10  | -0.10  | -0.85  | 0.00  |
|      | W5  | 0.02  | -0.26  | 75.88   | 5.29   | 0.28   | -0.00 |
|      | W6  | 0.02  | -0.43  | 109.32  | 8.55   | 0.20   | 0.00  |
|      | W7  | -0.03 | -0.35  | 83.75   | 7.07   | -0.62  | 0.00  |
|      | W8  | -0.08 | 0.34   | -101.45 | -6.77  | -1.10  | -0.00 |
|      | W9  | -0.03 | -0.33  | 77.04   | 6.71   | -0.50  | 0.00  |
|      | W10 | -0.02 | -0.19  | 48.59   | 3.90   | -0.43  | 0.00  |
|      | W11 | -0.06 | 0.18   | -61.86  | -3.67  | -0.86  | 0.00  |
|      | W12 | -0.06 | 0.33   | -90.31  | -6.49  | -0.79  | -0.00 |
|      | E1  | -0.08 | -0.00  | -20.03  | 0.25   | -1.25  | 0.00  |
|      | E2  | -0.08 | 0.00   | -23.43  | 0.08   | -1.24  | 0.00  |
|      | E3  | 0.01  | -0.13  | 66.24   | 2.96   | 0.13   | 0.00  |
|      | E4  | 0.01  | -0.15  | 74.38   | 3.36   | 0.11   | 0.00  |
|      | O1  | 0.00  | 0.00   | 0.00    | 0.00   | 0.00   | 0.00  |

**Frame #190:**

| Node | LdC | Rx<br>kips | Ry<br>kips | Rz<br>kips | Mxx<br>kip-ft | Myy<br>kip-ft | Tzz<br>kip-ft |
|------|-----|------------|------------|------------|---------------|---------------|---------------|
| 2308 | D   | 6.75       | 394.15     | 11997.00   | -401.74       | -40.68        | 0.19          |
|      | Lp  | 0.71       | 109.36     | 2536.66    | -79.84        | -17.41        | 0.04          |
|      | Ln  | 0.11       | -0.63      | -3.93      | 0.72          | 0.55          | 0.00          |





RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx     | Ry      | Rz       | Mxx     | Myy     | Tzz   |
|------|-----|--------|---------|----------|---------|---------|-------|
|      | W1  | -13.33 | 47.47   | 954.58   | -99.84  | -266.11 | 0.43  |
|      | W2  | 1.93   | -559.60 | -5346.63 | 1066.41 | 79.78   | 0.04  |
|      | W3  | -9.71  | 61.87   | 845.77   | -114.30 | -196.78 | 0.34  |
|      | W4  | -10.28 | 9.34    | 586.09   | -35.46  | -202.39 | 0.30  |
|      | W5  | -0.46  | -595.17 | -4913.76 | 1066.30 | 41.12   | -0.12 |
|      | W6  | 3.36   | -244.23 | -3106.18 | 533.32  | 78.55   | 0.18  |
|      | W7  | -8.55  | -384.10 | -3294.04 | 724.93  | -139.75 | 0.35  |
|      | W8  | -11.45 | 455.31  | 4725.90  | -874.69 | -259.42 | 0.29  |
|      | W9  | -4.76  | -136.78 | -1695.31 | 314.27  | -88.67  | 0.39  |
|      | W10 | -8.06  | -439.37 | -3245.75 | 773.13  | -120.95 | 0.13  |
|      | W11 | -6.94  | 492.78  | 4319.65  | -885.45 | -178.43 | 0.35  |
|      | W12 | -10.23 | 190.18  | 2769.21  | -426.59 | -210.70 | 0.09  |
|      | E1  | -13.40 | 64.43   | 1565.36  | -146.24 | -287.14 | 0.49  |
|      | E2  | -13.59 | 44.13   | 1436.91  | -113.40 | -288.98 | 0.47  |
|      | E3  | -0.08  | -196.59 | -2620.81 | 438.22  | 26.09   | -0.03 |
|      | E4  | 0.35   | -148.80 | -2316.72 | 360.79  | 30.39   | 0.01  |
|      | O1  | 0.00   | 0.00    | 0.00     | 0.00    | 0.00    | 0.00  |
| 2309 | D   | 5.98   | -371.74 | 14693.53 | 616.58  | -28.00  | -0.22 |
|      | Lp  | 0.40   | -75.86  | 3921.07  | 166.48  | -12.09  | -0.06 |
|      | Ln  | 0.07   | -0.41   | -3.73    | 0.43    | 0.23    | 0.00  |
|      | W1  | -13.39 | 22.86   | -86.00   | -66.97  | -280.92 | -0.40 |
|      | W2  | -1.17  | -554.42 | 5163.40  | 1059.48 | -13.40  | 0.18  |
|      | W3  | -10.43 | 43.25   | -188.64  | -89.43  | -220.06 | -0.29 |
|      | W4  | -9.65  | -8.95   | 59.64    | -11.02  | -201.33 | -0.31 |
|      | W5  | 1.68   | -590.13 | 4735.62  | 1059.56 | 52.47   | 0.08  |
|      | W6  | -3.44  | -241.50 | 3009.47  | 529.67  | -72.57  | 0.19  |
|      | W7  | -10.92 | -398.66 | 3808.05  | 744.39  | -220.74 | -0.16 |
|      | W8  | -9.16  | 432.96  | -3937.05 | -844.84 | -200.64 | -0.44 |
|      | W9  | -10.41 | -148.69 | 2115.63  | 330.18  | -219.47 | -0.07 |
|      | W10 | -5.98  | -449.31 | 3596.45  | 786.40  | -111.64 | -0.17 |
|      | W11 | -9.09  | 475.03  | -3693.19 | -861.74 | -204.39 | -0.28 |
|      | W12 | -4.65  | 174.41  | -2212.38 | -405.52 | -96.57  | -0.38 |
|      | E1  | -13.45 | 21.76   | -59.27   | -89.24  | -307.39 | -0.45 |
|      | E2  | -13.18 | 1.67    | 61.69    | -56.69  | -300.10 | -0.45 |
|      | E3  | -0.08  | -193.21 | 2501.73  | 433.71  | 9.57    | 0.06  |
|      | E4  | -0.71  | -145.94 | 2215.49  | 356.96  | -7.60   | 0.07  |
|      | O1  | 0.00   | 0.00    | 0.00     | 0.00    | 0.00    | 0.00  |

**Frame #191:**

| Node | LdC | Rx<br>kips | Ry<br>kips | Rz<br>kips | Mxx<br>kip-ft | Myy<br>kip-ft | Tzz<br>kip-ft |
|------|-----|------------|------------|------------|---------------|---------------|---------------|
| 2260 | D   | 121.09     | 66.76      | 3068.33    | -45.31        | 70.39         | 0.00          |
|      | Lp  | 31.47      | 20.43      | 927.60     | -13.74        | 19.16         | 0.00          |
|      | Ln  | 0.14       | -0.38      | -3.10      | 0.30          | 0.02          | 0.00          |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx      | Ry     | Rz       | Mxx     | Myy    | Tzz  |
|------|-----|---------|--------|----------|---------|--------|------|
|      | W1  | -79.86  | -18.46 | -397.96  | 12.20   | -54.28 | 0.00 |
|      | W2  | 17.48   | -30.78 | -187.73  | 76.33   | 9.66   | 0.00 |
|      | W3  | -61.37  | -16.10 | -329.85  | 12.24   | -42.04 | 0.00 |
|      | W4  | -58.42  | -11.58 | -267.08  | 6.05    | -39.37 | 0.00 |
|      | W5  | 23.19   | -8.16  | 71.34    | 36.75   | 16.29  | 0.00 |
|      | W6  | 3.03    | -38.02 | -352.94  | 77.74   | -1.79  | 0.00 |
|      | W7  | -46.78  | -36.93 | -439.27  | 66.39   | -33.46 | 0.00 |
|      | W8  | -73.01  | 9.25   | -157.66  | -48.10  | -47.96 | 0.00 |
|      | W9  | -43.75  | -40.59 | -512.10  | 67.49   | -32.88 | 0.00 |
|      | W10 | -26.43  | -14.80 | -146.80  | 32.10   | -17.31 | 0.00 |
|      | W11 | -63.42  | -5.96  | -300.90  | -18.38  | -43.75 | 0.00 |
|      | W12 | -46.09  | 19.83  | 64.39    | -53.76  | -28.18 | 0.00 |
|      | E1  | -79.28  | -23.82 | -531.06  | 15.85   | -56.58 | 0.00 |
|      | E2  | -78.15  | -22.22 | -503.80  | 13.65   | -55.53 | 0.00 |
|      | E3  | 10.46   | -3.79  | 30.15    | 20.75   | 7.10   | 0.00 |
|      | E4  | 7.78    | -7.55  | -34.15   | 25.92   | 4.62   | 0.00 |
|      | O1  | 0.00    | 0.00   | 0.00     | 0.00    | 0.00   | 0.00 |
| 2261 | D   | 308.31  | -65.72 | 4893.14  | 101.19  | 135.46 | 0.00 |
|      | Lp  | 89.72   | -21.10 | 1488.67  | 31.94   | 39.74  | 0.00 |
|      | Ln  | -0.92   | -0.26  | -10.88   | 0.77    | -0.40  | 0.00 |
|      | W1  | -138.10 | 12.10  | -638.82  | -11.71  | -82.39 | 0.00 |
|      | W2  | 16.46   | -71.73 | 1349.52  | 430.98  | 6.25   | 0.00 |
|      | W3  | -110.21 | 7.19   | -486.18  | 3.82    | -65.55 | 0.00 |
|      | W4  | -96.94  | 10.96  | -472.04  | -21.40  | -58.03 | 0.00 |
|      | W5  | 56.68   | -41.55 | 1060.09  | 239.99  | 29.85  | 0.00 |
|      | W6  | -31.99  | -66.04 | 964.17   | 406.48  | -20.48 | 0.00 |
|      | W7  | -91.23  | -44.72 | 533.02   | 314.45  | -57.11 | 0.00 |
|      | W8  | -115.92 | 62.87  | -1491.23 | -332.02 | -66.48 | 0.00 |
|      | W9  | -106.65 | -44.14 | 358.49   | 307.73  | -64.53 | 0.00 |
|      | W10 | -30.20  | -22.94 | 441.04   | 163.95  | -21.14 | 0.00 |
|      | W11 | -125.17 | 36.55  | -1159.70 | -177.13 | -71.55 | 0.00 |
|      | W12 | -48.72  | 57.75  | -1077.16 | -320.91 | -28.16 | 0.00 |
|      | E1  | -139.71 | 16.38  | -835.63  | -15.65  | -86.17 | 0.00 |
|      | E2  | -135.07 | 17.38  | -828.39  | -24.14  | -83.42 | 0.00 |
|      | E3  | 30.56   | -21.49 | 677.95   | 136.07  | 14.29  | 0.00 |
|      | E4  | 19.65   | -23.83 | 660.82   | 155.99  | 7.84   | 0.00 |
|      | O1  | 0.00    | 0.00   | 0.00     | 0.00    | 0.00   | 0.00 |

**Frame #192:**

| Node | LdC | Rx<br>kips | Ry<br>kips | Rz<br>kips | Mxx<br>kip-ft | Myy<br>kip-ft | Tzz<br>kip-ft |
|------|-----|------------|------------|------------|---------------|---------------|---------------|
| 2272 | D   | -104.46    | 112.01     | 3436.82    | -72.42        | -62.84        | 0.00          |
|      | Lp  | -33.20     | 32.86      | 1005.29    | -21.24        | -19.37        | 0.00          |
|      | Ln  | -0.22      | -0.36      | -2.93      | 0.28          | -0.07         | 0.00          |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx      | Ry     | Rz      | Mxx    | Myy    | Tzz  |
|------|-----|---------|--------|---------|--------|--------|------|
|      | W1  | -76.63  | 14.58  | 243.15  | -7.32  | -48.10 | 0.00 |
|      | W2  | -15.17  | -18.72 | -152.24 | 66.91  | -7.61  | 0.00 |
|      | W3  | -59.20  | 10.80  | 178.69  | -3.86  | -37.31 | 0.00 |
|      | W4  | -55.75  | 11.07  | 186.03  | -7.11  | -34.83 | 0.00 |
|      | W5  | -0.11   | -13.31 | -88.05  | 39.52  | 2.48   | 0.00 |
|      | W6  | -22.64  | -14.78 | -140.31 | 60.84  | -13.89 | 0.00 |
|      | W7  | -68.85  | -3.11  | 68.18   | 44.69  | -41.78 | 0.00 |
|      | W8  | -46.10  | 24.98  | 296.55  | -55.67 | -30.37 | 0.00 |
|      | W9  | -61.38  | -2.98  | 28.78   | 42.73  | -38.40 | 0.00 |
|      | W10 | -41.90  | -1.68  | 73.49   | 24.30  | -24.26 | 0.00 |
|      | W11 | -44.31  | 18.08  | 200.06  | -32.53 | -29.85 | 0.00 |
|      | W12 | -24.83  | 19.39  | 244.76  | -50.97 | -15.70 | 0.00 |
|      | E1  | -72.01  | 18.05  | 268.57  | -8.85  | -47.97 | 0.00 |
|      | E2  | -71.16  | 17.90  | 271.64  | -9.85  | -47.19 | 0.00 |
|      | E3  | -0.86   | -1.58  | 7.19    | 18.91  | -0.36  | 0.00 |
|      | E4  | -2.84   | -1.19  | -0.05   | 21.26  | -2.17  | 0.00 |
|      | O1  | 0.00    | 0.00   | 0.00    | 0.00   | 0.00   | 0.00 |
| 2273 | D   | -101.16 | -52.38 | 1520.54 | 51.37  | -37.74 | 0.00 |
|      | Lp  | -29.61  | -14.70 | 442.18  | 14.46  | -11.05 | 0.00 |
|      | Ln  | 0.23    | -0.19  | -2.25   | 0.19   | 0.09   | 0.00 |
|      | W1  | -17.86  | -10.02 | 234.11  | 10.39  | -13.64 | 0.00 |
|      | W2  | -18.45  | -39.55 | 314.94  | 77.47  | -2.93  | 0.00 |
|      | W3  | -14.22  | -8.64  | 187.92  | 9.86   | -10.68 | 0.00 |
|      | W4  | -12.58  | -6.39  | 163.25  | 5.72   | -9.77  | 0.00 |
|      | W5  | -8.32   | -22.36 | 153.79  | 44.52  | 0.84   | 0.00 |
|      | W6  | -19.35  | -36.97 | 318.61  | 71.68  | -5.24  | 0.00 |
|      | W7  | -27.23  | -37.18 | 411.78  | 65.89  | -12.42 | 0.00 |
|      | W8  | 0.44    | 22.15  | -60.62  | -50.31 | -8.03  | 0.00 |
|      | W9  | -25.18  | -34.21 | 379.90  | 61.16  | -11.94 | 0.00 |
|      | W10 | -15.67  | -21.56 | 237.78  | 37.68  | -6.70  | 0.00 |
|      | W11 | -4.42   | 10.29  | 25.59   | -25.99 | -8.64  | 0.00 |
|      | W12 | 5.08    | 22.93  | -116.53 | -49.47 | -3.40  | 0.00 |
|      | E1  | -20.90  | -11.79 | 281.89  | 12.36  | -15.12 | 0.00 |
|      | E2  | -20.16  | -11.11 | 271.40  | 10.98  | -14.73 | 0.00 |
|      | E3  | -9.26   | -11.32 | 139.76  | 24.32  | -1.70  | 0.00 |
|      | E4  | -11.00  | -12.91 | 164.49  | 27.54  | -2.61  | 0.00 |
|      | O1  | 0.00    | 0.00   | 0.00    | 0.00   | 0.00   | 0.00 |

**Frame #193:**

| Node | LdC | Rx<br>kips | Ry<br>kips | Rz<br>kips | Mxx<br>kip-ft | Myy<br>kip-ft | Tzz<br>kip-ft |
|------|-----|------------|------------|------------|---------------|---------------|---------------|
| 2260 | D   | 121.09     | 66.76      | 3068.33    | -45.31        | 70.39         | 0.00          |
|      | Lp  | 31.47      | 20.43      | 927.60     | -13.74        | 19.16         | 0.00          |
|      | Ln  | 0.14       | -0.38      | -3.10      | 0.30          | 0.02          | 0.00          |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx      | Ry     | Rz      | Mxx    | Myy    | Tzz  |
|------|-----|---------|--------|---------|--------|--------|------|
|      | W1  | -79.86  | -18.46 | -397.96 | 12.20  | -54.28 | 0.00 |
|      | W2  | 17.48   | -30.78 | -187.73 | 76.33  | 9.66   | 0.00 |
|      | W3  | -61.37  | -16.10 | -329.85 | 12.24  | -42.04 | 0.00 |
|      | W4  | -58.42  | -11.58 | -267.08 | 6.05   | -39.37 | 0.00 |
|      | W5  | 23.19   | -8.16  | 71.34   | 36.75  | 16.29  | 0.00 |
|      | W6  | 3.03    | -38.02 | -352.94 | 77.74  | -1.79  | 0.00 |
|      | W7  | -46.78  | -36.93 | -439.27 | 66.39  | -33.46 | 0.00 |
|      | W8  | -73.01  | 9.25   | -157.66 | -48.10 | -47.96 | 0.00 |
|      | W9  | -43.75  | -40.59 | -512.10 | 67.49  | -32.88 | 0.00 |
|      | W10 | -26.43  | -14.80 | -146.80 | 32.10  | -17.31 | 0.00 |
|      | W11 | -63.42  | -5.96  | -300.90 | -18.38 | -43.75 | 0.00 |
|      | W12 | -46.09  | 19.83  | 64.39   | -53.76 | -28.18 | 0.00 |
|      | E1  | -79.28  | -23.82 | -531.06 | 15.85  | -56.58 | 0.00 |
|      | E2  | -78.15  | -22.22 | -503.80 | 13.65  | -55.53 | 0.00 |
|      | E3  | 10.46   | -3.79  | 30.15   | 20.75  | 7.10   | 0.00 |
|      | E4  | 7.78    | -7.55  | -34.15  | 25.92  | 4.62   | 0.00 |
|      | O1  | 0.00    | 0.00   | 0.00    | 0.00   | 0.00   | 0.00 |
| 2272 | D   | -104.46 | 112.01 | 3436.82 | -72.42 | -62.84 | 0.00 |
|      | Lp  | -33.20  | 32.86  | 1005.29 | -21.24 | -19.37 | 0.00 |
|      | Ln  | -0.22   | -0.36  | -2.93   | 0.28   | -0.07  | 0.00 |
|      | W1  | -76.63  | 14.58  | 243.15  | -7.32  | -48.10 | 0.00 |
|      | W2  | -15.17  | -18.72 | -152.24 | 66.91  | -7.61  | 0.00 |
|      | W3  | -59.20  | 10.80  | 178.69  | -3.86  | -37.31 | 0.00 |
|      | W4  | -55.75  | 11.07  | 186.03  | -7.11  | -34.83 | 0.00 |
|      | W5  | -0.11   | -13.31 | -88.05  | 39.52  | 2.48   | 0.00 |
|      | W6  | -22.64  | -14.78 | -140.31 | 60.84  | -13.89 | 0.00 |
|      | W7  | -68.85  | -3.11  | 68.18   | 44.69  | -41.78 | 0.00 |
|      | W8  | -46.10  | 24.98  | 296.55  | -55.67 | -30.37 | 0.00 |
|      | W9  | -61.38  | -2.98  | 28.78   | 42.73  | -38.40 | 0.00 |
|      | W10 | -41.90  | -1.68  | 73.49   | 24.30  | -24.26 | 0.00 |
|      | W11 | -44.31  | 18.08  | 200.06  | -32.53 | -29.85 | 0.00 |
|      | W12 | -24.83  | 19.39  | 244.76  | -50.97 | -15.70 | 0.00 |
|      | E1  | -72.01  | 18.05  | 268.57  | -8.85  | -47.97 | 0.00 |
|      | E2  | -71.16  | 17.90  | 271.64  | -9.85  | -47.19 | 0.00 |
|      | E3  | -0.86   | -1.58  | 7.19    | 18.91  | -0.36  | 0.00 |
|      | E4  | -2.84   | -1.19  | -0.05   | 21.26  | -2.17  | 0.00 |
|      | O1  | 0.00    | 0.00   | 0.00    | 0.00   | 0.00   | 0.00 |

**Frame #194:**

| Node | LdC | Rx<br>kips | Ry<br>kips | Rz<br>kips | Mxx<br>kip-ft | Myy<br>kip-ft | Tzz<br>kip-ft |
|------|-----|------------|------------|------------|---------------|---------------|---------------|
| 2261 | D   | 308.31     | -65.72     | 4893.14    | 101.19        | 135.46        | 0.00          |
|      | Lp  | 89.72      | -21.10     | 1488.67    | 31.94         | 39.74         | 0.00          |
|      | Ln  | -0.92      | -0.26      | -10.88     | 0.77          | -0.40         | 0.00          |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx      | Ry     | Rz       | Mxx     | Myy    | Tzz  |
|------|-----|---------|--------|----------|---------|--------|------|
|      | W1  | -138.10 | 12.10  | -638.82  | -11.71  | -82.39 | 0.00 |
|      | W2  | 16.46   | -71.73 | 1349.52  | 430.98  | 6.25   | 0.00 |
|      | W3  | -110.21 | 7.19   | -486.18  | 3.82    | -65.55 | 0.00 |
|      | W4  | -96.94  | 10.96  | -472.04  | -21.40  | -58.03 | 0.00 |
|      | W5  | 56.68   | -41.55 | 1060.09  | 239.99  | 29.85  | 0.00 |
|      | W6  | -31.99  | -66.04 | 964.17   | 406.48  | -20.48 | 0.00 |
|      | W7  | -91.23  | -44.72 | 533.02   | 314.45  | -57.11 | 0.00 |
|      | W8  | -115.92 | 62.87  | -1491.23 | -332.02 | -66.48 | 0.00 |
|      | W9  | -106.65 | -44.14 | 358.49   | 307.73  | -64.53 | 0.00 |
|      | W10 | -30.20  | -22.94 | 441.04   | 163.95  | -21.14 | 0.00 |
|      | W11 | -125.17 | 36.55  | -1159.70 | -177.13 | -71.55 | 0.00 |
|      | W12 | -48.72  | 57.75  | -1077.16 | -320.91 | -28.16 | 0.00 |
|      | E1  | -139.71 | 16.38  | -835.63  | -15.65  | -86.17 | 0.00 |
|      | E2  | -135.07 | 17.38  | -828.39  | -24.14  | -83.42 | 0.00 |
|      | E3  | 30.56   | -21.49 | 677.95   | 136.07  | 14.29  | 0.00 |
|      | E4  | 19.65   | -23.83 | 660.82   | 155.99  | 7.84   | 0.00 |
|      | O1  | 0.00    | 0.00   | 0.00     | 0.00    | 0.00   | 0.00 |
| 2270 | D   | -226.35 | 0.34   | 4683.54  | -0.44   | -83.21 | 0.00 |
|      | Lp  | -70.68  | 0.26   | 1398.09  | -0.83   | -25.91 | 0.00 |
|      | Ln  | 0.37    | -0.06  | -10.21   | 0.60    | 0.11   | 0.00 |
|      | W1  | -105.20 | 0.28   | 68.84    | 5.58    | -59.16 | 0.00 |
|      | W2  | -111.65 | -15.58 | 1188.19  | 348.75  | -44.16 | 0.00 |
|      | W3  | -85.50  | -0.22  | 68.32    | 14.06   | -47.71 | 0.00 |
|      | W4  | -72.31  | 0.64   | 34.95    | -5.70   | -41.03 | 0.00 |
|      | W5  | -39.58  | -8.88  | 779.34   | 196.29  | -10.74 | 0.00 |
|      | W6  | -127.89 | -14.49 | 1002.92  | 326.84  | -55.51 | 0.00 |
|      | W7  | -162.64 | -11.47 | 942.77   | 265.75  | -77.49 | 0.00 |
|      | W8  | 4.83    | 11.89  | -839.49  | -257.38 | -11.25 | 0.00 |
|      | W9  | -160.04 | -11.03 | 803.43   | 255.68  | -77.41 | 0.00 |
|      | W10 | -83.92  | -6.18  | 610.72   | 142.94  | -38.82 | 0.00 |
|      | W11 | -34.43  | 6.49   | -533.27  | -136.67 | -27.73 | 0.00 |
|      | W12 | 41.69   | 11.35  | -725.98  | -249.40 | 10.86  | 0.00 |
|      | E1  | -95.79  | 0.44   | 40.90    | 6.77    | -57.31 | 0.00 |
|      | E2  | -91.07  | 0.67   | 26.78    | 0.00    | -54.87 | 0.00 |
|      | E3  | -36.53  | -3.95  | 576.02   | 109.37  | -12.86 | 0.00 |
|      | E4  | -47.63  | -4.49  | 609.29   | 125.26  | -18.61 | 0.00 |
|      | O1  | 0.00    | 0.00   | 0.00     | 0.00    | 0.00   | 0.00 |
| 2271 | D   | 86.19   | -0.61  | 753.35   | 32.15   | 6.76   | 0.00 |
|      | Lp  | 25.02   | -0.12  | 219.56   | 9.04    | 1.93   | 0.00 |
|      | Ln  | -0.08   | -0.01  | -1.14    | 0.11    | 0.01   | 0.00 |
|      | W1  | 7.05    | -0.24  | 80.78    | 6.61    | -1.32  | 0.00 |
|      | W2  | 27.14   | -2.75  | 195.09   | 58.85   | 3.87   | 0.00 |
|      | W3  | 5.97    | -0.31  | 66.22    | 6.58    | -0.96  | 0.00 |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx      | Ry     | Rz      | Mxx    | Myy    | Tzz  |
|------|-----|---------|--------|---------|--------|--------|------|
|      | W4  | 4.59    | -0.05  | 54.95   | 3.35   | -1.02  | 0.00 |
|      | W5  | 15.77   | -1.22  | 108.66  | 33.50  | 2.71   | 0.00 |
|      | W6  | 24.94   | -2.90  | 183.97  | 54.77  | 3.08   | 0.00 |
|      | W7  | 25.64   | -2.24  | 206.90  | 49.10  | 1.91   | 0.00 |
|      | W8  | -15.07  | 1.88   | -85.73  | -39.17 | -3.89  | 0.00 |
|      | W9  | 23.19   | -2.41  | 187.64  | 46.01  | 1.60   | 0.00 |
|      | W10 | 15.27   | -0.95  | 122.71  | 27.64  | 1.27   | 0.00 |
|      | W11 | -7.35   | 0.68   | -31.83  | -20.19 | -2.75  | 0.00 |
|      | W12 | -15.26  | 2.14   | -96.76  | -38.57 | -3.08  | 0.00 |
|      | E1  | 9.45    | -0.28  | 101.40  | 7.93   | -1.20  | 0.00 |
|      | E2  | 8.89    | -0.20  | 96.57   | 6.83   | -1.22  | 0.00 |
|      | E3  | 11.03   | -0.66  | 85.80   | 18.72  | 1.36   | 0.00 |
|      | E4  | 12.36   | -0.86  | 97.20   | 21.30  | 1.40   | 0.00 |
|      | O1  | 0.00    | 0.00   | 0.00    | 0.00   | 0.00   | 0.00 |
| 2273 | D   | -101.16 | -52.38 | 1520.54 | 51.37  | -37.74 | 0.00 |
|      | Lp  | -29.61  | -14.70 | 442.18  | 14.46  | -11.05 | 0.00 |
|      | Ln  | 0.23    | -0.19  | -2.25   | 0.19   | 0.09   | 0.00 |
|      | W1  | -17.86  | -10.02 | 234.11  | 10.39  | -13.64 | 0.00 |
|      | W2  | -18.45  | -39.55 | 314.94  | 77.47  | -2.93  | 0.00 |
|      | W3  | -14.22  | -8.64  | 187.92  | 9.86   | -10.68 | 0.00 |
|      | W4  | -12.58  | -6.39  | 163.25  | 5.72   | -9.77  | 0.00 |
|      | W5  | -8.32   | -22.36 | 153.79  | 44.52  | 0.84   | 0.00 |
|      | W6  | -19.35  | -36.97 | 318.61  | 71.68  | -5.24  | 0.00 |
|      | W7  | -27.23  | -37.18 | 411.78  | 65.89  | -12.42 | 0.00 |
|      | W8  | 0.44    | 22.15  | -60.62  | -50.31 | -8.03  | 0.00 |
|      | W9  | -25.18  | -34.21 | 379.90  | 61.16  | -11.94 | 0.00 |
|      | W10 | -15.67  | -21.56 | 237.78  | 37.68  | -6.70  | 0.00 |
|      | W11 | -4.42   | 10.29  | 25.59   | -25.99 | -8.64  | 0.00 |
|      | W12 | 5.08    | 22.93  | -116.53 | -49.47 | -3.40  | 0.00 |
|      | E1  | -20.90  | -11.79 | 281.89  | 12.36  | -15.12 | 0.00 |
|      | E2  | -20.16  | -11.11 | 271.40  | 10.98  | -14.73 | 0.00 |
|      | E3  | -9.26   | -11.32 | 139.76  | 24.32  | -1.70  | 0.00 |
|      | E4  | -11.00  | -12.91 | 164.49  | 27.54  | -2.61  | 0.00 |
|      | O1  | 0.00    | 0.00   | 0.00    | 0.00   | 0.00   | 0.00 |

**Frame #195:**

| Node | LdC | Rx      | Ry    | Rz      | Mxx    | Myy    | Tzz    |
|------|-----|---------|-------|---------|--------|--------|--------|
|      |     | kip     | kip   | kip     | kip-ft | kip-ft | kip-ft |
| 2255 | D   | 129.89  | -0.15 | 2397.02 | -2.67  | 50.21  | 0.00   |
|      | Lp  | 23.45   | 0.06  | 612.14  | -1.66  | 8.47   | 0.00   |
|      | Ln  | 0.55    | -0.02 | -4.82   | 0.23   | 0.24   | -0.00  |
|      | W1  | -117.39 | -0.06 | -669.58 | 4.93   | -61.16 | -0.00  |
|      | W2  | -9.94   | -7.89 | -499.23 | 151.85 | 2.52   | -0.02  |
|      | W3  | -84.57  | -0.37 | -494.07 | 9.28   | -44.02 | -0.00  |



| Node | LdC | Rx      | Ry      | Rz       | Mxx     | Myy    | Tzz   |
|------|-----|---------|---------|----------|---------|--------|-------|
|      | W4  | -91.51  | 0.29    | -510.31  | -1.89   | -47.72 | -0.00 |
|      | W5  | -30.39  | -3.74   | -425.42  | 76.79   | -10.40 | -0.01 |
|      | W6  | 15.47   | -8.09   | -323.42  | 150.98  | 14.18  | -0.01 |
|      | W7  | -95.50  | -5.96   | -876.61  | 117.58  | -43.98 | -0.01 |
|      | W8  | -80.58  | 5.87    | -127.76  | -110.19 | -47.76 | 0.01  |
|      | W9  | -51.82  | -6.35   | -613.12  | 120.20  | -22.38 | -0.01 |
|      | W10 | -91.42  | -2.59   | -701.79  | 56.18   | -43.59 | -0.01 |
|      | W11 | -40.64  | 2.53    | -51.48   | -50.63  | -25.21 | 0.01  |
|      | W12 | -80.24  | 6.28    | -140.16  | -114.66 | -46.43 | 0.01  |
|      | E1  | -126.69 | -0.06   | -868.16  | 6.42    | -66.12 | -0.00 |
|      | E2  | -128.95 | 0.16    | -873.76  | 2.42    | -67.36 | -0.00 |
|      | E3  | -17.88  | -2.06   | -300.06  | 46.42   | -5.50  | -0.01 |
|      | E4  | -12.58  | -2.56   | -287.02  | 55.80   | -2.57  | -0.01 |
|      | O1  | 0.00    | 0.00    | 0.00     | 0.00    | 0.00   | 0.00  |
| 2262 | D   | 139.64  | 1.59    | 4391.35  | -13.42  | 50.91  | -0.00 |
|      | Lp  | 23.74   | 0.53    | 1069.82  | -4.44   | 8.10   | -0.00 |
|      | Ln  | 1.35    | -0.04   | -0.41    | 0.42    | 0.54   | -0.00 |
|      | W1  | -155.66 | 0.00    | -469.32  | 6.70    | -71.19 | 0.00  |
|      | W2  | -31.77  | -13.25  | -1481.03 | 256.07  | -6.30  | 0.00  |
|      | W3  | -112.77 | -0.46   | -360.43  | 13.31   | -51.49 | 0.00  |
|      | W4  | -120.72 | 0.46    | -343.55  | -3.25   | -55.30 | 0.00  |
|      | W5  | -50.25  | -6.93   | -1048.49 | 137.17  | -17.41 | 0.00  |
|      | W6  | 2.59    | -12.94  | -1173.05 | 246.93  | 7.96   | 0.00  |
|      | W7  | -140.57 | -9.93   | -1462.76 | 197.08  | -58.12 | 0.00  |
|      | W8  | -92.91  | 9.94    | 758.78   | -187.03 | -48.67 | -0.00 |
|      | W9  | -82.63  | -10.05  | -1150.11 | 195.18  | -32.65 | 0.00  |
|      | W10 | -128.22 | -4.85   | -1044.04 | 100.44  | -54.53 | 0.00  |
|      | W11 | -46.89  | 4.85    | 516.05   | -92.90  | -25.56 | -0.00 |
|      | W12 | -92.48  | 10.05   | 622.12   | -187.64 | -47.44 | -0.00 |
|      | E1  | -157.20 | 0.04    | -640.55  | 8.54    | -72.77 | 0.00  |
|      | E2  | -159.58 | 0.32    | -630.35  | 2.72    | -73.96 | 0.00  |
|      | E3  | -28.67  | -3.51   | -752.76  | 79.59   | -9.39  | 0.00  |
|      | E4  | -23.10  | -4.17   | -777.07  | 93.25   | -6.59  | 0.00  |
|      | O1  | 0.00    | 0.00    | 0.00     | 0.00    | 0.00   | 0.00  |
| 2267 | D   | -71.15  | 116.60  | 6193.42  | -204.10 | -40.73 | -0.01 |
|      | Lp  | -21.72  | 33.69   | 1508.69  | -55.48  | -12.01 | -0.00 |
|      | Ln  | 1.08    | -0.69   | 5.63     | 0.90    | 0.46   | 0.00  |
|      | W1  | -135.56 | -2.44   | 111.54   | 3.64    | -70.61 | -0.00 |
|      | W2  | 22.37   | -113.09 | -2585.80 | 354.13  | 19.95  | 0.00  |
|      | W3  | -97.91  | -4.75   | 46.52    | 11.84   | -50.90 | -0.00 |
|      | W4  | -105.43 | 1.09    | 120.79   | -6.39   | -55.02 | -0.00 |
|      | W5  | -8.57   | -65.79  | -1684.15 | 205.43  | 1.10   | 0.00  |
|      | W6  | 42.12   | -103.84 | -2194.55 | 325.76  | 28.82  | 0.00  |



RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre



Building Code: IBC

| Node | LdC | Rx      | Ry      | Rz       | Mxx     | Myy     | Tzz   |
|------|-----|---------|---------|----------|---------|---------|-------|
|      | W7  | -84.90  | -86.65  | -1855.70 | 268.33  | -37.99  | 0.00  |
|      | W8  | -118.44 | 82.99   | 2023.01  | -262.87 | -67.92  | -0.00 |
|      | W9  | -41.84  | -81.44  | -1611.02 | 253.20  | -16.55  | 0.00  |
|      | W10 | -85.50  | -48.53  | -1172.52 | 149.28  | -40.44  | -0.00 |
|      | W11 | -67.01  | 45.78   | 1298.01  | -145.19 | -39.00  | -0.00 |
|      | W12 | -110.66 | 78.70   | 1736.51  | -249.11 | -62.88  | -0.00 |
|      | E1  | -130.79 | -2.01   | 72.40    | 4.10    | -69.81  | -0.00 |
|      | E2  | -133.35 | -0.29   | 107.24   | -2.08   | -71.25  | -0.00 |
|      | E3  | 5.25    | -33.92  | -1199.25 | 116.08  | 5.85    | 0.00  |
|      | E4  | 11.26   | -37.95  | -1281.64 | 130.59  | 9.24    | 0.00  |
|      | O1  | 0.00    | 0.00    | 0.00     | 0.00    | 0.00    | 0.00  |
| 2274 | D   | -178.05 | 185.46  | 3184.67  | -205.86 | -106.22 | 0.09  |
|      | Lp  | -43.33  | 49.70   | 788.96   | -54.47  | -26.04  | 0.02  |
|      | Ln  | -0.06   | -0.30   | 4.70     | 0.35    | -0.04   | -0.00 |
|      | W1  | -52.27  | 1.67    | 315.38   | -3.71   | -34.42  | 0.00  |
|      | W2  | 83.67   | -132.56 | -1701.19 | 221.04  | 53.05   | -0.04 |
|      | W3  | -36.78  | -1.60   | 203.46   | 2.12    | -24.23  | -0.00 |
|      | W4  | -41.63  | 4.10    | 269.61   | -7.69   | -27.40  | 0.00  |
|      | W5  | 46.26   | -80.68  | -1051.84 | 133.36  | 29.03   | -0.03 |
|      | W6  | 79.25   | -118.16 | -1499.94 | 198.20  | 50.55   | -0.04 |
|      | W7  | 23.55   | -98.17  | -1039.36 | 163.00  | 13.97   | -0.03 |
|      | W8  | -101.96 | 100.67  | 1512.42  | -168.57 | -65.60  | 0.03  |
|      | W9  | 31.85   | -89.82  | -972.36  | 150.24  | 19.74   | -0.03 |
|      | W10 | 3.47    | -57.43  | -586.68  | 94.25   | 1.22    | -0.02 |
|      | W11 | -62.28  | 59.31   | 941.48   | -98.43  | -39.94  | 0.02  |
|      | W12 | -90.66  | 91.70   | 1327.16  | -154.42 | -58.46  | 0.03  |
|      | E1  | -53.24  | 4.44    | 359.38   | -6.26   | -35.62  | 0.00  |
|      | E2  | -55.27  | 6.36    | 388.08   | -9.68   | -36.93  | 0.00  |
|      | E3  | 36.93   | -44.85  | -724.70  | 75.79   | 22.82   | -0.02 |
|      | E4  | 41.70   | -49.35  | -792.43  | 83.80   | 25.90   | -0.02 |
|      | O1  | 0.00    | 0.00    | 0.00     | 0.00    | 0.00    | 0.00  |



**Severud Associates**

1568 Broadway

Structural Calculations

# **CHAPTER 8**

## **RAM Frame Story Shears**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

11/01/16 16:55:07

**CRITERIA:**

Rigid End Zones: Ignore Effects  
 Member Force Output: At Face of Joint  
 P-Delta: Yes Scale Factor (DL): 1.20 Scale Factor (LL): 0.50  
 Scale Factor (Roof): 1.00 Scale Factor (Snow): 1.00  
 Ground Level: Base  
 Mesh Criteria :  
 Max. Distance Between Nodes on Mesh Line (ft) : 6.00  
 Merge Node Tolerance (in) : 0.2000  
 Geometry Tolerance (in) : 0.0050  
 Walls Out-of-plane Stiffness Included in Analysis.  
 Sign considered for Dynamic Load Case Results.  
 Rigid Links Included at Fixed Beam-to-Wall Locations  
 Eigenvalue Analysis : Ritz Vectors (Load Dependent)

**Frame #0**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F47roof      | -10.25   | -10.25   | -62.58  | -62.58   |  |
| F46MEP       | -7.05    | 3.20     | -77.08  | -14.50   |  |
| F45          | -3.07    | 3.98     | -42.69  | 34.39    |  |
| F44          | -4.16    | -1.10    | -35.15  | 7.54     |  |
| F43          | -8.10    | -3.94    | -93.62  | -58.48   |  |
| F42          | -13.98   | -5.88    | -47.38  | 46.24    |  |
| F41          | -11.58   | 2.40     | -42.03  | 5.36     |  |
| F40          | -14.00   | -2.42    | -50.52  | -8.49    |  |
| F39          | -14.15   | -0.15    | -46.60  | 3.92     |  |
| F38          | -16.13   | -1.97    | -48.28  | -1.68    |  |
| F37          | -19.51   | -3.39    | -54.99  | -6.70    |  |
| F36          | -19.34   | 0.18     | -50.42  | 4.57     |  |
| F35          | -19.99   | -0.65    | -49.27  | 1.15     |  |
| F34          | -20.53   | -0.55    | -47.51  | 1.76     |  |
| F33          | -21.10   | -0.57    | -45.96  | 1.55     |  |
| F32          | -21.68   | -0.58    | -44.46  | 1.50     |  |
| F31          | -22.25   | -0.57    | -43.01  | 1.45     |  |
| F30          | -22.89   | -0.64    | -41.77  | 1.24     |  |
| F29          | -23.17   | -0.28    | -39.90  | 1.86     |  |
| F28          | -25.31   | -2.14    | -41.55  | -1.64    |  |
| F27          | -29.20   | -3.88    | -47.86  | -6.31    |  |
| F26          | -28.90   | 0.29     | -44.33  | 3.53     |  |
| F25          | -29.77   | -0.87    | -43.91  | 0.42     |  |
| F24          | -30.29   | -0.52    | -42.73  | 1.18     |  |
| F23          | -30.97   | -0.68    | -41.89  | 0.84     |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |          |         |
|---------|---------|---------|----------|---------|
| F22     | -31.62  | -0.64   | -41.06   | 0.83    |
| F21     | -32.44  | -0.82   | -40.45   | 0.61    |
| F20     | -32.67  | -0.23   | -39.30   | 1.16    |
| F19     | -36.51  | -3.84   | -41.89   | -2.59   |
| F18     | -22.53  | 13.98   | -28.78   | 13.11   |
| F17     | 42.07   | 64.61   | -756.57  | -727.79 |
| F16     | -882.92 | -924.99 | -752.02  | 4.55    |
| F15     | -885.26 | -2.35   | -871.39  | -119.36 |
| F14     | -750.77 | 134.49  | -1687.95 | -816.56 |
| F13     | -966.61 | -215.83 | -1904.89 | -216.95 |
| F12     | 179.74  | 1146.35 | -895.25  | 1009.65 |
| F11demo | -35.32  | -215.06 | -55.88   | 839.37  |
| F11     | -76.80  | -41.48  | 677.77   | 733.64  |
| F9demo  | 16.99   | 93.78   | -195.98  | -873.74 |
| F10     | -486.98 | -503.96 | -70.84   | 125.14  |
| F9      | -208.82 | 278.15  | 136.01   | 206.85  |
| F8      | -206.89 | 1.94    | 23.36    | -112.65 |
| F7      | -187.05 | 19.84   | -4.03    | -27.39  |
| F6      | -188.61 | -1.56   | -29.48   | -25.46  |
| F5      | -174.21 | 14.40   | -10.96   | 18.52   |
| F4      | -218.48 | -44.27  | -11.62   | -0.66   |
| F3      | -234.10 | -15.62  | 58.01    | 69.63   |
| F2      | -628.86 | -394.76 | -20.52   | -78.53  |
| Fground | -247.70 | 381.15  | -22.05   | -1.53   |
| Cellar  | -137.80 | 109.90  | -18.82   | 3.22    |

**Load Case: Lp**  
**Level**

**PosLiveLoad RAMUSER**

|         | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|---------|----------------|-----------------|----------------|-----------------|
|         | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F47roof | 5.12           | 5.12            | -53.38         | -53.38          |
| F46MEP  | 3.83           | -1.29           | -51.26         | 2.12            |
| F45     | -2.08          | -5.91           | -21.51         | 29.75           |
| F44     | -1.10          | 0.98            | -18.48         | 3.03            |
| F43     | 0.35           | 1.45            | -43.64         | -25.17          |
| F42     | -4.19          | -4.54           | -23.38         | 20.26           |
| F41     | -3.16          | 1.03            | -19.81         | 3.57            |
| F40     | -3.82          | -0.66           | -23.82         | -4.01           |
| F39     | -3.98          | -0.16           | -21.60         | 2.22            |
| F38     | -4.58          | -0.61           | -22.14         | -0.54           |
| F37     | -5.57          | -0.99           | -25.11         | -2.97           |
| F36     | -5.63          | -0.06           | -22.61         | 2.50            |
| F35     | -5.88          | -0.25           | -21.77         | 0.84            |
| F34     | -6.12          | -0.24           | -20.63         | 1.14            |
| F33     | -6.36          | -0.24           | -19.59         | 1.03            |
| F32     | -6.62          | -0.25           | -18.58         | 1.01            |
| F31     | -6.87          | -0.25           | -17.60         | 0.99            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |         |         |
|---------|---------|---------|---------|---------|
| F30     | -7.15   | -0.28   | -16.71  | 0.89    |
| F29     | -7.33   | -0.18   | -15.54  | 1.16    |
| F28     | -8.05   | -0.72   | -15.93  | -0.39   |
| F27     | -9.25   | -1.20   | -18.41  | -2.48   |
| F26     | -9.30   | -0.05   | -16.48  | 1.93    |
| F25     | -9.66   | -0.36   | -15.95  | 0.54    |
| F24     | -9.93   | -0.26   | -15.09  | 0.86    |
| F23     | -10.25  | -0.33   | -14.37  | 0.73    |
| F22     | -10.57  | -0.31   | -13.65  | 0.71    |
| F21     | -10.94  | -0.37   | -13.03  | 0.62    |
| F20     | -11.16  | -0.22   | -12.22  | 0.81    |
| F19     | -12.35  | -1.19   | -12.90  | -0.68   |
| F18     | -8.78   | 3.57    | -7.59   | 5.31    |
| F17     | 9.38    | 18.16   | -194.17 | -186.59 |
| F16     | -233.19 | -242.57 | -237.43 | -43.26  |
| F15     | -234.67 | -1.48   | -239.41 | -1.98   |
| F14     | -192.36 | 42.31   | -463.53 | -224.12 |
| F13     | -256.75 | -64.39  | -485.54 | -22.01  |
| F12     | 39.74   | 296.49  | -200.11 | 285.43  |
| F11demo | -13.27  | -53.02  | -13.94  | 186.17  |
| F11     | -46.02  | -32.74  | 238.02  | 251.96  |
| F9demo  | 2.02    | 48.03   | -62.67  | -300.69 |
| F10     | -148.70 | -150.71 | -32.42  | 30.25   |
| F9      | 27.04   | 175.73  | 22.95   | 55.36   |
| F8      | -71.33  | -98.36  | 23.35   | 0.40    |
| F7      | -57.98  | 13.35   | -1.49   | -24.84  |
| F6      | -53.54  | 4.43    | -8.93   | -7.44   |
| F5      | -49.62  | 3.92    | -2.90   | 6.03    |
| F4      | -61.35  | -11.73  | -3.29   | -0.39   |
| F3      | -66.54  | -5.19   | 6.64    | 9.93    |
| F2      | -125.12 | -58.58  | -5.44   | -12.08  |
| Fground | -40.17  | 84.96   | -7.54   | -2.11   |
| Cellar  | -27.05  | 13.12   | -6.13   | 1.42    |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 0.11            | 0.11             | 0.05            | 0.05             |
| F46MEP  | 0.07            | -0.04            | 0.05            | 0.00             |
| F45     | 0.05            | -0.03            | 0.02            | -0.03            |
| F44     | 0.05            | -0.00            | 0.01            | -0.01            |
| F43     | 0.19            | 0.14             | 0.09            | 0.09             |
| F42     | 0.17            | -0.02            | 0.04            | -0.05            |
| F41     | 0.15            | -0.02            | 0.03            | -0.01            |
| F40     | 0.19            | 0.03             | 0.04            | 0.01             |
| F39     | 0.18            | -0.00            | 0.03            | -0.01            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |       |       |       |        |
|---------|-------|-------|-------|--------|
| F38     | 0.20  | 0.01  | 0.03  | -0.00  |
| F37     | 0.23  | 0.03  | 0.04  | 0.01   |
| F36     | 0.22  | -0.00 | 0.03  | -0.01  |
| F35     | 0.23  | 0.01  | 0.02  | -0.00  |
| F34     | 0.24  | 0.00  | 0.02  | -0.01  |
| F33     | 0.24  | 0.01  | 0.01  | -0.01  |
| F32     | 0.25  | 0.01  | 0.01  | -0.01  |
| F31     | 0.25  | 0.01  | 0.00  | -0.01  |
| F30     | 0.26  | 0.01  | 0.00  | 0.00   |
| F29     | 0.26  | 0.00  | -0.01 | -0.01  |
| F28     | 0.28  | 0.02  | -0.01 | -0.00  |
| F27     | 0.31  | 0.03  | 0.00  | 0.01   |
| F26     | 0.31  | -0.00 | -0.01 | -0.01  |
| F25     | 0.32  | 0.01  | -0.02 | -0.00  |
| F24     | 0.32  | 0.01  | -0.02 | -0.01  |
| F23     | 0.33  | 0.01  | -0.03 | -0.01  |
| F22     | 0.34  | 0.01  | -0.04 | -0.01  |
| F21     | 0.35  | 0.01  | -0.04 | -0.01  |
| F20     | 0.36  | 0.01  | -0.05 | -0.01  |
| F19     | 0.37  | 0.02  | -0.05 | 0.00   |
| F18     | 0.35  | -0.02 | -0.07 | -0.03  |
| F17     | 0.11  | -0.24 | -1.71 | -1.63  |
| F16     | -1.34 | -1.45 | 1.41  | 3.12   |
| F15     | -1.56 | -0.23 | 1.45  | 0.03   |
| F14     | -1.66 | -0.10 | 1.80  | 0.35   |
| F13     | -2.17 | -0.51 | 1.93  | 0.14   |
| F12     | -0.89 | 1.28  | 0.92  | -1.01  |
| F11demo | 0.46  | 1.35  | -0.01 | -0.93  |
| F11     | -1.16 | -1.63 | 2.09  | 2.10   |
| F9demo  | 0.33  | 1.50  | -0.40 | -2.49  |
| F10     | -0.08 | -0.41 | -0.25 | 0.15   |
| F9      | 1.09  | 1.17  | 17.39 | 17.64  |
| F8      | 1.37  | 0.27  | -2.51 | -19.90 |
| F7      | 0.30  | -1.07 | -0.21 | 2.30   |
| F6      | -0.20 | -0.50 | 0.13  | 0.34   |
| F5      | 1.03  | 1.23  | -0.35 | -0.48  |
| F4      | -0.25 | -1.29 | -0.12 | 0.23   |
| F3      | -1.04 | -0.79 | -0.45 | -0.33  |
| F2      | 3.22  | 4.26  | 0.00  | 0.45   |
| Fground | 0.29  | -2.93 | 0.11  | 0.11   |
| Cellar  | -0.17 | -0.46 | 0.05  | -0.06  |

Load Case: W1 W Wind\_IBC09\_1\_X

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 10.82           | 10.82            | -0.45           | -0.45            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |         |         |
|---------|---------|---------|---------|---------|
| F46MEP  | 31.02   | 20.20   | -1.01   | -0.56   |
| F45     | 52.72   | 21.70   | -1.39   | -0.38   |
| F44     | 77.46   | 24.75   | -1.79   | -0.39   |
| F43     | 100.18  | 22.71   | -2.20   | -0.42   |
| F42     | 119.35  | 19.17   | -2.60   | -0.40   |
| F41     | 139.90  | 20.54   | -3.01   | -0.41   |
| F40     | 160.28  | 20.38   | -3.40   | -0.39   |
| F39     | 179.24  | 18.96   | -3.79   | -0.39   |
| F38     | 198.12  | 18.87   | -4.17   | -0.38   |
| F37     | 216.86  | 18.74   | -4.54   | -0.38   |
| F36     | 235.56  | 18.71   | -4.91   | -0.37   |
| F35     | 254.18  | 18.62   | -5.26   | -0.35   |
| F34     | 272.70  | 18.52   | -5.60   | -0.34   |
| F33     | 291.11  | 18.41   | -5.93   | -0.33   |
| F32     | 309.40  | 18.29   | -6.24   | -0.31   |
| F31     | 327.56  | 18.16   | -6.53   | -0.29   |
| F30     | 345.58  | 18.02   | -6.80   | -0.27   |
| F29     | 363.45  | 17.86   | -7.05   | -0.25   |
| F28     | 381.11  | 17.66   | -7.27   | -0.22   |
| F27     | 398.48  | 17.37   | -7.48   | -0.21   |
| F26     | 415.81  | 17.33   | -7.65   | -0.18   |
| F25     | 432.95  | 17.13   | -7.80   | -0.15   |
| F24     | 449.86  | 16.91   | -7.92   | -0.12   |
| F23     | 466.41  | 16.55   | -7.89   | 0.03    |
| F22     | 482.64  | 16.23   | -7.79   | 0.10    |
| F21     | 498.51  | 15.87   | -7.62   | 0.17    |
| F20     | 513.97  | 15.45   | -7.37   | 0.25    |
| F19     | 528.89  | 14.92   | -7.00   | 0.37    |
| F18     | 543.19  | 14.30   | -6.43   | 0.58    |
| F17     | 46.73   | -496.46 | -298.26 | -291.83 |
| F16     | 4.94    | -41.79  | -198.42 | 99.84   |
| F15     | -72.98  | -77.92  | -263.98 | -65.56  |
| F14     | -135.57 | -62.58  | -267.12 | -3.14   |
| F13     | -254.65 | -119.09 | -245.78 | 21.35   |
| F12     | 141.07  | 395.72  | -115.01 | 130.77  |
| F11demo | 639.38  | 498.31  | -4.45   | 110.55  |
| F11     | 96.02   | -543.36 | -21.93  | -17.48  |
| F9demo  | 678.22  | 582.19  | 0.12    | 22.05   |
| F10     | 187.32  | -490.89 | -10.10  | -10.22  |
| F9      | 168.06  | -19.26  | -55.92  | -45.82  |
| F8      | 148.50  | -19.56  | -0.71   | 55.21   |
| F7      | 116.31  | -32.19  | 1.35    | 2.06    |
| F6      | 93.60   | -22.71  | 1.92    | 0.58    |
| F5      | 127.04  | 33.43   | 2.65    | 0.73    |
| F4      | 153.02  | 25.98   | 1.75    | -0.90   |
| F3      | 187.93  | 34.91   | -4.51   | -6.26   |



|         |        |         |       |       |
|---------|--------|---------|-------|-------|
| F2      | 500.56 | 312.63  | 3.45  | 7.96  |
| Fground | 368.62 | -131.93 | 1.50  | -1.95 |
| Cellar  | 141.19 | -227.44 | -0.11 | -1.61 |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | -1.71           | -1.71            | 37.69           | 37.69            |
| F46MEP  | -3.80           | -2.09            | 106.49          | 68.80            |
| F45     | -5.23           | -1.44            | 175.69          | 69.20            |
| F44     | -6.72           | -1.49            | 254.48          | 78.79            |
| F43     | -8.23           | -1.51            | 325.97          | 71.49            |
| F42     | -9.69           | -1.46            | 385.24          | 59.27            |
| F41     | -11.19          | -1.50            | 448.66          | 63.42            |
| F40     | -12.61          | -1.42            | 511.64          | 62.98            |
| F39     | -14.03          | -1.42            | 570.24          | 58.61            |
| F38     | -15.43          | -1.40            | 628.60          | 58.36            |
| F37     | -16.81          | -1.38            | 686.65          | 58.05            |
| F36     | -18.16          | -1.35            | 744.52          | 57.87            |
| F35     | -19.47          | -1.31            | 802.13          | 57.61            |
| F34     | -20.74          | -1.27            | 859.45          | 57.32            |
| F33     | -21.96          | -1.22            | 916.47          | 57.02            |
| F32     | -23.12          | -1.16            | 973.15          | 56.69            |
| F31     | -24.22          | -1.10            | 1029.48         | 56.33            |
| F30     | -25.25          | -1.02            | 1085.43         | 55.94            |
| F29     | -26.18          | -0.94            | 1140.95         | 55.53            |
| F28     | -27.03          | -0.84            | 1196.02         | 55.07            |
| F27     | -27.79          | -0.77            | 1250.56         | 54.54            |
| F26     | -28.46          | -0.67            | 1304.78         | 54.22            |
| F25     | -29.00          | -0.54            | 1358.50         | 53.72            |
| F24     | -29.40          | -0.40            | 1411.68         | 53.19            |
| F23     | -29.31          | 0.10             | 1463.90         | 52.21            |
| F22     | -28.93          | 0.37             | 1515.38         | 51.49            |
| F21     | -28.30          | 0.64             | 1566.07         | 50.69            |
| F20     | -27.38          | 0.91             | 1615.81         | 49.73            |
| F19     | -26.18          | 1.20             | 1664.18         | 48.38            |
| F18     | -24.62          | 1.56             | 1710.11         | 45.93            |
| F17     | -21.55          | 3.07             | 984.58          | -725.53          |
| F16     | 54.06           | 75.61            | -252.36         | -1236.93         |
| F15     | -13.33          | -67.39           | 192.71          | 445.07           |
| F14     | 77.79           | 91.12            | 405.46          | 212.74           |
| F13     | 95.33           | 17.54            | 650.37          | 244.92           |
| F12     | 81.54           | -13.79           | 692.40          | 42.03            |
| F11demo | -1.81           | -83.35           | 2040.86         | 1348.46          |
| F11     | 3.11            | 4.92             | 580.87          | -1460.00         |
| F9demo  | -8.68           | -11.79           | 1892.42         | 1311.56          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |        |          |
|---------|---------|---------|--------|----------|
| F10     | -198.55 | -189.87 | 49.19  | -1843.23 |
| F9      | 46.71   | 245.26  | 73.38  | 24.19    |
| F8      | 19.59   | -27.12  | 306.41 | 233.02   |
| F7      | 64.93   | 45.34   | 17.28  | -289.12  |
| F6      | 43.20   | -21.73  | -10.53 | -27.82   |
| F5      | 62.52   | 19.31   | 13.06  | 23.60    |
| F4      | 47.98   | -14.54  | 11.93  | -1.13    |
| F3      | 58.90   | 10.92   | 61.73  | 49.80    |
| F2      | 55.61   | -3.30   | 11.14  | -50.59   |
| Fground | -21.15  | -76.76  | 13.47  | 2.33     |
| Cellar  | -4.09   | 17.06   | 26.96  | 13.49    |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 8.15            | 8.15             | -0.29           | -0.29            |
| F46MEP  | 23.34           | 15.19            | -0.66           | -0.37            |
| F45     | 39.65           | 16.31            | -0.92           | -0.25            |
| F44     | 58.24           | 18.59            | -1.17           | -0.26            |
| F43     | 75.31           | 17.07            | -1.45           | -0.27            |
| F42     | 89.74           | 14.42            | -1.71           | -0.26            |
| F41     | 105.19          | 15.45            | -1.98           | -0.27            |
| F40     | 120.52          | 15.33            | -2.23           | -0.26            |
| F39     | 134.78          | 14.26            | -2.49           | -0.25            |
| F38     | 148.98          | 14.20            | -2.74           | -0.25            |
| F37     | 163.07          | 14.10            | -2.99           | -0.25            |
| F36     | 177.15          | 14.07            | -3.23           | -0.24            |
| F35     | 191.16          | 14.01            | -3.46           | -0.23            |
| F34     | 205.09          | 13.93            | -3.69           | -0.23            |
| F33     | 218.94          | 13.85            | -3.90           | -0.22            |
| F32     | 232.70          | 13.76            | -4.11           | -0.21            |
| F31     | 246.36          | 13.66            | -4.30           | -0.19            |
| F30     | 259.92          | 13.55            | -4.48           | -0.18            |
| F29     | 273.35          | 13.43            | -4.64           | -0.17            |
| F28     | 286.63          | 13.28            | -4.79           | -0.15            |
| F27     | 299.69          | 13.06            | -4.94           | -0.14            |
| F26     | 312.71          | 13.03            | -5.06           | -0.12            |
| F25     | 325.59          | 12.87            | -5.16           | -0.10            |
| F24     | 338.29          | 12.70            | -5.25           | -0.09            |
| F23     | 350.69          | 12.40            | -5.21           | 0.04             |
| F22     | 362.83          | 12.14            | -5.11           | 0.10             |
| F21     | 374.68          | 11.86            | -4.97           | 0.15             |
| F20     | 386.20          | 11.52            | -4.76           | 0.21             |
| F19     | 397.30          | 11.10            | -4.47           | 0.29             |
| F18     | 407.90          | 10.60            | -4.03           | 0.43             |
| F17     | 35.93           | -371.97          | -205.67         | -201.64          |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |         |        |
|---------|---------|---------|---------|--------|
| F16     | 4.53    | -31.40  | -178.16 | 27.51  |
| F15     | -54.75  | -59.27  | -220.73 | -42.57 |
| F14     | -101.97 | -47.23  | -218.53 | 2.20   |
| F13     | -189.72 | -87.75  | -198.73 | 19.79  |
| F12     | 103.00  | 292.72  | -84.37  | 114.36 |
| F11demo | 479.61  | 376.62  | -2.94   | 81.43  |
| F11     | 68.64   | -410.97 | -12.34  | -9.39  |
| F9demo  | 508.68  | 440.04  | -4.18   | 8.15   |
| F10     | 129.16  | -379.52 | -6.29   | -2.11  |
| F9      | 127.37  | -1.79   | -41.47  | -35.18 |
| F8      | 111.18  | -16.19  | 3.92    | 45.39  |
| F7      | 87.18   | -24.00  | 1.36    | -2.56  |
| F6      | 69.07   | -18.11  | 1.13    | -0.23  |
| F5      | 92.52   | 23.44   | 2.16    | 1.03   |
| F4      | 110.44  | 17.92   | 1.37    | -0.79  |
| F3      | 134.28  | 23.84   | -3.64   | -5.01  |
| F2      | 368.77  | 234.49  | 2.98    | 6.62   |
| Fground | 269.33  | -99.44  | 1.42    | -1.56  |
| Cellar  | 101.77  | -167.57 | 0.56    | -0.86  |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | 8.09                    | 8.09                     | -0.38                   | -0.38                    |
| F46MEP       | 23.19                   | 15.10                    | -0.85                   | -0.47                    |
| F45          | 39.43                   | 16.24                    | -1.17                   | -0.32                    |
| F44          | 57.96                   | 18.53                    | -1.51                   | -0.33                    |
| F43          | 74.96                   | 17.00                    | -1.86                   | -0.35                    |
| F42          | 89.30                   | 14.34                    | -2.19                   | -0.34                    |
| F41          | 104.66                  | 15.36                    | -2.54                   | -0.35                    |
| F40          | 119.91                  | 15.25                    | -2.87                   | -0.33                    |
| F39          | 134.09                  | 14.18                    | -3.19                   | -0.33                    |
| F38          | 148.20                  | 14.11                    | -3.51                   | -0.32                    |
| F37          | 162.21                  | 14.01                    | -3.83                   | -0.31                    |
| F36          | 176.20                  | 13.99                    | -4.14                   | -0.31                    |
| F35          | 190.12                  | 13.92                    | -4.43                   | -0.30                    |
| F34          | 203.96                  | 13.85                    | -4.72                   | -0.29                    |
| F33          | 217.73                  | 13.77                    | -4.99                   | -0.27                    |
| F32          | 231.40                  | 13.68                    | -5.25                   | -0.26                    |
| F31          | 244.99                  | 13.58                    | -5.50                   | -0.24                    |
| F30          | 258.46                  | 13.48                    | -5.72                   | -0.23                    |
| F29          | 271.82                  | 13.36                    | -5.93                   | -0.20                    |
| F28          | 285.04                  | 13.21                    | -6.11                   | -0.18                    |
| F27          | 298.04                  | 13.00                    | -6.28                   | -0.17                    |
| F26          | 311.01                  | 12.97                    | -6.42                   | -0.14                    |
| F25          | 323.84                  | 12.83                    | -6.54                   | -0.12                    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |         |         |
|---------|---------|---------|---------|---------|
| F24     | 336.50  | 12.67   | -6.62   | -0.09   |
| F23     | 348.93  | 12.43   | -6.62   | 0.00    |
| F22     | 361.13  | 12.20   | -6.57   | 0.05    |
| F21     | 373.09  | 11.95   | -6.47   | 0.10    |
| F20     | 384.74  | 11.66   | -6.30   | 0.17    |
| F19     | 396.03  | 11.28   | -6.04   | 0.26    |
| F18     | 406.89  | 10.86   | -5.61   | 0.43    |
| F17     | 34.16   | -372.73 | -241.72 | -236.11 |
| F16     | 2.88    | -31.28  | -119.47 | 122.25  |
| F15     | -54.73  | -57.61  | -175.24 | -55.77  |
| F14     | -101.38 | -46.65  | -182.16 | -6.92   |
| F13     | -192.26 | -90.88  | -169.93 | 12.23   |
| F12     | 108.61  | 300.87  | -88.14  | 81.79   |
| F11demo | 479.46  | 370.85  | -3.74   | 84.40   |
| F11     | 75.40   | -404.06 | -20.56  | -16.82  |
| F9demo  | 508.65  | 433.25  | 4.36    | 24.92   |
| F10     | 151.82  | -356.82 | -8.86   | -13.22  |
| F9      | 124.73  | -27.10  | -42.41  | -33.55  |
| F8      | 111.57  | -13.15  | -4.99   | 37.42   |
| F7      | 87.29   | -24.28  | 0.66    | 5.65    |
| F6      | 71.33   | -15.96  | 1.76    | 1.10    |
| F5      | 98.04   | 26.71   | 1.82    | 0.06    |
| F4      | 119.09  | 21.05   | 1.26    | -0.56   |
| F3      | 147.62  | 28.52   | -3.13   | -4.39   |
| F2      | 382.06  | 234.45  | 2.19    | 5.33    |
| Fground | 283.60  | -98.46  | 0.83    | -1.37   |
| Cellar  | 110.01  | -173.59 | -0.73   | -1.55   |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | -1.49                   | -1.49                    | 27.96                   | 27.96                    |
| F46MEP       | -3.38                   | -1.89                    | 79.20                   | 51.23                    |
| F45          | -4.70                   | -1.31                    | 130.84                  | 51.64                    |
| F44          | -6.04                   | -1.35                    | 189.66                  | 58.82                    |
| F43          | -7.43                   | -1.38                    | 243.00                  | 53.34                    |
| F42          | -8.82                   | -1.39                    | 287.18                  | 44.18                    |
| F41          | -10.26                  | -1.44                    | 334.46                  | 47.28                    |
| F40          | -11.62                  | -1.35                    | 381.43                  | 46.97                    |
| F39          | -12.98                  | -1.37                    | 425.13                  | 43.69                    |
| F38          | -14.33                  | -1.35                    | 468.64                  | 43.51                    |
| F37          | -15.66                  | -1.33                    | 511.94                  | 43.30                    |
| F36          | -16.98                  | -1.32                    | 555.11                  | 43.16                    |
| F35          | -18.27                  | -1.29                    | 598.08                  | 42.97                    |
| F34          | -19.53                  | -1.26                    | 640.85                  | 42.77                    |
| F33          | -20.75                  | -1.22                    | 683.40                  | 42.55                    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |         |          |
|---------|--------|--------|---------|----------|
| F32     | -21.92 | -1.17  | 725.71  | 42.31    |
| F31     | -23.03 | -1.11  | 767.78  | 42.06    |
| F30     | -24.07 | -1.04  | 809.57  | 41.79    |
| F29     | -25.04 | -0.97  | 851.06  | 41.50    |
| F28     | -25.90 | -0.86  | 892.24  | 41.18    |
| F27     | -26.68 | -0.78  | 933.06  | 40.82    |
| F26     | -27.38 | -0.70  | 973.64  | 40.58    |
| F25     | -27.95 | -0.57  | 1013.88 | 40.24    |
| F24     | -28.38 | -0.43  | 1053.76 | 39.88    |
| F23     | -28.21 | 0.17   | 1092.76 | 39.00    |
| F22     | -27.71 | 0.50   | 1131.21 | 38.45    |
| F21     | -26.90 | 0.81   | 1169.06 | 37.85    |
| F20     | -25.74 | 1.16   | 1206.21 | 37.15    |
| F19     | -24.18 | 1.56   | 1242.37 | 36.16    |
| F18     | -22.09 | 2.08   | 1276.81 | 34.44    |
| F17     | -22.54 | -0.45  | 605.43  | -671.39  |
| F16     | 34.54  | 57.08  | 23.03   | -582.39  |
| F15     | -9.97  | -44.52 | 308.55  | 285.52   |
| F14     | 60.23  | 70.20  | 434.59  | 126.04   |
| F13     | 61.64  | 1.41   | 590.46  | 155.87   |
| F12     | 81.00  | 19.36  | 502.16  | -88.29   |
| F11demo | -1.92  | -82.92 | 1527.66 | 1025.49  |
| F11     | 25.91  | 27.82  | 401.73  | -1125.92 |
| F9demo  | -6.62  | -32.53 | 1453.06 | 1051.32  |
| F10     | -68.29 | -61.68 | 26.94   | -1426.12 |
| F9      | 33.42  | 101.72 | 48.15   | 21.21    |
| F8      | 28.39  | -5.03  | 198.57  | 150.42   |
| F7      | 57.35  | 28.96  | 10.49   | -188.08  |
| F6      | 41.37  | -15.98 | -5.67   | -16.17   |
| F5      | 59.90  | 18.53  | 8.53    | 14.20    |
| F4      | 52.88  | -7.02  | 8.43    | -0.10    |
| F3      | 84.98  | 32.10  | 46.84   | 38.41    |
| F2      | 86.87  | 1.89   | 5.87    | -40.96   |
| Fground | 31.93  | -54.94 | 8.10    | 2.23     |
| Cellar  | 24.20  | -7.73  | 16.03   | 7.93     |

**Load Case: W6 W Wind\_IBC09\_2\_Y-E**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | -1.07                   | -1.07                    | 28.57                   | 28.57                    |
| F46MEP       | -2.31                   | -1.25                    | 80.54                   | 51.97                    |
| F45          | -3.15                   | -0.84                    | 132.70                  | 52.16                    |
| F44          | -4.04                   | -0.88                    | 192.06                  | 59.37                    |
| F43          | -4.92                   | -0.88                    | 245.96                  | 53.89                    |
| F42          | -5.71                   | -0.79                    | 290.68                  | 44.72                    |
| F41          | -6.52                   | -0.81                    | 338.52                  | 47.84                    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |         |          |
|---------|---------|---------|---------|----------|
| F40     | -7.30   | -0.78   | 386.02  | 47.50    |
| F39     | -8.06   | -0.76   | 430.24  | 44.22    |
| F38     | -8.82   | -0.75   | 474.26  | 44.02    |
| F37     | -9.55   | -0.74   | 518.04  | 43.78    |
| F36     | -10.26  | -0.70   | 561.68  | 43.64    |
| F35     | -10.93  | -0.68   | 605.11  | 43.44    |
| F34     | -11.58  | -0.65   | 648.33  | 43.21    |
| F33     | -12.19  | -0.61   | 691.30  | 42.97    |
| F32     | -12.77  | -0.58   | 734.02  | 42.71    |
| F31     | -13.31  | -0.54   | 776.45  | 42.43    |
| F30     | -13.80  | -0.49   | 818.57  | 42.12    |
| F29     | -14.24  | -0.44   | 860.36  | 41.79    |
| F28     | -14.64  | -0.40   | 901.79  | 41.42    |
| F27     | -15.02  | -0.38   | 942.78  | 40.99    |
| F26     | -15.32  | -0.30   | 983.53  | 40.75    |
| F25     | -15.56  | -0.24   | 1023.87 | 40.34    |
| F24     | -15.73  | -0.17   | 1063.77 | 39.90    |
| F23     | -15.75  | -0.03   | 1103.08 | 39.31    |
| F22     | -15.69  | 0.06    | 1141.87 | 38.78    |
| F21     | -15.55  | 0.14    | 1180.04 | 38.18    |
| F20     | -15.34  | 0.21    | 1217.50 | 37.45    |
| F19     | -15.09  | 0.25    | 1253.90 | 36.40    |
| F18     | -14.84  | 0.25    | 1288.36 | 34.46    |
| F17     | -9.79   | 5.05    | 871.44  | -416.92  |
| F16     | 46.55   | 56.34   | -401.57 | -1273.01 |
| F15     | -10.02  | -56.57  | -19.48  | 382.09   |
| F14     | 56.46   | 66.48   | 173.59  | 193.07   |
| F13     | 81.36   | 24.90   | 385.10  | 211.51   |
| F12     | 41.31   | -40.04  | 536.43  | 151.34   |
| F11demo | -0.79   | -42.11  | 1533.64 | 997.20   |
| F11     | -21.24  | -20.44  | 469.56  | -1064.07 |
| F9demo  | -6.40   | 14.84   | 1385.58 | 916.01   |
| F10     | -229.53 | -223.13 | 46.85   | -1338.72 |
| F9      | 36.64   | 266.17  | 61.92   | 15.07    |
| F8      | 1.00    | -35.65  | 261.03  | 199.11   |
| F7      | 40.05   | 39.05   | 15.43   | -245.60  |
| F6      | 23.43   | -16.61  | -10.13  | -25.56   |
| F5      | 33.87   | 10.44   | 11.07   | 21.19    |
| F4      | 19.08   | -14.79  | 9.46    | -1.60    |
| F3      | 3.38    | -15.71  | 45.75   | 36.29    |
| F2      | -3.46   | -6.83   | 10.84   | -34.92   |
| Fground | -63.65  | -60.19  | 12.11   | 1.27     |
| Cellar  | -30.34  | 33.31   | 24.41   | 12.30    |



**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | 6.84                    | 6.84                     | 27.93                   | 27.93                    |
| F46MEP       | 20.42                   | 13.58                    | 79.11                   | 51.18                    |
| F45          | 35.61                   | 15.20                    | 130.72                  | 51.61                    |
| F44          | 53.06                   | 17.45                    | 189.52                  | 58.80                    |
| F43          | 68.96                   | 15.90                    | 242.82                  | 53.30                    |
| F42          | 82.25                   | 13.29                    | 286.98                  | 44.15                    |
| F41          | 96.53                   | 14.28                    | 334.23                  | 47.26                    |
| F40          | 110.75                  | 14.22                    | 381.18                  | 46.94                    |
| F39          | 123.91                  | 13.16                    | 424.84                  | 43.67                    |
| F38          | 137.01                  | 13.10                    | 468.33                  | 43.48                    |
| F37          | 150.04                  | 13.02                    | 511.58                  | 43.26                    |
| F36          | 163.05                  | 13.02                    | 554.71                  | 43.13                    |
| F35          | 176.03                  | 12.98                    | 597.65                  | 42.94                    |
| F34          | 188.97                  | 12.94                    | 640.39                  | 42.74                    |
| F33          | 201.86                  | 12.89                    | 682.90                  | 42.52                    |
| F32          | 214.71                  | 12.85                    | 725.18                  | 42.28                    |
| F31          | 227.51                  | 12.80                    | 767.21                  | 42.03                    |
| F30          | 240.25                  | 12.75                    | 808.97                  | 41.75                    |
| F29          | 252.95                  | 12.69                    | 850.43                  | 41.46                    |
| F28          | 265.56                  | 12.61                    | 891.56                  | 41.14                    |
| F27          | 278.02                  | 12.45                    | 932.31                  | 40.75                    |
| F26          | 290.51                  | 12.50                    | 972.85                  | 40.53                    |
| F25          | 302.96                  | 12.45                    | 1013.02                 | 40.18                    |
| F24          | 315.34                  | 12.38                    | 1052.82                 | 39.80                    |
| F23          | 327.83                  | 12.49                    | 1092.00                 | 39.18                    |
| F22          | 340.28                  | 12.45                    | 1130.69                 | 38.69                    |
| F21          | 352.66                  | 12.38                    | 1168.84                 | 38.14                    |
| F20          | 364.94                  | 12.28                    | 1206.32                 | 37.49                    |
| F19          | 377.03                  | 12.09                    | 1242.88                 | 36.56                    |
| F18          | 388.93                  | 11.90                    | 1277.76                 | 34.88                    |
| F17          | 18.88                   | -370.05                  | 514.74                  | -763.03                  |
| F16          | 44.25                   | 25.37                    | -338.08                 | -852.82                  |
| F15          | -64.73                  | -108.98                  | -53.45                  | 284.63                   |
| F14          | -43.33                  | 21.40                    | 103.75                  | 157.20                   |
| F13          | -119.49                 | -76.16                   | 303.45                  | 199.70                   |
| F12          | 166.96                  | 286.45                   | 433.04                  | 129.60                   |
| F11demo      | 478.18                  | 311.22                   | 1527.31                 | 1094.26                  |
| F11          | 74.35                   | -403.83                  | 419.20                  | -1108.11                 |
| F9demo       | 502.15                  | 427.80                   | 1419.41                 | 1000.21                  |
| F10          | -8.42                   | -510.57                  | 29.32                   | -1390.09                 |
| F9           | 161.08                  | 169.50                   | 13.10                   | -16.22                   |
| F8           | 126.07                  | -35.01                   | 229.27                  | 216.17                   |
| F7           | 135.93                  | 9.86                     | 13.97                   | -215.30                  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |         |       |        |
|---------|--------|---------|-------|--------|
| F6      | 102.61 | -33.33  | -6.46 | -20.43 |
| F5      | 142.16 | 39.56   | 11.79 | 18.24  |
| F4      | 150.75 | 8.59    | 10.26 | -1.52  |
| F3      | 185.12 | 34.37   | 42.91 | 32.65  |
| F2      | 417.12 | 232.00  | 10.94 | -31.97 |
| Fground | 260.61 | -156.52 | 11.23 | 0.28   |
| Cellar  | 102.82 | -157.78 | 20.14 | 8.91   |

**Load Case: W8 W Wind\_IBC09\_3\_X-Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 9.40            | 9.40             | -28.60          | -28.60           |
| F46MEP  | 26.11           | 16.72            | -80.63          | -52.02           |
| F45     | 43.46           | 17.35            | -132.81         | -52.19           |
| F44     | 63.14           | 19.68            | -192.20         | -59.39           |
| F43     | 81.31           | 18.17            | -246.13         | -53.93           |
| F42     | 96.78           | 15.47            | -290.88         | -44.75           |
| F41     | 113.32          | 16.53            | -338.75         | -47.87           |
| F40     | 129.67          | 16.36            | -386.28         | -47.53           |
| F39     | 144.96          | 15.29            | -430.52         | -44.24           |
| F38     | 160.16          | 15.20            | -474.58         | -44.05           |
| F37     | 175.25          | 15.09            | -518.40         | -43.82           |
| F36     | 190.29          | 15.04            | -562.07         | -43.67           |
| F35     | 205.24          | 14.95            | -605.54         | -43.47           |
| F34     | 220.08          | 14.84            | -648.79         | -43.25           |
| F33     | 234.80          | 14.72            | -691.80         | -43.01           |
| F32     | 249.39          | 14.59            | -734.55         | -42.75           |
| F31     | 263.84          | 14.45            | -777.01         | -42.46           |
| F30     | 278.12          | 14.28            | -819.17         | -42.16           |
| F29     | 292.22          | 14.10            | -861.00         | -41.83           |
| F28     | 306.10          | 13.88            | -902.47         | -41.47           |
| F27     | 319.71          | 13.60            | -943.53         | -41.06           |
| F26     | 333.21          | 13.50            | -984.33         | -40.80           |
| F25     | 346.46          | 13.26            | -1024.72        | -40.40           |
| F24     | 359.45          | 12.99            | -1064.70        | -39.98           |
| F23     | 371.79          | 12.34            | -1103.84        | -39.14           |
| F22     | 383.68          | 11.89            | -1142.38        | -38.54           |
| F21     | 395.11          | 11.43            | -1180.27        | -37.89           |
| F20     | 406.01          | 10.91            | -1217.38        | -37.11           |
| F19     | 416.30          | 10.29            | -1253.39        | -36.01           |
| F18     | 425.86          | 9.56             | -1287.40        | -34.02           |
| F17     | 51.21           | -374.65          | -962.13         | 325.27           |
| F16     | -36.84          | -88.05           | 40.45           | 1002.58          |
| F15     | -44.74          | -7.90            | -342.52         | -382.97          |
| F14     | -160.02         | -115.28          | -504.43         | -161.91          |
| F13     | -262.49         | -102.47          | -672.11         | -167.68          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |         |          |         |
|---------|--------|---------|----------|---------|
| F12     | 44.65  | 307.13  | -605.56  | 66.56   |
| F11demo | 480.89 | 436.24  | -1533.99 | -928.43 |
| F11     | 69.68  | -411.21 | -452.10  | 1081.89 |
| F9demo  | 515.17 | 445.49  | -1419.23 | -967.13 |
| F10     | 289.40 | -225.77 | -44.47   | 1374.76 |
| F9      | 91.01  | -198.39 | -96.97   | -52.50  |
| F8      | 96.68  | 5.67    | -230.34  | -133.36 |
| F7      | 38.54  | -58.14  | -11.95   | 218.38  |
| F6      | 37.80  | -0.74   | 9.34     | 21.29   |
| F5      | 48.39  | 10.59   | -7.81    | -17.15  |
| F4      | 78.78  | 30.39   | -7.63    | 0.18    |
| F3      | 96.77  | 17.99   | -49.68   | -42.05  |
| F2      | 333.71 | 236.94  | -5.77    | 43.91   |
| Fground | 292.33 | -41.38  | -8.98    | -3.22   |
| Cellar  | 108.96 | -183.37 | -20.30   | -11.32  |

| Load Case: W9 | W | Wind_IBC09_4_X+Y_CW |          |         |          |
|---------------|---|---------------------|----------|---------|----------|
| Level         |   | Shear-X             | Change-X | Shear-Y | Change-Y |
|               |   | kips                | kips     | kips    | kips     |
| F47roof       |   | 5.31                | 5.31     | 21.21   | 21.21    |
| F46MEP        |   | 15.77               | 10.46    | 59.91   | 38.70    |
| F45           |   | 27.37               | 11.60    | 98.84   | 38.93    |
| F44           |   | 40.65               | 13.28    | 143.17  | 44.33    |
| F43           |   | 52.79               | 12.14    | 183.38  | 40.21    |
| F42           |   | 63.02               | 10.22    | 216.73  | 33.35    |
| F41           |   | 74.00               | 10.98    | 252.41  | 35.68    |
| F40           |   | 84.91               | 10.91    | 287.84  | 35.43    |
| F39           |   | 95.04               | 10.13    | 320.82  | 32.97    |
| F38           |   | 105.12              | 10.08    | 353.64  | 32.83    |
| F37           |   | 115.14              | 10.02    | 386.29  | 32.65    |
| F36           |   | 125.17              | 10.03    | 418.84  | 32.55    |
| F35           |   | 135.17              | 10.00    | 451.24  | 32.40    |
| F34           |   | 145.13              | 9.96     | 483.48  | 32.24    |
| F33           |   | 155.06              | 9.93     | 515.55  | 32.07    |
| F32           |   | 164.95              | 9.89     | 547.43  | 31.88    |
| F31           |   | 174.79              | 9.85     | 579.11  | 31.68    |
| F30           |   | 184.59              | 9.80     | 610.57  | 31.46    |
| F29           |   | 194.33              | 9.74     | 641.79  | 31.22    |
| F28           |   | 203.99              | 9.66     | 672.75  | 30.96    |
| F27           |   | 213.50              | 9.51     | 703.38  | 30.64    |
| F26           |   | 223.05              | 9.54     | 733.85  | 30.47    |
| F25           |   | 232.52              | 9.48     | 764.03  | 30.18    |
| F24           |   | 241.92              | 9.40     | 793.89  | 29.86    |
| F23           |   | 251.20              | 9.28     | 823.41  | 29.52    |
| F22           |   | 260.35              | 9.15     | 852.56  | 29.16    |
| F21           |   | 269.35              | 9.00     | 881.31  | 28.75    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |         |         |          |
|---------|--------|---------|---------|----------|
| F20     | 278.15 | 8.80    | 909.55  | 28.25    |
| F19     | 286.66 | 8.51    | 937.07  | 27.52    |
| F18     | 294.80 | 8.14    | 963.24  | 26.17    |
| F17     | 19.61  | -275.19 | 499.33  | -463.91  |
| F16     | 38.31  | 18.70   | -434.79 | -934.12  |
| F15     | -48.57 | -86.88  | -180.16 | 254.64   |
| F14     | -34.13 | 14.44   | -33.70  | 146.46   |
| F13     | -81.27 | -47.14  | 139.77  | 173.47   |
| F12     | 108.23 | 189.51  | 339.05  | 199.27   |
| F11demo | 359.11 | 250.88  | 1148.02 | 808.97   |
| F11     | 35.55  | -323.56 | 342.92  | -805.10  |
| F9demo  | 376.71 | 341.16  | 1036.04 | 693.12   |
| F10     | -75.27 | -451.99 | 30.42   | -1005.63 |
| F9      | 123.01 | 198.28  | 15.34   | -15.08   |
| F8      | 84.13  | -38.88  | 198.72  | 183.38   |
| F7      | 95.42  | 11.29   | 12.59   | -186.12  |
| F6      | 69.38  | -26.04  | -6.75   | -19.34   |
| F5      | 94.79  | 25.41   | 9.92    | 16.67    |
| F4      | 97.14  | 2.35    | 8.13    | -1.79    |
| F3      | 103.24 | 6.10    | 31.59   | 23.46    |
| F2      | 273.98 | 170.74  | 10.37   | -21.22   |
| Fground | 154.26 | -119.72 | 10.14   | -0.22    |
| Cellar  | 53.57  | -100.69 | 18.73   | 8.58     |

**Load Case: W10 W Wind\_IBC09\_4\_X+Y\_CCW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 4.95            | 4.95             | 20.69           | 20.69            |
| F46MEP  | 14.85           | 9.91             | 58.76           | 38.07            |
| F45     | 26.05           | 11.19            | 97.25           | 38.49            |
| F44     | 38.93           | 12.89            | 141.12          | 43.87            |
| F43     | 50.65           | 11.71            | 180.86          | 39.74            |
| F42     | 60.36           | 9.71             | 213.74          | 32.88            |
| F41     | 70.80           | 10.44            | 248.94          | 35.20            |
| F40     | 81.22           | 10.42            | 283.92          | 34.98            |
| F39     | 90.83           | 9.61             | 316.45          | 32.53            |
| F38     | 100.40          | 9.57             | 348.84          | 32.40            |
| F37     | 109.91          | 9.51             | 381.09          | 32.24            |
| F36     | 119.41          | 9.50             | 413.23          | 32.14            |
| F35     | 128.88          | 9.47             | 445.24          | 32.01            |
| F34     | 138.32          | 9.44             | 477.10          | 31.86            |
| F33     | 147.73          | 9.41             | 508.80          | 31.71            |
| F32     | 157.12          | 9.38             | 540.35          | 31.54            |
| F31     | 166.47          | 9.35             | 571.71          | 31.36            |
| F30     | 175.79          | 9.32             | 602.88          | 31.17            |
| F29     | 185.09          | 9.30             | 633.85          | 30.97            |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |         |         |          |
|---------|--------|---------|---------|----------|
| F28     | 194.35 | 9.26    | 664.60  | 30.75    |
| F27     | 203.52 | 9.17    | 695.09  | 30.49    |
| F26     | 212.72 | 9.20    | 725.42  | 30.33    |
| F25     | 221.92 | 9.19    | 755.51  | 30.09    |
| F24     | 231.09 | 9.18    | 785.35  | 29.84    |
| F23     | 240.54 | 9.45    | 814.60  | 29.25    |
| F22     | 250.07 | 9.53    | 843.48  | 28.88    |
| F21     | 259.64 | 9.57    | 871.94  | 28.47    |
| F20     | 269.26 | 9.61    | 899.93  | 27.99    |
| F19     | 278.89 | 9.63    | 927.25  | 27.32    |
| F18     | 288.60 | 9.71    | 953.40  | 26.15    |
| F17     | 8.72   | -279.88 | 272.78  | -680.62  |
| F16     | 28.06  | 19.35   | -72.33  | -345.11  |
| F15     | -48.53 | -76.59  | 99.98   | 172.31   |
| F14     | -30.86 | 17.66   | 189.32  | 89.34    |
| F13     | -97.96 | -67.10  | 315.39  | 126.07   |
| F12     | 142.21 | 240.17  | 310.52  | -4.87    |
| F11demo | 358.16 | 215.95  | 1142.94 | 832.42   |
| F11     | 75.98  | -282.18 | 285.88  | -857.06  |
| F9demo  | 376.52 | 300.54  | 1093.07 | 807.18   |
| F10     | 62.64  | -313.88 | 13.56   | -1079.51 |
| F9      | 118.61 | 55.96   | 4.31    | -9.25    |
| F8      | 104.97 | -13.64  | 145.19  | 140.88   |
| F7      | 108.48 | 3.51    | 8.36    | -136.83  |
| F6      | 84.53  | -23.95  | -2.94   | -11.30   |
| F5      | 118.46 | 33.93   | 7.76    | 10.70    |
| F4      | 128.98 | 10.53   | 7.27    | -0.49    |
| F3      | 174.45 | 45.46   | 32.78   | 25.51    |
| F2      | 351.70 | 177.25  | 6.05    | -26.73   |
| Fground | 236.65 | -115.05 | 6.70    | 0.65     |
| Cellar  | 100.66 | -135.99 | 11.48   | 4.78     |

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | 7.23                    | 7.23                     | -21.19                  | -21.19                   |
| F46MEP       | 20.04                   | 12.81                    | -59.89                  | -38.70                   |
| F45          | 33.26                   | 13.21                    | -98.81                  | -38.92                   |
| F44          | 48.21                   | 14.96                    | -143.13                 | -44.31                   |
| F43          | 62.05                   | 13.84                    | -183.34                 | -40.21                   |
| F42          | 73.92                   | 11.86                    | -216.67                 | -33.33                   |
| F41          | 86.59                   | 12.67                    | -252.33                 | -35.66                   |
| F40          | 99.10                   | 12.51                    | -287.75                 | -35.42                   |
| F39          | 110.82                  | 11.72                    | -320.71                 | -32.96                   |
| F38          | 122.48                  | 11.66                    | -353.53                 | -32.82                   |
| F37          | 134.05                  | 11.57                    | -386.20                 | -32.67                   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |          |         |
|---------|---------|---------|----------|---------|
| F36     | 145.60  | 11.55   | -418.75  | -32.55  |
| F35     | 157.07  | 11.47   | -451.16  | -32.41  |
| F34     | 168.46  | 11.39   | -483.40  | -32.25  |
| F33     | 179.76  | 11.30   | -515.48  | -32.07  |
| F32     | 190.96  | 11.20   | -547.37  | -31.89  |
| F31     | 202.04  | 11.08   | -579.06  | -31.69  |
| F30     | 212.99  | 10.95   | -610.53  | -31.48  |
| F29     | 223.79  | 10.80   | -641.78  | -31.25  |
| F28     | 234.40  | 10.61   | -672.78  | -31.00  |
| F27     | 244.77  | 10.37   | -703.50  | -30.72  |
| F26     | 255.07  | 10.30   | -734.03  | -30.53  |
| F25     | 265.15  | 10.08   | -764.28  | -30.25  |
| F24     | 275.00  | 9.85    | -794.26  | -29.97  |
| F23     | 284.17  | 9.17    | -823.48  | -29.22  |
| F22     | 292.90  | 8.73    | -852.24  | -28.77  |
| F21     | 301.18  | 8.28    | -880.52  | -28.28  |
| F20     | 308.96  | 7.77    | -908.23  | -27.71  |
| F19     | 316.11  | 7.15    | -935.13  | -26.90  |
| F18     | 322.50  | 6.39    | -960.63  | -25.50  |
| F17     | 43.85   | -278.64 | -608.32  | 352.31  |
| F16     | -22.51  | -66.36  | -150.89  | 457.43  |
| F15     | -33.58  | -11.07  | -396.96  | -246.07 |
| F14     | -121.65 | -88.07  | -489.84  | -92.88  |
| F13     | -188.52 | -66.87  | -591.89  | -102.06 |
| F12     | 16.50   | 205.02  | -439.90  | 151.99  |
| F11demo | 361.15  | 344.65  | -1147.95 | -708.05 |
| F11     | 32.05   | -329.10 | -310.55  | 837.40  |
| F9demo  | 386.47  | 354.43  | -1092.93 | -782.38 |
| F10     | 148.09  | -238.38 | -24.92   | 1068.01 |
| F9      | 70.46   | -77.63  | -67.22   | -42.29  |
| F8      | 62.09   | -8.37   | -145.99  | -78.77  |
| F7      | 22.37   | -39.72  | -6.85    | 139.14  |
| F6      | 20.77   | -1.60   | 5.10     | 11.95   |
| F5      | 24.46   | 3.69    | -4.78    | -9.88   |
| F4      | 43.17   | 18.71   | -5.30    | -0.52   |
| F3      | 36.97   | -6.19   | -37.85   | -32.56  |
| F2      | 211.42  | 174.45  | -2.17    | 35.69   |
| Fground | 178.05  | -33.37  | -5.01    | -2.85   |
| Cellar  | 58.17   | -119.88 | -11.60   | -6.59   |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | 6.87                    | 6.87                     | -21.71                  | -21.71                   |
| F46MEP       | 19.13                   | 12.26                    | -61.04                  | -39.33                   |
| F45          | 31.94                   | 12.81                    | -100.40                 | -39.36                   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |          |         |
|---------|---------|---------|----------|---------|
| F44     | 46.50   | 14.56   | -145.18  | -44.78  |
| F43     | 59.91   | 13.41   | -185.86  | -40.68  |
| F42     | 71.26   | 11.35   | -219.65  | -33.79  |
| F41     | 83.38   | 12.13   | -255.80  | -36.14  |
| F40     | 95.41   | 12.02   | -291.67  | -35.87  |
| F39     | 106.61  | 11.21   | -325.08  | -33.41  |
| F38     | 117.76  | 11.15   | -358.33  | -33.26  |
| F37     | 128.82  | 11.06   | -391.40  | -33.07  |
| F36     | 139.84  | 11.02   | -424.36  | -32.96  |
| F35     | 150.79  | 10.95   | -457.16  | -32.80  |
| F34     | 161.66  | 10.87   | -489.79  | -32.63  |
| F33     | 172.44  | 10.78   | -522.22  | -32.44  |
| F32     | 183.13  | 10.69   | -554.45  | -32.23  |
| F31     | 193.72  | 10.59   | -586.46  | -32.01  |
| F30     | 204.19  | 10.48   | -618.22  | -31.76  |
| F29     | 214.55  | 10.35   | -649.72  | -31.50  |
| F28     | 224.76  | 10.21   | -680.92  | -31.21  |
| F27     | 234.79  | 10.03   | -711.79  | -30.87  |
| F26     | 244.74  | 9.96    | -742.46  | -30.67  |
| F25     | 254.54  | 9.80    | -772.80  | -30.34  |
| F24     | 264.17  | 9.63    | -802.80  | -29.99  |
| F23     | 273.51  | 9.34    | -832.28  | -29.48  |
| F22     | 282.62  | 9.11    | -861.33  | -29.05  |
| F21     | 291.48  | 8.86    | -889.89  | -28.56  |
| F20     | 300.06  | 8.59    | -917.85  | -27.96  |
| F19     | 308.34  | 8.28    | -944.95  | -27.10  |
| F18     | 316.29  | 7.95    | -970.47  | -25.52  |
| F17     | 32.96   | -283.34 | -834.87  | 135.60  |
| F16     | -32.76  | -65.71  | 211.57   | 1046.44 |
| F15     | -33.53  | -0.77   | -116.82  | -328.39 |
| F14     | -118.38 | -84.85  | -266.82  | -149.99 |
| F13     | -205.21 | -86.83  | -416.27  | -149.46 |
| F12     | 50.47   | 255.68  | -468.43  | -52.16  |
| F11demo | 360.19  | 309.72  | -1153.03 | -684.60 |
| F11     | 72.48   | -287.72 | -367.59  | 785.44  |
| F9demo  | 386.28  | 313.81  | -1035.91 | -668.32 |
| F10     | 286.01  | -100.27 | -41.78   | 994.13  |
| F9      | 66.06   | -219.95 | -78.25   | -36.46  |
| F8      | 82.93   | 16.87   | -199.52  | -121.27 |
| F7      | 35.43   | -47.50  | -11.08   | 188.44  |
| F6      | 35.93   | 0.49    | 8.91     | 19.99   |
| F5      | 48.13   | 12.20   | -6.94    | -15.85  |
| F4      | 75.01   | 26.88   | -6.16    | 0.78    |
| F3      | 108.18  | 33.17   | -36.67   | -30.51  |
| F2      | 289.14  | 180.96  | -6.48    | 30.18   |
| Fground | 260.44  | -28.70  | -8.46    | -1.98   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

Cellar 105.26 -155.18 -18.85 -10.39

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | 35.66                   | 35.66                    | -0.82                   | -0.82                    |
| F46MEP       | 85.62                   | 49.97                    | -1.84                   | -1.03                    |
| F45          | 132.59                  | 46.97                    | -2.54                   | -0.70                    |
| F44          | 179.70                  | 47.11                    | -3.26                   | -0.72                    |
| F43          | 228.12                  | 48.42                    | -4.02                   | -0.76                    |
| F42          | 273.25                  | 45.14                    | -4.74                   | -0.72                    |
| F41          | 317.91                  | 44.65                    | -5.48                   | -0.74                    |
| F40          | 360.70                  | 42.79                    | -6.19                   | -0.70                    |
| F39          | 401.34                  | 40.64                    | -6.88                   | -0.69                    |
| F38          | 440.54                  | 39.20                    | -7.56                   | -0.68                    |
| F37          | 478.11                  | 37.57                    | -8.24                   | -0.68                    |
| F36          | 514.43                  | 36.32                    | -8.90                   | -0.65                    |
| F35          | 549.40                  | 34.97                    | -9.53                   | -0.63                    |
| F34          | 583.03                  | 33.63                    | -10.13                  | -0.61                    |
| F33          | 615.32                  | 32.29                    | -10.71                  | -0.58                    |
| F32          | 646.27                  | 30.95                    | -11.25                  | -0.54                    |
| F31          | 675.89                  | 29.62                    | -11.76                  | -0.51                    |
| F30          | 704.17                  | 28.28                    | -12.23                  | -0.47                    |
| F29          | 731.11                  | 26.94                    | -12.65                  | -0.42                    |
| F28          | 756.65                  | 25.54                    | -13.03                  | -0.38                    |
| F27          | 780.66                  | 24.00                    | -13.39                  | -0.36                    |
| F26          | 803.65                  | 23.00                    | -13.69                  | -0.30                    |
| F25          | 825.34                  | 21.69                    | -13.94                  | -0.25                    |
| F24          | 845.68                  | 20.34                    | -14.12                  | -0.18                    |
| F23          | 864.41                  | 18.73                    | -13.97                  | 0.15                     |
| F22          | 881.67                  | 17.26                    | -13.69                  | 0.28                     |
| F21          | 897.43                  | 15.76                    | -13.28                  | 0.41                     |
| F20          | 911.61                  | 14.18                    | -12.70                  | 0.57                     |
| F19          | 924.03                  | 12.42                    | -11.92                  | 0.79                     |
| F18          | 934.57                  | 10.53                    | -10.75                  | 1.16                     |
| F17          | 84.22                   | -850.35                  | -537.58                 | -526.83                  |
| F16          | 57.67                   | -26.54                   | -391.72                 | 145.86                   |
| F15          | -88.14                  | -145.82                  | -506.73                 | -115.01                  |
| F14          | -201.09                 | -112.95                  | -512.61                 | -5.88                    |
| F13          | -386.83                 | -185.74                  | -488.73                 | 23.88                    |
| F12          | 219.26                  | 606.09                   | -257.16                 | 231.57                   |
| F11demo      | 1021.87                 | 802.60                   | -7.22                   | 249.94                   |
| F11          | 157.12                  | -864.74                  | -86.33                  | -79.11                   |
| F9demo       | 1043.26                 | 886.13                   | 5.80                    | 92.13                    |
| F10          | 291.03                  | -752.23                  | -13.26                  | -19.05                   |
| F9           | 242.63                  | -48.40                   | -82.92                  | -69.66                   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |         |       |       |
|---------|--------|---------|-------|-------|
| F8      | 202.96 | -39.67  | 1.37  | 84.29 |
| F7      | 154.34 | -48.62  | 1.78  | 0.41  |
| F6      | 121.71 | -32.63  | 2.02  | 0.24  |
| F5      | 160.10 | 38.39   | 3.41  | 1.39  |
| F4      | 189.29 | 29.19   | 2.04  | -1.37 |
| F3      | 230.15 | 40.86   | -3.86 | -5.90 |
| F2      | 625.30 | 395.15  | 4.20  | 8.06  |
| Fground | 420.23 | -205.08 | 1.39  | -2.81 |
| Cellar  | 157.41 | -262.81 | -0.42 | -1.81 |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | 35.60                   | 35.60                    | -0.89                   | -0.89                    |
| F46MEP       | 85.49                   | 49.89                    | -2.01                   | -1.12                    |
| F45          | 132.40                  | 46.91                    | -2.77                   | -0.76                    |
| F44          | 179.45                  | 47.05                    | -3.55                   | -0.78                    |
| F43          | 227.81                  | 48.35                    | -4.38                   | -0.83                    |
| F42          | 272.87                  | 45.06                    | -5.17                   | -0.79                    |
| F41          | 317.44                  | 44.57                    | -5.98                   | -0.81                    |
| F40          | 360.17                  | 42.72                    | -6.74                   | -0.77                    |
| F39          | 400.73                  | 40.56                    | -7.50                   | -0.76                    |
| F38          | 439.86                  | 39.13                    | -8.24                   | -0.74                    |
| F37          | 477.36                  | 37.50                    | -8.98                   | -0.73                    |
| F36          | 513.61                  | 36.25                    | -9.69                   | -0.71                    |
| F35          | 548.51                  | 34.90                    | -10.37                  | -0.69                    |
| F34          | 582.06                  | 33.56                    | -11.03                  | -0.66                    |
| F33          | 614.28                  | 32.22                    | -11.66                  | -0.62                    |
| F32          | 645.16                  | 30.88                    | -12.24                  | -0.59                    |
| F31          | 674.71                  | 29.55                    | -12.79                  | -0.55                    |
| F30          | 702.93                  | 28.22                    | -13.29                  | -0.50                    |
| F29          | 729.82                  | 26.88                    | -13.75                  | -0.45                    |
| F28          | 755.31                  | 25.49                    | -14.15                  | -0.40                    |
| F27          | 779.27                  | 23.96                    | -14.52                  | -0.37                    |
| F26          | 802.23                  | 22.95                    | -14.83                  | -0.31                    |
| F25          | 823.88                  | 21.65                    | -15.09                  | -0.25                    |
| F24          | 844.21                  | 20.32                    | -15.26                  | -0.18                    |
| F23          | 862.97                  | 18.77                    | -15.15                  | 0.11                     |
| F22          | 880.30                  | 17.32                    | -14.90                  | 0.25                     |
| F21          | 896.15                  | 15.85                    | -14.52                  | 0.38                     |
| F20          | 910.45                  | 14.30                    | -13.98                  | 0.54                     |
| F19          | 923.04                  | 12.58                    | -13.22                  | 0.76                     |
| F18          | 933.79                  | 10.76                    | -12.06                  | 1.16                     |
| F17          | 82.94                   | -850.86                  | -566.42                 | -554.36                  |
| F16          | 55.78                   | -27.16                   | -347.25                 | 219.16                   |
| F15          | -88.75                  | -144.52                  | -473.35                 | -126.10                  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |         |        |
|---------|---------|---------|---------|--------|
| F14     | -201.32 | -112.57 | -486.77 | -13.42 |
| F13     | -389.57 | -188.26 | -468.77 | 18.01  |
| F12     | 224.28  | 613.85  | -260.53 | 208.24 |
| F11demo | 1021.84 | 797.56  | -7.91   | 252.62 |
| F11     | 162.12  | -859.72 | -94.17  | -86.26 |
| F9demo  | 1043.33 | 881.21  | 12.24   | 106.41 |
| F10     | 304.92  | -738.40 | -14.94  | -27.18 |
| F9      | 243.31  | -61.62  | -85.13  | -70.19 |
| F8      | 205.23  | -38.08  | -3.21   | 81.91  |
| F7      | 155.63  | -49.60  | 1.39    | 4.61   |
| F6      | 122.91  | -32.72  | 2.39    | 1.00   |
| F5      | 161.53  | 38.62   | 3.23    | 0.84   |
| F4      | 191.36  | 29.83   | 1.90    | -1.33  |
| F3      | 233.51  | 42.15   | -4.29   | -6.18  |
| F2      | 630.78  | 397.27  | 3.94    | 8.22   |
| Fground | 425.58  | -205.20 | 1.15    | -2.79  |
| Cellar  | 160.28  | -265.30 | -0.80   | -1.95  |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | -1.08                   | -1.08                    | 36.39                   | 36.39                    |
| F46MEP       | -2.40                   | -1.32                    | 87.19                   | 50.80                    |
| F45          | -3.31                   | -0.91                    | 134.66                  | 47.47                    |
| F44          | -4.25                   | -0.94                    | 182.27                  | 47.61                    |
| F43          | -5.21                   | -0.95                    | 231.25                  | 48.98                    |
| F42          | -6.13                   | -0.92                    | 276.81                  | 45.57                    |
| F41          | -7.08                   | -0.95                    | 321.85                  | 45.04                    |
| F40          | -7.98                   | -0.90                    | 365.06                  | 43.21                    |
| F39          | -8.87                   | -0.89                    | 406.04                  | 40.98                    |
| F38          | -9.75                   | -0.88                    | 445.59                  | 39.55                    |
| F37          | -10.62                  | -0.86                    | 483.55                  | 37.97                    |
| F36          | -11.46                  | -0.85                    | 520.19                  | 36.63                    |
| F35          | -12.28                  | -0.82                    | 555.46                  | 35.27                    |
| F34          | -13.07                  | -0.79                    | 589.38                  | 33.92                    |
| F33          | -13.82                  | -0.75                    | 621.96                  | 32.58                    |
| F32          | -14.54                  | -0.72                    | 653.21                  | 31.25                    |
| F31          | -15.21                  | -0.67                    | 683.14                  | 29.93                    |
| F30          | -15.83                  | -0.62                    | 711.74                  | 28.61                    |
| F29          | -16.39                  | -0.56                    | 739.05                  | 27.30                    |
| F28          | -16.89                  | -0.50                    | 765.04                  | 25.99                    |
| F27          | -17.34                  | -0.45                    | 789.71                  | 24.67                    |
| F26          | -17.72                  | -0.38                    | 813.23                  | 23.52                    |
| F25          | -18.02                  | -0.30                    | 835.49                  | 22.26                    |
| F24          | -18.21                  | -0.19                    | 856.50                  | 21.01                    |
| F23          | -18.07                  | 0.14                     | 876.00                  | 19.50                    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |         |         |
|---------|--------|--------|---------|---------|
| F22     | -17.75 | 0.32   | 894.20  | 18.20   |
| F21     | -17.26 | 0.49   | 911.08  | 16.88   |
| F20     | -16.60 | 0.66   | 926.59  | 15.51   |
| F19     | -15.75 | 0.85   | 940.52  | 13.93   |
| F18     | -14.67 | 1.07   | 952.28  | 11.76   |
| F17     | -13.13 | 1.55   | 543.75  | -408.53 |
| F16     | 38.43  | 51.55  | -147.66 | -691.41 |
| F15     | -1.87  | -40.30 | 106.04  | 253.70  |
| F14     | 47.84  | 49.71  | 225.67  | 119.63  |
| F13     | 55.62  | 7.78   | 362.98  | 137.31  |
| F12     | 43.62  | -12.00 | 383.25  | 20.27   |
| F11demo | -1.12  | -44.74 | 1045.97 | 662.72  |
| F11     | -1.42  | -0.30  | 317.88  | -728.09 |
| F9demo  | -4.76  | -3.35  | 931.47  | 613.58  |
| F10     | -93.63 | -88.87 | 22.33   | -909.13 |
| F9      | 44.65  | 138.28 | 47.52   | 25.19   |
| F8      | 16.64  | -28.00 | 139.87  | 92.35   |
| F7      | 38.56  | 21.92  | 7.92    | -131.95 |
| F6      | 29.64  | -8.92  | -4.66   | -12.58  |
| F5      | 42.83  | 13.19  | 5.97    | 10.63   |
| F4      | 34.06  | -8.77  | 5.87    | -0.10   |
| F3      | 25.10  | -8.96  | 17.71   | 11.83   |
| F2      | 71.91  | 46.80  | 4.28    | -13.43  |
| Fground | 24.91  | -47.00 | 4.80    | 0.52    |
| Cellar  | 12.72  | -12.19 | 7.98    | 3.17    |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | -0.95                   | -0.95                    | 36.57                   | 36.57                    |
| F46MEP       | -2.08                   | -1.13                    | 87.58                   | 51.01                    |
| F45          | -2.85                   | -0.77                    | 135.20                  | 47.62                    |
| F44          | -3.66                   | -0.80                    | 182.97                  | 47.77                    |
| F43          | -4.46                   | -0.80                    | 232.11                  | 49.14                    |
| F42          | -5.21                   | -0.74                    | 277.83                  | 45.72                    |
| F41          | -5.97                   | -0.76                    | 323.03                  | 45.20                    |
| F40          | -6.70                   | -0.73                    | 366.40                  | 43.36                    |
| F39          | -7.41                   | -0.72                    | 407.53                  | 41.13                    |
| F38          | -8.12                   | -0.71                    | 447.22                  | 39.69                    |
| F37          | -8.82                   | -0.69                    | 485.32                  | 38.10                    |
| F36          | -9.48                   | -0.67                    | 522.09                  | 36.77                    |
| F35          | -10.13                  | -0.64                    | 557.49                  | 35.40                    |
| F34          | -10.74                  | -0.62                    | 591.54                  | 34.04                    |
| F33          | -11.33                  | -0.59                    | 624.23                  | 32.70                    |
| F32          | -11.88                  | -0.55                    | 655.59                  | 31.35                    |
| F31          | -12.39                  | -0.51                    | 685.61                  | 30.02                    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |         |         |
|---------|---------|---------|---------|---------|
| F30     | -12.87  | -0.47   | 714.30  | 28.69   |
| F29     | -13.29  | -0.43   | 741.67  | 27.37   |
| F28     | -13.67  | -0.38   | 767.72  | 26.05   |
| F27     | -14.02  | -0.35   | 792.42  | 24.71   |
| F26     | -14.31  | -0.29   | 815.97  | 23.54   |
| F25     | -14.53  | -0.22   | 838.24  | 22.28   |
| F24     | -14.68  | -0.15   | 859.25  | 21.00   |
| F23     | -14.63  | 0.05    | 878.83  | 19.58   |
| F22     | -14.46  | 0.16    | 897.11  | 18.28   |
| F21     | -14.19  | 0.27    | 914.07  | 16.96   |
| F20     | -13.83  | 0.37    | 929.65  | 15.58   |
| F19     | -13.37  | 0.46    | 943.64  | 13.99   |
| F18     | -12.83  | 0.54    | 955.40  | 11.76   |
| F17     | -10.08  | 2.75    | 612.77  | -342.63 |
| F16     | 42.99   | 53.07   | -253.99 | -866.75 |
| F15     | -0.41   | -43.40  | 26.29   | 280.28  |
| F14     | 48.40   | 48.81   | 164.00  | 137.71  |
| F13     | 62.25   | 13.84   | 315.36  | 151.35  |
| F12     | 31.61   | -30.64  | 391.40  | 76.05   |
| F11demo | -1.05   | -32.66  | 1047.61 | 656.21  |
| F11     | -13.35  | -12.30  | 336.78  | -710.83 |
| F9demo  | -4.94   | 8.41    | 915.99  | 579.21  |
| F10     | -126.73 | -121.80 | 26.36   | -889.63 |
| F9      | 42.76   | 169.49  | 52.93   | 26.57   |
| F8      | 11.07   | -31.69  | 150.73  | 97.80   |
| F7      | 35.45   | 24.38   | 8.83    | -141.89 |
| F6      | 26.85   | -8.60   | -5.54   | -14.38  |
| F5      | 39.61   | 12.76   | 6.41    | 11.95   |
| F4      | 29.38   | -10.23  | 6.21    | -0.20   |
| F3      | 17.40   | -11.98  | 18.76   | 12.54   |
| F2      | 59.04   | 41.63   | 4.90    | -13.86  |
| Fground | 12.33   | -46.70  | 5.36    | 0.47    |
| Cellar  | 6.01    | -6.33   | 8.87    | 3.51    |

Load Case: O1

Shear Test User\_User

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 0.00            | 0.00             | 0.00            | 0.00             |
| F46MEP  | 0.00            | 0.00             | 0.00            | 0.00             |
| F45     | 0.00            | 0.00             | 0.00            | 0.00             |
| F44     | 0.00            | 0.00             | 0.00            | 0.00             |
| F43     | 0.00            | 0.00             | 0.00            | 0.00             |
| F42     | 0.00            | 0.00             | 0.00            | 0.00             |
| F41     | 0.00            | 0.00             | 0.00            | 0.00             |
| F40     | 0.00            | 0.00             | 0.00            | 0.00             |
| F39     | 0.00            | 0.00             | 0.00            | 0.00             |





|         |      |      |      |      |
|---------|------|------|------|------|
| F38     | 0.00 | 0.00 | 0.00 | 0.00 |
| F37     | 0.00 | 0.00 | 0.00 | 0.00 |
| F36     | 0.00 | 0.00 | 0.00 | 0.00 |
| F35     | 0.00 | 0.00 | 0.00 | 0.00 |
| F34     | 0.00 | 0.00 | 0.00 | 0.00 |
| F33     | 0.00 | 0.00 | 0.00 | 0.00 |
| F32     | 0.00 | 0.00 | 0.00 | 0.00 |
| F31     | 0.00 | 0.00 | 0.00 | 0.00 |
| F30     | 0.00 | 0.00 | 0.00 | 0.00 |
| F29     | 0.00 | 0.00 | 0.00 | 0.00 |
| F28     | 0.00 | 0.00 | 0.00 | 0.00 |
| F27     | 0.00 | 0.00 | 0.00 | 0.00 |
| F26     | 0.00 | 0.00 | 0.00 | 0.00 |
| F25     | 0.00 | 0.00 | 0.00 | 0.00 |
| F24     | 0.00 | 0.00 | 0.00 | 0.00 |
| F23     | 0.00 | 0.00 | 0.00 | 0.00 |
| F22     | 0.00 | 0.00 | 0.00 | 0.00 |
| F21     | 0.00 | 0.00 | 0.00 | 0.00 |
| F20     | 0.00 | 0.00 | 0.00 | 0.00 |
| F19     | 0.00 | 0.00 | 0.00 | 0.00 |
| F18     | 0.00 | 0.00 | 0.00 | 0.00 |
| F17     | 0.00 | 0.00 | 0.00 | 0.00 |
| F16     | 0.00 | 0.00 | 0.00 | 0.00 |
| F15     | 0.00 | 0.00 | 0.00 | 0.00 |
| F14     | 0.00 | 0.00 | 0.00 | 0.00 |
| F13     | 0.00 | 0.00 | 0.00 | 0.00 |
| F12     | 0.00 | 0.00 | 0.00 | 0.00 |
| F11demo | 0.00 | 0.00 | 0.00 | 0.00 |
| F11     | 0.00 | 0.00 | 0.00 | 0.00 |
| F9demo  | 0.00 | 0.00 | 0.00 | 0.00 |
| F10     | 0.00 | 0.00 | 0.00 | 0.00 |
| F9      | 0.00 | 0.00 | 0.00 | 0.00 |
| F8      | 0.00 | 0.00 | 0.00 | 0.00 |
| F7      | 0.00 | 0.00 | 0.00 | 0.00 |
| F6      | 0.00 | 0.00 | 0.00 | 0.00 |
| F5      | 0.00 | 0.00 | 0.00 | 0.00 |
| F4      | 0.00 | 0.00 | 0.00 | 0.00 |
| F3      | 0.00 | 0.00 | 0.00 | 0.00 |
| F2      | 0.00 | 0.00 | 0.00 | 0.00 |
| Fground | 0.00 | 0.00 | 0.00 | 0.00 |
| Cellar  | 0.00 | 0.00 | 0.00 | 0.00 |



| <b>Load Case: D</b>  |  | <b>DeadLoad</b>           |                 | <b>RAMUSER</b> |                 |
|----------------------|--|---------------------------|-----------------|----------------|-----------------|
| <b>Level</b>         |  | <b>Shear-X</b>            | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>               | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                  |  | 0.83                      | 0.83            | -160.67        | -160.67         |
| <b>Load Case: Lp</b> |  | <b>PosLiveLoad</b>        |                 | <b>RAMUSER</b> |                 |
| <b>Level</b>         |  | <b>Shear-X</b>            | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>               | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                  |  | 0.29                      | 0.29            | -64.80         | -64.80          |
| <b>Load Case: Ln</b> |  | <b>NegLiveLoad</b>        |                 | <b>RAMUSER</b> |                 |
| <b>Level</b>         |  | <b>Shear-X</b>            | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>               | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                  |  | -0.04                     | -0.04           | 0.69           | 0.69            |
| <b>Load Case: W1</b> |  | <b>W Wind_IBC09_1_X</b>   |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>            | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>               | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                  |  | 22.25                     | 22.25           | 116.46         | 116.46          |
| <b>Load Case: W2</b> |  | <b>W Wind_IBC09_1_Y</b>   |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>            | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>               | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                  |  | -14.53                    | -14.53          | -185.81        | -185.81         |
| <b>Load Case: W3</b> |  | <b>W Wind_IBC09_2_X+E</b> |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>            | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>               | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                  |  | 16.41                     | 16.41           | 87.05          | 87.05           |
| <b>Load Case: W4</b> |  | <b>W Wind_IBC09_2_X-E</b> |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>            | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>               | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                  |  | 16.96                     | 16.96           | 87.64          | 87.64           |
| <b>Load Case: W5</b> |  | <b>W Wind_IBC09_2_Y+E</b> |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>            | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>               | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                  |  | -8.89                     | -8.89           | -138.03        | -138.03         |
| <b>Load Case: W6</b> |  | <b>W Wind_IBC09_2_Y-E</b> |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>            | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>               | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



F17 -12.91 -12.91 -140.68 -140.68

**Load Case: W7 W Wind\_IBC09\_3\_X+Y**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F17 5.79 5.79 -52.01 -52.01

**Load Case: W8 W Wind\_IBC09\_3\_X-Y**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F17 27.58 27.58 226.70 226.70

**Load Case: W9 W Wind\_IBC09\_4\_X+Y\_CW**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F17 2.63 2.63 -40.22 -40.22

**Load Case: W10 W Wind\_IBC09\_4\_X+Y\_CCW**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F17 6.05 6.05 -37.79 -37.79

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F17 18.97 18.97 168.81 168.81

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F17 22.40 22.40 171.24 171.24

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F17 40.54 40.54 214.66 214.66

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F17 41.02 41.02 217.14 217.14



**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -8.36           | -8.36            | -101.57         | -101.57          |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -9.50           | -9.50            | -107.72         | -107.72          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #2**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 11.76           | 11.76            | -291.51         | -291.51          |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 4.20            | 4.20             | -178.83         | -178.83          |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.03            | 0.03             | 0.62            | 0.62             |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 16.05           | 16.05            | 68.92           | 68.92            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 3.08            | 3.08             | -565.50         | -565.50          |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 12.65                       | 12.65           | 45.85          | 45.85           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 11.42                       | 11.42           | 57.53          | 57.53           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | -2.10                       | -2.10           | -382.67        | -382.67         |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 6.72                        | 6.72            | -465.59        | -465.59         |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 14.35                       | 14.35           | -372.44        | -372.44         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 9.72                        | 9.72            | 475.82         | 475.82          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 14.53                       | 14.53           | -314.81        | -314.81         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 6.99                        | 6.99            | -243.85        | -243.85         |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

F17 11.06 11.06 321.39 321.39

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 3.52            | 3.52             | 392.34          | 392.34           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 28.14           | 28.14            | 126.46          | 126.46           |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 27.16           | 27.16            | 137.83          | 137.83           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 1.60            | 1.60             | -332.30         | -332.30          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 3.94            | 3.94             | -359.82         | -359.82          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #3**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 26.11           | 26.11            | -273.09         | -273.09          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 8.15            | 8.15             | -105.96         | -105.96          |



| Load Case: Ln        | NegLiveLoad | RAMUSER                 |         |          |  |
|----------------------|-------------|-------------------------|---------|----------|--|
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F17                  | 0.06        | 0.06                    | 1.40    | 1.40     |  |
| <b>Load Case: W1</b> | <b>W</b>    | <b>Wind_IBC09_1_X</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F17                  | 30.05       | 30.05                   | 50.04   | 50.04    |  |
| <b>Load Case: W2</b> | <b>W</b>    | <b>Wind_IBC09_1_Y</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F17                  | 3.72        | 3.72                    | -332.00 | -332.00  |  |
| <b>Load Case: W3</b> | <b>W</b>    | <b>Wind_IBC09_2_X+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F17                  | 23.12       | 23.12                   | 31.19   | 31.19    |  |
| <b>Load Case: W4</b> | <b>W</b>    | <b>Wind_IBC09_2_X-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F17                  | 21.97       | 21.97                   | 43.86   | 43.86    |  |
| <b>Load Case: W5</b> | <b>W</b>    | <b>Wind_IBC09_2_Y+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F17                  | -1.44       | -1.44                   | -204.39 | -204.39  |  |
| <b>Load Case: W6</b> | <b>W</b>    | <b>Wind_IBC09_2_Y-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F17                  | 7.01        | 7.01                    | -293.61 | -293.61  |  |
| <b>Load Case: W7</b> | <b>W</b>    | <b>Wind_IBC09_3_X+Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F17                  | 25.33       | 25.33                   | -211.47 | -211.47  |  |
| <b>Load Case: W8</b> | <b>W</b>    | <b>Wind_IBC09_3_X-Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F17                   |          | 19.75                       | 19.75           | 286.53         | 286.53          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 22.59                       | 22.59           | -196.81        | -196.81         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 15.40                       | 15.40           | -120.40        | -120.40         |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 18.41                       | 18.41           | 176.69         | 176.69          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 11.22                       | 11.22           | 253.10         | 253.10          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 52.35                       | 52.35           | 72.71          | 72.71           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 51.53                       | 51.53           | 82.47          | 82.47           |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 0.95                        | 0.95            | -207.84        | -207.84         |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 2.90                        | 2.90            | -231.34        | -231.34         |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #4**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -1.67           | -1.67            | 1405.74         | 1405.74          |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -1.83           | -1.83            | 540.47          | 540.47           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.03            | 0.03             | -1.53           | -1.53            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 15.48           | 15.48            | 53.81           | 53.81            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 6.59            | 6.59             | 1464.48         | 1464.48          |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 12.51           | 12.51            | 74.79           | 74.79            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 10.70           | 10.70            | 5.92            | 5.92             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | -1.63                       | -1.63           | 846.85         | 846.85          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 11.51                       | 11.51           | 1349.87        | 1349.87         |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 16.55                       | 16.55           | 1138.71        | 1138.71         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 6.67                        | 6.67            | -1058.00       | -1058.00        |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 18.02                       | 18.02           | 1068.49        | 1068.49         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 6.81                        | 6.81            | 639.58         | 639.58          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 10.61                       | 10.61           | -579.05        | -579.05         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | -0.60                       | -0.60           | -1007.96       | -1007.96        |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |       |       |        |        |
|-----|-------|-------|--------|--------|
| F17 | 28.59 | 28.59 | 155.10 | 155.10 |
|-----|-------|-------|--------|--------|

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 27.20           | 27.20            | 99.80           | 99.80            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 3.33            | 3.33             | 826.80          | 826.80           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 6.63            | 6.63             | 959.11          | 959.11           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #5**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 30.07           | 30.07            | -45.26          | -45.26           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 7.37            | 7.37             | -1.68           | -1.68            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.04            | 0.04             | 0.16            | 0.16             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 28.00           | 28.00            | -43.68          | -43.68           |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | -18.27                      | -18.27          | 818.51         | 818.51          |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 21.58                       | 21.58           | -31.51         | -31.51          |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 20.42                       | 20.42           | -34.01         | -34.01          |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | -17.85                      | -17.85          | 603.99         | 603.99          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | -9.55                       | -9.55           | 623.77         | 623.77          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 7.30                        | 7.30            | 581.12         | 581.12          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 34.70                       | 34.70           | -646.64        | -646.64         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 9.02                        | 9.02            | 444.20         | 444.20          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |      |      |        |        |
|-----|------|------|--------|--------|
| F17 | 1.93 | 1.93 | 427.48 | 427.48 |
|-----|------|------|--------|--------|

|                       |          |                            |                 |                |
|-----------------------|----------|----------------------------|-----------------|----------------|
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b> |                 |                |
| <b>Level</b>          |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> |
|                       |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    |
| F17                   |          | 29.57                      | 29.57           | -476.62        |

|                       |          |                             |                 |                |
|-----------------------|----------|-----------------------------|-----------------|----------------|
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    |
| F17                   |          | 22.48                       | 22.48           | -493.34        |

|                      |          |                          |                 |                |
|----------------------|----------|--------------------------|-----------------|----------------|
| <b>Load Case: E1</b> | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>           | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kips</b>              | <b>kips</b>     | <b>kips</b>    |
| F17                  |          | 50.39                    | 50.39           | -84.37         |

|                      |          |                          |                 |                |
|----------------------|----------|--------------------------|-----------------|----------------|
| <b>Load Case: E2</b> | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>           | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kips</b>              | <b>kips</b>     | <b>kips</b>    |
| F17                  |          | 49.55                    | 49.55           | -86.09         |

|                      |          |                          |                 |                |
|----------------------|----------|--------------------------|-----------------|----------------|
| <b>Load Case: E3</b> | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>           | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kips</b>              | <b>kips</b>     | <b>kips</b>    |
| F17                  |          | -11.00                   | -11.00          | 474.98         |

|                      |          |                          |                 |                |
|----------------------|----------|--------------------------|-----------------|----------------|
| <b>Load Case: E4</b> | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>           | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kips</b>              | <b>kips</b>     | <b>kips</b>    |
| F17                  |          | -9.01                    | -9.01           | 479.16         |

|                      |                   |                  |                 |                |
|----------------------|-------------------|------------------|-----------------|----------------|
| <b>Load Case: O1</b> | <b>Shear Test</b> | <b>User_User</b> |                 |                |
| <b>Level</b>         |                   | <b>Shear-X</b>   | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |                   | <b>kips</b>      | <b>kips</b>     | <b>kips</b>    |
| F17                  |                   | 0.00             | 0.00            | 0.00           |

**Frame #6**

|                     |                 |                |                 |                |
|---------------------|-----------------|----------------|-----------------|----------------|
| <b>Load Case: D</b> | <b>DeadLoad</b> | <b>RAMUSER</b> |                 |                |
| <b>Level</b>        |                 | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> |
|                     |                 | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    |
| F17                 |                 | 63.18          | 63.18           | 61.11          |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F17                  | 19.09          | 19.09                      | -24.00         | -24.00          |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F17                  | 0.05           | 0.05                       | 0.54           | 0.54            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F17                  | 21.93          | 21.93                      | 52.77          | 52.77           |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F17                  | -13.86         | -13.86                     | -467.09        | -467.09         |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F17                  | 16.74          | 16.74                      | -3.62          | -3.62           |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F17                  | 16.15          | 16.15                      | 82.77          | 82.77           |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F17                  | -12.54         | -12.54                     | -29.23         | -29.23          |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F17                  | -8.25          | -8.25                      | -671.41        | -671.41         |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F17                   |          | 6.05                        | 6.05            | -310.74        | -310.74         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 26.84                       | 26.84           | 389.89         | 389.89          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 6.37                        | 6.37            | -506.27        | -506.27         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 2.70                        | 2.70            | 40.15          | 40.15           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 21.97                       | 21.97           | 19.21          | 19.21           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 18.30                       | 18.30           | 565.63         | 565.63          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 38.72                       | 38.72           | 52.34          | 52.34           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 38.34                       | 38.34           | 117.52         | 117.52          |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | -8.20                       | -8.20           | -263.56        | -263.56         |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -7.28           | -7.28            | -418.89         | -418.89          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #7**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -514.43         | -514.43          | -22.74          | -22.74           |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -133.36         | -133.36          | -4.01           | -4.01            |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -0.35           | -0.35            | -0.01           | -0.01            |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 135.73          | 135.73           | 7.14            | 7.14             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -37.91          | -37.91           | 8.16            | 8.16             |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 96.68           | 96.68            | 6.43            | 6.43             |





|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 106.91                      | 106.91          | 4.28           | 4.28            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 9.23                        | 9.23            | -1.65          | -1.65           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | -66.09                      | -66.09          | 13.89          | 13.89           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 73.36                       | 73.36           | 11.48          | 11.48           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 130.23                      | 130.23          | -0.77          | -0.77           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 22.94                       | 22.94           | 15.24          | 15.24           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 87.10                       | 87.10           | 1.98           | 1.98            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 65.59                       | 65.59           | 6.06           | 6.06            |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|     |        |        |       |       |
|-----|--------|--------|-------|-------|
| F17 | 129.75 | 129.75 | -7.21 | -7.21 |
|-----|--------|--------|-------|-------|

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 211.87          | 211.87           | 14.47           | 14.47            |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 218.26          | 218.26           | 12.83           | 12.83            |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -18.25          | -18.25           | 5.52            | 5.52             |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -33.38          | -33.38           | 9.43            | 9.43             |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #8**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 37.59           | 37.59            | -0.65           | -0.65            |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 3.76            | 3.76             | -0.82           | -0.82            |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.20            | 0.20             | 0.00            | 0.00             |



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                  |          | 65.39                      | 65.39           | -0.43          | -0.43           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                  |          | -66.51                     | -66.51          | 4.16           | 4.16            |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                  |          | 48.31                      | 48.31           | 0.25           | 0.25            |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                  |          | 49.77                      | 49.77           | -0.90          | -0.90           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                  |          | -44.61                     | -44.61          | -1.04          | -1.04           |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                  |          | -55.15                     | -55.15          | 7.27           | 7.27            |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                  |          | -0.84                      | -0.84           | 2.79           | 2.79            |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                  |          | 98.92                      | 98.92           | -3.44          | -3.44           |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--|-----------------|------------------|-----------------|------------------|
| F17  | -5.13           | -5.13            | 5.64            | 5.64             |
| <b>Load Case: W10    W    Wind_IBC09_4_X+Y_CCW</b> |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F17  | 3.87            | 3.87             | -1.45           | -1.45            |
| <b>Load Case: W11    W    Wind_IBC09_4_X-Y_CW</b>  |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F17  | 69.69           | 69.69            | 0.96            | 0.96             |
| <b>Load Case: W12    W    Wind_IBC09_4_X-Y_CCW</b> |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F17  | 78.69           | 78.69            | -6.13           | -6.13            |
| <b>Load Case: E1    E    EQ_ASCE710_X_+E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F17  | 112.92          | 112.92           | -0.33           | -0.33            |
| <b>Load Case: E2    E    EQ_ASCE710_X_-E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F17  | 114.43          | 114.43           | -1.23           | -1.23            |
| <b>Load Case: E3    E    EQ_ASCE710_Y_+E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F17  | -38.17          | -38.17           | 2.45            | 2.45             |
| <b>Load Case: E4    E    EQ_ASCE710_Y_-E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F17  | -41.82          | -41.82           | 4.59            | 4.59             |
| <b>Load Case: O1    Shear Test    User_User</b>    |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F17  | 0.00            | 0.00             | 0.00            | 0.00             |



**Frame #9**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 98.37           | 98.37            | -37.34          | -37.34           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 21.39           | 21.39            | -9.15           | -9.15            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.15            | 0.15             | -0.04           | -0.04            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 108.92          | 108.92           | -12.10          | -12.10           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 150.82          | 150.82           | 15.18           | 15.18            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 82.84           | 82.84            | -8.63           | -8.63            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 80.54           | 80.54            | -9.53           | -9.53            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 104.21          | 104.21           | 8.06            | 8.06             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 122.02                      | 122.02          | 14.71          | 14.71           |
| <b>Load Case: W7</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 194.81                      | 194.81          | 2.31           | 2.31            |
| <b>Load Case: W8</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | -31.42                      | -31.42          | -20.46         | -20.46          |
| <b>Load Case: W9</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 153.65                      | 153.65          | 4.56           | 4.56            |
| <b>Load Case: W10</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 138.56                      | 138.56          | -1.10          | -1.10           |
| <b>Load Case: W11</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | -16.03                      | -16.03          | -12.52         | -12.52          |
| <b>Load Case: W12</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | -31.11                      | -31.11          | -18.18         | -18.18          |
| <b>Load Case: E1</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F17                   |          | 179.95                      | 179.95          | -23.07         | -23.07          |
| <b>Load Case: E2</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|     |        |        |        |        |
|-----|--------|--------|--------|--------|
| F17 | 178.84 | 178.84 | -23.75 | -23.75 |
|-----|--------|--------|--------|--------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 86.24           | 86.24            | 8.60            | 8.60             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 88.84           | 88.84            | 10.23           | 10.23            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #10**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 109.89          | 109.89           | 21.91           | 21.91            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 34.18           | 34.18            | 8.56            | 8.56             |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.11            | 0.11             | -0.08           | -0.08            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 64.57           | 64.57            | -0.31           | -0.31            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -13.21          | -13.21           | 8.18            | 8.18             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                   |          | 49.84                       | 49.84           | 0.39           | 0.39            |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                   |          | 47.02                       | 47.02           | -0.86          | -0.86           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                   |          | -20.14                      | -20.14          | 1.61           | 1.61            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                   |          | 0.33                        | 0.33            | 10.66          | 10.66           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                   |          | 38.52                       | 38.52           | 5.90           | 5.90            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                   |          | 58.34                       | 58.34           | -6.36          | -6.36           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                   |          | 37.63                       | 37.63           | 8.29           | 8.29            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F17                   |          | 20.16                       | 20.16           | 0.56           | 0.56            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |





|     |       |       |       |       |
|-----|-------|-------|-------|-------|
| F17 | 52.49 | 52.49 | -0.91 | -0.91 |
|-----|-------|-------|-------|-------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 35.02           | 35.02            | -8.64           | -8.64            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 112.59          | 112.59           | 0.40            | 0.40             |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 110.58          | 110.58           | -0.60           | -0.60            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -7.73           | -7.73            | 4.85            | 4.85             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -2.94           | -2.94            | 7.24            | 7.24             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #11**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -34.11          | -34.11           | -563.64         | -563.64          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -6.65           | -6.65            | -214.02         | -214.02          |



| Load Case: Ln        | NegLiveLoad | RAMUSER                 |         |          |  |
|----------------------|-------------|-------------------------|---------|----------|--|
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F16                  | -0.15       | -0.15                   | 1.83    | 1.83     |  |
| <b>Load Case: W1</b> | <b>W</b>    | <b>Wind_IBC09_1_X</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F16                  | -9.18       | -9.18                   | 16.98   | 16.98    |  |
| <b>Load Case: W2</b> | <b>W</b>    | <b>Wind_IBC09_1_Y</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F16                  | 7.09        | 7.09                    | -409.96 | -409.96  |  |
| <b>Load Case: W3</b> | <b>W</b>    | <b>Wind_IBC09_2_X+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F16                  | -6.99       | -6.99                   | -21.24  | -21.24   |  |
| <b>Load Case: W4</b> | <b>W</b>    | <b>Wind_IBC09_2_X-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F16                  | -6.79       | -6.79                   | 46.71   | 46.71    |  |
| <b>Load Case: W5</b> | <b>W</b>    | <b>Wind_IBC09_2_Y+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F16                  | 6.00        | 6.00                    | -61.20  | -61.20   |  |
| <b>Load Case: W6</b> | <b>W</b>    | <b>Wind_IBC09_2_Y-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F16                  | 4.64        | 4.64                    | -553.74 | -553.74  |  |
| <b>Load Case: W7</b> | <b>W</b>    | <b>Wind_IBC09_3_X+Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F16                  | -1.57       | -1.57                   | -294.74 | -294.74  |  |
| <b>Load Case: W8</b> | <b>W</b>    | <b>Wind_IBC09_3_X-Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |          |                             |                 |                |                 |        |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|--------|
| F16                   |          |                             | -12.21          | -12.21         | 320.20          | 320.20 |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F16                   |          | -1.76                       | -1.76           | -431.24        | -431.24         |        |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F16                   |          | -0.59                       | -0.59           | -10.87         | -10.87          |        |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F16                   |          | -9.74                       | -9.74           | 29.97          | 29.97           |        |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F16                   |          | -8.57                       | -8.57           | 450.34         | 450.34          |        |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F16                   |          | -14.59                      | -14.59          | 0.62           | 0.62            |        |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F16                   |          | -14.47                      | -14.47          | 54.21          | 54.21           |        |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F16                   |          | 4.47                        | 4.47            | -228.07        | -228.07         |        |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F16                   |          | 4.18                        | 4.18            | -356.25        | -356.25         |        |



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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F16           | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #12**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F16          | -41.00   | -41.00   | -691.64 | -691.64  |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F16           | -8.60       | -8.60    | -335.24 | -335.24  |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F16           | -0.11       | -0.11    | 2.56    | 2.56     |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F16           |   | -36.10         | -36.10   | -58.67  | -58.67   |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F16           |   | 45.10          | 45.10    | -906.54 | -906.54  |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F16           |   | -26.39           | -26.39   | -93.21  | -93.21   |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F16           |   | -27.75           | -27.75   | 5.21    | 5.21     |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 28.82                       | 28.82           | -323.08        | -323.08         |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 38.83                       | 38.83           | -1036.73       | -1036.73        |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 6.75                        | 6.75            | -723.90        | -723.90         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -60.90                      | -60.90          | 635.90         | 635.90          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 9.33                        | 9.33            | -847.46        | -847.46         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 0.80                        | 0.80            | -238.40        | -238.40         |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -41.41                      | -41.41          | 172.40         | 172.40          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -49.94                      | -49.94          | 781.46         | 781.46          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|     |        |        |         |         |
|-----|--------|--------|---------|---------|
| F16 | -63.71 | -63.71 | -156.32 | -156.32 |
|-----|--------|--------|---------|---------|

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -64.92          | -64.92           | -79.65          | -79.65           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 26.46           | 26.46            | -530.26         | -530.26          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 29.38           | 29.38            | -713.65         | -713.65          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #13**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -20.07          | -20.07           | -40.04          | -40.04           |
| F15   | 0.00            | 20.07            | 0.00            | 40.04            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -4.80           | -4.80            | -15.41          | -15.41           |
| F15   | 0.00            | 4.80             | 0.00            | 15.41            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.02           | -0.02            | 0.17            | 0.17             |
| F15   | 0.00            | 0.02             | 0.00            | -0.17            |



**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -11.38          | -11.38           | 1.22            | 1.22             |
| F15   | 0.00            | 11.38            | 0.00            | -1.22            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 10.49           | 10.49            | -61.25          | -61.25           |
| F15   | 0.00            | -10.49           | 0.00            | 61.25            |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -8.48           | -8.48            | -0.74           | -0.74            |
| F15   | 0.00            | 8.48             | 0.00            | 0.74             |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -8.59           | -8.59            | 2.57            | 2.57             |
| F15   | 0.00            | 8.59             | 0.00            | -2.57            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 7.44            | 7.44             | -34.17          | -34.17           |
| F15   | 0.00            | -7.44            | 0.00            | 34.17            |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 8.29            | 8.29             | -57.70          | -57.70           |
| F15   | 0.00            | -8.29            | 0.00            | 57.70            |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.67           | -0.67            | -45.02          | -45.02           |
| F15   | 0.00            | 0.67             | 0.00            | 45.02            |



**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -16.40          | -16.40           | 46.85           | 46.85            |
| F15   | 0.00            | 16.40            | 0.00            | -46.85           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.14           | -0.14            | -43.83          | -43.83           |
| F15   | 0.00            | 0.14             | 0.00            | 43.83            |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.86           | -0.86            | -23.70          | -23.70           |
| F15   | 0.00            | 0.86             | 0.00            | 23.70            |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -11.94          | -11.94           | 25.07           | 25.07            |
| F15   | 0.00            | 11.94            | 0.00            | -25.07           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -12.66          | -12.66           | 45.20           | 45.20            |
| F15   | 0.00            | 12.66            | 0.00            | -45.20           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -20.32          | -20.32           | -0.26           | -0.26            |
| F15   | 0.00            | 20.32            | 0.00            | 0.26             |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -20.43          | -20.43           | 2.13            | 2.13             |
| F15   | 0.00            | 20.43            | 0.00            | -2.13            |





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**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 6.16            | 6.16             | -42.78          | -42.78           |
| F15   | 0.00            | -6.16            | 0.00            | 42.78            |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 6.44            | 6.44             | -48.48          | -48.48           |
| F15   | 0.00            | -6.44            | 0.00            | 48.48            |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |
| F15   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #14**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -7.04           | -7.04            | 362.94          | 362.94           |
| F14   | 0.00            | 7.04             | 0.00            | -362.94          |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1.86           | -1.86            | 189.66          | 189.66           |
| F14   | 0.00            | 1.86             | 0.00            | -189.66          |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.01           | -0.01            | -1.69           | -1.69            |
| F14   | 0.00            | 0.01             | 0.00            | 1.69             |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -4.72           | -4.72            | -71.51          | -71.51           |
| F14   | 0.00            | 4.72             | 0.00            | 71.51            |



**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 7.50            | 7.50             | 1409.72         | 1409.72          |
| F14   | 0.00            | -7.50            | 0.00            | -1409.72         |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.56           | -3.56            | -25.44          | -25.44           |
| F14   | 0.00            | 3.56             | 0.00            | 25.44            |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.52           | -3.52            | -81.82          | -81.82           |
| F14   | 0.00            | 3.52             | 0.00            | 81.82            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 5.75            | 5.75             | 849.79          | 849.79           |
| F14   | 0.00            | -5.75            | 0.00            | -849.79          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 5.50            | 5.50             | 1264.79         | 1264.79          |
| F14   | 0.00            | -5.50            | 0.00            | -1264.79         |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 2.09            | 2.09             | 1003.66         | 1003.66          |
| F14   | 0.00            | -2.09            | 0.00            | -1003.66         |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -9.17           | -9.17            | -1110.92        | -1110.92         |
| F14   | 0.00            | 9.17             | 0.00            | 1110.92          |



**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.45            | 1.45             | 929.52          | 929.52           |
| F14   | 0.00            | -1.45            | 0.00            | -929.52          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.68            | 1.68             | 575.98          | 575.98           |
| F14   | 0.00            | -1.68            | 0.00            | -575.98          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -6.99           | -6.99            | -656.42         | -656.42          |
| F14   | 0.00            | 6.99             | 0.00            | 656.42           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -6.76           | -6.76            | -1009.96        | -1009.96         |
| F14   | 0.00            | 6.76             | 0.00            | 1009.96          |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -8.44           | -8.44            | -85.74          | -85.74           |
| F14   | 0.00            | 8.44             | 0.00            | 85.74            |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -8.42           | -8.42            | -131.35         | -131.35          |
| F14   | 0.00            | 8.42             | 0.00            | 131.35           |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 4.35            | 4.35             | 771.26          | 771.26           |
| F14   | 0.00            | -4.35            | 0.00            | -771.26          |



**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 4.30            | 4.30             | 880.43          | 880.43           |
| F14   | 0.00            | -4.30            | 0.00            | -880.43          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #15**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.82           | -3.82            | 332.67          | 332.67           |
| F14   | 0.00            | 3.82             | 0.00            | -332.67          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1.03           | -1.03            | 163.63          | 163.63           |
| F14   | 0.00            | 1.03             | 0.00            | -163.63          |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | -1.43           | -1.43            |
| F14   | 0.00            | 0.00             | 0.00            | 1.43             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -2.86           | -2.86            | -33.59          | -33.59           |
| F14   | 0.00            | 2.86             | 0.00            | 33.59            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.74            | 1.74             | 1144.61         | 1144.61          |
| F14   | 0.00            | -1.74            | 0.00            | -1144.61         |



**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -2.22           | -2.22            | 0.09            | 0.09             |
| F14   | 0.00            | 2.22             | 0.00            | -0.09            |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -2.07           | -2.07            | -50.47          | -50.47           |
| F14   | 0.00            | 2.07             | 0.00            | 50.47            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.84            | 1.84             | 673.03          | 673.03           |
| F14   | 0.00            | -1.84            | 0.00            | -673.03          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.78            | 0.78             | 1043.88         | 1043.88          |
| F14   | 0.00            | -0.78            | 0.00            | -1043.88         |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.84           | -0.84            | 833.27          | 833.27           |
| F14   | 0.00            | 0.84             | 0.00            | -833.27          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.45           | -3.45            | -883.65         | -883.65          |
| F14   | 0.00            | 3.45             | 0.00            | 883.65           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1.08           | -1.08            | 782.97          | 782.97           |
| F14   | 0.00            | 1.08             | 0.00            | -782.97          |



**Load Case: W10 W Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.18           | -0.18            | 466.92          | 466.92           |
| F14   | 0.00            | 0.18             | 0.00            | -466.92          |

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.04           | -3.04            | -504.71         | -504.71          |
| F14   | 0.00            | 3.04             | 0.00            | 504.71           |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -2.14           | -2.14            | -820.76         | -820.76          |
| F14   | 0.00            | 2.14             | 0.00            | 820.76           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -5.18           | -5.18            | -24.15          | -24.15           |
| F14   | 0.00            | 5.18             | 0.00            | 24.15            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -5.07           | -5.07            | -64.69          | -64.69           |
| F14   | 0.00            | 5.07             | 0.00            | 64.69            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.08            | 1.08             | 628.01          | 628.01           |
| F14   | 0.00            | -1.08            | 0.00            | -628.01          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.82            | 0.82             | 725.02          | 725.02           |
| F14   | 0.00            | -0.82            | 0.00            | -725.02          |



| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #16**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -4.64           | -4.64            | 265.76          | 265.76           |
| F14   | 0.00            | 4.64             | 0.00            | -265.76          |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1.11           | -1.11            | 123.71          | 123.71           |
| F14   | 0.00            | 1.11             | 0.00            | -123.71          |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.01           | -0.01            | -1.16           | -1.16            |
| F14   | 0.00            | 0.01             | 0.00            | 1.16             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -4.44           | -4.44            | -0.43           | -0.43            |
| F14   | 0.00            | 4.44             | 0.00            | 0.43             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 2.94            | 2.94             | 756.14          | 756.14           |
| F14   | 0.00            | -2.94            | 0.00            | -756.14          |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.44           | -3.44            | 20.41           | 20.41            |
| F14   | 0.00            | 3.44             | 0.00            | -20.41           |



**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.22           | -3.22            | -21.06          | -21.06           |
| F14   | 0.00            | 3.22             | 0.00            | 21.06            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 2.99            | 2.99             | 415.69          | 415.69           |
| F14   | 0.00            | -2.99            | 0.00            | -415.69          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.42            | 1.42             | 718.52          | 718.52           |
| F14   | 0.00            | -1.42            | 0.00            | -718.52          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1.13           | -1.13            | 566.78          | 566.78           |
| F14   | 0.00            | 1.13             | 0.00            | -566.78          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -5.54           | -5.54            | -567.43         | -567.43          |
| F14   | 0.00            | 5.54             | 0.00            | 567.43           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1.51           | -1.51            | 554.20          | 554.20           |
| F14   | 0.00            | 1.51             | 0.00            | -554.20          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.18           | -0.18            | 295.97          | 295.97           |
| F14   | 0.00            | 0.18             | 0.00            | -295.97          |





**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -4.82           | -4.82            | -296.46         | -296.46          |
| F14   | 0.00            | 4.82             | 0.00            | 296.46           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.49           | -3.49            | -554.69         | -554.69          |
| F14   | 0.00            | 3.49             | 0.00            | 554.69           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -8.06           | -8.06            | 26.60           | 26.60            |
| F14   | 0.00            | 8.06             | 0.00            | -26.60           |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -7.90           | -7.90            | -6.20           | -6.20            |
| F14   | 0.00            | 7.90             | 0.00            | 6.20             |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.78            | 1.78             | 415.38          | 415.38           |
| F14   | 0.00            | -1.78            | 0.00            | -415.38          |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.39            | 1.39             | 493.85          | 493.85           |
| F14   | 0.00            | -1.39            | 0.00            | -493.85          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |



**Frame #17**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F16          | -3.54    | -3.54    | 223.88  | 223.88   |  |
| F14          | 0.00     | 3.54     | 0.00    | -223.88  |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F16           | -0.72       | -0.72    | 93.24   | 93.24    |  |
| F14           | 0.00        | 0.72     | 0.00    | -93.24   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F16           | -0.01       | -0.01    | -0.97   | -0.97    |  |
| F14           | 0.00        | 0.01     | 0.00    | 0.97     |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F16           | -3.33   | -3.33          | 27.20   | 27.20    |  |
| F14           | 0.00    | 3.33           | 0.00    | -27.20   |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F16           | 2.25    | 2.25           | 456.93  | 456.93   |  |
| F14           | 0.00    | -2.25          | 0.00    | -456.93  |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F16           | -2.58   | -2.58            | 36.59   | 36.59    |  |
| F14           | 0.00    | 2.58             | 0.00    | -36.59   |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F16           | -2.41   | -2.41            | 4.21    | 4.21     |  |
| F14           | 0.00    | 2.41             | 0.00    | -4.21    |  |



**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 2.30            | 2.30             | 225.20          | 225.20           |
| F14   | 0.00            | -2.30            | 0.00            | -225.20          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.08            | 1.08             | 460.19          | 460.19           |
| F14   | 0.00            | -1.08            | 0.00            | -460.19          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.81           | -0.81            | 363.10          | 363.10           |
| F14   | 0.00            | 0.81             | 0.00            | -363.10          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -4.19           | -4.19            | -322.29         | -322.29          |
| F14   | 0.00            | 4.19             | 0.00            | 322.29           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1.13           | -1.13            | 372.58          | 372.58           |
| F14   | 0.00            | 1.13             | 0.00            | -372.58          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.09           | -0.09            | 172.06          | 172.06           |
| F14   | 0.00            | 0.09             | 0.00            | -172.06          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.66           | -3.66            | -141.46         | -141.46          |
| F14   | 0.00            | 3.66             | 0.00            | 141.46           |



**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -2.62           | -2.62            | -341.98         | -341.98          |
| F14   | 0.00            | 2.62             | 0.00            | 341.98           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -6.06           | -6.06            | 66.86           | 66.86            |
| F14   | 0.00            | 6.06             | 0.00            | -66.86           |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -5.94           | -5.94            | 41.83           | 41.83            |
| F14   | 0.00            | 5.94             | 0.00            | -41.83           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.37            | 1.37             | 253.86          | 253.86           |
| F14   | 0.00            | -1.37            | 0.00            | -253.86          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.06            | 1.06             | 313.71          | 313.71           |
| F14   | 0.00            | -1.06            | 0.00            | -313.71          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #18**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -2.68           | -2.68            | 179.44          | 179.44           |
| F14   | 0.00            | 2.68             | 0.00            | -179.44          |



**Load Case: Lp      PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.41           | -0.41            | 62.79           | 62.79            |
| F14   | 0.00            | 0.41             | 0.00            | -62.79           |

**Load Case: Ln      NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.01           | -0.01            | -0.70           | -0.70            |
| F14   | 0.00            | 0.01             | 0.00            | 0.70             |

**Load Case: W1      W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -4.48           | -4.48            | 54.29           | 54.29            |
| F14   | 0.00            | 4.48             | 0.00            | -54.29           |

**Load Case: W2      W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 2.96            | 2.96             | 125.09          | 125.09           |
| F14   | 0.00            | -2.96            | 0.00            | -125.09          |

**Load Case: W3      W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.47           | -3.47            | 51.06           | 51.06            |
| F14   | 0.00            | 3.47             | 0.00            | -51.06           |

**Load Case: W4      W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.25           | -3.25            | 30.38           | 30.38            |
| F14   | 0.00            | 3.25             | 0.00            | -30.38           |

**Load Case: W5      W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 2.99            | 2.99             | 19.62           | 19.62            |
| F14   | 0.00            | -2.99            | 0.00            | -19.62           |



**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.45            | 1.45             | 168.01          | 168.01           |
| F14   | 0.00            | -1.45            | 0.00            | -168.01          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1.14           | -1.14            | 134.54          | 134.54           |
| F14   | 0.00            | 1.14             | 0.00            | -134.54          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -5.58           | -5.58            | -53.10          | -53.10           |
| F14   | 0.00            | 5.58             | 0.00            | 53.10            |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1.51           | -1.51            | 164.31          | 164.31           |
| F14   | 0.00            | 1.51             | 0.00            | -164.31          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.19           | -0.19            | 37.50           | 37.50            |
| F14   | 0.00            | 0.19             | 0.00            | -37.50           |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -4.85           | -4.85            | 23.58           | 23.58            |
| F14   | 0.00            | 4.85             | 0.00            | -23.58           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.53           | -3.53            | -103.23         | -103.23          |
| F14   | 0.00            | 3.53             | 0.00            | 103.23           |



**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -8.12           | -8.12            | 103.75          | 103.75           |
| F14   | 0.00            | 8.12             | 0.00            | -103.75          |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -7.96           | -7.96            | 88.61           | 88.61            |
| F14   | 0.00            | 7.96             | 0.00            | -88.61           |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.79            | 1.79             | 74.78           | 74.78            |
| F14   | 0.00            | -1.79            | 0.00            | -74.78           |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1.41            | 1.41             | 110.95          | 110.95           |
| F14   | 0.00            | -1.41            | 0.00            | -110.95          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #19**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 39.48           | 39.48            | 420.80          | 420.80           |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 11.41           | 11.41            | 87.28           | 87.28            |



| Load Case: Ln |  | NegLiveLoad RAMUSER |                  |                 |                  |
|---------------|--|---------------------|------------------|-----------------|------------------|
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16           |  | -0.02               | -0.02            | -0.58           | -0.58            |
| Load Case: W1 |  | W Wind_IBC09_1_X    |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16           |  | 2.34                | 2.34             | 289.94          | 289.94           |
| Load Case: W2 |  | W Wind_IBC09_1_Y    |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16           |  | -2.20               | -2.20            | -789.38         | -789.38          |
| Load Case: W3 |  | W Wind_IBC09_2_X+E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16           |  | 1.82                | 1.82             | 227.21          | 227.21           |
| Load Case: W4 |  | W Wind_IBC09_2_X-E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16           |  | 1.69                | 1.69             | 207.70          | 207.70           |
| Load Case: W5 |  | W Wind_IBC09_2_Y+E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16           |  | -2.10               | -2.10            | -656.28         | -656.28          |
| Load Case: W6 |  | W Wind_IBC09_2_Y-E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16           |  | -1.20               | -1.20            | -527.79         | -527.79          |
| Load Case: W7 |  | W Wind_IBC09_3_X+Y  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16           |  | 0.11                | 0.11             | -374.58         | -374.58          |
| Load Case: W8 |  | W Wind_IBC09_3_X-Y  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|               |  |                     |                  |                 |                  |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F16                   |          | 3.41                        | 3.41            | 809.49         | 809.49          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 0.47                        | 0.47            | -225.44        | -225.44         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -0.31                       | -0.31           | -336.44        | -336.44         |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 2.94                        | 2.94            | 662.61         | 662.61          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 2.17                        | 2.17            | 551.61         | 551.61          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 4.40                        | 4.40            | 504.58         | 504.58          |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 4.30                        | 4.30            | 493.25         | 493.25          |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -1.35                       | -1.35           | -410.02        | -410.02         |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -1.11                       | -1.11           | -383.05        | -383.05         |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F16           | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #20**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F16          | -1912.85 | -1912.85 | -49.82  | -49.82   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F16           | -408.61     | -408.61  | -15.78  | -15.78   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F16           | -5.51       | -5.51    | 0.09    | 0.09     |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F16           |   | -1264.16       | -1264.16 | -0.58   | -0.58    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F16           |   | 1190.96        | 1190.96  | -12.93  | -12.93   |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F16           |   | -924.55          | -924.55  | -1.79   | -1.79    |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F16           |   | -971.69          | -971.69  | 0.92    | 0.92     |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 720.53                      | 720.53          | 0.19           | 0.19            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 1065.92                     | 1065.92         | -19.58         | -19.58          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -54.90                      | -54.90          | -10.13         | -10.13          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -1841.34                    | -1841.34        | 9.26           | 9.26            |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 106.03                      | 106.03          | -16.03         | -16.03          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -188.37                     | -188.37         | 0.83           | 0.83            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -1233.81                    | -1233.81        | -1.49          | -1.49           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -1528.20                    | -1528.20        | 15.38          | 15.38           |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|     |          |          |       |       |
|-----|----------|----------|-------|-------|
| F16 | -2195.52 | -2195.52 | -2.31 | -2.31 |
|-----|----------|----------|-------|-------|

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -2237.30        | -2237.30         | -0.25           | -0.25            |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 700.23          | 700.23           | -6.70           | -6.70            |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 800.49          | 800.49           | -11.62          | -11.62           |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #21**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -143.56         | -143.56          | -10.77          | -10.77           |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -41.00          | -41.00           | -5.54           | -5.54            |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.21           | -0.21            | 0.04            | 0.04             |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -95.53          | -95.53           | -4.74           | -4.74            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F16                   |          | 27.75                       | 27.75           | 2.54           | 2.54            |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F16                   |          | -74.71                      | -74.71          | -3.83          | -3.83           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F16                   |          | -68.59                      | -68.59          | -3.28          | -3.28           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F16                   |          | 42.80                       | 42.80           | 3.90           | 3.90            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F16                   |          | -1.17                       | -1.17           | -0.09          | -0.09           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F16                   |          | -50.84                      | -50.84          | -1.65          | -1.65           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F16                   |          | -92.46                      | -92.46          | -5.46          | -5.46           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F16                   |          | -56.91                      | -56.91          | -2.94          | -2.94           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

F16 -19.35 -19.35 0.46 0.46

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -88.13          | -88.13           | -5.79           | -5.79            |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -50.57          | -50.57           | -2.39           | -2.39            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -173.05         | -173.05          | -9.10           | -9.10            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -168.44         | -168.44          | -8.69           | -8.69            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 18.28           | 18.28            | 1.51            | 1.51             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 7.26            | 7.26             | 0.54            | 0.54             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #22**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 907.12          | 907.12           | -296.21         | -296.21          |



|     |      |         |      |        |
|-----|------|---------|------|--------|
| F15 | 0.00 | -907.12 | 0.00 | 296.21 |
| F12 | 0.00 | 0.00    | 0.00 | 0.00   |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -205.14         | -205.14          | -124.48         | -124.48          |
| F15   | 0.00            | 205.14           | 0.00            | 124.48           |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 21.64           | 21.64            | 0.94            | 0.94             |
| F15   | 0.00            | -21.64           | 0.00            | -0.94            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1520.86         | 1520.86          | -24.73          | -24.73           |
| F15   | 0.00            | -1520.86         | 0.00            | 24.73            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3059.70        | -3059.70         | 26.30           | 26.30            |
| F15   | 0.00            | 3059.70          | 0.00            | -26.30           |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 828.54          | 828.54           | -20.59          | -20.59           |
| F15   | 0.00            | -828.54          | 0.00            | 20.59            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1452.75         | 1452.75          | -16.51          | -16.51           |
| F15   | 0.00            | -1452.75         | 0.00            | 16.51            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |



**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -20.93          | -20.93           | 34.42           | 34.42            |
| F15   | 0.00            | 20.93            | 0.00            | -34.42           |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -4568.61        | -4568.61         | 5.02            | 5.02             |
| F15   | 0.00            | 4568.61          | 0.00            | -5.02            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1154.12        | -1154.12         | 1.17            | 1.17             |
| F15   | 0.00            | 1154.12          | 0.00            | -1.17            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 3435.42         | 3435.42          | -38.27          | -38.27           |
| F15   | 0.00            | -3435.42         | 0.00            | 38.27            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -2805.05        | -2805.05         | -11.67          | -11.67           |
| F15   | 0.00            | 2805.05          | 0.00            | 11.67            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1073.87         | 1073.87          | 13.43           | 13.43            |
| F15   | 0.00            | -1073.87         | 0.00            | -13.43           |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |





**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 637.10          | 637.10           | -41.25          | -41.25           |
| F15   | 0.00            | -637.10          | 0.00            | 41.25            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 4516.02         | 4516.02          | -16.15          | -16.15           |
| F15   | 0.00            | -4516.02         | 0.00            | 16.15            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 2256.13         | 2256.13          | -48.61          | -48.61           |
| F15   | 0.00            | -2256.13         | 0.00            | 48.61            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 2729.75         | 2729.75          | -45.82          | -45.82           |
| F15   | 0.00            | -2729.75         | 0.00            | 45.82            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1864.50        | -1864.50         | 19.26           | 19.26            |
| F15   | 0.00            | 1864.50          | 0.00            | -19.26           |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -2996.58        | -2996.58         | 12.61           | 12.61            |
| F15   | 0.00            | 2996.58          | 0.00            | -12.61           |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |



| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |
| F15   | 0.00            | 0.00             | 0.00            | 0.00             |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #23**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -76.09          | -76.09           | 20.93           | 20.93            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -3.55           | -3.55            | 6.37            | 6.37             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.41           | -0.41            | -0.07           | -0.07            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -111.95         | -111.95          | -4.70           | -4.70            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 106.84          | 106.84           | 39.86           | 39.86            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -83.32          | -83.32           | -3.00           | -3.00            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -84.60          | -84.60           | -4.05           | -4.05            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 75.31                       | 75.31           | 26.03          | 26.03           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 84.95                       | 84.95           | 33.76          | 33.76           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -3.83                       | -3.83           | 26.37          | 26.37           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -164.10                     | -164.10         | -33.42         | -33.42          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | 1.22                        | 1.22            | 23.07          | 23.07           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -6.97                       | -6.97           | 16.48          | 16.48           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -118.98                     | -118.98         | -21.77         | -21.77          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                   |          | -127.17                     | -127.17         | -28.36         | -28.36          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|     |         |         |       |       |
|-----|---------|---------|-------|-------|
| F16 | -199.11 | -199.11 | -7.77 | -7.77 |
|-----|---------|---------|-------|-------|

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -200.33         | -200.33          | -8.65           | -8.65            |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 64.20           | 64.20            | 22.27           | 22.27            |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 67.13           | 67.13            | 24.38           | 24.38            |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #24**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 2209.56         | 2209.56          | 486.83          | 486.83           |
| F12   | 0.00            | -2209.56         | 0.00            | -486.83          |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 908.73          | 908.73           | 182.62          | 182.62           |
| F12   | 0.00            | -908.73          | 0.00            | -182.62          |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -12.92          | -12.92           | -0.49           | -0.49            |
| F12   | 0.00            | 12.92            | 0.00            | 0.49             |



**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 571.90          | 571.90           | 1.52            | 1.52             |
| F12   | 0.00            | -571.90          | 0.00            | -1.52            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1593.48         | 1593.48          | 273.59          | 273.59           |
| F12   | 0.00            | -1593.48         | 0.00            | -273.59          |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 718.70          | 718.70           | 8.69            | 8.69             |
| F12   | 0.00            | -718.70          | 0.00            | -8.69            |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 139.15          | 139.15           | -6.41           | -6.41            |
| F12   | 0.00            | -139.15          | 0.00            | 6.41             |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -914.50         | -914.50          | 150.38          | 150.38           |
| F12   | 0.00            | 914.50           | 0.00            | -150.38          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 3304.71         | 3304.71          | 260.01          | 260.01           |
| F12   | 0.00            | -3304.71         | 0.00            | -260.01          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1624.03         | 1624.03          | 206.33          | 206.33           |
| F12   | 0.00            | -1624.03         | 0.00            | -206.33          |



**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -766.18         | -766.18          | -204.05         | -204.05          |
| F12   | 0.00            | 766.18           | 0.00            | 204.05           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 3017.56         | 3017.56          | 201.52          | 201.52           |
| F12   | 0.00            | -3017.56         | 0.00            | -201.52          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -581.51         | -581.51          | 107.98          | 107.98           |
| F12   | 0.00            | 581.51           | 0.00            | -107.98          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1224.90         | 1224.90          | -106.26         | -106.26          |
| F12   | 0.00            | -1224.90         | 0.00            | 106.26           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -2374.17        | -2374.17         | -199.81         | -199.81          |
| F12   | 0.00            | 2374.17          | 0.00            | 199.81           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1310.32         | 1310.32          | 13.41           | 13.41            |
| F12   | 0.00            | -1310.32         | 0.00            | -13.41           |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 877.78          | 877.78           | 1.18            | 1.18             |
| F12   | 0.00            | -877.78          | 0.00            | -1.18            |



**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 992.36          | 992.36           | 158.81          | 158.81           |
| F12   | 0.00            | -992.36          | 0.00            | -158.81          |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 2025.76         | 2025.76          | 188.08          | 188.08           |
| F12   | 0.00            | -2025.76         | 0.00            | -188.08          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 0.00            | 0.00             |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #25**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -17.70          | -17.70           | -533.42         | -533.42          |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -2.16           | -2.16            | -205.44         | -205.44          |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -0.13           | -0.13            | 1.84            | 1.84             |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -2.94           | -2.94            | 43.69           | 43.69            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -2.94           | -2.94            | 43.69           | 43.69            |



RAM Structural System

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|                       |          |                             |                 |                |                 |         |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|---------|
| F15                   |          |                             | -1.09           | -1.09          | -369.44         | -369.44 |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F15                   |          | -2.38                       | -2.38           | 5.39           | 5.39            |         |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F15                   |          | -2.03                       | -2.03           | 60.15          | 60.15           |         |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F15                   |          | 0.44                        | 0.44            | -78.48         | -78.48          |         |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F15                   |          | -2.08                       | -2.08           | -475.68        | -475.68         |         |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F15                   |          | -3.02                       | -3.02           | -244.31        | -244.31         |         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F15                   |          | -1.39                       | -1.39           | 309.85         | 309.85          |         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F15                   |          | -3.35                       | -3.35           | -352.72        | -352.72         |         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F15                   |          | -1.19                       | -1.19           | -13.75         | -13.75          |         |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -2.12           | -2.12            | 62.90           | 62.90            |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 0.04            | 0.04             | 401.87          | 401.87           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -4.07           | -4.07            | 61.13           | 61.13            |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -3.80           | -3.80            | 103.94          | 103.94           |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -0.53           | -0.53            | -207.02         | -207.02          |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -1.18           | -1.18            | -309.39         | -309.39          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #26**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -27.51          | -27.51           | -739.00         | -739.00          |



| <b>Load Case: Lp</b> |  | <b>PosLiveLoad RAMUSER</b> |                          |                         |                          |
|----------------------|--|----------------------------|--------------------------|-------------------------|--------------------------|
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F15                  |  | -8.45                      | -8.45                    | -344.56                 | -344.56                  |
| <b>Load Case: Ln</b> |  | <b>NegLiveLoad RAMUSER</b> |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F15                  |  | -0.06                      | -0.06                    | 2.74                    | 2.74                     |
| <b>Load Case: W1</b> |  | <b>W Wind_IBC09_1_X</b>    |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F15                  |  | -15.57                     | -15.57                   | -30.74                  | -30.74                   |
| <b>Load Case: W2</b> |  | <b>W Wind_IBC09_1_Y</b>    |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F15                  |  | 24.87                      | 24.87                    | -723.59                 | -723.59                  |
| <b>Load Case: W3</b> |  | <b>W Wind_IBC09_2_X+E</b>  |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F15                  |  | -11.14                     | -11.14                   | -67.52                  | -67.52                   |
| <b>Load Case: W4</b> |  | <b>W Wind_IBC09_2_X-E</b>  |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F15                  |  | -12.21                     | -12.21                   | 21.41                   | 21.41                    |
| <b>Load Case: W5</b> |  | <b>W Wind_IBC09_2_Y+E</b>  |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F15                  |  | 14.73                      | 14.73                    | -220.60                 | -220.60                  |
| <b>Load Case: W6</b> |  | <b>W Wind_IBC09_2_Y-E</b>  |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F15                  |  | 22.57                      | 22.57                    | -864.79                 | -864.79                  |
| <b>Load Case: W7</b> |  | <b>W Wind_IBC09_3_X+Y</b>  |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|                      |  |                            |                          |                         |                          |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F15                   |          | 6.98                        | 6.98            | -565.75        | -565.75         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | -30.33                      | -30.33          | 519.64         | 519.64          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 8.57                        | 8.57            | -699.24        | -699.24         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 1.89                        | 1.89            | -149.39        | -149.39         |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | -19.40                      | -19.40          | 114.81         | 114.81          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | -26.09                      | -26.09          | 664.65         | 664.65          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | -26.97                      | -26.97          | -99.46         | -99.46          |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | -27.90                      | -27.90          | -30.67         | -30.67          |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 14.58                       | 14.58           | -426.32        | -426.32         |



**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 16.79           | 16.79            | -590.82         | -590.82          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #27**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -13.28          | -13.28           | 259.66          | 259.66           |
| F14   | 0.00            | 13.28            | 0.00            | -259.66          |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -3.21           | -3.21            | 54.04           | 54.04            |
| F14   | 0.00            | 3.21             | 0.00            | -54.04           |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 0.01            | 0.01             | 0.73            | 0.73             |
| F14   | 0.00            | -0.01            | 0.00            | -0.73            |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -0.94           | -0.94            | 1.13            | 1.13             |
| F14   | 0.00            | 0.94             | 0.00            | -1.13            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -7.52           | -7.52            | -45.37          | -45.37           |
| F14   | 0.00            | 7.52             | 0.00            | 45.37            |



**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -0.62           | -0.62            | -2.27           | -2.27            |
| F14   | 0.00            | 0.62             | 0.00            | 2.27             |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -0.80           | -0.80            | 3.97            | 3.97             |
| F14   | 0.00            | 0.80             | 0.00            | -3.97            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -6.29           | -6.29            | -11.90          | -11.90           |
| F14   | 0.00            | 6.29             | 0.00            | 11.90            |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -4.98           | -4.98            | -56.16          | -56.16           |
| F14   | 0.00            | 4.98             | 0.00            | 56.16            |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -6.35           | -6.35            | -33.18          | -33.18           |
| F14   | 0.00            | 6.35             | 0.00            | 33.18            |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 4.93            | 4.93             | 34.88           | 34.88            |
| F14   | 0.00            | -4.93            | 0.00            | -34.88           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -4.20           | -4.20            | -43.82          | -43.82           |
| F14   | 0.00            | 4.20             | 0.00            | 43.82            |



**Load Case: W10 W Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -5.32           | -5.32            | -5.95           | -5.95            |
| F14   | 0.00            | 5.32             | 0.00            | 5.95             |

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 4.26            | 4.26             | 7.22            | 7.22             |
| F14   | 0.00            | -4.26            | 0.00            | -7.22            |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 3.14            | 3.14             | 45.10           | 45.10            |
| F14   | 0.00            | -3.14            | 0.00            | -45.10           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -1.63           | -1.63            | 2.15            | 2.15             |
| F14   | 0.00            | 1.63             | 0.00            | -2.15            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -1.78           | -1.78            | 6.20            | 6.20             |
| F14   | 0.00            | 1.78             | 0.00            | -6.20            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -4.18           | -4.18            | -31.40          | -31.40           |
| F14   | 0.00            | 4.18             | 0.00            | 31.40            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -3.82           | -3.82            | -41.05          | -41.05           |
| F14   | 0.00            | 3.82             | 0.00            | 41.05            |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F15           | 0.00       | 0.00      | 0.00    | 0.00     |  |
| F14           | 0.00       | 0.00      | 0.00    | 0.00     |  |

Frame #28

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F15          | 2.11     | 2.11     | 389.40  | 389.40   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F15           | 0.14        | 0.14     | 83.90   | 83.90    |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F15           | 0.00        | 0.00     | -1.09   | -1.09    |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F15           | 1.51    | 1.51           | 270.49  | 270.49   |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F15           | 0.35    | 0.35           | -609.32 | -609.32  |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F15           | 1.13    | 1.13             | 214.60  | 214.60   |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F15           | 1.14    | 1.14             | 191.14  | 191.14   |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 0.29                        | 0.29            | -535.91        | -535.91         |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 0.23                        | 0.23            | -378.07        | -378.07         |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 1.39                        | 1.39            | -254.12        | -254.12         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 0.87                        | 0.87            | 659.86         | 659.86          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 1.02                        | 1.02            | -122.61        | -122.61         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 1.07                        | 1.07            | -258.57        | -258.57         |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 0.63                        | 0.63            | 562.88         | 562.88          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 0.68                        | 0.68            | 426.91         | 426.91          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |





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|     |      |      |        |        |
|-----|------|------|--------|--------|
| F15 | 2.26 | 2.26 | 468.83 | 468.83 |
|-----|------|------|--------|--------|

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 2.27            | 2.27             | 454.89          | 454.89           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 0.20            | 0.20             | -320.37         | -320.37          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 0.16            | 0.16             | -287.27         | -287.27          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #29**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -1834.86        | -1834.86         | -29.86          | -29.86           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -399.32         | -399.32          | -10.18          | -10.18           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -5.67           | -5.67            | 0.07            | 0.07             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -1123.25        | -1123.25         | 1.04            | 1.04             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | 1025.79                     | 1025.79         | -13.94         | -13.94          |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | -821.86                     | -821.86         | -0.12          | -0.12           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | -863.01                     | -863.01         | 1.68           | 1.68            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | 618.26                      | 618.26          | -3.85          | -3.85           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | 920.42                      | 920.42          | -17.06         | -17.06          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | -73.10                      | -73.10          | -9.68          | -9.68           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | -1611.78                    | -1611.78        | 11.24          | 11.24           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | 73.92                       | 73.92           | -12.89         | -12.89          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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F15 -183.56 -183.56 -1.63 -1.63

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -1080.09        | -1080.09         | 2.80            | 2.80             |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -1337.57        | -1337.57         | 14.06           | 14.06            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -1923.34        | -1923.34         | 1.01            | 1.01             |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -1959.63        | -1959.63         | 2.36            | 2.36             |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 599.43          | 599.43           | -7.06           | -7.06            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 686.47          | 686.47           | -10.29          | -10.29           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #30**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -99.91          | -99.91           | -10.10          | -10.10           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F15                  | -35.93         | -35.93                     | -5.92          | -5.92           |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F15                  | 0.00           | 0.00                       | 0.04           | 0.04            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F15                  | -23.60         | -23.60                     | -3.86          | -3.86           |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F15                  | -36.96         | -36.96                     | 4.93           | 4.93            |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F15                  | -20.96         | -20.96                     | -2.97          | -2.97           |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F15                  | -14.43         | -14.43                     | -2.82          | -2.82           |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F15                  | -4.04          | -4.04                      | 4.25           | 4.25            |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F15                  | -51.40         | -51.40                     | 3.14           | 3.14            |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



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|                       |          |                             |                 |                |                 |      |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|------|
| F15                   |          |                             | -45.42          | -45.42         | 0.80            | 0.80 |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F15                   |          | 10.02                       | 10.02           | -6.60          | -6.60           |      |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F15                   |          | -54.27                      | -54.27          | 0.13           | 0.13            |      |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F15                   |          | -13.85                      | -13.85          | 1.08           | 1.08            |      |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F15                   |          | -12.69                      | -12.69          | -5.42          | -5.42           |      |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F15                   |          | 27.73                       | 27.73           | -4.47          | -4.47           |      |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F15                   |          | -43.39                      | -43.39          | -7.21          | -7.21           |      |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F15                   |          | -38.37                      | -38.37          | -7.11          | -7.11           |      |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F15                   |          | -20.17                      | -20.17          | 2.82           | 2.82            |      |



**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -32.18          | -32.18           | 2.59            | 2.59             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #31**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 565.74          | 565.74           | 203.91          | 203.91           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -199.63         | -199.63          | 64.88           | 64.88            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 20.83           | 20.83            | -0.14           | -0.14            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 1214.47         | 1214.47          | 6.38            | 6.38             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -1896.05        | -1896.05         | -251.14         | -251.14          |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 636.84          | 636.84           | -0.92           | -0.92            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | 1184.85                     | 1184.85         | 10.49          | 10.49           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | 580.50                      | 580.50          | -146.44        | -146.44         |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | -3424.58                    | -3424.58        | -230.26        | -230.26         |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | -511.19                     | -511.19         | -183.57        | -183.57         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | 2332.89                     | 2332.89         | 193.14         | 193.14          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | -2090.80                    | -2090.80        | -173.38        | -173.38         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | 1324.02                     | 1324.02         | -101.97        | -101.97         |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F15                   |          | 42.26                       | 42.26           | 109.15         | 109.15          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |         |         |        |        |
|-----|---------|---------|--------|--------|
| F15 | 3457.08 | 3457.08 | 180.56 | 180.56 |
|-----|---------|---------|--------|--------|

| Load Case: E1 | E EQ_ASCE710_X_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F15   | 1736.50         | 1736.50          | 5.42            | 5.42             |

| Load Case: E2 | E EQ_ASCE710_X_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F15   | 2146.94         | 2146.94          | 14.68           | 14.68            |

| Load Case: E3 | E EQ_ASCE710_Y_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F15   | -1139.51        | -1139.51         | -140.05         | -140.05          |

| Load Case: E4 | E EQ_ASCE710_Y_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F15   | -2120.74        | -2120.74         | -162.19         | -162.19          |

| Load Case: O1 | Shear Test User_User | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|----------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                      | F15   | 0.00            | 0.00             | 0.00            | 0.00             |

Frame #32

| Load Case: D | DeadLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------------|------------------|-------|-----------------|------------------|-----------------|------------------|
|              |                  | F15   | 10.21           | 10.21            | 23.03           | 23.03            |

| Load Case: Lp | PosLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F15   | 17.57           | 17.57            | 6.63            | 6.63             |

| Load Case: Ln | NegLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F15   | -0.25           | -0.25            | -0.07           | -0.07            |





|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                  |          | -26.98                     | -26.98          | -5.40          | -5.40           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                  |          | 14.11                      | 14.11           | 54.63          | 54.63           |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                  |          | -18.26                     | -18.26          | -3.33          | -3.33           |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                  |          | -22.21                     | -22.21          | -4.78          | -4.78           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                  |          | -3.71                      | -3.71           | 35.62          | 35.62           |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                  |          | 24.88                      | 24.88           | 46.32          | 46.32           |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                  |          | -9.65                      | -9.65           | 36.92          | 36.92           |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                  |          | -30.82                     | -30.82          | -45.02         | -45.02          |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| F15                   |                   | 4.97                        | 4.97            | 32.24          | 32.24           |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |                   | -19.44                      | -19.44          | 23.13          | 23.13           |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |                   | -10.91                      | -10.91          | -29.21         | -29.21          |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |                   | -35.32                      | -35.32          | -38.32         | -38.32          |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |                   | -44.32                      | -44.32          | -8.93          | -8.93           |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |                   | -47.43                      | -47.43          | -10.11         | -10.11          |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |                   | 10.00                       | 10.00           | 30.37          | 30.37           |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |                   | 17.43                       | 17.43           | 33.21          | 33.21           |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |                   | 0.00                        | 0.00            | 0.00           | 0.00            |



**Frame #33**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F15          | 1755.81  | 1755.81  | -25.53  | -25.53   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F15           | 731.37      | 731.37   | -16.66  | -16.66   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F15           | -12.86      | -12.86   | 0.02    | 0.02     |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F15           | 467.78  | 467.78         | 4.46    | 4.46     |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F15           | 951.40  | 951.40         | -234.45 | -234.45  |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F15           | 605.39  | 605.39           | -1.33   | -1.33    |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F15           | 96.28   | 96.28            | 8.02    | 8.02     |  |

| Load Case: W5 | W        | Wind_IBC09_2_Y+E |         |          |  |
|---------------|----------|------------------|---------|----------|--|
| Level         | Shear-X  | Change-X         | Shear-Y | Change-Y |  |
|               | kip      | kip              | kip     | kip      |  |
| F15           | -1146.12 | -1146.12         | -141.41 | -141.41  |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 2573.22                     | 2573.22         | -210.27        | -210.27         |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 1064.39                     | 1064.39         | -172.50        | -172.50         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | -362.71                     | -362.71         | 179.18         | 179.18          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 2383.96                     | 2383.96         | -158.70        | -158.70         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | -787.38                     | -787.38         | -100.05        | -100.05         |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 1313.64                     | 1313.64         | 105.06         | 105.06          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | -1857.70                    | -1857.70        | 163.71         | 163.71          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F15                   |          | 1093.22                     | 1093.22         | 1.80           | 1.80            |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|     |        |        |      |      |
|-----|--------|--------|------|------|
| F15 | 717.54 | 717.54 | 9.54 | 9.54 |
|-----|--------|--------|------|------|

| Load Case: E3 | E EQ_ASCE710_Y_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
| F15           |                     |       | 580.20          | 580.20           | -130.32         | -130.32          |

| Load Case: E4 | E EQ_ASCE710_Y_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
| F15           |                     |       | 1478.04         | 1478.04          | -148.86         | -148.86          |

| Load Case: O1 | Shear Test User_User | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|----------------------|-------|-----------------|------------------|-----------------|------------------|
| F15           |                      |       | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #34**

| Load Case: D | DeadLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------------|------------------|-------|-----------------|------------------|-----------------|------------------|
| F14          |                  |       | -7.99           | -7.99            | -872.58         | -872.58          |

| Load Case: Lp | PosLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
| F14           |                     |       | 0.70            | 0.70             | -312.66         | -312.66          |

| Load Case: Ln | NegLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
| F14           |                     |       | -0.14           | -0.14            | 1.93            | 1.93             |

| Load Case: W1 | W Wind_IBC09_1_X | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|------------------|-------|-----------------|------------------|-----------------|------------------|
| F14           |                  |       | -2.58           | -2.58            | 35.42           | 35.42            |

| Load Case: W2 | W Wind_IBC09_1_Y | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|------------------|-------|-----------------|------------------|-----------------|------------------|
| F14           |                  |       | 0.06            | 0.06             | -133.29         | -133.29          |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -2.10                       | -2.10           | 8.05           | 8.05            |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -1.77                       | -1.77           | 45.08          | 45.08           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | 1.19                        | 1.19            | 33.89          | 33.89           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -1.10                       | -1.10           | -233.83        | -233.83         |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -1.89                       | -1.89           | -73.40         | -73.40          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -1.98                       | -1.98           | 126.54         | 126.54          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -2.40                       | -2.40           | -169.33        | -169.33         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -0.43                       | -0.43           | 59.23          | 59.23           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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|     |       |       |        |        |
|-----|-------|-------|--------|--------|
| F14 | -2.47 | -2.47 | -19.38 | -19.38 |
|-----|-------|-------|--------|--------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.50           | -0.50            | 209.18          | 209.18           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -3.65           | -3.65            | 65.32           | 65.32            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -3.40           | -3.40            | 93.78           | 93.78            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.04            | 0.04             | -80.21          | -80.21           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.55           | -0.55            | -148.23         | -148.23          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #35**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -19.68          | -19.68           | -1381.84        | -1381.84         |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -4.97           | -4.97            | -537.64         | -537.64          |



| Load Case: Ln        | NegLiveLoad | RAMUSER                 |         |          |  |
|----------------------|-------------|-------------------------|---------|----------|--|
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F14                  | -0.05       | -0.05                   | 2.98    | 2.98     |  |
| <b>Load Case: W1</b> | <b>W</b>    | <b>Wind_IBC09_1_X</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F14                  | -15.04      | -15.04                  | -35.59  | -35.59   |  |
| <b>Load Case: W2</b> | <b>W</b>    | <b>Wind_IBC09_1_Y</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F14                  | 24.45       | 24.45                   | -122.07 | -122.07  |  |
| <b>Load Case: W3</b> | <b>W</b>    | <b>Wind_IBC09_2_X+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F14                  | -10.89      | -10.89                  | -56.87  | -56.87   |  |
| <b>Load Case: W4</b> | <b>W</b>    | <b>Wind_IBC09_2_X-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F14                  | -11.68      | -11.68                  | 3.48    | 3.48     |  |
| <b>Load Case: W5</b> | <b>W</b>    | <b>Wind_IBC09_2_Y+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F14                  | 15.44       | 15.44                   | 125.39  | 125.39   |  |
| <b>Load Case: W6</b> | <b>W</b>    | <b>Wind_IBC09_2_Y-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F14                  | 21.24       | 21.24                   | -308.49 | -308.49  |  |
| <b>Load Case: W7</b> | <b>W</b>    | <b>Wind_IBC09_3_X+Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F14                  | 7.06        | 7.06                    | -118.25 | -118.25  |  |
| <b>Load Case: W8</b> | <b>W</b>    | <b>Wind_IBC09_3_X-Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |





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|                       |          |                             |                 |                |                 |       |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|-------|
| F14                   |          |                             | -29.62          | -29.62         | 64.86           | 64.86 |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |          | 7.76                        | 7.76            | -274.03        | -274.03         |       |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |          | 2.82                        | 2.82            | 96.66          | 96.66           |       |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |          | -19.75                      | -19.75          | -136.70        | -136.70         |       |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |          | -24.69                      | -24.69          | 233.98         | 233.98          |       |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |          | -26.49                      | -26.49          | -86.00         | -86.00          |       |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |          | -27.20                      | -27.20          | -40.11         | -40.11          |       |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |          | 14.36                       | 14.36           | -96.88         | -96.88          |       |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |          | 16.05                       | 16.05           | -206.53        | -206.53         |       |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F14           | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #36**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F14          | -0.06    | -0.06    | 1847.32 | 1847.32  |  |
| F13          | 0.00     | 0.06     | 0.00    | -1847.32 |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F14           | -0.02       | -0.02    | 640.34  | 640.34   |  |
| F13           | 0.00        | 0.02     | 0.00    | -640.34  |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F14           | 0.00        | 0.00     | -2.25   | -2.25    |  |
| F13           | 0.00        | 0.00     | 0.00    | 2.25     |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F14           | -0.02   | -0.02          | -29.53  | -29.53   |  |
| F13           | 0.00    | 0.02           | 0.00    | 29.53    |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F14           | -0.01   | -0.01          | 360.44  | 360.44   |  |
| F13           | 0.00    | 0.01           | 0.00    | -360.44  |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F14           | -0.02   | -0.02            | -19.15  | -19.15   |  |
| F13           | 0.00    | 0.02             | 0.00    | 19.15    |  |



**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.02           | -0.02            | -25.15          | -25.15           |
| F13   | 0.00            | 0.02             | 0.00            | 25.15            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 248.23          | 248.23           |
| F13   | 0.00            | 0.00             | 0.00            | -248.23          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.01           | -0.01            | 292.43          | 292.43           |
| F13   | 0.00            | 0.01             | 0.00            | -292.43          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.02           | -0.02            | 248.18          | 248.18           |
| F13   | 0.00            | 0.02             | 0.00            | -248.18          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.01           | -0.01            | -292.48         | -292.48          |
| F13   | 0.00            | 0.01             | 0.00            | 292.48           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.02           | -0.02            | 204.96          | 204.96           |
| F13   | 0.00            | 0.02             | 0.00            | -204.96          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.01           | -0.01            | 167.31          | 167.31           |
| F13   | 0.00            | 0.01             | 0.00            | -167.31          |



**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.01           | -0.01            | -200.53         | -200.53          |
| F13   | 0.00            | 0.01             | 0.00            | 200.53           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.01           | -0.01            | -238.19         | -238.19          |
| F13   | 0.00            | 0.01             | 0.00            | 238.19           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.04           | -0.04            | -50.12          | -50.12           |
| F13   | 0.00            | 0.04             | 0.00            | 50.12            |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.04           | -0.04            | -55.92          | -55.92           |
| F13   | 0.00            | 0.04             | 0.00            | 55.92            |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 206.24          | 206.24           |
| F13   | 0.00            | 0.00             | 0.00            | -206.24          |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 220.15          | 220.15           |
| F13   | 0.00            | 0.00             | 0.00            | -220.15          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |
| F13   | 0.00            | 0.00             | 0.00            | 0.00             |



**Frame #37**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.14           | -0.14            | 1586.97         | 1586.97          |
| F13   | 0.00            | 0.14             | 0.00            | -1586.97         |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.04           | -0.04            | 546.83          | 546.83           |
| F13   | 0.00            | 0.04             | 0.00            | -546.83          |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | -0.85           | -0.85            |
| F13   | 0.00            | 0.00             | 0.00            | 0.85             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.02           | -0.02            | -51.94          | -51.94           |
| F13   | 0.00            | 0.02             | 0.00            | 51.94            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.03           | -0.03            | 528.80          | 528.80           |
| F13   | 0.00            | 0.03             | 0.00            | -528.80          |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.02           | -0.02            | -34.97          | -34.97           |
| F13   | 0.00            | 0.02             | 0.00            | 34.97            |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.01           | -0.01            | -42.94          | -42.94           |
| F13   | 0.00            | 0.01             | 0.00            | 42.94            |



**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.03           | -0.03            | 367.20          | 367.20           |
| F13   | 0.00            | 0.03             | 0.00            | -367.20          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.03           | -0.03            | 426.01          | 426.01           |
| F13   | 0.00            | 0.03             | 0.00            | -426.01          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.04           | -0.04            | 357.65          | 357.65           |
| F13   | 0.00            | 0.04             | 0.00            | -357.65          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.01            | 0.01             | -435.56         | -435.56          |
| F13   | 0.00            | -0.01            | 0.00            | 435.56           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.03           | -0.03            | 293.28          | 293.28           |
| F13   | 0.00            | 0.03             | 0.00            | -293.28          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.03           | -0.03            | 243.19          | 243.19           |
| F13   | 0.00            | 0.03             | 0.00            | -243.19          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.01            | 0.01             | -301.63         | -301.63          |
| F13   | 0.00            | -0.01            | 0.00            | 301.63           |



**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.01            | 0.01             | -351.71         | -351.71          |
| F13   | 0.00            | -0.01            | 0.00            | 351.71           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.03           | -0.03            | -84.48          | -84.48           |
| F13   | 0.00            | 0.03             | 0.00            | 84.48            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.03           | -0.03            | -91.91          | -91.91           |
| F13   | 0.00            | 0.03             | 0.00            | 91.91            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.02           | -0.02            | 299.01          | 299.01           |
| F13   | 0.00            | 0.02             | 0.00            | -299.01          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.02           | -0.02            | 316.84          | 316.84           |
| F13   | 0.00            | 0.02             | 0.00            | -316.84          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |
| F13   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #38**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -17.53          | -17.53           | 23.28           | 23.28            |
| F13   | 0.00            | 17.53            | 0.00            | -23.28           |



**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -5.46           | -5.46            | 0.17            | 0.17             |
| F13   | 0.00            | 5.46             | 0.00            | -0.17            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.01           | -0.01            | 0.14            | 0.14             |
| F13   | 0.00            | 0.01             | 0.00            | -0.14            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -2.95           | -2.95            | 1.29            | 1.29             |
| F13   | 0.00            | 2.95             | 0.00            | -1.29            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 3.89            | 3.89             | 40.90           | 40.90            |
| F13   | 0.00            | -3.89            | 0.00            | -40.90           |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -2.02           | -2.02            | 0.78            | 0.78             |
| F13   | 0.00            | 2.02             | 0.00            | -0.78            |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -2.41           | -2.41            | 1.16            | 1.16             |
| F13   | 0.00            | 2.41             | 0.00            | -1.16            |

**Load Case: W5 W Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1.49            | 1.49             | 31.31           | 31.31            |
| F13   | 0.00            | -1.49            | 0.00            | -31.31           |





**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 4.34            | 4.34             | 30.05           | 30.05            |
| F13   | 0.00            | -4.34            | 0.00            | -30.05           |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.70            | 0.70             | 31.65           | 31.65            |
| F13   | 0.00            | -0.70            | 0.00            | -31.65           |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -5.13           | -5.13            | -29.71          | -29.71           |
| F13   | 0.00            | 5.13             | 0.00            | 29.71            |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1.74            | 1.74             | 23.12           | 23.12            |
| F13   | 0.00            | -1.74            | 0.00            | -23.12           |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.69           | -0.69            | 24.35           | 24.35            |
| F13   | 0.00            | 0.69             | 0.00            | -24.35           |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -2.64           | -2.64            | -22.90          | -22.90           |
| F13   | 0.00            | 2.64             | 0.00            | 22.90            |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -5.06           | -5.06            | -21.67          | -21.67           |
| F13   | 0.00            | 5.06             | 0.00            | 21.67            |



**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -5.25           | -5.25            | 3.18            | 3.18             |
| F13   | 0.00            | 5.25             | 0.00            | -3.18            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -5.55           | -5.55            | 3.35            | 3.35             |
| F13   | 0.00            | 5.55             | 0.00            | -3.35            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 2.12            | 2.12             | 12.32           | 12.32            |
| F13   | 0.00            | -2.12            | 0.00            | -12.32           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 2.85            | 2.85             | 11.95           | 11.95            |
| F13   | 0.00            | -2.85            | 0.00            | -11.95           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |
| F13   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #39**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -1.04           | -1.04            | 5.64            | 5.64             |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.47           | -0.47            | 3.67            | 3.67             |



| Load Case: Ln |                 | NegLiveLoad RAMUSER |                 |                  |  |
|---------------|-----------------|---------------------|-----------------|------------------|--|
| Level         | Shear-X<br>kips | Change-X<br>kips    | Shear-Y<br>kips | Change-Y<br>kips |  |
| F14           | 0.00            | 0.00                | -0.02           | -0.02            |  |
| Load Case: W1 |                 | W Wind_IBC09_1_X    |                 |                  |  |
| Level         | Shear-X<br>kips | Change-X<br>kips    | Shear-Y<br>kips | Change-Y<br>kips |  |
| F14           | -0.16           | -0.16               | 0.37            | 0.37             |  |
| Load Case: W2 |                 | W Wind_IBC09_1_Y    |                 |                  |  |
| Level         | Shear-X<br>kips | Change-X<br>kips    | Shear-Y<br>kips | Change-Y<br>kips |  |
| F14           | 1.62            | 1.62                | 16.20           | 16.20            |  |
| Load Case: W3 |                 | W Wind_IBC09_2_X+E  |                 |                  |  |
| Level         | Shear-X<br>kips | Change-X<br>kips    | Shear-Y<br>kips | Change-Y<br>kips |  |
| F14           | -0.09           | -0.09               | 0.62            | 0.62             |  |
| Load Case: W4 |                 | W Wind_IBC09_2_X-E  |                 |                  |  |
| Level         | Shear-X<br>kips | Change-X<br>kips    | Shear-Y<br>kips | Change-Y<br>kips |  |
| F14           | -0.15           | -0.15               | -0.06           | -0.06            |  |
| Load Case: W5 |                 | W Wind_IBC09_2_Y+E  |                 |                  |  |
| Level         | Shear-X<br>kips | Change-X<br>kips    | Shear-Y<br>kips | Change-Y<br>kips |  |
| F14           | 1.01            | 1.01                | 9.65            | 9.65             |  |
| Load Case: W6 |                 | W Wind_IBC09_2_Y-E  |                 |                  |  |
| Level         | Shear-X<br>kips | Change-X<br>kips    | Shear-Y<br>kips | Change-Y<br>kips |  |
| F14           | 1.41            | 1.41                | 14.66           | 14.66            |  |
| Load Case: W7 |                 | W Wind_IBC09_3_X+Y  |                 |                  |  |
| Level         | Shear-X<br>kips | Change-X<br>kips    | Shear-Y<br>kips | Change-Y<br>kips |  |
| F14           | 1.09            | 1.09                | 12.43           | 12.43            |  |
| Load Case: W8 |                 | W Wind_IBC09_3_X-Y  |                 |                  |  |
| Level         | Shear-X<br>kips | Change-X<br>kips    | Shear-Y<br>kips | Change-Y<br>kips |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |          |                             |                 |                |                 |        |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|--------|
| F14                   |          |                             | -1.33           | -1.33          | -11.87          | -11.87 |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |          | 0.99                        | 0.99            | 11.46          | 11.46           |        |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |          | 0.65                        | 0.65            | 7.19           | 7.19            |        |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |          | -0.83                       | -0.83           | -6.77          | -6.77           |        |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |          | -1.17                       | -1.17           | -11.04         | -11.04          |        |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |          | -0.27                       | -0.27           | 1.27           | 1.27            |        |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |          | -0.31                       | -0.31           | 0.73           | 0.73            |        |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |          | 0.88                        | 0.88            | 8.88           | 8.88            |        |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |          | 0.98                        | 0.98            | 10.19          | 10.19           |        |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F14           | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #40**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F14          | -0.06    | -0.06    | 7.57    | 7.57     |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F14           | -0.01       | -0.01    | 5.04    | 5.04     |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F14           | 0.00        | 0.00     | -0.07   | -0.07    |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F14           |   | 0.00           | 0.00     | -0.10   | -0.10    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F14           |   | -0.01          | -0.01    | 8.62    | 8.62     |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F14           |   | 0.00             | 0.00     | 0.10    | 0.10     |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F14           |   | 0.00             | 0.00     | -0.25   | -0.25    |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | 5.17           | 5.17            |
| <b>Load Case: W6</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | 7.75           | 7.75            |
| <b>Load Case: W7</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | 6.39           | 6.39            |
| <b>Load Case: W8</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 0.00                        | 0.00            | -6.54          | -6.54           |
| <b>Load Case: W9</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | 5.89           | 5.89            |
| <b>Load Case: W10</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | 3.69           | 3.69            |
| <b>Load Case: W11</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 0.00                        | 0.00            | -3.80          | -3.80           |
| <b>Load Case: W12</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 0.01                        | 0.01            | -6.00          | -6.00           |
| <b>Load Case: E1</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|     |      |      |      |      |
|-----|------|------|------|------|
| F14 | 0.00 | 0.00 | 0.09 | 0.09 |
|-----|------|------|------|------|

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | -0.20           | -0.20            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.01           | -0.01            | 4.69            | 4.69             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.01           | -0.01            | 5.37            | 5.37             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #41**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.04           | -0.04            | 8.19            | 8.19             |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 5.01            | 5.01             |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | -0.06           | -0.06            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.02           | -0.02            | -0.06           | -0.06            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | 8.70           | 8.70            |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | 0.10           | 0.10            |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | -0.19          | -0.19           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 0.00                        | 0.00            | 5.43           | 5.43            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | 7.62           | 7.62            |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.02                       | -0.02           | 6.48           | 6.48            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | -6.57          | -6.57           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.02                       | -0.02           | 5.79           | 5.79            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |       |       |      |      |
|-----|-------|-------|------|------|
| F14 | -0.01 | -0.01 | 3.93 | 3.93 |
|-----|-------|-------|------|------|

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.01           | -0.01            | -3.99           | -3.99            |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | -5.86           | -5.86            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.03           | -0.03            | 0.06            | 0.06             |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.03           | -0.03            | -0.17           | -0.17            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 4.79            | 4.79             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 5.35            | 5.35             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #42**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.44           | -0.44            | 6.57            | 6.57             |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F14                  | -0.34          | -0.34                      | 3.77           | 3.77            |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F14                  | 0.00           | 0.00                       | -0.01          | -0.01           |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F14                  | -0.02          | -0.02                      | 0.38           | 0.38            |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F14                  | 0.00           | 0.00                       | 3.85           | 3.85            |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F14                  | -0.01          | -0.01                      | 0.41           | 0.41            |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F14                  | -0.01          | -0.01                      | 0.16           | 0.16            |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F14                  | 0.01           | 0.01                       | 1.96           | 1.96            |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F14                  | 0.00           | 0.00                       | 3.81           | 3.81            |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |



|                       |          |                             |                 |                |                 |      |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|------|
| F14                   |          |                             | -0.01           | -0.01          | 3.17            | 3.17 |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F14                   |          | -0.02                       | -0.02           | -2.60          | -2.60           |      |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F14                   |          | -0.01                       | -0.01           | 3.17           | 3.17            |      |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F14                   |          | 0.00                        | 0.00            | 1.59           | 1.59            |      |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F14                   |          | -0.02                       | -0.02           | -1.16          | -1.16           |      |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F14                   |          | -0.01                       | -0.01           | -2.74          | -2.74           |      |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F14                   |          | -0.03                       | -0.03           | 0.81           | 0.81            |      |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F14                   |          | -0.03                       | -0.03           | 0.60           | 0.60            |      |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F14                   |          | 0.00                        | 0.00            | 2.08           | 2.08            |      |



**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 2.56            | 2.56             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #43**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1.30            | 1.30             | 4.25            | 4.25             |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1.02            | 1.02             | 1.95            | 1.95             |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | -0.06           | -0.06            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.02           | -0.02            | 1.24            | 1.24             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | -0.49           | -0.49            |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.02           | -0.02            | 1.22            | 1.22             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.02                       | -0.02           | 0.64           | 0.64            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 0.00                        | 0.00            | -2.46          | -2.46           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | 1.72           | 1.72            |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.02                       | -0.02           | 0.56           | 0.56            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | 1.30           | 1.30            |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.02                       | -0.02           | 2.21           | 2.21            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.01                       | -0.01           | -1.37          | -1.37           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -0.02                       | -0.02           | 2.76           | 2.76            |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|     |       |       |       |       |
|-----|-------|-------|-------|-------|
| F14 | -0.01 | -0.01 | -0.82 | -0.82 |
|-----|-------|-------|-------|-------|

| Load Case: E1 | E EQ_ASCE710_X_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F14   | -0.04           | -0.04            | 2.71            | 2.71             |

| Load Case: E2 | E EQ_ASCE710_X_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F14   | -0.04           | -0.04            | 2.23            | 2.23             |

| Load Case: E3 | E EQ_ASCE710_Y_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F14   | 0.00            | 0.00             | -0.55           | -0.55            |

| Load Case: E4 | E EQ_ASCE710_Y_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F14   | 0.00            | 0.00             | 0.59            | 0.59             |

| Load Case: O1 | Shear Test User_User | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|----------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                      | F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #44**

| Load Case: D | DeadLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------------|------------------|-------|-----------------|------------------|-----------------|------------------|
|              |                  | F14   | -1.92           | -1.92            | 681.84          | 681.84           |

| Load Case: Lp | PosLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F14   | -0.48           | -0.48            | 220.75          | 220.75           |

| Load Case: Ln | NegLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F14   | 0.00            | 0.00             | -4.91           | -4.91            |



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | -2.28                      | -2.28           | 324.55         | 324.55          |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | -0.57                      | -0.57           | 353.82         | 353.82          |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | -1.72                      | -1.72           | 299.51         | 299.51          |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | -1.70                      | -1.70           | 187.31         | 187.31          |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | -0.35                      | -0.35           | -135.18        | -135.18         |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | -0.51                      | -0.51           | 665.92         | 665.92          |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | -2.14                      | -2.14           | 508.78         | 508.78          |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | -1.28                      | -1.28           | -21.96         | -21.96          |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|                       |                   |                             |                 |                |                 |        |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|--------|
| F14                   |                   |                             | -1.68           | -1.68          | 724.07          | 724.07 |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |        |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |                   | -1.53                       | -1.53           | 39.09          | 39.09           |        |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |        |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |                   | -1.03                       | -1.03           | 326.02         | 326.02          |        |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |        |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |                   | -0.89                       | -0.89           | -358.96        | -358.96         |        |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |                   | -3.46                       | -3.46           | 621.86         | 621.86          |        |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |                   | -3.46                       | -3.46           | 542.29         | 542.29          |        |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |                   | -0.31                       | -0.31           | 187.50         | 187.50          |        |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |                   | -0.32                       | -0.32           | 377.36         | 377.36          |        |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |        |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F14                   |                   | 0.00                        | 0.00            | 0.00           | 0.00            |        |





**Frame #45**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F14          | -1580.60 | -1580.60 | -69.94  | -69.94   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F14           | -323.56     | -323.56  | -22.56  | -22.56   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F14           | -6.08       | -6.08    | 0.09    | 0.09     |  |

| Load Case: W1 | W        | Wind_IBC09_1_X |         |          |  |
|---------------|----------|----------------|---------|----------|--|
| Level         | Shear-X  | Change-X       | Shear-Y | Change-Y |  |
|               | kip      | kip            | kip     | kip      |  |
| F14           | -1080.14 | -1080.14       | -1.15   | -1.15    |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F14           | 912.50  | 912.50         | 3.46    | 3.46     |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F14           | -793.81 | -793.81          | -1.36   | -1.36    |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F14           | -826.41 | -826.41          | -0.36   | -0.36    |  |

| Load Case: W5 | W       | Wind_IBC09_2_Y+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F14           | 564.06  | 564.06           | 6.22    | 6.22     |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 804.69                      | 804.69          | -1.03          | -1.03           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -125.73                     | -125.73         | 1.73           | 1.73            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -1494.48                    | -1494.48        | -3.46          | -3.46           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 8.16                        | 8.16            | -1.79          | -1.79           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -196.76                     | -196.76         | 4.39           | 4.39            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -1018.40                    | -1018.40        | -5.69          | -5.69           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -1223.32                    | -1223.32        | 0.50           | 0.50            |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -1825.73                    | -1825.73        | -2.10          | -2.10           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

F14 -1855.17 -1855.17 -1.40 -1.40

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 532.00          | 532.00           | 2.39            | 2.39             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 602.61          | 602.61           | 0.71            | 0.71             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #46**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -107.33         | -107.33          | -20.74          | -20.74           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -38.30          | -38.30           | -9.46           | -9.46            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.01            | 0.01             | 0.04            | 0.04             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -18.71          | -18.71           | -3.65           | -3.65            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -22.69          | -22.69           | 9.28            | 9.28             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -16.50                      | -16.50          | -2.66          | -2.66           |
| <b>Load Case: W4</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -11.57                      | -11.57          | -2.81          | -2.81           |
| <b>Load Case: W5</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | 0.85                        | 0.85            | 6.40           | 6.40            |
| <b>Load Case: W6</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -34.88                      | -34.88          | 7.52           | 7.52            |
| <b>Load Case: W7</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -31.05                      | -31.05          | 4.23           | 4.23            |
| <b>Load Case: W8</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | 2.98                        | 2.98            | -9.70          | -9.70           |
| <b>Load Case: W9</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -38.53                      | -38.53          | 3.64           | 3.64            |
| <b>Load Case: W10</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                   |          | -8.04                       | -8.04           | 2.70           | 2.70            |
| <b>Load Case: W11</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



RAM Structural System

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F14 -13.01 -13.01 -6.80 -6.80

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 17.48           | 17.48            | -7.75           | -7.75            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -31.29          | -31.29           | -6.38           | -6.38            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -27.59          | -27.59           | -6.52           | -6.52            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -12.76          | -12.76           | 5.12            | 5.12             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -21.59          | -21.59           | 5.45            | 5.45             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #47**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 2103.57         | 2103.57          | 10.34           | 10.34            |
| F13   | 0.00            | -2103.57         | 0.00            | -10.34           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
|-------|-----------------|------------------|-----------------|------------------|



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |        |         |        |        |
|-----|--------|---------|--------|--------|
| F14 | 351.12 | 351.12  | -55.96 | -55.96 |
| F13 | 0.00   | -351.12 | 0.00   | 55.96  |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 24.14           | 24.14            | 0.91            | 0.91             |
| F13   | 0.00            | -24.14           | 0.00            | -0.91            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1133.23         | 1133.23          | 14.08           | 14.08            |
| F13   | 0.00            | -1133.23         | 0.00            | -14.08           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -1276.90        | -1276.90         | 162.17          | 162.17           |
| F13   | 0.00            | 1276.90          | 0.00            | -162.17          |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 558.33          | 558.33           | 10.59           | 10.59            |
| F13   | 0.00            | -558.33          | 0.00            | -10.59           |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1141.52         | 1141.52          | 10.53           | 10.53            |
| F13   | 0.00            | -1141.52         | 0.00            | -10.53           |

**Load Case: W5 W Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1179.30         | 1179.30          | 120.69          | 120.69           |
| F13   | 0.00            | -1179.30         | 0.00            | -120.69          |

**Load Case: W6 W Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -3094.64        | -3094.64         | 122.57          | 122.57           |
| F13   | 0.00            | 3094.64          | 0.00            | -122.57          |



**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -107.75         | -107.75          | 132.19          | 132.19           |
| F13   | 0.00            | 107.75           | 0.00            | -132.19          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1807.60         | 1807.60          | -111.07         | -111.07          |
| F13   | 0.00            | -1807.60         | 0.00            | 111.07           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -1902.24        | -1902.24         | 99.87           | 99.87            |
| F13   | 0.00            | 1902.24          | 0.00            | -99.87           |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1740.62         | 1740.62          | 98.41           | 98.41            |
| F13   | 0.00            | -1740.62         | 0.00            | -98.41           |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -465.73         | -465.73          | -82.57          | -82.57           |
| F13   | 0.00            | 465.73           | 0.00            | 82.57            |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 3177.12         | 3177.12          | -84.04          | -84.04           |
| F13   | 0.00            | -3177.12         | 0.00            | 84.04            |

**Load Case: E1    E    EQ\_ASCE710\_X+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1527.87         | 1527.87          | 25.28           | 25.28            |
| F13   | 0.00            | -1527.87         | 0.00            | -25.28           |



**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1956.44         | 1956.44          | 24.42           | 24.42            |
| F13   | 0.00            | -1956.44         | 0.00            | -24.42           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -722.65         | -722.65          | 87.04           | 87.04            |
| F13   | 0.00            | 722.65           | 0.00            | -87.04           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -1747.34        | -1747.34         | 89.11           | 89.11            |
| F13   | 0.00            | 1747.34          | 0.00            | -89.11           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |
| F13   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #48**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 25.29           | 25.29            | 12.01           | 12.01            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 22.15           | 22.15            | 3.52            | 3.52             |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | -0.24           | -0.24            | -0.07           | -0.07            |





|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                  |          | -24.83                     | -24.83          | -5.20          | -5.20           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                  |          | -27.07                     | -27.07          | 52.93          | 52.93           |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                  |          | -17.25                     | -17.25          | -3.20          | -3.20           |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                  |          | -20.00                     | -20.00          | -4.61          | -4.61           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                  |          | -30.15                     | -30.15          | 34.47          | 34.47           |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                  |          | -10.45                     | -10.45          | 44.93          | 44.93           |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                  |          | -38.93                     | -38.93          | 35.80          | 35.80           |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F14                  |          | 1.68                       | 1.68            | -43.60         | -43.60          |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |                   |                             |                 |                |                 |       |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|-------|
| F14                   |                   |                             | -20.77          | -20.77         | 31.30           | 31.30 |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |                   | -37.62                      | -37.62          | 22.40          | 22.40           |       |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |                   | 9.68                        | 9.68            | -28.25         | -28.25          |       |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |                   | -7.17                       | -7.17           | -37.15         | -37.15          |       |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |                   | -38.84                      | -38.84          | -8.49          | -8.49           |       |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |                   | -41.02                      | -41.02          | -9.63          | -9.63           |       |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |                   | -12.91                      | -12.91          | 29.20          | 29.20           |       |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |                   | -7.69                       | -7.69           | 31.94          | 31.94           |       |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F14                   |                   | 0.00                        | 0.00            | 0.00           | 0.00            |       |



**Frame #49**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F14          | -211.83  | -211.83  | -199.58 | -199.58  |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F14           | 45.72       | 45.72    | -40.95  | -40.95   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F14           | -15.45      | -15.45   | 0.38    | 0.38     |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F14           | 585.41  | 585.41         | 14.83   | 14.83    |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F14           | 381.06  | 381.06         | 178.99  | 178.99   |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F14           | 715.73  | 715.73           | 13.69   | 13.69    |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F14           | 162.38  | 162.38           | 8.55    | 8.55     |  |

| Load Case: W5 | W        | Wind_IBC09_2_Y+E |         |          |  |
|---------------|----------|------------------|---------|----------|--|
| Level         | Shear-X  | Change-X         | Shear-Y | Change-Y |  |
|               | kip      | kip              | kip     | kip      |  |
| F14           | -1740.74 | -1740.74         | 115.43  | 115.43   |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 2312.33                     | 2312.33         | 153.06         | 153.06          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 724.85                      | 724.85          | 145.37         | 145.37          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 153.26                      | 153.26          | -123.12        | -123.12         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 2271.04                     | 2271.04         | 125.06         | 125.06          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -1183.77                    | -1183.77        | 92.99          | 92.99           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 1842.36                     | 1842.36         | -76.30         | -76.30          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | -1612.46                    | -1612.46        | -108.38        | -108.38         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                   |          | 1332.55                     | 1332.55         | 25.78          | 25.78           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |        |        |       |       |
|-----|--------|--------|-------|-------|
| F14 | 931.73 | 931.73 | 21.35 | 21.35 |
|-----|--------|--------|-------|-------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 196.46          | 196.46           | 99.98           | 99.98            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 1154.59         | 1154.59          | 110.57          | 110.57           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F14   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #50**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -25.28          | -25.28           | -517.62         | -517.62          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -3.64           | -3.64            | -196.60         | -196.60          |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -0.19           | -0.19            | 1.64            | 1.64             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -11.77          | -11.77           | 46.70           | 46.70            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 0.90            | 0.90             | -29.47          | -29.47           |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -8.79                       | -8.79           | 19.98          | 19.98           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -8.87                       | -8.87           | 50.07          | 50.07           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | 0.34                        | 0.34            | 86.57          | 86.57           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | 1.00                        | 1.00            | -130.77        | -130.77         |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -8.16                       | -8.16           | 12.92          | 12.92           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -9.50                       | -9.50           | 57.13          | 57.13           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -5.84                       | -5.84           | -83.09         | -83.09          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -6.40                       | -6.40           | 102.48         | 102.48          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|     |       |       |        |        |
|-----|-------|-------|--------|--------|
| F13 | -6.85 | -6.85 | -49.94 | -49.94 |
|-----|-------|-------|--------|--------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -7.40           | -7.40            | 135.63          | 135.63           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -17.71          | -17.71           | 87.36           | 87.36            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -17.79          | -17.79           | 110.19          | 110.19           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 0.45            | 0.45             | -24.47          | -24.47           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 0.65            | 0.65             | -79.03          | -79.03           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #51**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -66.36          | -66.36           | -844.31         | -844.31          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -18.88          | -18.88           | -348.66         | -348.66          |



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| <b>Load Case: Ln NegLiveLoad RAMUSER</b> |                |                 |                |                 |            |
|--|----------------|-----------------|----------------|-----------------|------------|
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F13                                      | -0.11          | -0.11           | 2.32           | 2.32            |            |
| <b>Load Case: W1 W Wind_IBC09_1_X</b>    |                |                 |                |                 |            |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F13                                      | -30.01         | -30.01          | -15.03         | -15.03          |            |
| <b>Load Case: W2 W Wind_IBC09_1_Y</b>    |                |                 |                |                 |            |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F13                                      | 26.60          | 26.60           | 169.81         | 169.81          |            |
| <b>Load Case: W3 W Wind_IBC09_2_X+E</b>  |                |                 |                |                 |            |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F13                                      | -21.97         | -21.97          | -33.34         | -33.34          |            |
| <b>Load Case: W4 W Wind_IBC09_2_X-E</b>  |                |                 |                |                 |            |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F13                                      | -23.05         | -23.05          | 10.80          | 10.80           |            |
| <b>Load Case: W5 W Wind_IBC09_2_Y+E</b>  |                |                 |                |                 |            |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F13                                      | 15.98          | 15.98           | 284.69         | 284.69          |            |
| <b>Load Case: W6 W Wind_IBC09_2_Y-E</b>  |                |                 |                |                 |            |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F13                                      | 23.93          | 23.93           | -29.98         | -29.98          |            |
| <b>Load Case: W7 W Wind_IBC09_3_X+Y</b>  |                |                 |                |                 |            |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F13                                      | -2.56          | -2.56           | 116.09         | 116.09          |            |
| <b>Load Case: W8 W Wind_IBC09_3_X-Y</b>  |                |                 |                |                 |            |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |





RAM Structural System

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|                       |          |                             |                 |                |                 |         |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|---------|
| F13                   |          |                             | -42.46          | -42.46         | -138.63         | -138.63 |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F13                   |          | 1.47                        | 1.47            | -47.49         | -47.49          |         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F13                   |          | -5.30                       | -5.30           | 221.62         | 221.62          |         |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F13                   |          | -28.46                      | -28.46          | -238.52        | -238.52         |         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F13                   |          | -35.23                      | -35.23          | 30.58          | 30.58           |         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F13                   |          | -49.63                      | -49.63          | -46.32         | -46.32          |         |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F13                   |          | -50.59                      | -50.59          | -12.98         | -12.98          |         |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F13                   |          | 15.54                       | 15.54           | 61.87          | 61.87           |         |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |         |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F13                   |          | 17.85                       | 17.85           | -17.78         | -17.78          |         |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F13           | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #52**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F13          | -18.00   | -18.00   | 651.79  | 651.79   |  |
| F12          | 0.00     | 18.00    | 0.00    | -651.79  |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F13           | -4.69       | -4.69    | 166.81  | 166.81   |  |
| F12           | 0.00        | 4.69     | 0.00    | -166.81  |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F13           | 0.00        | 0.00     | 0.59    | 0.59     |  |
| F12           | 0.00        | 0.00     | 0.00    | -0.59    |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F13           | -5.79   | -5.79          | 3.57    | 3.57     |  |
| F12           | 0.00    | 5.79           | 0.00    | -3.57    |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F13           | -4.76   | -4.76          | 141.12  | 141.12   |  |
| F12           | 0.00    | 4.76           | 0.00    | -141.12  |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F13           | -4.29   | -4.29            | 3.12    | 3.12     |  |
| F12           | 0.00    | 4.29             | 0.00    | -3.12    |  |



**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -4.39           | -4.39            | 2.24            | 2.24             |
| F12   | 0.00            | 4.39             | 0.00            | -2.24            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -3.96           | -3.96            | 101.09          | 101.09           |
| F12   | 0.00            | 3.96             | 0.00            | -101.09          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -3.18           | -3.18            | 110.59          | 110.59           |
| F12   | 0.00            | 3.18             | 0.00            | -110.59          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -7.91           | -7.91            | 108.52          | 108.52           |
| F12   | 0.00            | 7.91             | 0.00            | -108.52          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -0.77           | -0.77            | -103.16         | -103.16          |
| F12   | 0.00            | 0.77             | 0.00            | 103.16           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -5.60           | -5.60            | 85.28           | 85.28            |
| F12   | 0.00            | 5.60             | 0.00            | -85.28           |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -6.27           | -6.27            | 77.50           | 77.50            |
| F12   | 0.00            | 6.27             | 0.00            | -77.50           |



**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -0.24           | -0.24            | -73.48          | -73.48           |
| F12   | 0.00            | 0.24             | 0.00            | 73.48            |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -0.91           | -0.91            | -81.27          | -81.27           |
| F12   | 0.00            | 0.91             | 0.00            | 81.27            |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -9.50           | -9.50            | 14.14           | 14.14            |
| F12   | 0.00            | 9.50             | 0.00            | -14.14           |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -9.61           | -9.61            | 12.65           | 12.65            |
| F12   | 0.00            | 9.61             | 0.00            | -12.65           |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -2.58           | -2.58            | 68.22           | 68.22            |
| F12   | 0.00            | 2.58             | 0.00            | -68.22           |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -2.32           | -2.32            | 71.86           | 71.86            |
| F12   | 0.00            | 2.32             | 0.00            | -71.86           |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 0.00            | 0.00             | 0.00            | 0.00             |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |



**Frame #53**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F13          | -4.08    | -4.08    | 657.14  | 657.14   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F13           | -1.26       | -1.26    | 211.83  | 211.83   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F13           | -0.02       | -0.02    | -4.76   | -4.76    |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F13           | -6.34   | -6.34          | 319.64  | 319.64   |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F13           | -1.59   | -1.59          | 346.16  | 346.16   |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F13           | -4.78   | -4.78            | 294.51  | 294.51   |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F13           | -4.72   | -4.72            | 184.95  | 184.95   |  |

| Load Case: W5 | W       | Wind_IBC09_2_Y+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F13           | -0.96   | -0.96            | -131.28 | -131.28  |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -1.43                       | -1.43           | 650.53         | 650.53          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -5.94                       | -5.94           | 499.36         | 499.36          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -3.56                       | -3.56           | -19.89         | -19.89          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -4.66                       | -4.66           | 708.78         | 708.78          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -4.26                       | -4.26           | 40.25          | 40.25           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -2.87                       | -2.87           | 319.35         | 319.35          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -2.47                       | -2.47           | -349.18        | -349.18         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -9.63                       | -9.63           | 613.92         | 613.92          |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |       |       |        |        |
|-----|-------|-------|--------|--------|
| F13 | -9.62 | -9.62 | 536.01 | 536.01 |
|-----|-------|-------|--------|--------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -0.88           | -0.88            | 181.19          | 181.19           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -0.90           | -0.90            | 367.08          | 367.08           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #54**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -75.16          | -75.16           | 458.16          | 458.16           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -23.13          | -23.13           | 159.19          | 159.19           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -0.10           | -0.10            | -0.48           | -0.48            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -14.24          | -14.24           | -26.10          | -26.10           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -15.15          | -15.15           | 78.94           | 78.94            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -11.16                      | -11.16          | -22.52         | -22.52          |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -10.20                      | -10.20          | -16.64         | -16.64          |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -7.78                       | -7.78           | 81.09          | 81.09           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -14.95                      | -14.95          | 37.33          | 37.33           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -22.04                      | -22.04          | 39.63          | 39.63           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | 0.69                        | 0.69            | -78.79         | -78.79          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -19.58                      | -19.58          | 11.11          | 11.11           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -13.48                      | -13.48          | 48.34          | 48.34           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |





|     |       |       |        |        |
|-----|-------|-------|--------|--------|
| F13 | -2.54 | -2.54 | -77.70 | -77.70 |
|-----|-------|-------|--------|--------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 3.57            | 3.57             | -40.48          | -40.48           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -21.77          | -21.77           | -42.00          | -42.00           |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -21.15          | -21.15           | -38.82          | -38.82           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -8.22           | -8.22            | 49.94           | 49.94            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -9.70           | -9.70            | 42.37           | 42.37            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #55**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -301.02         | -301.02          | 920.66          | 920.66           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -92.65          | -92.65           | 298.54          | 298.54           |



| Load Case: Ln        | NegLiveLoad | RAMUSER                 |         |          |  |
|----------------------|-------------|-------------------------|---------|----------|--|
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F13                  | 0.26        | 0.26                    | -0.10   | -0.10    |  |
| <b>Load Case: W1</b> | <b>W</b>    | <b>Wind_IBC09_1_X</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F13                  | 4.01        | 4.01                    | -38.76  | -38.76   |  |
| <b>Load Case: W2</b> | <b>W</b>    | <b>Wind_IBC09_1_Y</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F13                  | -113.87     | -113.87                 | 350.46  | 350.46   |  |
| <b>Load Case: W3</b> | <b>W</b>    | <b>Wind_IBC09_2_X+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F13                  | 3.94        | 3.94                    | -32.55  | -32.55   |  |
| <b>Load Case: W4</b> | <b>W</b>    | <b>Wind_IBC09_2_X-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F13                  | 2.07        | 2.07                    | -25.59  | -25.59   |  |
| <b>Load Case: W5</b> | <b>W</b>    | <b>Wind_IBC09_2_Y+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F13                  | -92.26      | -92.26                  | 288.50  | 288.50   |  |
| <b>Load Case: W6</b> | <b>W</b>    | <b>Wind_IBC09_2_Y-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F13                  | -78.54      | -78.54                  | 237.19  | 237.19   |  |
| <b>Load Case: W7</b> | <b>W</b>    | <b>Wind_IBC09_3_X+Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F13                  | -82.39      | -82.39                  | 233.77  | 233.77   |  |
| <b>Load Case: W8</b> | <b>W</b>    | <b>Wind_IBC09_3_X-Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |



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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F13                   |          | 88.41                       | 88.41           | -291.92        | -291.92         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -55.94                      | -55.94          | 153.48         | 153.48          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -67.64                      | -67.64          | 197.18         | 197.18          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | 72.15                       | 72.15           | -240.79        | -240.79         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | 60.46                       | 60.46           | -197.09        | -197.09         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | 8.99                        | 8.99            | -69.95         | -69.95          |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | 7.61                        | 7.61            | -65.76         | -65.76          |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -64.68                      | -64.68          | 203.14         | 203.14          |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -61.38                      | -61.38          | 193.17         | 193.17          |



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| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F13           | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #56**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F13          | -1816.28 | -1816.28 | -62.26  | -62.26   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F13           | -398.86     | -398.86  | -19.43  | -19.43   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F13           | -6.74       | -6.74    | 0.15    | 0.15     |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F13           |   | -1108.02       | -1108.02 | -0.68   | -0.68    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F13           |   | 811.92         | 811.92   | 7.42    | 7.42     |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F13           |   | -816.37          | -816.37  | -1.53   | -1.53    |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F13           |   | -845.66          | -845.66  | 0.51    | 0.51     |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | 499.96                      | 499.96          | 13.04          | 13.04           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | 717.91                      | 717.91          | -1.91          | -1.91           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -222.08                     | -222.08         | 5.05           | 5.05            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -1439.96                    | -1439.96        | -6.08          | -6.08           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -73.84                      | -73.84          | -2.58          | -2.58           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -259.28                     | -259.28         | 10.16          | 10.16           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -987.25                     | -987.25         | -10.93         | -10.93          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -1172.68                    | -1172.68        | 1.81           | 1.81            |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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|     |          |          |       |       |
|-----|----------|----------|-------|-------|
| F13 | -1839.77 | -1839.77 | -1.94 | -1.94 |
|-----|----------|----------|-------|-------|

| Load Case: E2 | E | EQ_ASCE710_X_-E_F |          |         |          |
|---------------|---|-------------------|----------|---------|----------|
| Level         |   | Shear-X           | Change-X | Shear-Y | Change-Y |
|               |   | kip               | kip      | kip     | kip      |
| F13           |   | -1866.31          | -1866.31 | -0.52   | -0.52    |

| Load Case: E3 | E | EQ_ASCE710_Y_+E_F |          |         |          |
|---------------|---|-------------------|----------|---------|----------|
| Level         |   | Shear-X           | Change-X | Shear-Y | Change-Y |
|               |   | kip               | kip      | kip     | kip      |
| F13           |   | 469.66            | 469.66   | 4.70    | 4.70     |

| Load Case: E4 | E | EQ_ASCE710_Y_-E_F |          |         |          |
|---------------|---|-------------------|----------|---------|----------|
| Level         |   | Shear-X           | Change-X | Shear-Y | Change-Y |
|               |   | kip               | kip      | kip     | kip      |
| F13           |   | 533.35            | 533.35   | 1.31    | 1.31     |

| Load Case: O1 | Shear Test | User_User |          |         |          |
|---------------|------------|-----------|----------|---------|----------|
| Level         |            | Shear-X   | Change-X | Shear-Y | Change-Y |
|               |            | kip       | kip      | kip     | kip      |
| F13           |            | 0.00      | 0.00     | 0.00    | 0.00     |

Frame #57

| Load Case: D | DeadLoad | RAMUSER |          |         |          |
|--------------|----------|---------|----------|---------|----------|
| Level        |          | Shear-X | Change-X | Shear-Y | Change-Y |
|              |          | kip     | kip      | kip     | kip      |
| F13          |          | -181.50 | -181.50  | -10.56  | -10.56   |

| Load Case: Lp | PosLiveLoad | RAMUSER |          |         |          |
|---------------|-------------|---------|----------|---------|----------|
| Level         |             | Shear-X | Change-X | Shear-Y | Change-Y |
|               |             | kip     | kip      | kip     | kip      |
| F13           |             | -56.07  | -56.07   | -6.25   | -6.25    |

| Load Case: Ln | NegLiveLoad | RAMUSER |          |         |          |
|---------------|-------------|---------|----------|---------|----------|
| Level         |             | Shear-X | Change-X | Shear-Y | Change-Y |
|               |             | kip     | kip      | kip     | kip      |
| F13           |             | -0.18   | -0.18    | 0.03    | 0.03     |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F13           |   | -52.97         | -52.97   | -2.77   | -2.77    |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -12.16                      | -12.16          | 10.15          | 10.15           |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -41.02                      | -41.02          | -2.10          | -2.10           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -38.44                      | -38.44          | -2.05          | -2.05           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | 0.10                        | 0.10            | 7.79           | 7.79            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -18.34                      | -18.34          | 7.45           | 7.45            |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -48.85                      | -48.85          | 5.54           | 5.54            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -30.61                      | -30.61          | -9.69          | -9.69           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -44.52                      | -44.52          | 4.01           | 4.01            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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F13 -28.75 -28.75 4.30 4.30

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -30.84          | -30.84           | -7.42           | -7.42            |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -15.08          | -15.08           | -7.12           | -7.12            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -81.23          | -81.23           | -5.00           | -5.00            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -79.46          | -79.46           | -4.99           | -4.99            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -7.34           | -7.34            | 5.54            | 5.54             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -11.56          | -11.56           | 5.53            | 5.53             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #58**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 2084.74         | 2084.74          | 79.19           | 79.19            |





| <b>Load Case: Lp</b> |  | <b>PosLiveLoad RAMUSER</b> |                          |                         |                          |
|----------------------|--|----------------------------|--------------------------|-------------------------|--------------------------|
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F13                  |  | 313.37                     | 313.37                   | 15.47                   | 15.47                    |
| <b>Load Case: Ln</b> |  | <b>NegLiveLoad RAMUSER</b> |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F13                  |  | 28.92                      | 28.92                    | -0.45                   | -0.45                    |
| <b>Load Case: W1</b> |  | <b>W Wind_IBC09_1_X</b>    |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F13                  |  | 1503.56                    | 1503.56                  | -14.87                  | -14.87                   |
| <b>Load Case: W2</b> |  | <b>W Wind_IBC09_1_Y</b>    |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F13                  |  | -786.59                    | -786.59                  | 20.13                   | 20.13                    |
| <b>Load Case: W3</b> |  | <b>W Wind_IBC09_2_X+E</b>  |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F13                  |  | 830.56                     | 830.56                   | -9.80                   | -9.80                    |
| <b>Load Case: W4</b> |  | <b>W Wind_IBC09_2_X-E</b>  |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F13                  |  | 1424.78                    | 1424.78                  | -12.50                  | -12.50                   |
| <b>Load Case: W5</b> |  | <b>W Wind_IBC09_2_Y+E</b>  |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F13                  |  | 1590.93                    | 1590.93                  | 4.84                    | 4.84                     |
| <b>Load Case: W6</b> |  | <b>W Wind_IBC09_2_Y-E</b>  |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
| F13                  |  | -2770.81                   | -2770.81                 | 25.36                   | 25.36                    |
| <b>Load Case: W7</b> |  | <b>W Wind_IBC09_3_X+Y</b>  |                          |                         |                          |
| <b>Level</b>         |  | <b>Shear-X<br/>kips</b>    | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|                      |  |                            |                          |                         |                          |



| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--|-----------------|------------------|-----------------|------------------|
| F13  | 537.73          | 537.73           | 3.95            | 3.95             |
| <b>Load Case: W8    W    Wind_IBC09_3_X-Y</b>      |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | 1717.61         | 1717.61          | -26.25          | -26.25           |
| <b>Load Case: W9    W    Wind_IBC09_4_X+Y_CW</b>   |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | -1455.19        | -1455.19         | 11.67           | 11.67            |
| <b>Load Case: W10    W    Wind_IBC09_4_X+Y_CCW</b> |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | 2261.78         | 2261.78          | -5.74           | -5.74            |
| <b>Load Case: W11    W    Wind_IBC09_4_X-Y_CW</b>  |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | -570.27         | -570.27          | -10.98          | -10.98           |
| <b>Load Case: W12    W    Wind_IBC09_4_X-Y_CCW</b> |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | 3146.69         | 3146.69          | -28.39          | -28.39           |
| <b>Load Case: E1    E    EQ_ASCE710_X_+E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | 2053.75         | 2053.75          | -22.38          | -22.38           |
| <b>Load Case: E2    E    EQ_ASCE710_X_-E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | 2485.87         | 2485.87          | -24.08          | -24.08           |
| <b>Load Case: E3    E    EQ_ASCE710_Y_+E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | -422.59         | -422.59          | 4.48            | 4.48             |



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**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -1455.48        | -1455.48         | 8.57            | 8.57             |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #59**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -76.31          | -76.31           | 18.24           | 18.24            |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -6.80           | -6.80            | 5.30            | 5.30             |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -0.28           | -0.28            | -0.08           | -0.08            |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -64.29          | -64.29           | -5.31           | -5.31            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -49.94          | -49.94           | 59.20           | 59.20            |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -47.54          | -47.54           | -3.26           | -3.26            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -48.89                      | -48.89          | -4.71          | -4.71           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -42.12                      | -42.12          | 38.99          | 38.99           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -32.78                      | -32.78          | 49.80          | 49.80           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -85.67                      | -85.67          | 40.41          | 40.41           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -10.77                      | -10.77          | -48.38         | -48.38          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -60.24                      | -60.24          | 34.91          | 34.91           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -68.26                      | -68.26          | 25.71          | 25.71           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F13                   |          | -4.06                       | -4.06           | -31.69         | -31.69          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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F13 -12.09 -12.09 -40.88 -40.88

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F13 -99.29 -99.29 -8.76 -8.76

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F13 -100.61 -100.61 -9.93 -9.93

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F13 -25.26 -25.26 32.42 32.42

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F13 -22.09 -22.09 35.23 35.23

**Load Case: O1 Shear Test User\_User**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F13 0.00 0.00 0.00 0.00

**Frame #60**

**Load Case: D DeadLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F13 5230.77 5230.77 -2.01 -2.01

**Load Case: Lp PosLiveLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F13 1661.41 1661.41 8.56 8.56

**Load Case: Ln NegLiveLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F13 -19.87 -19.87 -0.47 -0.47



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                  |          | 1723.76                    | 1723.76         | -10.42         | -10.42          |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                  |          | 1139.20                    | 1139.20         | -2.56          | -2.56           |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                  |          | 1595.04                    | 1595.04         | -5.63          | -5.63           |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                  |          | 990.60                     | 990.60          | -9.99          | -9.99           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                  |          | -1365.08                   | -1365.08        | -18.16         | -18.16          |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                  |          | 3073.88                    | 3073.88         | 14.31          | 14.31           |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                  |          | 2147.21                    | 2147.21         | -9.73          | -9.73           |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                  |          | 438.42                     | 438.42          | -5.89          | -5.89           |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



RAM Structural System

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| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--|-----------------|------------------|-----------------|------------------|
| F13  | 3501.68         | 3501.68          | 6.51            | 6.51             |
| <b>Load Case: W10    W    Wind_IBC09_4_X+Y_CCW</b> |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | -280.86         | -280.86          | -21.11          | -21.11           |
| <b>Load Case: W11    W    Wind_IBC09_4_X-Y_CW</b>  |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | 2220.09         | 2220.09          | 9.39            | 9.39             |
| <b>Load Case: W12    W    Wind_IBC09_4_X-Y_CCW</b> |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | -1562.46        | -1562.46         | -18.23          | -18.23           |
| <b>Load Case: E1    E    EQ_ASCE710_X_+E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | 3039.37         | 3039.37          | -12.46          | -12.46           |
| <b>Load Case: E2    E    EQ_ASCE710_X_-E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | 2615.35         | 2615.35          | -15.40          | -15.40           |
| <b>Load Case: E3    E    EQ_ASCE710_Y_+E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | 594.97          | 594.97           | -7.90           | -7.90            |
| <b>Load Case: E4    E    EQ_ASCE710_Y_-E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | 1607.88         | 1607.88          | -0.87           | -0.87            |
| <b>Load Case: O1    Shear Test    User_User</b>    |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13  | 0.00            | 0.00             | 0.00            | 0.00             |



**Frame #61**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F13          | -1247.81 | -1247.81 | 286.09  | 286.09   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F13           | -366.13     | -366.13  | 102.99  | 102.99   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F13           | 0.43        | 0.43     | -0.41   | -0.41    |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F13           | -304.50 | -304.50        | -5.48   | -5.48    |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F13           | -431.79 | -431.79        | 79.66   | 79.66    |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F13           | -236.16 | -236.16          | -3.15   | -3.15    |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F13           | -220.60 | -220.60          | -5.06   | -5.06    |  |

| Load Case: W5 | W       | Wind_IBC09_2_Y+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F13           | -265.75 | -265.75          | 52.67   | 52.67    |  |





|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -381.93                     | -381.93         | 66.82          | 66.82           |
| <b>Load Case: W7</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -552.22                     | -552.22         | 55.64          | 55.64           |
| <b>Load Case: W8</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | 95.47                       | 95.47           | -63.86         | -63.86          |
| <b>Load Case: W9</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -463.57                     | -463.57         | 47.75          | 47.75           |
| <b>Load Case: W10</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -364.76                     | -364.76         | 35.71          | 35.71           |
| <b>Load Case: W11</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | 22.20                       | 22.20           | -41.87         | -41.87          |
| <b>Load Case: W12</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | 121.00                      | 121.00          | -53.91         | -53.91          |
| <b>Load Case: E1</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -457.23                     | -457.23         | -8.73          | -8.73           |
| <b>Load Case: E2</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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|     |         |         |        |        |
|-----|---------|---------|--------|--------|
| F13 | -448.13 | -448.13 | -10.30 | -10.30 |
|-----|---------|---------|--------|--------|

| Load Case: E3 | E | EQ_ASCE710_Y_+E_F |          |         |          |
|---------------|---|-------------------|----------|---------|----------|
| Level         |   | Shear-X           | Change-X | Shear-Y | Change-Y |
|               |   | kips              | kips     | kips    | kips     |
| F13           |   | -237.47           | -237.47  | 43.61   | 43.61    |

| Load Case: E4 | E | EQ_ASCE710_Y_-E_F |          |         |          |
|---------------|---|-------------------|----------|---------|----------|
| Level         |   | Shear-X           | Change-X | Shear-Y | Change-Y |
|               |   | kips              | kips     | kips    | kips     |
| F13           |   | -259.15           | -259.15  | 47.37   | 47.37    |

| Load Case: O1 |  | Shear Test User_User |          |         |          |
|---------------|--|----------------------|----------|---------|----------|
| Level         |  | Shear-X              | Change-X | Shear-Y | Change-Y |
|               |  | kips                 | kips     | kips    | kips     |
| F13           |  | 0.00                 | 0.00     | 0.00    | 0.00     |

**Frame #62**

| Load Case: D |  | DeadLoad RAMUSER |          |         |          |
|--------------|--|------------------|----------|---------|----------|
| Level        |  | Shear-X          | Change-X | Shear-Y | Change-Y |
|              |  | kips             | kips     | kips    | kips     |
| F13          |  | -3049.87         | -3049.87 | 107.67  | 107.67   |

| Load Case: Lp |  | PosLiveLoad RAMUSER |          |         |          |
|---------------|--|---------------------|----------|---------|----------|
| Level         |  | Shear-X             | Change-X | Shear-Y | Change-Y |
|               |  | kips                | kips     | kips    | kips     |
| F13           |  | -876.25             | -876.25  | 35.22   | 35.22    |

| Load Case: Ln |  | NegLiveLoad RAMUSER |          |         |          |
|---------------|--|---------------------|----------|---------|----------|
| Level         |  | Shear-X             | Change-X | Shear-Y | Change-Y |
|               |  | kips                | kips     | kips    | kips     |
| F13           |  | 0.73                | 0.73     | 0.13    | 0.13     |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F13           |   | -917.49        | -917.49  | -6.58   | -6.58    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F13           |   | -580.70        | -580.70  | 34.89   | 34.89    |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -701.18                     | -701.18         | -6.35          | -6.35           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -675.05                     | -675.05         | -3.52          | -3.52           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -337.66                     | -337.66         | 36.65          | 36.65           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -533.39                     | -533.39         | 15.68          | 15.68           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -1123.64                    | -1123.64        | 21.23          | 21.23           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -252.59                     | -252.59         | -31.11         | -31.11          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -925.93                     | -925.93         | 7.00           | 7.00            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F13                   |          | -759.53                     | -759.53         | 24.84          | 24.84           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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|     |         |         |        |        |
|-----|---------|---------|--------|--------|
| F13 | -272.64 | -272.64 | -32.25 | -32.25 |
|-----|---------|---------|--------|--------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -106.25         | -106.25          | -14.41          | -14.41           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -1375.72        | -1375.72         | -12.10          | -12.10           |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -1363.62        | -1363.62         | -10.30          | -10.30           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -320.44         | -320.44          | 21.51           | 21.51            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | -349.13         | -349.13          | 17.21           | 17.21            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F13   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #63**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 7.41            | 7.41             | -296.65         | -296.65          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 2.14            | 2.14             | -117.29         | -117.29          |



| Load Case: Ln        | NegLiveLoad | RAMUSER                 |         |          |  |
|----------------------|-------------|-------------------------|---------|----------|--|
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F12                  | -0.03       | -0.03                   | -0.43   | -0.43    |  |
| <b>Load Case: W1</b> | <b>W</b>    | <b>Wind_IBC09_1_X</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F12                  | 3.66        | 3.66                    | 83.98   | 83.98    |  |
| <b>Load Case: W2</b> | <b>W</b>    | <b>Wind_IBC09_1_Y</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F12                  | 2.31        | 2.31                    | 83.55   | 83.55    |  |
| <b>Load Case: W3</b> | <b>W</b>    | <b>Wind_IBC09_2_X+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F12                  | 2.72        | 2.72                    | 67.28   | 67.28    |  |
| <b>Load Case: W4</b> | <b>W</b>    | <b>Wind_IBC09_2_X-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F12                  | 2.78        | 2.78                    | 58.69   | 58.69    |  |
| <b>Load Case: W5</b> | <b>W</b>    | <b>Wind_IBC09_2_Y+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F12                  | 1.93        | 1.93                    | 28.93   | 28.93    |  |
| <b>Load Case: W6</b> | <b>W</b>    | <b>Wind_IBC09_2_Y-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F12                  | 1.53        | 1.53                    | 96.40   | 96.40    |  |
| <b>Load Case: W7</b> | <b>W</b>    | <b>Wind_IBC09_3_X+Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F12                  | 4.48        | 4.48                    | 125.64  | 125.64   |  |
| <b>Load Case: W8</b> | <b>W</b>    | <b>Wind_IBC09_3_X-Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |



| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--|-----------------|------------------|-----------------|------------------|
| F12  | 1.01            | 1.01             | 0.32            | 0.32             |
| <b>Load Case: W9    W    Wind_IBC09_4_X+Y_CW</b>   |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F12  | 3.18            | 3.18             | 122.75          | 122.75           |
| <b>Load Case: W10    W    Wind_IBC09_4_X+Y_CCW</b> |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F12  | 3.53            | 3.53             | 65.71           | 65.71            |
| <b>Load Case: W11    W    Wind_IBC09_4_X-Y_CW</b>  |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F12  | 0.59            | 0.59             | 28.76           | 28.76            |
| <b>Load Case: W12    W    Wind_IBC09_4_X-Y_CCW</b> |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F12  | 0.93            | 0.93             | -28.28          | -28.28           |
| <b>Load Case: E1    E    EQ_ASCE710_X_+E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F12  | 5.73            | 5.73             | 166.39          | 166.39           |
| <b>Load Case: E2    E    EQ_ASCE710_X_-E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F12  | 5.80            | 5.80             | 162.03          | 162.03           |
| <b>Load Case: E3    E    EQ_ASCE710_Y_+E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F12  | 1.20            | 1.20             | 32.99           | 32.99            |
| <b>Load Case: E4    E    EQ_ASCE710_Y_-E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F12  | 1.02            | 1.02             | 43.38           | 43.38            |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F12           | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #64**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F12          | 11.14    | 11.14    | -594.77 | -594.77  |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F12           | 3.05        | 3.05     | -242.53 | -242.53  |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F12           | 0.00        | 0.00     | -0.70   | -0.70    |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F12           |   | 3.81           | 3.81     | 3.14    | 3.14     |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F12           |   | 7.44           | 7.44     | 399.24  | 399.24   |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F12           |   | 2.84             | 2.84     | 12.00   | 12.00    |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F12           |   | 2.87             | 2.87     | -7.30   | -7.30    |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 5.68                        | 5.68            | 223.18         | 223.18          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 5.48                        | 5.48            | 375.67         | 375.67          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 8.44                        | 8.44            | 301.78         | 301.78          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | -2.73                       | -2.73           | -297.08        | -297.08         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 6.24                        | 6.24            | 290.76         | 290.76          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 6.42                        | 6.42            | 161.91         | 161.91          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | -2.13                       | -2.13           | -158.39        | -158.39         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | -1.96                       | -1.96           | -287.23        | -287.23         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |      |      |       |       |
|-----|------|------|-------|-------|
| F12 | 4.79 | 4.79 | 10.39 | 10.39 |
|-----|------|------|-------|-------|

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 4.81            | 4.81             | -1.31           | -1.31            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 4.38            | 4.38             | 180.23          | 180.23           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 4.32            | 4.32             | 208.23          | 208.23           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #65**

**Load Case: D DeadLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 7.21            | 7.21             | 17.07           | 17.07            |
| F11demo | 0.00            | -7.21            | 0.00            | -17.07           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 2.57            | 2.57             | 6.93            | 6.93             |
| F11demo | 0.00            | -2.57            | 0.00            | -6.93            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 0.02            | 0.02             | -0.05           | -0.05            |
| F11demo | 0.00            | -0.02            | 0.00            | 0.05             |



**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 2.21            | 2.21             | 6.07            | 6.07             |
| F11demo | 0.00            | -2.21            | 0.00            | -6.07            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | -3.19           | -3.19            | 105.70          | 105.70           |
| F11demo | 0.00            | 3.19             | 0.00            | -105.70          |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 1.66            | 1.66             | 7.12            | 7.12             |
| F11demo | 0.00            | -1.66            | 0.00            | -7.12            |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 1.66            | 1.66             | 1.98            | 1.98             |
| F11demo | 0.00            | -1.66            | 0.00            | -1.98            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | -2.40           | -2.40            | 59.38           | 59.38            |
| F11demo | 0.00            | 2.40             | 0.00            | -59.38           |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | -2.38           | -2.38            | 99.17           | 99.17            |
| F11demo | 0.00            | 2.38             | 0.00            | -99.17           |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | -0.73           | -0.73            | 83.82           | 83.82            |
| F11demo | 0.00            | 0.73             | 0.00            | -83.82           |



**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 4.05            | 4.05             | -74.72          | -74.72           |
| F11demo | 0.00            | -4.05            | 0.00            | 74.72            |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | -0.55           | -0.55            | 79.71           | 79.71            |
| F11demo | 0.00            | 0.55             | 0.00            | -79.71           |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | -0.55           | -0.55            | 46.02           | 46.02            |
| F11demo | 0.00            | 0.55             | 0.00            | -46.02           |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 3.04            | 3.04             | -39.19          | -39.19           |
| F11demo | 0.00            | -3.04            | 0.00            | 39.19            |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 3.03            | 3.03             | -72.89          | -72.89           |
| F11demo | 0.00            | -3.03            | 0.00            | 72.89            |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 3.21            | 3.21             | 8.23            | 8.23             |
| F11demo | 0.00            | -3.21            | 0.00            | -8.23            |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 3.23            | 3.23             | 4.52            | 4.52             |
| F11demo | 0.00            | -3.23            | 0.00            | -4.52            |



**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | -1.71           | -1.71            | 48.57           | 48.57            |
| F11demo | 0.00            | 1.71             | 0.00            | -48.57           |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | -1.74           | -1.74            | 57.46           | 57.46            |
| F11demo | 0.00            | 1.74             | 0.00            | -57.46           |

**Load Case: O1    Shear Test    User\_User**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 0.00            | 0.00             | 0.00            | 0.00             |
| F11demo | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #66**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 13.54           | 13.54            | -336.48         | -336.48          |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 3.43            | 3.43             | -115.55         | -115.55          |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.00            | 0.00             | 1.27            | 1.27             |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 5.67            | 5.67             | 52.92           | 52.92            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 5.67            | 5.67             | 52.92           | 52.92            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F12                   |          | 1.27                        | 1.27            | 153.93         | 153.93          |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 4.28                        | 4.28            | 12.32          | 12.32           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 4.22                        | 4.22            | 67.07          | 67.07           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 0.75                        | 0.75            | 329.88         | 329.88          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 1.15                        | 1.15            | -98.99         | -98.99          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 5.20                        | 5.20            | 155.14         | 155.14          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 3.30                        | 3.30            | -75.75         | -75.75          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 4.07                        | 4.07            | -65.00         | -65.00          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 3.73                        | 3.73            | 297.71         | 297.71          |



**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 2.64            | 2.64             | -238.17         | -238.17          |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 2.30            | 2.30             | 124.54          | 124.54           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 8.83            | 8.83             | 111.41          | 111.41           |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 8.82            | 8.82             | 149.17          | 149.17           |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.67            | 0.67             | 64.67           | 64.67            |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.69            | 0.69             | -25.82          | -25.82           |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #67**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -6.93           | -6.93            | 537.97          | 537.97           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F12                  | -2.50          | -2.50                      | 184.66         | 184.66          |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F12                  | -0.01          | -0.01                      | -0.66          | -0.66           |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F12                  | 0.76           | 0.76                       | 7.69           | 7.69            |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F12                  | -2.62          | -2.62                      | 127.52         | 127.52          |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F12                  | 0.49           | 0.49                       | 10.76          | 10.76           |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F12                  | 0.64           | 0.64                       | 0.77           | 0.77            |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F12                  | -1.41          | -1.41                      | 58.75          | 58.75           |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F12                  | -2.53          | -2.53                      | 132.53         | 132.53          |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |          |                             |                 |                |                 |        |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|--------|
| F12                   |          |                             | -1.40           | -1.40          | 101.41          | 101.41 |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F12                   |          | 2.54                        | 2.54            | -89.88         | -89.88          |        |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F12                   |          | -1.52                       | -1.52           | 107.47         | 107.47          |        |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F12                   |          | -0.58                       | -0.58           | 44.64          | 44.64           |        |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F12                   |          | 1.43                        | 1.43            | -36.00         | -36.00          |        |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F12                   |          | 2.38                        | 2.38            | -98.82         | -98.82          |        |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F12                   |          | 1.32                        | 1.32            | 18.24          | 18.24           |        |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F12                   |          | 1.44                        | 1.44            | 10.55          | 10.55           |        |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F12                   |          | -1.46                       | -1.46           | 72.50          | 72.50           |        |





**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -1.73           | -1.73            | 90.90           | 90.90            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #68**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -0.55           | -0.55            | 809.30          | 809.30           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -0.03           | -0.03            | 265.69          | 265.69           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.02            | 0.02             | -0.29           | -0.29            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 1.39            | 1.39             | -46.55          | -46.55           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -3.27           | -3.27            | 314.01          | 314.01           |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 1.09            | 1.09             | -34.93          | -34.93           |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 0.98                        | 0.98            | -34.90         | -34.90          |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | -2.86                       | -2.86           | 235.34         | 235.34          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | -2.05                       | -2.05           | 235.68         | 235.68          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | -1.42                       | -1.42           | 200.59         | 200.59          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 3.49                        | 3.49            | -270.42        | -270.42         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | -0.72                       | -0.72           | 150.56         | 150.56          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | -1.41                       | -1.41           | 150.33         | 150.33          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 2.97                        | 2.97            | -202.70        | -202.70         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |      |      |         |         |
|-----|------|------|---------|---------|
| F12 | 2.28 | 2.28 | -202.93 | -202.93 |
|-----|------|------|---------|---------|

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 2.39            | 2.39             | -79.90          | -79.90           |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 2.31            | 2.31             | -80.53          | -80.53           |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -1.86           | -1.86            | 179.35          | 179.35           |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -1.66           | -1.66            | 180.89          | 180.89           |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #69**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 499.33          | 499.33           | -5.72           | -5.72            |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 189.91          | 189.91           | -2.46           | -2.46            |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -2.50           | -2.50            | -0.01           | -0.01            |



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | 92.05                      | 92.05           | 0.36           | 0.36            |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | 700.35                     | 700.35          | 5.36           | 5.36            |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | 62.11                      | 62.11           | 0.44           | 0.44            |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | 75.97                      | 75.97           | 0.10           | 0.10            |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | 574.13                     | 574.13          | 2.72           | 2.72            |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | 476.40                     | 476.40          | 5.32           | 5.32            |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | 594.30                     | 594.30          | 4.29           | 4.29            |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | -456.23                    | -456.23         | -3.75          | -3.75           |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| F12                   |                   | 403.88                      | 403.88          | 4.32           | 4.32            |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |                   | 487.57                      | 487.57          | 2.11           | 2.11            |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |                   | -384.02                     | -384.02         | -1.71          | -1.71           |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |                   | -300.33                     | -300.33         | -3.92          | -3.92           |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |                   | 33.93                       | 33.93           | 0.56           | 0.56            |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |                   | 43.37                       | 43.37           | 0.34           | 0.34            |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |                   | 399.49                      | 399.49          | 2.71           | 2.71            |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |                   | 376.96                      | 376.96          | 3.25           | 3.25            |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |                   | 0.00                        | 0.00            | 0.00           | 0.00            |



**Frame #70**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F12          | 35.74    | 35.74    | -0.89   | -0.89    |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F12           | 4.63        | 4.63     | -0.60   | -0.60    |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F12           | -0.15       | -0.15    | -0.01   | -0.01    |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F12           | 35.44   | 35.44          | 0.43    | 0.43     |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F12           | 13.34   | 13.34          | 1.79    | 1.79     |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F12           | 26.69   | 26.69            | 0.39    | 0.39     |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F12           | 26.47   | 26.47            | 0.25    | 0.25     |  |

| Load Case: W5 | W       | Wind_IBC09_2_Y+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F12           | 8.88    | 8.88             | 0.83    | 0.83     |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 11.13                       | 11.13           | 1.87           | 1.87            |
| <b>Load Case: W7</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 36.59                       | 36.59           | 1.66           | 1.66            |
| <b>Load Case: W8</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 16.57                       | 16.57           | -1.03          | -1.03           |
| <b>Load Case: W9</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 28.37                       | 28.37           | 1.69           | 1.69            |
| <b>Load Case: W10</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 26.52                       | 26.52           | 0.81           | 0.81            |
| <b>Load Case: W11</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 13.35                       | 13.35           | -0.33          | -0.33           |
| <b>Load Case: W12</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 11.50                       | 11.50           | -1.21          | -1.21           |
| <b>Load Case: E1</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                   |          | 58.78                       | 58.78           | 0.80           | 0.80            |
| <b>Load Case: E2</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |       |       |      |      |
|-----|-------|-------|------|------|
| F12 | 59.02 | 59.02 | 0.71 | 0.71 |
|-----|-------|-------|------|------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 5.57            | 5.57             | 0.91            | 0.91             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 4.98            | 4.98             | 1.13            | 1.13             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #71**

**Load Case: D DeadLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 14.49           | 14.49            | 628.36          | 628.36           |
| F11demo | 0.00            | -14.49           | 0.00            | -628.36          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 3.73            | 3.73             | 165.13          | 165.13           |
| F11demo | 0.00            | -3.73            | 0.00            | -165.13          |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 0.03            | 0.03             | 0.13            | 0.13             |
| F11demo | 0.00            | -0.03            | 0.00            | -0.13            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 7.13            | 7.13             | 8.11            | 8.11             |
| F11demo | 0.00            | -7.13            | 0.00            | -8.11            |





**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 1.55            | 1.55             | 88.31           | 88.31            |
| F11demo | 0.00            | -1.55            | 0.00            | -88.31           |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 5.21            | 5.21             | 9.02            | 9.02             |
| F11demo | 0.00            | -5.21            | 0.00            | -9.02            |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 5.49            | 5.49             | 3.15            | 3.15             |
| F11demo | 0.00            | -5.49            | 0.00            | -3.15            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 2.19            | 2.19             | 43.67           | 43.67            |
| F11demo | 0.00            | -2.19            | 0.00            | -43.67           |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 0.14            | 0.14             | 88.80           | 88.80            |
| F11demo | 0.00            | -0.14            | 0.00            | -88.80           |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 6.51            | 6.51             | 72.32           | 72.32            |
| F11demo | 0.00            | -6.51            | 0.00            | -72.32           |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 4.18            | 4.18             | -60.15          | -60.15           |
| F11demo | 0.00            | -4.18            | 0.00            | 60.15            |



**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 4.01            | 4.01             | 73.36           | 73.36            |
| F11demo | 0.00            | -4.01            | 0.00            | -73.36           |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 5.76            | 5.76             | 35.11           | 35.11            |
| F11demo | 0.00            | -5.76            | 0.00            | -35.11           |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 2.26            | 2.26             | -25.99          | -25.99           |
| F11demo | 0.00            | -2.26            | 0.00            | 25.99            |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 4.01            | 4.01             | -64.24          | -64.24           |
| F11demo | 0.00            | -4.01            | 0.00            | 64.24            |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 10.78           | 10.78            | 21.65           | 21.65            |
| F11demo | 0.00            | -10.78           | 0.00            | -21.65           |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 11.02           | 11.02            | 16.92           | 16.92            |
| F11demo | 0.00            | -11.02           | 0.00            | -16.92           |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 0.87            | 0.87             | 43.20           | 43.20            |
| F11demo | 0.00            | -0.87            | 0.00            | -43.20           |



**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 0.32            | 0.32             | 54.56           | 54.56            |
| F11demo | 0.00            | -0.32            | 0.00            | -54.56           |

**Load Case: O1 Shear Test User\_User**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 0.00            | 0.00             | 0.00            | 0.00             |
| F11demo | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #72**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 129.80          | 129.80           | 0.30            | 0.30             |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 43.12           | 43.12            | 0.07            | 0.07             |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.14            | 0.14             | -0.02           | -0.02            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 33.23           | 33.23            | -1.01           | -1.01            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -33.16          | -33.16           | 10.77           | 10.77            |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 24.31           | 24.31            | -0.55           | -0.55            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 25.54                       | 25.54           | -0.97          | -0.97           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -20.03                      | -20.03          | 6.52           | 6.52            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -29.71                      | -29.71          | 9.64           | 9.64            |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 0.05                        | 0.05            | 7.32           | 7.32            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 49.79                       | 49.79           | -8.84          | -8.84           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -4.05                       | -4.05           | 6.82           | 6.82            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 4.13                        | 4.13            | 4.16           | 4.16            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 33.25                       | 33.25           | -5.30          | -5.30           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |       |       |       |       |
|-----|-------|-------|-------|-------|
| F12 | 41.44 | 41.44 | -7.96 | -7.96 |
|-----|-------|-------|-------|-------|

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 50.87           | 50.87            | -1.56           | -1.56            |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 51.81           | 51.81            | -1.87           | -1.87            |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -15.49          | -15.49           | 5.76            | 5.76             |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -17.74          | -17.74           | 6.50            | 6.50             |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #73**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -22.39          | -22.39           | -70.87          | -70.87           |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -8.03           | -8.03            | -10.01          | -10.01           |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.07            | 0.07             | 0.05            | 0.05             |



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | 13.65                      | 13.65           | -0.38          | -0.38           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | -18.59                     | -18.59          | -1.87          | -1.87           |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | 10.67                      | 10.67           | -0.35          | -0.35           |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | 9.80                       | 9.80            | -0.22          | -0.22           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | -17.16                     | -17.16          | -0.86          | -0.86           |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | -10.73                     | -10.73          | -1.95          | -1.95           |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | -3.71                      | -3.71           | -1.69          | -1.69           |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F12                  |          | 24.18                      | 24.18           | 1.12           | 1.12            |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|                       |                   |                             |                 |                |                 |       |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|-------|
| F12                   |                   |                             | -0.04           | -0.04          | -1.72           | -1.72 |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F12                   |                   | -5.52                       | -5.52           | -0.81          | -0.81           |       |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F12                   |                   | 20.87                       | 20.87           | 0.38           | 0.38            |       |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F12                   |                   | 15.40                       | 15.40           | 1.30           | 1.30            |       |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F12                   |                   | 21.67                       | 21.67           | -0.39          | -0.39           |       |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F12                   |                   | 21.11                       | 21.11           | -0.40          | -0.40           |       |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F12                   |                   | -10.47                      | -10.47          | -1.75          | -1.75           |       |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F12                   |                   | -9.13                       | -9.13           | -1.73          | -1.73           |       |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |       |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F12                   |                   | 0.00                        | 0.00            | 0.00           | 0.00            |       |



**Frame #74**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F12          | -191.55  | -191.55  | 71.97   | 71.97    |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F12           | -68.39      | -68.39   | 25.60   | 25.60    |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F12           | 0.99        | 0.99     | -0.14   | -0.14    |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F12           | 54.68   | 54.68          | -0.36   | -0.36    |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F12           | -219.50 | -219.50        | 17.15   | 17.15    |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F12           | 37.49   | 37.49            | 0.29    | 0.29     |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F12           | 44.53   | 44.53            | -0.82   | -0.82    |  |

| Load Case: W5 | W       | Wind_IBC09_2_Y+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F12           | -138.19 | -138.19          | 8.73    | 8.73     |  |





|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -191.06                     | -191.06         | 17.00          | 17.00           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -123.62                     | -123.62         | 12.60          | 12.60           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 205.63                      | 205.63          | -13.13         | -13.13          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -115.18                     | -115.18         | 12.97          | 12.97           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -70.25                      | -70.25          | 5.93           | 5.93            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 131.76                      | 131.76          | -6.33          | -6.33           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 176.69                      | 176.69          | -13.36         | -13.36          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 95.23                       | 95.23           | -0.28          | -0.28           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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|     |        |        |       |       |
|-----|--------|--------|-------|-------|
| F12 | 100.22 | 100.22 | -1.07 | -1.07 |
|-----|--------|--------|-------|-------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -120.34         | -120.34          | 8.91            | 8.91             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -132.26         | -132.26          | 10.81           | 10.81            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #75**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -737.00         | -737.00          | 81.47           | 81.47            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -232.58         | -232.58          | 27.19           | 27.19            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 2.75            | 2.75             | -0.08           | -0.08            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 244.64          | 244.64           | -3.83           | -3.83            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -529.29         | -529.29          | 43.00           | 43.00            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 197.07                      | 197.07          | -2.36          | -2.36           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 169.90                      | 169.90          | -3.39          | -3.39           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -494.45                     | -494.45         | 28.42          | 28.42           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -299.48                     | -299.48         | 36.07          | 36.07           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -213.48                     | -213.48         | 29.37          | 29.37           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | 580.45                      | 580.45          | -35.12         | -35.12          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -76.81                      | -76.81          | 25.29          | 25.29           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F12                   |          | -243.41                     | -243.41         | 18.77          | 18.77           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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|     |        |        |        |        |
|-----|--------|--------|--------|--------|
| F12 | 518.64 | 518.64 | -23.09 | -23.09 |
|-----|--------|--------|--------|--------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 352.04          | 352.04           | -29.60          | -29.60           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 505.07          | 505.07           | -5.61           | -5.61            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 484.62          | 484.62           | -6.44           | -6.44            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -305.59         | -305.59          | 24.67           | 24.67            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -256.68         | -256.68          | 26.65           | 26.65            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #76**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -2.85           | -2.85            | -656.06         | -656.06          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -0.44           | -0.44            | -228.67         | -228.67          |



| Load Case: Ln        | NegLiveLoad | RAMUSER                 |         |          |  |
|----------------------|-------------|-------------------------|---------|----------|--|
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F11                  | -0.03       | -0.03                   | -2.58   | -2.58    |  |
| <b>Load Case: W1</b> | <b>W</b>    | <b>Wind_IBC09_1_X</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F11                  | 2.02        | 2.02                    | 44.26   | 44.26    |  |
| <b>Load Case: W2</b> | <b>W</b>    | <b>Wind_IBC09_1_Y</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F11                  | -1.10       | -1.10                   | 108.71  | 108.71   |  |
| <b>Load Case: W3</b> | <b>W</b>    | <b>Wind_IBC09_2_X+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F11                  | 1.45        | 1.45                    | 37.65   | 37.65    |  |
| <b>Load Case: W4</b> | <b>W</b>    | <b>Wind_IBC09_2_X-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F11                  | 1.58        | 1.58                    | 28.74   | 28.74    |  |
| <b>Load Case: W5</b> | <b>W</b>    | <b>Wind_IBC09_2_Y+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F11                  | -0.36       | -0.36                   | 45.54   | 45.54    |  |
| <b>Load Case: W6</b> | <b>W</b>    | <b>Wind_IBC09_2_Y-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F11                  | -1.28       | -1.28                   | 117.53  | 117.53   |  |
| <b>Load Case: W7</b> | <b>W</b>    | <b>Wind_IBC09_3_X+Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F11                  | 0.69        | 0.69                    | 114.73  | 114.73   |  |
| <b>Load Case: W8</b> | <b>W</b>    | <b>Wind_IBC09_3_X-Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |



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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F11                   |          | 2.34                        | 2.34            | -48.34         | -48.34          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 0.12                        | 0.12            | 116.38         | 116.38          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 0.91                        | 0.91            | 55.71          | 55.71           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 1.36                        | 1.36            | -5.92          | -5.92           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 2.15                        | 2.15            | -66.59         | -66.59          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 3.16                        | 3.16            | 121.86         | 121.86          |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 3.26                        | 3.26            | 118.32         | 118.32          |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -0.70                       | -0.70           | 35.68          | 35.68           |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -0.94                       | -0.94           | 44.09          | 44.09           |



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| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F11           | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #77**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F11          | 1.71     | 1.71     | -955.48 | -955.48  |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F11           | 0.55        | 0.55     | -333.18 | -333.18  |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F11           | -0.01       | -0.01    | -2.40   | -2.40    |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F11           |   | 0.88           | 0.88     | 1.35    | 1.35     |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F11           |   | 4.55           | 4.55     | 442.02  | 442.02   |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F11           |   | 0.65             | 0.65     | 12.05   | 12.05    |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F11           |   | 0.67             | 0.67     | -10.03  | -10.03   |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 3.49                        | 3.49            | 243.99         | 243.99          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 3.34                        | 3.34            | 419.05         | 419.05          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 4.07                        | 4.07            | 332.53         | 332.53          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -2.75                       | -2.75           | -330.51        | -330.51         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 2.99                        | 2.99            | 323.33         | 323.33          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 3.12                        | 3.12            | 175.47         | 175.47          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -2.13                       | -2.13           | -173.95        | -173.95         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -2.00                       | -2.00           | -321.81        | -321.81         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |





|     |      |      |       |       |
|-----|------|------|-------|-------|
| F11 | 0.71 | 0.71 | 11.18 | 11.18 |
|-----|------|------|-------|-------|

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.71            | 0.71             | -1.51           | -1.51            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 2.67            | 2.67             | 183.28          | 183.28           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 2.69            | 2.69             | 213.66          | 213.66           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #78**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -41.91          | -41.91           | 259.49          | 259.49           |
| F10   | 0.00            | 41.91            | 0.00            | -259.49          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -13.67          | -13.67           | 94.70           | 94.70            |
| F10   | 0.00            | 13.67            | 0.00            | -94.70           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.07            | 0.07             | 0.01            | 0.01             |
| F10   | 0.00            | -0.07            | 0.00            | -0.01            |



**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 4.29            | 4.29             | -9.67           | -9.67            |
| F10   | 0.00            | -4.29            | 0.00            | 9.67             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -20.34          | -20.34           | 318.74          | 318.74           |
| F10   | 0.00            | 20.34            | 0.00            | -318.74          |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 3.40            | 3.40             | -1.39           | -1.39            |
| F10   | 0.00            | -3.40            | 0.00            | 1.39             |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 3.03            | 3.03             | -13.12          | -13.12           |
| F10   | 0.00            | -3.03            | 0.00            | 13.12            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -16.60          | -16.60           | 193.34          | 193.34           |
| F10   | 0.00            | 16.60            | 0.00            | -193.34          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -13.91          | -13.91           | 284.77          | 284.77           |
| F10   | 0.00            | 13.91            | 0.00            | -284.77          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -12.04          | -12.04           | 231.80          | 231.80           |
| F10   | 0.00            | 12.04            | 0.00            | -231.80          |



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**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 18.47           | 18.47            | -246.31         | -246.31          |
| F10   | 0.00            | -18.47           | 0.00            | 246.31           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -7.88           | -7.88            | 212.54          | 212.54           |
| F10   | 0.00            | 7.88             | 0.00            | -212.54          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -10.18          | -10.18           | 135.17          | 135.17           |
| F10   | 0.00            | 10.18            | 0.00            | -135.17          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 15.00           | 15.00            | -146.05         | -146.05          |
| F10   | 0.00            | -15.00           | 0.00            | 146.05           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 12.71           | 12.71            | -223.42         | -223.42          |
| F10   | 0.00            | -12.71           | 0.00            | 223.42           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 6.77            | 6.77             | -22.06          | -22.06           |
| F10   | 0.00            | -6.77            | 0.00            | 22.06            |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 6.52            | 6.52             | -31.02          | -31.02           |
| F10   | 0.00            | -6.52            | 0.00            | 31.02            |



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**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -11.30          | -11.30           | 160.39          | 160.39           |
| F10   | 0.00            | 11.30            | 0.00            | -160.39          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -10.70          | -10.70           | 181.89          | 181.89           |
| F10   | 0.00            | 10.70            | 0.00            | -181.89          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.00            | 0.00             | 0.00            | 0.00             |
| F10   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #79**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -7.55           | -7.55            | -221.53         | -221.53          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -2.66           | -2.66            | -62.06          | -62.06           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -0.02           | -0.02            | 1.29            | 1.29             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -2.57           | -2.57            | 22.64           | 22.64            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   |                 |                  |                 |                  |



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|                       |          |                             |                 |                |                 |        |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|--------|
| F11                   |          |                             | -0.96           | -0.96          | 428.21          | 428.21 |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F11                   |          | -1.95                       | -1.95           | -10.87         | -10.87          |        |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F11                   |          | -1.90                       | -1.90           | 44.83          | 44.83           |        |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F11                   |          | -0.52                       | -0.52           | 542.72         | 542.72          |        |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F11                   |          | -0.93                       | -0.93           | 99.60          | 99.60           |        |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F11                   |          | -2.65                       | -2.65           | 338.14         | 338.14          |        |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F11                   |          | -1.20                       | -1.20           | -304.18        | -304.18         |        |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F11                   |          | -2.16                       | -2.16           | 66.55          | 66.55           |        |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F11                   |          | -1.81                       | -1.81           | 440.66         | 440.66          |        |



**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -1.08           | -1.08            | -415.19         | -415.19          |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -0.73           | -0.73            | -41.08          | -41.08           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -3.93           | -3.93            | 41.76           | 41.76            |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -3.91           | -3.91            | 79.53           | 79.53            |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -0.50           | -0.50            | 204.63          | 204.63           |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -0.56           | -0.56            | 114.01          | 114.01           |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #80**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -1.56           | -1.56            | 381.84          | 381.84           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F11                  | -0.64          | -0.64                      | 129.23         | 129.23          |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F11                  | -0.03          | -0.03                      | 0.44           | 0.44            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F11                  | 0.37           | 0.37                       | 0.13           | 0.13            |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F11                  | -2.08          | -2.08                      | 120.06         | 120.06          |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F11                  | 0.21           | 0.21                       | 4.03           | 4.03            |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F11                  | 0.34           | 0.34                       | -3.84          | -3.84           |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F11                  | -1.05          | -1.05                      | 60.75          | 60.75           |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F11                  | -2.06          | -2.06                      | 119.34         | 119.34          |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



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|  |  |  |                |                 |                |                 |
|--|--|--|----------------|-----------------|----------------|-----------------|
| F11  |  |  | -1.28          | -1.28           | 90.14          | 90.14           |
| <b>Load Case: W8    W    Wind_IBC09_3_X-Y</b>      |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11  |  |  | 1.83           | 1.83            | -89.95         | -89.95          |
| <b>Load Case: W9    W    Wind_IBC09_4_X+Y_CW</b>   |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11  |  |  | -1.39          | -1.39           | 92.53          | 92.53           |
| <b>Load Case: W10    W    Wind_IBC09_4_X+Y_CCW</b> |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11  |  |  | -0.54          | -0.54           | 42.68          | 42.68           |
| <b>Load Case: W11    W    Wind_IBC09_4_X-Y_CW</b>  |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11  |  |  | 0.95           | 0.95            | -42.54         | -42.54          |
| <b>Load Case: W12    W    Wind_IBC09_4_X-Y_CCW</b> |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11  |  |  | 1.80           | 1.80            | -92.38         | -92.38          |
| <b>Load Case: E1    E    EQ_ASCE710_X_+E_F</b>     |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11  |  |  | 0.63           | 0.63            | 0.50           | 0.50            |
| <b>Load Case: E2    E    EQ_ASCE710_X_-E_F</b>     |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11  |  |  | 0.73           | 0.73            | -5.56          | -5.56           |
| <b>Load Case: E3    E    EQ_ASCE710_Y_+E_F</b>     |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11  |  |  | -1.13          | -1.13           | 68.39          | 68.39           |





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**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -1.38           | -1.38            | 82.90           | 82.90            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #81**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -2.06           | -2.06            | 425.77          | 425.77           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -0.72           | -0.72            | 142.19          | 142.19           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.03            | 0.03             | 0.56            | 0.56             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 1.18            | 1.18             | -38.47          | -38.47           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -3.19           | -3.19            | 154.99          | 154.99           |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.91            | 0.91             | -29.44          | -29.44           |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 0.85                        | 0.85            | -28.27         | -28.27          |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -2.62                       | -2.62           | 119.90         | 119.90          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -2.16                       | -2.16           | 112.59         | 112.59          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -1.51                       | -1.51           | 87.39          | 87.39           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 3.27                        | 3.27            | -145.10        | -145.10         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -0.94                       | -0.94           | 62.36          | 62.36           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -1.32                       | -1.32           | 68.72          | 68.72           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 2.65                        | 2.65            | -112.00        | -112.00         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|     |      |      |         |         |
|-----|------|------|---------|---------|
| F11 | 2.26 | 2.26 | -105.64 | -105.64 |
|-----|------|------|---------|---------|

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 1.92            | 1.92             | -67.39          | -67.39           |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 1.87            | 1.87             | -67.41          | -67.41           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -1.72           | -1.72            | 88.66           | 88.66            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -1.61           | -1.61            | 88.76           | 88.76            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #82**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 309.90          | 309.90           | -3.05           | -3.05            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 77.58           | 77.58            | -1.69           | -1.69            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -2.79           | -2.79            | -0.01           | -0.01            |



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |          | 227.86                     | 227.86          | 0.06           | 0.06            |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |          | 310.87                     | 310.87          | 5.66           | 5.66            |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |          | 159.28                     | 159.28          | 0.12           | 0.12            |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |          | 182.51                     | 182.51          | -0.02          | -0.02           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |          | 315.64                     | 315.64          | 3.67           | 3.67            |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |          | 150.66                     | 150.66          | 4.82           | 4.82            |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |          | 404.05                     | 404.05          | 4.29           | 4.29            |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |          | -62.26                     | -62.26          | -4.20          | -4.20           |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| F11                   |                   | 232.46                      | 232.46          | 3.70           | 3.70            |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |                   | 373.61                      | 373.61          | 2.74           | 2.74            |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |                   | -117.27                     | -117.27         | -2.67          | -2.67           |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |                   | 23.89                       | 23.89           | -3.63          | -3.63           |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |                   | 265.36                      | 265.36          | 0.16           | 0.16            |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |                   | 280.13                      | 280.13          | 0.08           | 0.08            |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |                   | 168.84                      | 168.84          | 2.75           | 2.75            |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |                   | 133.61                      | 133.61          | 2.95           | 2.95            |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |                   | 0.00                        | 0.00            | 0.00           | 0.00            |



**Frame #83**

| <b>Load Case: D</b>  |                | <b>DeadLoad RAMUSER</b>    |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F11                  | -113.33        | -113.33                    | -3.42          | -3.42           |  |
| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F11                  | -27.20         | -27.20                     | -1.42          | -1.42           |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F11                  | -0.22          | -0.22                      | -0.02          | -0.02           |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F11                  | 14.75          | 14.75                      | 0.24           | 0.24            |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F11                  | -14.55         | -14.55                     | 1.44           | 1.44            |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F11                  | 11.16          | 11.16                      | 0.23           | 0.23            |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F11                  | 10.96          | 10.96                      | 0.13           | 0.13            |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F11                  | -11.93         | -11.93                     | 0.71           | 0.71            |  |



|  |                |                 |                |                 |  |
|--|----------------|-----------------|----------------|-----------------|--|
| <b>Load Case: W6    W    Wind_IBC09_2_Y-E</b>      |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F11  | -9.89          | -9.89           | 1.45           | 1.45            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W7    W    Wind_IBC09_3_X+Y</b>      |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F11  | 0.15           | 0.15            | 1.26           | 1.26            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W8    W    Wind_IBC09_3_X-Y</b>      |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F11  | 21.97          | 21.97           | -0.90          | -0.90           |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W9    W    Wind_IBC09_4_X+Y_CW</b>   |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F11  | 0.95           | 0.95            | 1.26           | 1.26            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W10    W    Wind_IBC09_4_X+Y_CCW</b> |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F11  | -0.73          | -0.73           | 0.63           | 0.63            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W11    W    Wind_IBC09_4_X-Y_CW</b>  |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F11  | 17.32          | 17.32           | -0.36          | -0.36           |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W12    W    Wind_IBC09_4_X-Y_CCW</b> |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F11  | 15.64          | 15.64           | -0.99          | -0.99           |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: E1    E    EQ_ASCE710_X_+E_F</b>     |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F11  | 27.12          | 27.12           | 0.62           | 0.62            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: E2    E    EQ_ASCE710_X_-E_F</b>     |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |       |       |      |      |
|-----|-------|-------|------|------|
| F11 | 27.35 | 27.35 | 0.57 | 0.57 |
|-----|-------|-------|------|------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -10.92          | -10.92           | 0.63            | 0.63             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -11.48          | -11.48           | 0.75            | 0.75             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #84**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 47.26           | 47.26            | -1.59           | -1.59            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 32.39           | 32.39            | -0.62           | -0.62            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.51            | 0.51             | -0.03           | -0.03            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 4.65            | 4.65             | -0.76           | -0.76            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -32.43          | -32.43           | 8.86            | 8.86             |





|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 2.56                        | 2.56            | -0.40          | -0.40           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 4.41                        | 4.41            | -0.73          | -0.73           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -17.12                      | -17.12          | 5.41           | 5.41            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -31.53                      | -31.53          | 7.88           | 7.88            |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -20.84                      | -20.84          | 6.08           | 6.08            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 27.81                       | 27.81           | -7.21          | -7.21           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -21.73                      | -21.73          | 5.61           | 5.61            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -9.53                       | -9.53           | 3.51           | 3.51            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|     |       |       |       |       |
|-----|-------|-------|-------|-------|
| F11 | 14.76 | 14.76 | -4.36 | -4.36 |
|-----|-------|-------|-------|-------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 26.96           | 26.96            | -6.46           | -6.46            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 5.97            | 5.97             | -1.16           | -1.16            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 6.95            | 6.95             | -1.39           | -1.39            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -12.33          | -12.33           | 4.59            | 4.59             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -14.67          | -14.67           | 5.15            | 5.15             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #85**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -104.84         | -104.84          | 49.72           | 49.72            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -39.69          | -39.69           | 17.36           | 17.36            |



| <b>Load Case: Ln</b> |  | <b>NegLiveLoad RAMUSER</b> |                 |                |                 |
|----------------------|--|----------------------------|-----------------|----------------|-----------------|
| <b>Level</b>         |  | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |  | 1.28                       | 1.28            | -0.08          | -0.08           |
| <b>Load Case: W1</b> |  | <b>W Wind_IBC09_1_X</b>    |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |  | 39.21                      | 39.21           | -0.40          | -0.40           |
| <b>Load Case: W2</b> |  | <b>W Wind_IBC09_1_Y</b>    |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |  | -141.19                    | -141.19         | 9.02           | 9.02            |
| <b>Load Case: W3</b> |  | <b>W Wind_IBC09_2_X+E</b>  |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |  | 25.69                      | 25.69           | -0.05          | -0.05           |
| <b>Load Case: W4</b> |  | <b>W Wind_IBC09_2_X-E</b>  |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |  | 33.12                      | 33.12           | -0.55          | -0.55           |
| <b>Load Case: W5</b> |  | <b>W Wind_IBC09_2_Y+E</b>  |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |  | -77.85                     | -77.85          | 4.90           | 4.90            |
| <b>Load Case: W6</b> |  | <b>W Wind_IBC09_2_Y-E</b>  |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |  | -133.93                    | -133.93         | 8.64           | 8.64            |
| <b>Load Case: W7</b> |  | <b>W Wind_IBC09_3_X+Y</b>  |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                  |  | -76.49                     | -76.49          | 6.47           | 6.47            |
| <b>Load Case: W8</b> |  | <b>W Wind_IBC09_3_X-Y</b>  |                 |                |                 |
| <b>Level</b>         |  | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |  | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F11                   |          | 135.29                      | 135.29          | -7.07          | -7.07           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -81.18                      | -81.18          | 6.44           | 6.44            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -33.55                      | -33.55          | 3.26           | 3.26            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 77.65                       | 77.65           | -3.71          | -3.71           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 125.29                      | 125.29          | -6.89          | -6.89           |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 64.09                       | 64.09           | -0.72          | -0.72           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 69.23                       | 69.23           | -1.09          | -1.09           |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -74.74                      | -74.74          | 4.77           | 4.77            |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -87.01                      | -87.01          | 5.65           | 5.65            |



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| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F11           | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #86**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F11          | -12.20   | -12.20   | 65.74   | 65.74    |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F11           | 17.07       | 17.07    | 22.76   | 22.76    |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F11           | 2.66        | 2.66     | 0.21    | 0.21     |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F11           |   | 289.56         | 289.56   | -5.18   | -5.18    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F11           |   | -111.38        | -111.38  | 9.53    | 9.53     |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F11           |   | 236.68           | 236.68   | -4.05   | -4.05    |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F11           |   | 197.67           | 197.67   | -3.72   | -3.72    |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -223.61                     | -223.61         | 8.39           | 8.39            |
| <b>Load Case: W6</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 56.54                       | 56.54           | 5.90           | 5.90            |
| <b>Load Case: W7</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 133.64                      | 133.64          | 3.26           | 3.26            |
| <b>Load Case: W8</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 300.71                      | 300.71          | -11.03         | -11.03          |
| <b>Load Case: W9</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 219.91                      | 219.91          | 1.38           | 1.38            |
| <b>Load Case: W10</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | -19.46                      | -19.46          | 3.51           | 3.51            |
| <b>Load Case: W11</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 345.22                      | 345.22          | -9.34          | -9.34           |
| <b>Load Case: W12</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F11                   |          | 105.85                      | 105.85          | -7.22          | -7.22           |
| <b>Load Case: E1</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |        |        |        |        |
|-----|--------|--------|--------|--------|
| F11 | 514.32 | 514.32 | -10.41 | -10.41 |
|-----|--------|--------|--------|--------|

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 488.38          | 488.38           | -10.37          | -10.37           |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -61.49          | -61.49           | 7.04            | 7.04             |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.45            | 0.45             | 6.95            | 6.95             |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #88**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -0.68           | -0.68            | -535.88         | -535.88          |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -1.20           | -1.20            | -186.49         | -186.49          |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -0.07           | -0.07            | -1.25           | -1.25            |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.68            | 0.68             | 12.11           | 12.11            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | -1.73                       | -1.73           | 197.41         | 197.41          |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | 0.36                        | 0.36            | 13.94          | 13.94           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | 0.65                        | 0.65            | 4.22           | 4.22            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | -0.36                       | -0.36           | 108.18         | 108.18          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | -2.24                       | -2.24           | 187.94         | 187.94          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | -0.79                       | -0.79           | 157.14         | 157.14          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | 1.81                        | 1.81            | -138.98        | -138.98         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | -1.41                       | -1.41           | 151.41         | 151.41          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|     |      |      |       |       |
|-----|------|------|-------|-------|
| F10 | 0.22 | 0.22 | 84.30 | 84.30 |
|-----|------|------|-------|-------|

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.54            | 0.54             | -70.68          | -70.68           |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 2.17            | 2.17             | -137.79         | -137.79          |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.70            | 0.70             | 36.62           | 36.62            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.84            | 0.84             | 31.41           | 31.41            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -1.08           | -1.08            | 74.80           | 74.80            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -1.40           | -1.40            | 87.29           | 87.29            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #89**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 20.47           | 20.47            | 754.98          | 754.98           |



F9 0.00 -20.47 0.00 -754.98

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 3.55            | 3.55             | 249.86          | 249.86           |
| F9    | 0.00            | -3.55            | 0.00            | -249.86          |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -0.27           | -0.27            | -2.47           | -2.47            |
| F9    | 0.00            | 0.27             | 0.00            | 2.47             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -0.33           | -0.33            | 50.07           | 50.07            |
| F9    | 0.00            | 0.33             | 0.00            | -50.07           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -2.36           | -2.36            | 1002.49         | 1002.49          |
| F9    | 0.00            | 2.36             | 0.00            | -1002.49         |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -0.64           | -0.64            | 51.07           | 51.07            |
| F9    | 0.00            | 0.64             | 0.00            | -51.07           |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.14            | 0.14             | 24.04           | 24.04            |
| F9    | 0.00            | -0.14            | 0.00            | -24.04           |

**Load Case: W5 W Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.87            | 0.87             | 641.99          | 641.99           |
| F9    | 0.00            | -0.87            | 0.00            | -641.99          |



**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -4.40           | -4.40            | 861.75          | 861.75           |
| F9    | 0.00            | 4.40             | 0.00            | -861.75          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -2.02           | -2.02            | 789.42          | 789.42           |
| F9    | 0.00            | 2.02             | 0.00            | -789.42          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 1.52            | 1.52             | -714.31         | -714.31          |
| F9    | 0.00            | -1.52            | 0.00            | 714.31           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -3.78           | -3.78            | 684.61          | 684.61           |
| F9    | 0.00            | 3.78             | 0.00            | -684.61          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.76            | 0.76             | 499.52          | 499.52           |
| F9    | 0.00            | -0.76            | 0.00            | -499.52          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -1.13           | -1.13            | -443.19         | -443.19          |
| F9    | 0.00            | 1.13             | 0.00            | 443.19           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 3.41            | 3.41             | -628.28         | -628.28          |
| F9    | 0.00            | -3.41            | 0.00            | 628.28           |



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**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -0.12           | -0.12            | 46.46           | 46.46            |
| F9    | 0.00            | 0.12             | 0.00            | -46.46           |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.34            | 0.34             | 27.19           | 27.19            |
| F9    | 0.00            | -0.34            | 0.00            | -27.19           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -1.78           | -1.78            | 489.40          | 489.40           |
| F9    | 0.00            | 1.78             | 0.00            | -489.40          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -2.87           | -2.87            | 535.67          | 535.67           |
| F9    | 0.00            | 2.87             | 0.00            | -535.67          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.00            | 0.00             | 0.00            | 0.00             |
| F9    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #90**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 2.73            | 2.73             | -149.41         | -149.41          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.10            | 0.10             | -15.93          | -15.93           |



| Load Case: Ln |  | NegLiveLoad RAMUSER |                  |                 |                  |
|---------------|--|---------------------|------------------|-----------------|------------------|
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F10           |  | -0.03               | -0.03            | 1.09            | 1.09             |
| Load Case: W1 |  | W Wind_IBC09_1_X    |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F10           |  | -0.80               | -0.80            | -36.94          | -36.94           |
| Load Case: W2 |  | W Wind_IBC09_1_Y    |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F10           |  | 1.83                | 1.83             | 607.65          | 607.65           |
| Load Case: W3 |  | W Wind_IBC09_2_X+E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F10           |  | -0.58               | -0.58            | -54.63          | -54.63           |
| Load Case: W4 |  | W Wind_IBC09_2_X-E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F10           |  | -0.62               | -0.62            | -0.78           | -0.78            |
| Load Case: W5 |  | W Wind_IBC09_2_Y+E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F10           |  | 1.17                | 1.17             | 673.01          | 673.01           |
| Load Case: W6 |  | W Wind_IBC09_2_Y-E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F10           |  | 1.58                | 1.58             | 238.47          | 238.47           |
| Load Case: W7 |  | W Wind_IBC09_3_X+Y  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F10           |  | 0.77                | 0.77             | 428.03          | 428.03           |
| Load Case: W8 |  | W Wind_IBC09_3_X-Y  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|               |  |                     |                  |                 |                  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F10                   |          | -1.98                       | -1.98           | -483.45        | -483.45         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 0.75                        | 0.75            | 137.88         | 137.88          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 0.41                        | 0.41            | 504.17         | 504.17          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | -1.31                       | -1.31           | -545.73        | -545.73         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | -1.65                       | -1.65           | -179.44        | -179.44         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 1.50                        | 1.50            | -62.35         | -62.35          |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 1.50                        | 1.50            | -26.09         | -26.09          |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 0.43                        | 0.43            | 288.48         | 288.48          |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 0.45                        | 0.45            | 201.47         | 201.47          |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F10           | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #91**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F10          | 22.71    | 22.71    | 34.02   | 34.02    |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F10           | 7.38        | 7.38     | 12.32   | 12.32    |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F10           | 0.02        | 0.02     | 0.51    | 0.51     |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | -0.43          | -0.43    | -15.58  | -15.58   |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | 6.58           | 6.58     | 60.31   | 60.31    |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F10           |   | -0.18            | -0.18    | -12.46  | -12.46   |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F10           |   | -0.46            | -0.46    | -10.90  | -10.90   |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | 4.05                        | 4.05            | 49.12          | 49.12           |
| <b>Load Case: W6</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | 5.82                        | 5.82            | 41.35          | 41.35           |
| <b>Load Case: W7</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | 4.62                        | 4.62            | 33.55          | 33.55           |
| <b>Load Case: W8</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | -5.26                       | -5.26           | -56.92         | -56.92          |
| <b>Load Case: W9</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | 4.23                        | 4.23            | 21.67          | 21.67           |
| <b>Load Case: W10</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | 2.69                        | 2.69            | 28.66          | 28.66           |
| <b>Load Case: W11</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | -3.18                       | -3.18           | -46.19         | -46.19          |
| <b>Load Case: W12</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                   |          | -4.71                       | -4.71           | -39.19         | -39.19          |
| <b>Load Case: E1</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

F10 -0.18 -0.18 -24.01 -24.01

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -0.32           | -0.32            | -23.42          | -23.42           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 3.63            | 3.63             | 29.32           | 29.32            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 3.97            | 3.97             | 27.97           | 27.97            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #92**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -13.52          | -13.52           | 15.00           | 15.00            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -3.03           | -3.03            | 10.33           | 10.33            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.05            | 0.05             | 0.26            | 0.26             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.57            | 0.57             | 4.88            | 4.88             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 0.63                        | 0.63            | 134.83         | 134.83          |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 0.59                        | 0.59            | 8.61           | 8.61            |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 0.27                        | 0.27            | -1.30          | -1.30           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | -0.65                       | -0.65           | 63.79          | 63.79           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 1.58                        | 1.58            | 138.46         | 138.46          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 0.90                        | 0.90            | 104.78         | 104.78          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | -0.04                       | -0.04           | -97.47         | -97.47          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 1.63                        | 1.63            | 110.30         | 110.30          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

F10 -0.28 -0.28 46.87 46.87

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.93            | 0.93             | -41.38          | -41.38           |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -0.99           | -0.99            | -104.82         | -104.82          |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 1.50            | 1.50             | 17.63           | 17.63            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 1.31            | 1.31             | 11.19           | 11.19            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.42            | 0.42             | 66.93           | 66.93            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.88            | 0.88             | 82.31           | 82.31            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #93**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 626.13          | 626.13           | -51.01          | -51.01           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F10                  | 145.55         | 145.55                     | -16.56         | -16.56          |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F10                  | -1.20          | -1.20                      | 0.25           | 0.25            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F10                  | 273.60         | 273.60                     | -0.76          | -0.76           |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F10                  | 112.23         | 112.23                     | 58.78          | 58.78           |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F10                  | 193.14         | 193.14                     | 0.36           | 0.36            |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F10                  | 217.26         | 217.26                     | -1.51          | -1.51           |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F10                  | 167.86         | 167.86                     | 36.72          | 36.72           |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F10                  | 0.48           | 0.48                       | 51.45          | 51.45           |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F10                   |          | 289.37                      | 289.37          | 43.51          | 43.51           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 121.03                      | 121.03          | -44.66         | -44.66          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 145.21                      | 145.21          | 38.86          | 38.86           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 288.84                      | 288.84          | 26.41          | 26.41           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 18.96                       | 18.96           | -27.27         | -27.27          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 162.59                      | 162.59          | -39.72         | -39.72          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 326.94                      | 326.94          | -0.03          | -0.03           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 339.87                      | 339.87          | -1.36          | -1.36           |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 55.32                       | 55.32           | 29.39          | 29.39           |



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**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 24.60           | 24.60            | 32.58           | 32.58            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #96**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -30.13          | -30.13           | -13.60          | -13.60           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -10.34          | -10.34           | -5.76           | -5.76            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.79            | 0.79             | 0.20            | 0.20             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 11.11           | 11.11            | -0.77           | -0.77            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -35.38          | -35.38           | 15.51           | 15.51            |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 6.82            | 6.82             | -0.22           | -0.22            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 9.84                        | 9.84            | -0.93          | -0.93           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | -14.97                      | -14.97          | 8.89           | 8.89            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | -38.11                      | -38.11          | 14.37          | 14.37           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | -18.21                      | -18.21          | 11.06          | 11.06           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 34.87                       | 34.87           | -12.20         | -12.20          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | -23.46                      | -23.46          | 10.61          | 10.61           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | -3.85                       | -3.85           | 5.97           | 5.97            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |          | 16.34                       | 16.34           | -6.83          | -6.83           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|     |       |       |        |        |
|-----|-------|-------|--------|--------|
| F10 | 35.96 | 35.96 | -11.47 | -11.47 |
|-----|-------|-------|--------|--------|

| Load Case: E1 | E EQ_ASCE710_X_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F10   | 16.56           | 16.56            | -0.66           | -0.66            |

| Load Case: E2 | E EQ_ASCE710_X_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F10   | 18.66           | 18.66            | -1.17           | -1.17            |

| Load Case: E3 | E EQ_ASCE710_Y_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F10   | -17.94          | -17.94           | 7.72            | 7.72             |

| Load Case: E4 | E EQ_ASCE710_Y_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F10   | -22.95          | -22.95           | 8.95            | 8.95             |

| Load Case: O1 | Shear Test User_User | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|----------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                      | F10   | 0.00            | 0.00             | 0.00            | 0.00             |

Frame #97

| Load Case: D | DeadLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------------|------------------|-------|-----------------|------------------|-----------------|------------------|
|              |                  | F10   | -121.77         | -121.77          | 100.18          | 100.18           |

| Load Case: Lp | PosLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F10   | 9.30            | 9.30             | 19.84           | 19.84            |

| Load Case: Ln | NegLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F10   | 0.95            | 0.95             | 1.04            | 1.04             |





|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                  |          | 241.08                     | 241.08          | -9.64          | -9.64           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                  |          | 107.95                     | 107.95          | 153.95         | 153.95          |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                  |          | 206.01                     | 206.01          | -4.15          | -4.15           |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                  |          | 155.62                     | 155.62          | -10.30         | -10.30          |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                  |          | -96.90                     | -96.90          | 91.87          | 91.87           |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                  |          | 258.82                     | 258.82          | 139.06         | 139.06          |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                  |          | 261.77                     | 261.77          | 108.24         | 108.24          |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F10                  |          | 99.85                      | 99.85           | -122.69        | -122.69         |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| F10                   |                   | 348.62                      | 348.62          | 101.18         | 101.18          |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |                   | 44.04                       | 44.04           | 61.17          | 61.17           |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |                   | 227.18                      | 227.18          | -72.01         | -72.01          |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |                   | -77.40                      | -77.40          | -112.03        | -112.03         |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |                   | 419.02                      | 419.02          | -10.04         | -10.04          |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |                   | 389.82                      | 389.82          | -14.28         | -14.28          |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |                   | 49.92                       | 49.92           | 76.34          | 76.34           |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |                   | 119.42                      | 119.42          | 86.48          | 86.48           |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F10                   |                   | 0.00                        | 0.00            | 0.00           | 0.00            |



**Frame #98**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -10.79          | -10.79           | 1180.91         | 1180.91          |
| F8    | 0.00            | 10.79            | 0.00            | -1180.91         |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -0.72           | -0.72            | 391.01          | 391.01           |
| F8    | 0.00            | 0.72             | 0.00            | -391.01          |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.09            | 0.09             | 26.66           | 26.66            |
| F8    | 0.00            | -0.09            | 0.00            | -26.66           |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.89            | 1.89             | -201.32         | -201.32          |
| F8    | 0.00            | -1.89            | 0.00            | 201.32           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 4.67            | 4.67             | 1633.78         | 1633.78          |
| F8    | 0.00            | -4.67            | 0.00            | -1633.78         |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.44            | 1.44             | -115.32         | -115.32          |
| F8    | 0.00            | -1.44            | 0.00            | 115.32           |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.39            | 1.39             | -186.66         | -186.66          |
| F8    | 0.00            | -1.39            | 0.00            | 186.66           |



**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 3.34            | 3.34             | 954.44          | 954.44           |
| F8    | 0.00            | -3.34            | 0.00            | -954.44          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 3.66            | 3.66             | 1496.23         | 1496.23          |
| F8    | 0.00            | -3.66            | 0.00            | -1496.23         |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 4.92            | 4.92             | 1074.34         | 1074.34          |
| F8    | 0.00            | -4.92            | 0.00            | -1074.34         |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -2.08           | -2.08            | -1376.33        | -1376.33         |
| F8    | 0.00            | 2.08             | 0.00            | 1376.33          |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 3.83            | 3.83             | 1035.68         | 1035.68          |
| F8    | 0.00            | -3.83            | 0.00            | -1035.68         |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 3.55            | 3.55             | 575.83          | 575.83           |
| F8    | 0.00            | -3.55            | 0.00            | -575.83          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -1.42           | -1.42            | -802.32         | -802.32          |
| F8    | 0.00            | 1.42             | 0.00            | 802.32           |



**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -1.70           | -1.70            | -1262.17        | -1262.17         |
| F8    | 0.00            | 1.70             | 0.00            | 1262.17          |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 3.39            | 3.39             | -274.11         | -274.11          |
| F8    | 0.00            | -3.39            | 0.00            | 274.11           |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 3.39            | 3.39             | -320.87         | -320.87          |
| F8    | 0.00            | -3.39            | 0.00            | 320.87           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 2.83            | 2.83             | 810.89          | 810.89           |
| F8    | 0.00            | -2.83            | 0.00            | -810.89          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 2.82            | 2.82             | 922.54          | 922.54           |
| F8    | 0.00            | -2.82            | 0.00            | -922.54          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.00            | 0.00             | 0.00            | 0.00             |
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #99**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 15.81           | 15.81            | -444.79         | -444.79          |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 7.95           | 7.95                       | -102.82        | -102.82         |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 0.13           | 0.13                       | -5.05          | -5.05           |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 0.80           | 0.80                       | 46.18          | 46.18           |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 4.19           | 4.19                       | -425.59        | -425.59         |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 0.73           | 0.73                       | 26.61          | 26.61           |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 0.47           | 0.47                       | 42.66          | 42.66           |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 2.25           | 2.25                       | -258.42        | -258.42         |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 4.04           | 4.04                       | -379.97        | -379.97         |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F9                    |          | 3.75                        | 3.75            | -284.56        | -284.56         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | -2.54                       | -2.54           | 353.83         | 353.83          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 3.58                        | 3.58            | -265.02        | -265.02         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 2.04                        | 2.04            | -161.82        | -161.82         |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | -1.14                       | -1.14           | 213.77         | 213.77          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | -2.68                       | -2.68           | 316.97         | 316.97          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 0.76                        | 0.76            | 67.47          | 67.47           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 0.62                        | 0.62            | 80.10          | 80.10           |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 2.49                        | 2.49            | -220.70        | -220.70         |



**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 2.81            | 2.81             | -250.96         | -250.96          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #100**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 38.35           | 38.35            | 1171.66         | 1171.66          |
| F8    | 0.00            | -38.35           | 0.00            | -1171.66         |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 13.85           | 13.85            | 748.19          | 748.19           |
| F8    | 0.00            | -13.85           | 0.00            | -748.19          |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.31            | 0.31             | -32.99          | -32.99           |
| F8    | 0.00            | -0.31            | 0.00            | 32.99            |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.25            | 1.25             | 223.27          | 223.27           |
| F8    | 0.00            | -1.25            | 0.00            | -223.27          |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -1.09           | -1.09            | 826.06          | 826.06           |
| F8    | 0.00            | 1.09             | 0.00            | -826.06          |





**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.16            | 1.16             | 186.67          | 186.67           |
| F8    | 0.00            | -1.16            | 0.00            | -186.67          |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.71            | 0.71             | 148.23          | 148.23           |
| F8    | 0.00            | -0.71            | 0.00            | -148.23          |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -2.27           | -2.27            | 495.68          | 495.68           |
| F8    | 0.00            | 2.27             | 0.00            | -495.68          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.63            | 0.63             | 743.42          | 743.42           |
| F8    | 0.00            | -0.63            | 0.00            | -743.42          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.12            | 0.12             | 787.00          | 787.00           |
| F8    | 0.00            | -0.12            | 0.00            | -787.00          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.75            | 1.75             | -452.10         | -452.10          |
| F8    | 0.00            | -1.75            | 0.00            | 452.10           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.34            | 1.34             | 697.57          | 697.57           |
| F8    | 0.00            | -1.34            | 0.00            | -697.57          |



**Load Case: W10 W Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -1.17           | -1.17            | 482.93          | 482.93           |
| F8    | 0.00            | 1.17             | 0.00            | -482.93          |

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 2.57            | 2.57             | -231.75         | -231.75          |
| F8    | 0.00            | -2.57            | 0.00            | 231.75           |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.06            | 0.06             | -446.39         | -446.39          |
| F8    | 0.00            | -0.06            | 0.00            | 446.39           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.24            | 1.24             | 300.45          | 300.45           |
| F8    | 0.00            | -1.24            | 0.00            | -300.45          |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.06            | 1.06             | 284.65          | 284.65           |
| F8    | 0.00            | -1.06            | 0.00            | -284.65          |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -0.48           | -0.48            | 393.37          | 393.37           |
| F8    | 0.00            | 0.48             | 0.00            | -393.37          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -0.06           | -0.06            | 430.35          | 430.35           |
| F8    | 0.00            | 0.06             | 0.00            | -430.35          |



| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.00            | 0.00             | 0.00            | 0.00             |
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #101**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -33.01          | -33.01           | -982.80         | -982.80          |
| F8    | 0.00            | 33.01            | 0.00            | 982.80           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -12.45          | -12.45           | -571.20         | -571.20          |
| F8    | 0.00            | 12.45            | 0.00            | 571.20           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.01            | 0.01             | -5.31           | -5.31            |
| F8    | 0.00            | -0.01            | 0.00            | 5.31             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.26            | 1.26             | 79.36           | 79.36            |
| F8    | 0.00            | -1.26            | 0.00            | -79.36           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 3.23            | 3.23             | 153.25          | 153.25           |
| F8    | 0.00            | -3.23            | 0.00            | -153.25          |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.99            | 0.99             | 68.70           | 68.70            |
| F8    | 0.00            | -0.99            | 0.00            | -68.70           |



**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.90            | 0.90             | 50.34           | 50.34            |
| F8    | 0.00            | -0.90            | 0.00            | -50.34           |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 2.12            | 2.12             | 46.70           | 46.70            |
| F8    | 0.00            | -2.12            | 0.00            | -46.70           |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 2.72            | 2.72             | 183.18          | 183.18           |
| F8    | 0.00            | -2.72            | 0.00            | -183.18          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 3.37            | 3.37             | 174.46          | 174.46           |
| F8    | 0.00            | -3.37            | 0.00            | -174.46          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -1.48           | -1.48            | -55.42          | -55.42           |
| F8    | 0.00            | 1.48             | 0.00            | 55.42            |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 2.78            | 2.78             | 188.91          | 188.91           |
| F8    | 0.00            | -2.78            | 0.00            | -188.91          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 2.26            | 2.26             | 72.78           | 72.78            |
| F8    | 0.00            | -2.26            | 0.00            | -72.78           |



**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -0.85           | -0.85            | 16.50           | 16.50            |
| F8    | 0.00            | 0.85             | 0.00            | -16.50           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -1.37           | -1.37            | -99.63          | -99.63           |
| F8    | 0.00            | 1.37             | 0.00            | 99.63            |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.57            | 1.57             | 129.08          | 129.08           |
| F8    | 0.00            | -1.57            | 0.00            | -129.08          |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.52            | 1.52             | 117.20          | 117.20           |
| F8    | 0.00            | -1.52            | 0.00            | -117.20          |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.67            | 1.67             | 63.59           | 63.59            |
| F8    | 0.00            | -1.67            | 0.00            | -63.59           |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.78            | 1.78             | 91.92           | 91.92            |
| F8    | 0.00            | -1.78            | 0.00            | -91.92           |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.00            | 0.00             | 0.00            | 0.00             |
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |



**Frame #102**

| <b>Load Case: D</b> |                | <b>DeadLoad RAMUSER</b> |                |                 |            |
|---------------------|----------------|-------------------------|----------------|-----------------|------------|
| <b>Level</b>        | <b>Shear-X</b> | <b>Change-X</b>         | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|                     | <b>kip</b>     | <b>kip</b>              | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F9                  | -4.62          | -4.62                   | -813.88        | -813.88         |            |
| F8                  | 0.00           | 4.62                    | 0.00           | 813.88          |            |

| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |            |
|----------------------|----------------|----------------------------|----------------|-----------------|------------|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F9                   | 0.87           | 0.87                       | -503.55        | -503.55         |            |
| F8                   | 0.00           | -0.87                      | 0.00           | 503.55          |            |

| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |            |
|----------------------|----------------|----------------------------|----------------|-----------------|------------|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F9                   | -0.01          | -0.01                      | 2.07           | 2.07            |            |
| F8                   | 0.00           | 0.01                       | 0.00           | -2.07           |            |

| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b> |                |                 |            |
|----------------------|----------------|-------------------------|----------------|-----------------|------------|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>         | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|                      | <b>kip</b>     | <b>kip</b>              | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F9                   | 1.20           | 1.20                    | -42.69         | -42.69          |            |
| F8                   | 0.00           | -1.20                   | 0.00           | 42.69           |            |

| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b> |                |                 |            |
|----------------------|----------------|-------------------------|----------------|-----------------|------------|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>         | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|                      | <b>kip</b>     | <b>kip</b>              | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F9                   | 0.15           | 0.15                    | -83.47         | -83.47          |            |
| F8                   | 0.00           | -0.15                   | 0.00           | 83.47           |            |

| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b> |                |                 |            |
|----------------------|----------------|---------------------------|----------------|-----------------|------------|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>           | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|                      | <b>kip</b>     | <b>kip</b>                | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F9                   | 0.91           | 0.91                      | -33.39         | -33.39          |            |
| F8                   | 0.00           | -0.91                     | 0.00           | 33.39           |            |

| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b> |                |                 |            |
|----------------------|----------------|---------------------------|----------------|-----------------|------------|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>           | <b>Shear-Y</b> | <b>Change-Y</b> |            |
|                      | <b>kip</b>     | <b>kip</b>                | <b>kip</b>     | <b>kip</b>      | <b>kip</b> |
| F9                   | 0.90           | 0.90                      | -30.65         | -30.65          |            |
| F8                   | 0.00           | -0.90                     | 0.00           | 30.65           |            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.10            | 0.10             | -44.61          | -44.61           |
| F8    | 0.00            | -0.10            | 0.00            | 44.61            |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.12            | 0.12             | -80.60          | -80.60           |
| F8    | 0.00            | -0.12            | 0.00            | 80.60            |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.02            | 1.02             | -94.63          | -94.63           |
| F8    | 0.00            | -1.02            | 0.00            | 94.63            |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.79            | 0.79             | 30.58           | 30.58            |
| F8    | 0.00            | -0.79            | 0.00            | -30.58           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.77            | 0.77             | -85.49          | -85.49           |
| F8    | 0.00            | -0.77            | 0.00            | 85.49            |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.75            | 0.75             | -56.45          | -56.45           |
| F8    | 0.00            | -0.75            | 0.00            | 56.45            |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.60            | 0.60             | 8.41            | 8.41             |
| F8    | 0.00            | -0.60            | 0.00            | -8.41            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.58            | 0.58             | 37.46           | 37.46            |
| F8    | 0.00            | -0.58            | 0.00            | -37.46           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.72            | 1.72             | -61.00          | -61.00           |
| F8    | 0.00            | -1.72            | 0.00            | 61.00            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.72            | 1.72             | -57.54          | -57.54           |
| F8    | 0.00            | -1.72            | 0.00            | 57.54            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.11            | 0.11             | -47.48          | -47.48           |
| F8    | 0.00            | -0.11            | 0.00            | 47.48            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.10            | 0.10             | -55.92          | -55.92           |
| F8    | 0.00            | -0.10            | 0.00            | 55.92            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.00            | 0.00             | 0.00            | 0.00             |
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #103**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.26            | 0.26             | 244.65          | 244.65           |





| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 0.16           | 0.16                       | 100.61         | 100.61          |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 0.03           | 0.03                       | 3.63           | 3.63            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 2.07           | 2.07                       | -98.19         | -98.19          |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | -0.64          | -0.64                      | 838.44         | 838.44          |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 1.54           | 1.54                       | -114.36        | -114.36         |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | 1.57           | 1.57                       | -32.92         | -32.92          |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | -0.37          | -0.37                      | 913.83         | 913.83          |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F9                   | -0.58          | -0.58                      | 343.83         | 343.83          |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F9                    |          | 1.08                        | 1.08            | 555.19         | 555.19          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 2.03                        | 2.03            | -702.47        | -702.47         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 0.72                        | 0.72            | 172.10         | 172.10          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 0.90                        | 0.90            | 660.69         | 660.69          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 1.44                        | 1.44            | -771.15        | -771.15         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 1.61                        | 1.61            | -282.56        | -282.56         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 2.68                        | 2.68            | -144.60        | -144.60         |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 2.68                        | 2.68            | -103.81        | -103.81         |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | -0.15                       | -0.15           | 350.61         | 350.61          |



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**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -0.16           | -0.16            | 254.13          | 254.13           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #104**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1536.27         | 1536.27          | -82.21          | -82.21           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 697.74          | 697.74           | -15.43          | -15.43           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 15.43           | 15.43            | -0.35           | -0.35            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 317.17          | 317.17           | 4.58            | 4.58             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 507.31          | 507.31           | -33.60          | -33.60           |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 252.88          | 252.88           | 2.44            | 2.44             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | 222.87                      | 222.87          | 4.43           | 4.43            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | 299.30                      | 299.30          | -17.70         | -17.70          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | 461.67                      | 461.67          | -32.69         | -32.69          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | 618.36                      | 618.36          | -21.76         | -21.76          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | -142.61                     | -142.61         | 28.63          | 28.63           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | 535.91                      | 535.91          | -22.68         | -22.68          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | 391.63                      | 391.63          | -9.96          | -9.96           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | -34.81                      | -34.81          | 15.11          | 15.11           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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F9 -179.09 -179.09 27.84 27.84

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F9 385.99 385.99 5.42 5.42

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F9 375.25 375.25 6.82 6.82

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F9 299.43 299.43 -15.31 -15.31

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F9 324.16 324.16 -18.67 -18.67

**Load Case: O1 Shear Test User\_User**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F9 0.00 0.00 0.00 0.00

**Frame #105**

**Load Case: D DeadLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F9 -269.17 -269.17 -22.83 -22.83

**Load Case: Lp PosLiveLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F9 -142.01 -142.01 -4.00 -4.00

**Load Case: Ln NegLiveLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F9 3.38 3.38 -0.15 -0.15



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 34.10                      | 34.10           | 1.43           | 1.43            |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | -271.31                    | -271.31         | -24.84         | -24.84          |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 10.58                      | 10.58           | 0.55           | 0.55            |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 40.57                      | 40.57           | 1.60           | 1.60            |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | -95.25                     | -95.25          | -14.68         | -14.68          |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | -311.72                    | -311.72         | -22.57         | -22.57          |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | -177.91                    | -177.91         | -17.55         | -17.55          |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 229.06                     | 229.06          | 19.70          | 19.70           |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



F9 -225.85 -225.85 -16.52 -16.52

**Load Case: W10 W Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -41.01          | -41.01           | -9.81           | -9.81            |

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 79.38           | 79.38            | 11.42           | 11.42            |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 264.22          | 264.22           | 18.13           | 18.13            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 51.08           | 51.08            | 1.74            | 1.74             |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 68.97           | 68.97            | 2.44            | 2.44             |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -141.39         | -141.39          | -12.18          | -12.18           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -183.94         | -183.94          | -13.87          | -13.87           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.00            | 0.00             | 0.00            | 0.00             |



**Frame #106**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -1102.76        | -1102.76         | -42.30          | -42.30           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -558.08         | -558.08          | 2.17            | 2.17             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -15.93          | -15.93           | -1.44           | -1.44            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 93.23           | 93.23            | 7.71            | 7.71             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -362.91         | -362.91          | -172.29         | -172.29          |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 61.17           | 61.17            | 1.76            | 1.76             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 78.67           | 78.67            | 9.80            | 9.80             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -238.26         | -238.26          | -98.84          | -98.84           |





|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | -306.10                     | -306.10         | -159.60        | -159.60         |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | -202.26                     | -202.26         | -123.43        | -123.43         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | 342.10                      | 342.10          | 135.00         | 135.00          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | -183.70                     | -183.70         | -118.37        | -118.37         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | -119.69                     | -119.69         | -66.78         | -66.78          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | 224.57                      | 224.57          | 75.46          | 75.46           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | 288.58                      | 288.58          | 127.05         | 127.05          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                    |          | 182.00                      | 182.00          | 8.17           | 8.17            |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |        |        |       |       |
|----|--------|--------|-------|-------|
| F9 | 184.46 | 184.46 | 13.75 | 13.75 |
|----|--------|--------|-------|-------|

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -236.20         | -236.20          | -85.13          | -85.13           |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -241.12         | -241.12          | -98.48          | -98.48           |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #107**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 67.97           | 67.97            | -4.26           | -4.26            |
| F8    | 0.00            | -67.97           | 0.00            | 4.26             |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -25.03          | -25.03           | -1.14           | -1.14            |
| F8    | 0.00            | 25.03            | 0.00            | 1.14             |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -4.19           | -4.19            | 0.01            | 0.01             |
| F8    | 0.00            | 4.19             | 0.00            | -0.01            |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 128.54          | 128.54           | 0.20            | 0.20             |
| F8    | 0.00            | -128.54          | 0.00            | -0.20            |



**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 65.42           | 65.42            | 0.03            | 0.03             |
| F8    | 0.00            | -65.42           | 0.00            | -0.03            |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 103.85          | 103.85           | 0.14            | 0.14             |
| F8    | 0.00            | -103.85          | 0.00            | -0.14            |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 88.96           | 88.96            | 0.15            | 0.15             |
| F8    | 0.00            | -88.96           | 0.00            | -0.15            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -10.61          | -10.61           | 0.02            | 0.02             |
| F8    | 0.00            | 10.61            | 0.00            | -0.02            |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 108.74          | 108.74           | 0.02            | 0.02             |
| F8    | 0.00            | -108.74          | 0.00            | -0.02            |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 145.46          | 145.46           | 0.17            | 0.17             |
| F8    | 0.00            | -145.46          | 0.00            | -0.17            |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 47.34           | 47.34            | 0.13            | 0.13             |
| F8    | 0.00            | -47.34           | 0.00            | -0.13            |



**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 159.44          | 159.44           | 0.12            | 0.12             |
| F8    | 0.00            | -159.44          | 0.00            | -0.12            |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 58.76           | 58.76            | 0.13            | 0.13             |
| F8    | 0.00            | -58.76           | 0.00            | -0.13            |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 85.84           | 85.84            | 0.09            | 0.09             |
| F8    | 0.00            | -85.84           | 0.00            | -0.09            |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -14.83          | -14.83           | 0.10            | 0.10             |
| F8    | 0.00            | 14.83            | 0.00            | -0.10            |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 197.43          | 197.43           | 0.25            | 0.25             |
| F8    | 0.00            | -197.43          | 0.00            | -0.25            |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 187.10          | 187.10           | 0.25            | 0.25             |
| F8    | 0.00            | -187.10          | 0.00            | -0.25            |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 25.16           | 25.16            | 0.04            | 0.04             |
| F8    | 0.00            | -25.16           | 0.00            | -0.04            |



**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 49.90           | 49.90            | 0.04            | 0.04             |
| F8    | 0.00            | -49.90           | 0.00            | -0.04            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.00            | 0.00             | 0.00            | 0.00             |
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #108**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -22.45          | -22.45           | -224.03         | -224.03          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -7.96           | -7.96            | -50.86          | -50.86           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -0.04           | -0.04            | -4.73           | -4.73            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.30            | 0.30             | 19.58           | 19.58            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -4.06           | -4.06            | -216.37         | -216.37          |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.13            | 0.13             | 11.22           | 11.22            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 0.31                        | 0.31            | 18.15          | 18.15           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | -2.38                       | -2.38           | -139.23        | -139.23         |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | -3.71                       | -3.71           | -185.33        | -185.33         |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | -2.82                       | -2.82           | -147.59        | -147.59         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 3.27                        | 3.27            | 176.96         | 176.96          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | -2.68                       | -2.68           | -130.58        | -130.58         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | -1.55                       | -1.55           | -90.81         | -90.81          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                    |          | 1.88                        | 1.88            | 112.83         | 112.83          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |      |      |        |        |
|----|------|------|--------|--------|
| F9 | 3.02 | 3.02 | 152.61 | 152.61 |
|----|------|------|--------|--------|

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.09            | 1.09             | 33.17           | 33.17            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.18            | 1.18             | 37.48           | 37.48            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -2.38           | -2.38            | -113.26         | -113.26          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -2.59           | -2.59            | -123.49         | -123.49          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #109**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 14.30           | 14.30            | -77.05          | -77.05           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 2.82            | 2.82             | 12.22           | 12.22            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -0.05           | -0.05            | -0.66           | -0.66            |



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                   |          | -0.52                      | -0.52           | 12.72          | 12.72           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                   |          | 1.21                       | 1.21            | -187.26        | -187.26         |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                   |          | -0.52                      | -0.52           | 5.05           | 5.05            |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                   |          | -0.27                      | -0.27           | 14.03          | 14.03           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                   |          | 1.81                       | 1.81            | -105.44        | -105.44         |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                   |          | 0.01                       | 0.01            | -175.44        | -175.44         |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                   |          | 0.52                       | 0.52            | -130.90        | -130.90         |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F9                   |          | -1.30                      | -1.30           | 149.98         | 149.98          |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |                   |                             |                 |                |                 |         |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|---------|
| F9                    |                   |                             | -0.38           | -0.38          | -127.79         | -127.79 |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |         |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F9                    |                   | 1.15                        | 1.15            | -68.56         | -68.56          |         |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |         |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F9                    |                   | -1.74                       | -1.74           | 82.87          | 82.87           |         |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |         |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F9                    |                   | -0.21                       | -0.21           | 142.11         | 142.11          |         |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |         |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F9                    |                   | -0.27                       | -0.27           | 12.19          | 12.19           |         |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |         |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F9                    |                   | -0.14                       | -0.14           | 18.95          | 18.95           |         |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |         |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F9                    |                   | 0.63                        | 0.63            | -91.19         | -91.19          |         |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |         |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F9                    |                   | 0.33                        | 0.33            | -107.38        | -107.38         |         |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |         |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |         |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |         |
| F9                    |                   | 0.00                        | 0.00            | 0.00           | 0.00            |         |



**Frame #110**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F8           | -1.77    | -1.77    | 534.93  | 534.93   |  |
| F7           | 0.00     | 1.77     | 0.00    | -534.93  |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F8            | -1.01       | -1.01    | 143.70  | 143.70   |  |
| F7            | 0.00        | 1.01     | 0.00    | -143.70  |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F8            | -0.05       | -0.05    | 15.58   | 15.58    |  |
| F7            | 0.00        | 0.05     | 0.00    | -15.58   |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F8            | 0.00    | 0.00           | -64.34  | -64.34   |  |
| F7            | 0.00    | 0.00           | 0.00    | 64.34    |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F8            | -0.11   | -0.11          | 740.37  | 740.37   |  |
| F7            | 0.00    | 0.11           | 0.00    | -740.37  |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F8            | 0.00    | 0.00             | -27.83  | -27.83   |  |
| F7            | 0.00    | 0.00             | 0.00    | 27.83    |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F8            | -0.01   | -0.01            | -68.68  | -68.68   |  |
| F7            | 0.00    | 0.01             | 0.00    | 68.68    |  |



**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.16           | -0.16            | 408.70          | 408.70           |
| F7    | 0.00            | 0.16             | 0.00            | -408.70          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.01           | -0.01            | 701.85          | 701.85           |
| F7    | 0.00            | 0.01             | 0.00            | -701.85          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.09           | -0.09            | 507.02          | 507.02           |
| F7    | 0.00            | 0.09             | 0.00            | -507.02          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.08            | 0.08             | -603.53         | -603.53          |
| F7    | 0.00            | -0.08            | 0.00            | 603.53           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.01           | -0.01            | 505.52          | 505.52           |
| F7    | 0.00            | 0.01             | 0.00            | -505.52          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.12           | -0.12            | 255.01          | 255.01           |
| F7    | 0.00            | 0.12             | 0.00            | -255.01          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.12            | 0.12             | -327.40         | -327.40          |
| F7    | 0.00            | -0.12            | 0.00            | 327.40           |



**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | -577.90         | -577.90          |
| F7    | 0.00            | 0.00             | 0.00            | 577.90           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.23            | 0.23             | -81.51          | -81.51           |
| F7    | 0.00            | -0.23            | 0.00            | 81.51            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.21            | 0.21             | -104.35         | -104.35          |
| F7    | 0.00            | -0.21            | 0.00            | 104.35           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.12           | -0.12            | 337.86          | 337.86           |
| F7    | 0.00            | 0.12             | 0.00            | -337.86          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.07           | -0.07            | 392.06          | 392.06           |
| F7    | 0.00            | 0.07             | 0.00            | -392.06          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |
| F7    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #111**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.52           | -0.52            | -23.47          | -23.47           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | -0.93          | -0.93                      | -31.27         | -31.27          |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | -0.01          | -0.01                      | -2.42          | -2.42           |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | 1.02           | 1.02                       | 16.27          | 16.27           |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | 0.21           | 0.21                       | 56.03          | 56.03           |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | 0.79           | 0.79                       | 14.41          | 14.41           |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | 0.74           | 0.74                       | 10.00          | 10.00           |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | 0.22           | 0.22                       | 25.92          | 25.92           |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | 0.10           | 0.10                       | 58.12          | 58.12           |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F8                    |          | 0.92                        | 0.92            | 54.23          | 54.23           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.61                        | 0.61            | -29.82         | -29.82          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.66                        | 0.66            | 54.40          | 54.40           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.72                        | 0.72            | 26.94          | 26.94           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.43                        | 0.43            | -8.64          | -8.64           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.49                        | 0.49            | -36.09         | -36.09          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 1.22                        | 1.22            | 28.06          | 28.06           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 1.23                        | 1.23            | 25.95          | 25.95           |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.07                        | 0.07            | 20.55          | 20.55           |



**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.03            | 0.03             | 25.52           | 25.52            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #112**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 19.74           | 19.74            | -740.15         | -740.15          |
| F6    | 0.00            | -19.74           | 0.00            | 740.15           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.61            | 0.61             | -231.58         | -231.58          |
| F6    | 0.00            | -0.61            | 0.00            | 231.58           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.17           | -0.17            | -11.84          | -11.84           |
| F6    | 0.00            | 0.17             | 0.00            | 11.84            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 3.12            | 3.12             | 124.43          | 124.43           |
| F6    | 0.00            | -3.12            | 0.00            | -124.43          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -12.21          | -12.21           | 390.55          | 390.55           |
| F6    | 0.00            | 12.21            | 0.00            | -390.55          |



**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 2.30            | 2.30             | 103.25          | 103.25           |
| F6    | 0.00            | -2.30            | 0.00            | -103.25          |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 2.38            | 2.38             | 83.40           | 83.40            |
| F6    | 0.00            | -2.38            | 0.00            | -83.40           |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -8.66           | -8.66            | 232.83          | 232.83           |
| F6    | 0.00            | 8.66             | 0.00            | -232.83          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -9.65           | -9.65            | 352.99          | 352.99           |
| F6    | 0.00            | 9.65             | 0.00            | -352.99          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -6.81           | -6.81            | 386.23          | 386.23           |
| F6    | 0.00            | 6.81             | 0.00            | -386.23          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 11.50           | 11.50            | -199.59         | -199.59          |
| F6    | 0.00            | -11.50           | 0.00            | 199.59           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -5.51           | -5.51            | 342.18          | 342.18           |
| F6    | 0.00            | 5.51             | 0.00            | -342.18          |





**Load Case: W10 W Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -4.71           | -4.71            | 237.17          | 237.17           |
| F6    | 0.00            | 4.71             | 0.00            | -237.17          |

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 8.23            | 8.23             | -97.19          | -97.19           |
| F6    | 0.00            | -8.23            | 0.00            | 97.19            |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 9.03            | 9.03             | -202.19         | -202.19          |
| F6    | 0.00            | -9.03            | 0.00            | 202.19           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 4.84            | 4.84             | 159.21          | 159.21           |
| F6    | 0.00            | -4.84            | 0.00            | -159.21          |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 4.94            | 4.94             | 152.69          | 152.69           |
| F6    | 0.00            | -4.94            | 0.00            | -152.69          |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -7.25           | -7.25            | 148.89          | 148.89           |
| F6    | 0.00            | 7.25             | 0.00            | -148.89          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -7.51           | -7.51            | 163.98          | 163.98           |
| F6    | 0.00            | 7.51             | 0.00            | -163.98          |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F8            | 0.00       | 0.00      | 0.00    | 0.00     |  |
| F6            | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #113**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F8           | 0.00     | 0.00     | 0.00    | 0.00     |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F8            | 0.00        | 0.00     | 0.00    | 0.00     |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F8            | 0.00        | 0.00     | 0.00    | 0.00     |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F8            |   | 0.00           | 0.00     | 0.00    | 0.00     |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F8            |   | 0.00           | 0.00     | 0.00    | 0.00     |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F8            |   | 0.00             | 0.00     | 0.00    | 0.00     |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F8            |   | 0.00             | 0.00     | 0.00    | 0.00     |



|  |                |                 |                |                 |  |
|--|----------------|-----------------|----------------|-----------------|--|
| <b>Load Case: W5    W    Wind_IBC09_2_Y+E</b>      |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F8   | 0.00           | 0.00            | 0.00           | 0.00            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W6    W    Wind_IBC09_2_Y-E</b>      |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F8   | 0.00           | 0.00            | 0.00           | 0.00            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W7    W    Wind_IBC09_3_X+Y</b>      |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F8   | 0.00           | 0.00            | 0.00           | 0.00            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W8    W    Wind_IBC09_3_X-Y</b>      |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F8   | 0.00           | 0.00            | 0.00           | 0.00            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W9    W    Wind_IBC09_4_X+Y_CW</b>   |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F8   | 0.00           | 0.00            | 0.00           | 0.00            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W10    W    Wind_IBC09_4_X+Y_CCW</b> |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F8   | 0.00           | 0.00            | 0.00           | 0.00            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W11    W    Wind_IBC09_4_X-Y_CW</b>  |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F8   | 0.00           | 0.00            | 0.00           | 0.00            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: W12    W    Wind_IBC09_4_X-Y_CCW</b> |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F8   | 0.00           | 0.00            | 0.00           | 0.00            |  |
| <br>   |                |                 |                |                 |  |
| <b>Load Case: E1    E    EQ_ASCE710_X_+E_F</b>     |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

F8 0.00 0.00 0.00 0.00

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #114**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |      |      |      |      |
|----|------|------|------|------|
| F8 | 0.00 | 0.00 | 0.00 | 0.00 |
|----|------|------|------|------|

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #115**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.26            | 0.26             | 244.65          | 244.65           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | 0.16           | 0.16                       | 100.61         | 100.61          |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | 0.03           | 0.03                       | 3.63           | 3.63            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | 2.07           | 2.07                       | -98.19         | -98.19          |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | -0.64          | -0.64                      | 838.44         | 838.44          |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | 1.54           | 1.54                       | -114.36        | -114.36         |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | 1.57           | 1.57                       | -32.92         | -32.92          |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | -0.37          | -0.37                      | 913.83         | 913.83          |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F8                   | -0.58          | -0.58                      | 343.83         | 343.83          |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F8                    |          | 1.08                        | 1.08            | 555.19         | 555.19          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 2.03                        | 2.03            | -702.47        | -702.47         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.72                        | 0.72            | 172.10         | 172.10          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.90                        | 0.90            | 660.69         | 660.69          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 1.44                        | 1.44            | -771.15        | -771.15         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 1.61                        | 1.61            | -282.56        | -282.56         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 2.68                        | 2.68            | -144.60        | -144.60         |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 2.68                        | 2.68            | -103.81        | -103.81         |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -0.15                       | -0.15           | 350.61         | 350.61          |





**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.16           | -0.16            | 254.13          | 254.13           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #116**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 206.26          | 206.26           | -89.72          | -89.72           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 20.73           | 20.73            | -22.93          | -22.93           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 1.74            | 1.74             | -0.30           | -0.30            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 388.32          | 388.32           | 5.45            | 5.45             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 177.35          | 177.35           | 30.94           | 30.94            |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 296.81          | 296.81           | 4.47            | 4.47             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F8                    |          | 285.68                      | 285.68          | 3.70           | 3.70            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F8                    |          | 139.69                      | 139.69          | 20.58          | 20.58           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F8                    |          | 126.33                      | 126.33          | 25.83          | 25.83           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F8                    |          | 424.26                      | 424.26          | 27.29          | 27.29           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F8                    |          | 158.23                      | 158.23          | -19.12         | -19.12          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F8                    |          | 317.36                      | 317.36          | 22.73          | 22.73           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F8                    |          | 319.03                      | 319.03          | 18.21          | 18.21           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F8                    |          | 117.84                      | 117.84          | -12.08         | -12.08          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

F8 119.51 119.51 -16.60 -16.60

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F8 485.80 485.80 7.56 7.56

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F8 487.93 487.93 7.17 7.17

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F8 90.77 90.77 16.05 16.05

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F8 84.94 84.94 16.97 16.97

**Load Case: O1 Shear Test User\_User**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F8 0.00 0.00 0.00 0.00

**Frame #117**

**Load Case: D DeadLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F8 -0.37 -0.37 0.67 0.67

**Load Case: Lp PosLiveLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F8 -0.17 -0.17 -0.05 -0.05

**Load Case: Ln NegLiveLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F8 0.00 0.00 0.01 0.01



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                   |          | 0.01                       | 0.01            | 0.01           | 0.01            |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                   |          | -0.13                      | -0.13           | 1.77           | 1.77            |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                   |          | 0.00                       | 0.00            | 0.05           | 0.05            |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                   |          | 0.01                       | 0.01            | -0.03          | -0.03           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                   |          | -0.08                      | -0.08           | 1.00           | 1.00            |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                   |          | -0.11                      | -0.11           | 1.66           | 1.66            |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                   |          | -0.09                      | -0.09           | 1.34           | 1.34            |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                   |          | 0.10                       | 0.10            | -1.32          | -1.32           |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| F8                    |                   | -0.08                       | -0.08           | 1.28           | 1.28            |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |                   | -0.06                       | -0.06           | 0.72           | 0.72            |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |                   | 0.06                        | 0.06            | -0.71          | -0.71           |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |                   | 0.09                        | 0.09            | -1.27          | -1.27           |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |                   | 0.02                        | 0.02            | 0.04           | 0.04            |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |                   | 0.03                        | 0.03            | -0.02          | -0.02           |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |                   | -0.08                       | -0.08           | 0.88           | 0.88            |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |                   | -0.08                       | -0.08           | 1.02           | 1.02            |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |                   | 0.00                        | 0.00            | 0.00           | 0.00            |



**Frame #118**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -41.47          | -41.47           | -14.08          | -14.08           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -16.65          | -16.65           | -3.82           | -3.82            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 5.62            | 5.62             | -0.06           | -0.06            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 72.30           | 72.30            | 0.70            | 0.70             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -233.56         | -233.56          | 6.48            | 6.48             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 39.70           | 39.70            | 0.74            | 0.74             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 68.75           | 68.75            | 0.31            | 0.31             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -77.82          | -77.82           | 3.14            | 3.14             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -272.52                     | -272.52         | 6.58           | 6.58            |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -120.95                     | -120.95         | 5.39           | 5.39            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 229.40                      | 229.40          | -4.34          | -4.34           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -174.61                     | -174.61         | 5.49           | 5.49            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -6.81                       | -6.81           | 2.59           | 2.59            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 88.15                       | 88.15           | -1.80          | -1.80           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 255.95                      | 255.95          | -4.70          | -4.70           |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 99.41                       | 99.41           | 1.26           | 1.26            |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|    |        |        |      |      |
|----|--------|--------|------|------|
| F8 | 115.47 | 115.47 | 0.96 | 0.96 |
|----|--------|--------|------|------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -109.33         | -109.33          | 3.14            | 3.14             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -147.42         | -147.42          | 3.85            | 3.85             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #119**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 39.91           | 39.91            | 83.21           | 83.21            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 70.61           | 70.61            | 22.40           | 22.40            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -8.29           | -8.29            | -0.13           | -0.13            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 169.87          | 169.87           | -1.81           | -1.81            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 38.88           | 38.88            | 75.74           | 75.74            |





|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 136.92                      | 136.92          | 0.09           | 0.09            |
| <b>Load Case: W4</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 117.89                      | 117.89          | -2.81          | -2.81           |
| <b>Load Case: W5</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -90.89                      | -90.89          | 45.45          | 45.45           |
| <b>Load Case: W6</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 149.20                      | 149.20          | 68.16          | 68.16           |
| <b>Load Case: W7</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 156.56                      | 156.56          | 55.44          | 55.44           |
| <b>Load Case: W8</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 98.24                       | 98.24           | -58.16         | -58.16          |
| <b>Load Case: W9</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 214.59                      | 214.59          | 51.19          | 51.19           |
| <b>Load Case: W10</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 20.25                       | 20.25           | 31.98          | 31.98           |
| <b>Load Case: W11</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| F8 | 170.85 | 170.85 | -34.02 | -34.02 |
|----|--------|--------|--------|--------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -23.49          | -23.49           | -53.23          | -53.23           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 282.63          | 282.63           | -2.14           | -2.14            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 261.89          | 261.89           | -4.14           | -4.14            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 3.90            | 3.90             | 38.57           | 38.57            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 54.06           | 54.06            | 43.35           | 43.35            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #120**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |



| <b>Load Case: Ln NegLiveLoad RAMUSER</b> |                |                 |                |                 |             |
|--|----------------|-----------------|----------------|-----------------|-------------|
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |             |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     | <b>kips</b> |
| F8                                       | 0.00           | 0.00            | 0.00           | 0.00            | 0.00        |
| <b>Load Case: W1 W Wind_IBC09_1_X</b>    |                |                 |                |                 |             |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |             |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     | <b>kips</b> |
| F8                                       | 0.00           | 0.00            | 0.00           | 0.00            | 0.00        |
| <b>Load Case: W2 W Wind_IBC09_1_Y</b>    |                |                 |                |                 |             |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |             |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     | <b>kips</b> |
| F8                                       | 0.00           | 0.00            | 0.00           | 0.00            | 0.00        |
| <b>Load Case: W3 W Wind_IBC09_2_X+E</b>  |                |                 |                |                 |             |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |             |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     | <b>kips</b> |
| F8                                       | 0.00           | 0.00            | 0.00           | 0.00            | 0.00        |
| <b>Load Case: W4 W Wind_IBC09_2_X-E</b>  |                |                 |                |                 |             |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |             |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     | <b>kips</b> |
| F8                                       | 0.00           | 0.00            | 0.00           | 0.00            | 0.00        |
| <b>Load Case: W5 W Wind_IBC09_2_Y+E</b>  |                |                 |                |                 |             |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |             |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     | <b>kips</b> |
| F8                                       | 0.00           | 0.00            | 0.00           | 0.00            | 0.00        |
| <b>Load Case: W6 W Wind_IBC09_2_Y-E</b>  |                |                 |                |                 |             |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |             |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     | <b>kips</b> |
| F8                                       | 0.00           | 0.00            | 0.00           | 0.00            | 0.00        |
| <b>Load Case: W7 W Wind_IBC09_3_X+Y</b>  |                |                 |                |                 |             |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |             |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     | <b>kips</b> |
| F8                                       | 0.00           | 0.00            | 0.00           | 0.00            | 0.00        |
| <b>Load Case: W8 W Wind_IBC09_3_X-Y</b>  |                |                 |                |                 |             |
| <b>Level</b>                             | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |             |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     | <b>kips</b> |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 0.00                        | 0.00            | 0.00           | 0.00            |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F8            | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #121**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F8           | -24.19   | -24.19   | 29.58   | 29.58    |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F8            | -7.48       | -7.48    | 23.99   | 23.99    |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F8            | 0.03        | 0.03     | -2.66   | -2.66    |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F8            |   | 0.99           | 0.99     | 10.98   | 10.98    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F8            |   | -2.90          | -2.90    | 89.55   | 89.55    |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F8            |   | 0.71             | 0.71     | 12.35   | 12.35    |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F8            |   | 0.77             | 0.77     | 4.12    | 4.12     |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -2.24                       | -2.24           | 32.30          | 32.30           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -2.11                       | -2.11           | 102.02         | 102.02          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -1.43                       | -1.43           | 75.39          | 75.39           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 2.91                        | 2.91            | -58.93         | -58.93          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -1.05                       | -1.05           | 85.77          | 85.77           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -1.10                       | -1.10           | 27.32          | 27.32           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 2.21                        | 2.21            | -14.97         | -14.97          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 2.16                        | 2.16            | -73.42         | -73.42          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |      |      |       |       |
|----|------|------|-------|-------|
| F8 | 2.41 | 2.41 | 23.17 | 23.17 |
|----|------|------|-------|-------|

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 2.36            | 2.36             | 17.54           | 17.54            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -1.58           | -1.58            | 39.44           | 39.44            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -1.47           | -1.47            | 52.90           | 52.90            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #122**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 26.92           | 26.92            | -20.29          | -20.29           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 7.96            | 7.96             | -6.35           | -6.35            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.05           | -0.05            | -0.37           | -0.37            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.25           | -0.25            | 3.49            | 3.49             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 4.97                        | 4.97            | 2.37           | 2.37            |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -0.25                       | -0.25           | 1.36           | 1.36            |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -0.13                       | -0.13           | 3.88           | 3.88            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 3.87                        | 3.87            | 13.36          | 13.36           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 3.59                        | 3.59            | -9.81          | -9.81           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 3.54                        | 3.54            | 4.39           | 4.39            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | -3.91                       | -3.91           | 0.84           | 0.84            |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F8                    |          | 2.51                        | 2.51            | -6.34          | -6.34           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |





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F8 2.81 2.81 12.93 12.93

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -3.09           | -3.09            | -9.00           | -9.00            |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -2.78           | -2.78            | 10.27           | 10.27            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.43            | 0.43             | 2.59            | 2.59             |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.43            | 0.43             | 4.86            | 4.86             |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 2.73            | 2.73             | -0.77           | -0.77            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 2.74            | 2.74             | -6.22           | -6.22            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #123**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -16.59          | -16.59           | 509.97          | 509.97           |



|    |      |       |      |         |
|----|------|-------|------|---------|
| F6 | 0.00 | 16.59 | 0.00 | -509.97 |
|----|------|-------|------|---------|

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -4.20           | -4.20            | 148.04          | 148.04           |
| F6    | 0.00            | 4.20             | 0.00            | -148.04          |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.02            | 0.02             | 13.16           | 13.16            |
| F6    | 0.00            | -0.02            | 0.00            | -13.16           |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 3.04            | 3.04             | -61.95          | -61.95           |
| F6    | 0.00            | -3.04            | 0.00            | 61.95            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 5.05            | 5.05             | 783.85          | 783.85           |
| F6    | 0.00            | -5.05            | 0.00            | -783.85          |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 2.32            | 2.32             | -24.80          | -24.80           |
| F6    | 0.00            | -2.32            | 0.00            | 24.80            |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 2.24            | 2.24             | -68.13          | -68.13           |
| F6    | 0.00            | -2.24            | 0.00            | 68.13            |

**Load Case: W5 W Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 3.74            | 3.74             | 433.39          | 433.39           |
| F6    | 0.00            | -3.74            | 0.00            | -433.39          |



**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 3.83            | 3.83             | 742.39          | 742.39           |
| F6    | 0.00            | -3.83            | 0.00            | -742.39          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 6.06            | 6.06             | 541.43          | 541.43           |
| F6    | 0.00            | -6.06            | 0.00            | -541.43          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -1.51           | -1.51            | -634.36         | -634.36          |
| F6    | 0.00            | 1.51             | 0.00            | 634.36           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 4.61            | 4.61             | 538.20          | 538.20           |
| F6    | 0.00            | -4.61            | 0.00            | -538.20          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 4.49            | 4.49             | 273.94          | 273.94           |
| F6    | 0.00            | -4.49            | 0.00            | -273.94          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -1.07           | -1.07            | -343.64         | -343.64          |
| F6    | 0.00            | 1.07             | 0.00            | 343.64           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -1.19           | -1.19            | -607.89         | -607.89          |
| F6    | 0.00            | 1.19             | 0.00            | 607.89           |



**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 4.66            | 4.66             | -76.97          | -76.97           |
| F6    | 0.00            | -4.66            | 0.00            | 76.97            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 4.67            | 4.67             | -100.85         | -100.85          |
| F6    | 0.00            | -4.67            | 0.00            | 100.85           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 2.72            | 2.72             | 355.54          | 355.54           |
| F6    | 0.00            | -2.72            | 0.00            | -355.54          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 2.69            | 2.69             | 412.20          | 412.20           |
| F6    | 0.00            | -2.69            | 0.00            | -412.20          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.00            | 0.00             | 0.00            | 0.00             |
| F6    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #124**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 14.16           | 14.16            | 31.18           | 31.18            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 3.27            | 3.27             | -14.69          | -14.69           |



| Load Case: Ln        | NegLiveLoad | RAMUSER                 |         |          |  |
|----------------------|-------------|-------------------------|---------|----------|--|
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F7                   | 0.04        | 0.04                    | -5.16   | -5.16    |  |
| <b>Load Case: W1</b> | <b>W</b>    | <b>Wind_IBC09_1_X</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F7                   | 4.06        | 4.06                    | 122.31  | 122.31   |  |
| <b>Load Case: W2</b> | <b>W</b>    | <b>Wind_IBC09_1_Y</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F7                   | -2.24       | -2.24                   | 240.86  | 240.86   |  |
| <b>Load Case: W3</b> | <b>W</b>    | <b>Wind_IBC09_2_X+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F7                   | 3.05        | 3.05                    | 96.56   | 96.56    |  |
| <b>Load Case: W4</b> | <b>W</b>    | <b>Wind_IBC09_2_X-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F7                   | 3.04        | 3.04                    | 86.91   | 86.91    |  |
| <b>Load Case: W5</b> | <b>W</b>    | <b>Wind_IBC09_2_Y+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F7                   | -1.40       | -1.40                   | 151.93  | 151.93   |  |
| <b>Load Case: W6</b> | <b>W</b>    | <b>Wind_IBC09_2_Y-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F7                   | -1.96       | -1.96                   | 209.36  | 209.36   |  |
| <b>Load Case: W7</b> | <b>W</b>    | <b>Wind_IBC09_3_X+Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F7                   | 1.36        | 1.36                    | 272.38  | 272.38   |  |
| <b>Load Case: W8</b> | <b>W</b>    | <b>Wind_IBC09_3_X-Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |



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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F7                    |          | 4.72                        | 4.72            | -88.91         | -88.91          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 0.82                        | 0.82            | 229.44         | 229.44          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 1.23                        | 1.23            | 179.12         | 179.12          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 3.34                        | 3.34            | -41.52         | -41.52          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 3.75                        | 3.75            | -91.84         | -91.84          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 5.20                        | 5.20            | 153.82         | 153.82          |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 5.28                        | 5.28            | 150.53         | 150.53          |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | -1.51                       | -1.51           | 98.79          | 98.79           |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | -1.69                       | -1.69           | 106.43         | 106.43          |



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| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F7            | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #125**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F7           | 165.55   | 165.55   | -43.99  | -43.99   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F7            | 3.54        | 3.54     | -10.44  | -10.44   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F7            | 0.80        | 0.80     | -0.45   | -0.45    |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F7            |   | 372.97         | 372.97   | 2.36    | 2.36     |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F7            |   | 126.09         | 126.09   | 52.54   | 52.54    |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F7            |   | 280.28           | 280.28   | 2.66    | 2.66     |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F7            |   | 279.17           | 279.17   | 0.87    | 0.87     |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 114.90                      | 114.90          | 32.94          | 32.94           |
| <b>Load Case: W6</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 74.24                       | 74.24           | 45.87          | 45.87           |
| <b>Load Case: W7</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 374.29                      | 374.29          | 41.17          | 41.17           |
| <b>Load Case: W8</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 185.15                      | 185.15          | -37.64         | -37.64          |
| <b>Load Case: W9</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 265.89                      | 265.89          | 36.40          | 36.40           |
| <b>Load Case: W10</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 295.55                      | 295.55          | 25.36          | 25.36           |
| <b>Load Case: W11</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 124.04                      | 124.04          | -22.71         | -22.71          |
| <b>Load Case: W12</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 153.70                      | 153.70          | -33.75         | -33.75          |
| <b>Load Case: E1</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |





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|    |        |        |      |      |
|----|--------|--------|------|------|
| F7 | 460.30 | 460.30 | 3.81 | 3.81 |
|----|--------|--------|------|------|

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 463.77          | 463.77           | 2.74            | 2.74             |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 64.32           | 64.32            | 25.64           | 25.64            |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 55.89           | 55.89            | 28.19           | 28.19            |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #126**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 2.52            | 2.52             | -23.54          | -23.54           |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.67            | 0.67             | -34.36          | -34.36           |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.00            | 0.00             | -0.97           | -0.97            |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 1.87            | 1.87             | 10.61           | 10.61            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 1.04                        | 1.04            | 34.05          | 34.05           |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 1.42                        | 1.42            | 9.44           | 9.44            |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 1.38                        | 1.38            | 6.47           | 6.47            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 0.81                        | 0.81            | 14.39          | 14.39           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 0.75                        | 0.75            | 36.69          | 36.69           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 2.18                        | 2.18            | 33.49          | 33.49           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 0.62                        | 0.62            | -17.59         | -17.59          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 1.63                        | 1.63            | 34.60          | 34.60           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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F7 1.64 1.64 15.64 15.64

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.46            | 0.46             | -3.71           | -3.71            |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.47            | 0.47             | -22.67          | -22.67           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 2.25            | 2.25             | 18.85           | 18.85            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 2.25            | 2.25             | 17.26           | 17.26            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.54            | 0.54             | 12.27           | 12.27            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.52            | 0.52             | 16.04           | 16.04            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #127**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.26            | 0.26             | 244.65          | 244.65           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F7                   | 0.16           | 0.16                       | 100.61         | 100.61          |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F7                   | 0.03           | 0.03                       | 3.63           | 3.63            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F7                   | 2.07           | 2.07                       | -98.19         | -98.19          |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F7                   | -0.64          | -0.64                      | 838.44         | 838.44          |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F7                   | 1.54           | 1.54                       | -114.36        | -114.36         |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F7                   | 1.57           | 1.57                       | -32.92         | -32.92          |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F7                   | -0.37          | -0.37                      | 913.83         | 913.83          |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F7                   | -0.58          | -0.58                      | 343.83         | 343.83          |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



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|                       |                |                             |                |                 |  |
|-----------------------|----------------|-----------------------------|----------------|-----------------|--|
| F7                    | 1.08           | 1.08                        | 555.19         | 555.19          |  |
| <b>Load Case: W8</b>  | <b>W</b>       | <b>Wind_IBC09_3_X-Y</b>     |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b> | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>    | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F7                    | 2.03           | 2.03                        | -702.47        | -702.47         |  |
| <b>Load Case: W9</b>  | <b>W</b>       | <b>Wind_IBC09_4_X+Y_CW</b>  |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b> | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>    | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F7                    | 0.72           | 0.72                        | 172.10         | 172.10          |  |
| <b>Load Case: W10</b> | <b>W</b>       | <b>Wind_IBC09_4_X+Y_CCW</b> |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b> | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>    | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F7                    | 0.90           | 0.90                        | 660.69         | 660.69          |  |
| <b>Load Case: W11</b> | <b>W</b>       | <b>Wind_IBC09_4_X-Y_CW</b>  |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b> | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>    | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F7                    | 1.44           | 1.44                        | -771.15        | -771.15         |  |
| <b>Load Case: W12</b> | <b>W</b>       | <b>Wind_IBC09_4_X-Y_CCW</b> |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b> | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>    | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F7                    | 1.61           | 1.61                        | -282.56        | -282.56         |  |
| <b>Load Case: E1</b>  | <b>E</b>       | <b>EQ_ASCE710_X_+E_F</b>    |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b> | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>    | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F7                    | 2.68           | 2.68                        | -144.60        | -144.60         |  |
| <b>Load Case: E2</b>  | <b>E</b>       | <b>EQ_ASCE710_X_-E_F</b>    |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b> | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>    | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F7                    | 2.68           | 2.68                        | -103.81        | -103.81         |  |
| <b>Load Case: E3</b>  | <b>E</b>       | <b>EQ_ASCE710_Y_+E_F</b>    |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b> | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>    | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F7                    | -0.15          | -0.15                       | 350.61         | 350.61          |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -0.16           | -0.16            | 254.13          | 254.13           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #128**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -50.50          | -50.50           | -8.02           | -8.02            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -20.15          | -20.15           | -1.89           | -1.89            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 4.51            | 4.51             | -0.14           | -0.14            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 66.24           | 66.24            | 0.53            | 0.53             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -178.03         | -178.03          | 9.21            | 9.21             |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 38.72           | 38.72            | 0.69            | 0.69             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 60.64                       | 60.64           | 0.11           | 0.11            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | -56.75                      | -56.75          | 4.72           | 4.72            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | -210.29                     | -210.29         | 9.09           | 9.09            |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | -83.84                      | -83.84          | 7.31           | 7.31            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 183.20                      | 183.20          | -6.51          | -6.51           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | -128.67                     | -128.67         | 7.33           | 7.33            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 2.91                        | 2.91            | 3.63           | 3.63            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 71.61                       | 71.61           | -3.03          | -3.03           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|    |        |        |       |       |
|----|--------|--------|-------|-------|
| F7 | 203.19 | 203.19 | -6.73 | -6.73 |
|----|--------|--------|-------|-------|

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 80.17           | 80.17            | 1.26            | 1.26             |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 92.64           | 92.64            | 0.90            | 0.90             |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -80.89          | -80.89           | 3.97            | 3.97             |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -110.55         | -110.55          | 4.83            | 4.83             |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #129**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 59.53           | 59.53            | 130.62          | 130.62           |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 74.79           | 74.79            | 39.76           | 39.76            |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -6.03           | -6.03            | -0.93           | -0.93            |





|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                   |          | 203.41                     | 203.41          | -1.33          | -1.33           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                   |          | -1.47                      | -1.47           | 79.58          | 79.58           |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                   |          | 164.06                     | 164.06          | 0.44           | 0.44            |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                   |          | 141.06                     | 141.06          | -2.43          | -2.43           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                   |          | -114.12                    | -114.12         | 49.07          | 49.07           |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                   |          | 111.92                     | 111.92          | 70.30          | 70.30           |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                   |          | 151.46                     | 151.46          | 58.69          | 58.69           |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                   |          | 153.66                     | 153.66          | -60.68         | -60.68          |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| F7                    |                   | 206.98                      | 206.98          | 53.06          | 53.06           |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |                   | 20.20                       | 20.20           | 34.98          | 34.98           |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |                   | 208.64                      | 208.64          | -36.47         | -36.47          |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |                   | 21.86                       | 21.86           | -54.55         | -54.55          |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |                   | 307.90                      | 307.90          | -0.39          | -0.39           |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |                   | 289.60                      | 289.60          | -2.10          | -2.10           |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |                   | -17.66                      | -17.66          | 36.96          | 36.96           |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |                   | 26.13                       | 26.13           | 41.01          | 41.01           |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |                   | 0.00                        | 0.00            | 0.00           | 0.00            |



**Frame #130**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -28.42          | -28.42           | 0.18            | 0.18             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -8.59           | -8.59            | 8.29            | 8.29             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.04            | 0.04             | -1.76           | -1.76            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 1.99            | 1.99             | 8.42            | 8.42             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -4.43           | -4.43            | 52.65           | 52.65            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 1.42            | 1.42             | 9.86            | 9.86             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 1.56            | 1.56             | 2.76            | 2.76             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -3.17           | -3.17            | 10.87           | 10.87            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                    |          | -3.48                       | -3.48           | 68.11          | 68.11           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                    |          | -1.83                       | -1.83           | 45.80          | 45.80           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                    |          | 4.82                        | 4.82            | -33.17         | -33.17          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                    |          | -1.54                       | -1.54           | 58.48          | 58.48           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                    |          | -1.20                       | -1.20           | 10.22          | 10.22           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                    |          | 3.44                        | 3.44            | -0.75          | -0.75           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                    |          | 3.78                        | 3.78            | -49.01         | -49.01          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F7                    |          | 3.81                        | 3.81            | 18.50          | 18.50           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



|    |      |      |       |       |
|----|------|------|-------|-------|
| F7 | 3.80 | 3.80 | 14.08 | 14.08 |
|----|------|------|-------|-------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -2.30           | -2.30            | 19.22           | 19.22            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -2.26           | -2.26            | 29.75           | 29.75            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #131**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 30.21           | 30.21            | 10.33           | 10.33            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 8.77            | 8.77             | -2.47           | -2.47            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -0.02           | -0.02            | 0.18            | 0.18             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.59            | 0.59             | -1.67           | -1.67            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 3.39            | 3.39             | 7.72            | 7.72             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 0.31                        | 0.31            | -2.63          | -2.63           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 0.57                        | 0.57            | 0.13           | 0.13            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 3.15                        | 3.15            | 17.15          | 17.15           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 1.94                        | 1.94            | -5.57          | -5.57           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 2.99                        | 2.99            | 4.54           | 4.54            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | -2.10                       | -2.10           | -7.04          | -7.04           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 1.69                        | 1.69            | -6.15          | -6.15           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F7                    |          | 2.79                        | 2.79            | 12.96          | 12.96           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



F7 -2.13 -2.13 -14.84 -14.84

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -1.03           | -1.03            | 4.27            | 4.27             |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 1.56            | 1.56             | -2.92           | -2.92            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 1.64            | 1.64             | -0.88           | -0.88            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 1.94            | 1.94             | 1.61            | 1.61             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 1.76            | 1.76             | -3.27           | -3.27            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #132**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -17.09          | -17.09           | 612.74          | 612.74           |
| F5    | 0.00            | 17.09            | 0.00            | -612.74          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
|-------|-----------------|------------------|-----------------|------------------|



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|    |       |       |        |         |
|----|-------|-------|--------|---------|
| F6 | -4.34 | -4.34 | 188.78 | 188.78  |
| F5 | 0.00  | 4.34  | 0.00   | -188.78 |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -0.02           | -0.02            | 12.32           | 12.32            |
| F5    | 0.00            | 0.02             | 0.00            | -12.32           |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 1.99            | 1.99             | -71.31          | -71.31           |
| F5    | 0.00            | -1.99            | 0.00            | 71.31            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 4.27            | 4.27             | 1006.06         | 1006.06          |
| F5    | 0.00            | -4.27            | 0.00            | -1006.06         |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 1.53            | 1.53             | -25.56          | -25.56           |
| F5    | 0.00            | -1.53            | 0.00            | 25.56            |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 1.47            | 1.47             | -81.41          | -81.41           |
| F5    | 0.00            | -1.47            | 0.00            | 81.41            |

**Load Case: W5 W Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 3.14            | 3.14             | 556.51          | 556.51           |
| F5    | 0.00            | -3.14            | 0.00            | -556.51          |

**Load Case: W6 W Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 3.26            | 3.26             | 952.58          | 952.58           |
| F5    | 0.00            | -3.26            | 0.00            | -952.58          |





**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 4.69            | 4.69             | 701.06          | 701.06           |
| F5    | 0.00            | -4.69            | 0.00            | -701.06          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -1.70           | -1.70            | -808.03         | -808.03          |
| F5    | 0.00            | 1.70             | 0.00            | 808.03           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 3.59            | 3.59             | 695.27          | 695.27           |
| F5    | 0.00            | -3.59            | 0.00            | -695.27          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 3.45            | 3.45             | 356.32          | 356.32           |
| F5    | 0.00            | -3.45            | 0.00            | -356.32          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -1.21           | -1.21            | -436.55         | -436.55          |
| F5    | 0.00            | 1.21             | 0.00            | 436.55           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -1.35           | -1.35            | -775.49         | -775.49          |
| F5    | 0.00            | 1.35             | 0.00            | 775.49           |

**Load Case: E1    E    EQ\_ASCE710\_X+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 3.26            | 3.26             | -87.07          | -87.07           |
| F5    | 0.00            | -3.26            | 0.00            | 87.07            |



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**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 3.27            | 3.27             | -117.44         | -117.44          |
| F5    | 0.00            | -3.27            | 0.00            | 117.44           |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 2.33            | 2.33             | 454.39          | 454.39           |
| F5    | 0.00            | -2.33            | 0.00            | -454.39          |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 2.33            | 2.33             | 526.44          | 526.44           |
| F5    | 0.00            | -2.33            | 0.00            | -526.44          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.00            | 0.00             | 0.00            | 0.00             |
| F5    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #133**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 14.54           | 14.54            | -238.74         | -238.74          |
| F5    | 0.00            | -14.54           | 0.00            | 238.74           |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 3.38            | 3.38             | -86.67          | -86.67           |
| F5    | 0.00            | -3.38            | 0.00            | 86.67            |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.00            | 0.00             | -18.39          | -18.39           |
| F5    | 0.00            | 0.00             | 0.00            | 18.39            |



**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -0.28           | -0.28            | 158.65          | 158.65           |
| F5    | 0.00            | 0.28             | 0.00            | -158.65          |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -5.90           | -5.90            | 957.28          | 957.28           |
| F5    | 0.00            | 5.90             | 0.00            | -957.28          |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -0.21           | -0.21            | 138.12          | 138.12           |
| F5    | 0.00            | 0.21             | 0.00            | -138.12          |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -0.20           | -0.20            | 99.85           | 99.85            |
| F5    | 0.00            | 0.20             | 0.00            | -99.85           |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -4.28           | -4.28            | 584.82          | 584.82           |
| F5    | 0.00            | 4.28             | 0.00            | -584.82          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -4.57           | -4.57            | 851.10          | 851.10           |
| F5    | 0.00            | 4.57             | 0.00            | -851.10          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -4.63           | -4.63            | 836.95          | 836.95           |
| F5    | 0.00            | 4.63             | 0.00            | -836.95          |



**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 4.22            | 4.22             | -598.97         | -598.97          |
| F5    | 0.00            | -4.22            | 0.00            | 598.97           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -3.59           | -3.59            | 741.91          | 741.91           |
| F5    | 0.00            | 3.59             | 0.00            | -741.91          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -3.36           | -3.36            | 513.51          | 513.51           |
| F5    | 0.00            | 3.36             | 0.00            | -513.51          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 3.05            | 3.05             | -335.03         | -335.03          |
| F5    | 0.00            | -3.05            | 0.00            | 335.03           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 3.28            | 3.28             | -563.43         | -563.43          |
| F5    | 0.00            | -3.28            | 0.00            | 563.43           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -0.20           | -0.20            | 218.91          | 218.91           |
| F5    | 0.00            | 0.20             | 0.00            | -218.91          |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -0.15           | -0.15            | 199.76          | 199.76           |
| F5    | 0.00            | 0.15             | 0.00            | -199.76          |



**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -3.37           | -3.37            | 390.79          | 390.79           |
| F5    | 0.00            | 3.37             | 0.00            | -390.79          |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -3.51           | -3.51            | 436.08          | 436.08           |
| F5    | 0.00            | 3.51             | 0.00            | -436.08          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.00            | 0.00             | 0.00            | 0.00             |
| F5    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #134**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.26            | 0.26             | 244.65          | 244.65           |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.16            | 0.16             | 100.61          | 100.61           |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.03            | 0.03             | 3.63            | 3.63             |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 2.07            | 2.07             | -98.19          | -98.19           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 2.07            | 2.07             | -98.19          | -98.19           |



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|                       |          |                             |                 |                |                 |        |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|--------|
| F6                    |          |                             | -0.64           | -0.64          | 838.44          | 838.44 |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F6                    |          | 1.54                        | 1.54            | -114.36        | -114.36         |        |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F6                    |          | 1.57                        | 1.57            | -32.92         | -32.92          |        |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F6                    |          | -0.37                       | -0.37           | 913.83         | 913.83          |        |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F6                    |          | -0.58                       | -0.58           | 343.83         | 343.83          |        |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F6                    |          | 1.08                        | 1.08            | 555.19         | 555.19          |        |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F6                    |          | 2.03                        | 2.03            | -702.47        | -702.47         |        |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F6                    |          | 0.72                        | 0.72            | 172.10         | 172.10          |        |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |        |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |        |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |        |
| F6                    |          | 0.90                        | 0.90            | 660.69         | 660.69          |        |



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**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 1.44            | 1.44             | -771.15         | -771.15          |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 1.61            | 1.61             | -282.56         | -282.56          |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 2.68            | 2.68             | -144.60         | -144.60          |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 2.68            | 2.68             | -103.81         | -103.81          |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -0.15           | -0.15            | 350.61          | 350.61           |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -0.16           | -0.16            | 254.13          | 254.13           |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #135**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.87            | 0.87             | -185.18         | -185.18          |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F6                   | 0.10           | 0.10                       | -81.40         | -81.40          |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F6                   | 0.00           | 0.00                       | 1.24           | 1.24            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F6                   | 0.54           | 0.54                       | 6.32           | 6.32            |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F6                   | -0.35          | -0.35                      | -189.23        | -189.23         |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F6                   | 0.40           | 0.40                       | 1.11           | 1.11            |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F6                   | 0.40           | 0.40                       | 8.38           | 8.38            |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F6                   | -0.21          | -0.21                      | -115.85        | -115.85         |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |
| F6                   | -0.31          | -0.31                      | -168.00        | -168.00         |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kips</b>    | <b>kips</b>                | <b>kips</b>    | <b>kips</b>     |  |





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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F6                    |          | 0.14                        | 0.14            | -137.18        | -137.18         |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 0.67                        | 0.67            | 146.67         | 146.67          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 0.07                        | 0.07            | -125.17        | -125.17         |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 0.14                        | 0.14            | -80.60         | -80.60          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 0.46                        | 0.46            | 87.72          | 87.72           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 0.54                        | 0.54            | 132.28         | 132.28          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 0.58                        | 0.58            | 7.63           | 7.63            |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 0.59                        | 0.59            | 12.06          | 12.06           |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | -0.17                       | -0.17           | -89.09         | -89.09          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -0.20           | -0.20            | -99.63          | -99.63           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #136**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -21.33          | -21.33           | -132.63         | -132.63          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -6.28           | -6.28            | -34.97          | -34.97           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.03            | 0.03             | -0.31           | -0.31            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 2.09            | 2.09             | 16.13           | 16.13            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -3.26           | -3.26            | -95.42          | -95.42           |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 1.54            | 1.54             | 12.65           | 12.65            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 1.60                        | 1.60            | 11.55          | 11.55           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | -2.47                       | -2.47           | -75.17         | -75.17          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | -2.42                       | -2.42           | -67.96         | -67.96          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | -0.87                       | -0.87           | -59.47         | -59.47          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 4.02                        | 4.02            | 83.66          | 83.66           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | -0.66                       | -0.66           | -41.49         | -41.49          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | -0.65                       | -0.65           | -47.72         | -47.72          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 3.01                        | 3.01            | 65.86          | 65.86           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |      |      |       |       |
|----|------|------|-------|-------|
| F6 | 3.01 | 3.01 | 59.63 | 59.63 |
|----|------|------|-------|-------|

| Load Case: E1 | E EQ_ASCE710_X_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F6    | 3.59            | 3.59             | 24.54           | 24.54            |

| Load Case: E2 | E EQ_ASCE710_X_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F6    | 3.56            | 3.56             | 24.39           | 24.39            |

| Load Case: E3 | E EQ_ASCE710_Y_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F6    | -1.76           | -1.76            | -50.40          | -50.40           |

| Load Case: E4 | E EQ_ASCE710_Y_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F6    | -1.69           | -1.69            | -50.08          | -50.08           |

| Load Case: O1 | Shear Test User_User | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|----------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                      | F6    | 0.00            | 0.00             | 0.00            | 0.00             |

Frame #137

| Load Case: D | DeadLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------------|------------------|-------|-----------------|------------------|-----------------|------------------|
|              |                  | F6    | 18.95           | 18.95            | -128.44         | -128.44          |

| Load Case: Lp | PosLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F6    | 5.63            | 5.63             | -43.91          | -43.91           |

| Load Case: Ln | NegLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F6    | -0.03           | -0.03            | 1.46            | 1.46             |



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                   |          | 0.64                       | 0.64            | -13.26         | -13.26          |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                   |          | 3.38                       | 3.38            | -122.46        | -122.46         |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                   |          | 0.47                       | 0.47            | -13.90         | -13.90          |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                   |          | 0.50                       | 0.50            | -5.99          | -5.99           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                   |          | 2.45                       | 2.45            | -63.31         | -63.31          |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                   |          | 2.63                       | 2.63            | -120.37        | -120.37         |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                   |          | 3.02                       | 3.02            | -101.78        | -101.78         |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                   |          | -2.06                      | -2.06           | 81.90          | 81.90           |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| F6                    |                   | 2.32                        | 2.32            | -100.70        | -100.70         |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |                   | 2.21                        | 2.21            | -51.98         | -51.98          |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |                   | -1.48                       | -1.48           | 37.06          | 37.06           |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |                   | -1.60                       | -1.60           | 85.79          | 85.79           |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |                   | 1.30                        | 1.30            | -19.94         | -19.94          |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |                   | 1.26                        | 1.26            | -15.19         | -15.19          |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |                   | 1.87                        | 1.87            | -57.41         | -57.41          |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |                   | 1.94                        | 1.94            | -68.71         | -68.71          |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |                   | 0.00                        | 0.00            | 0.00           | 0.00            |



**Frame #138**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 41.38           | 41.38            | -109.75         | -109.75          |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -33.55          | -33.55           | -30.67          | -30.67           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 3.39            | 3.39             | 0.28            | 0.28             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 410.80          | 410.80           | 1.64            | 1.64             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 69.37           | 69.37            | -7.75           | -7.75            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 302.64          | 302.64           | 0.77            | 0.77             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 313.57          | 313.57           | 1.69            | 1.69             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 91.16           | 91.16            | -2.57           | -2.57            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 12.91                       | 12.91           | -9.06          | -9.06           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 360.13                      | 360.13          | -4.59          | -4.59           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 256.07                      | 256.07          | 7.04           | 7.04            |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 236.66                      | 236.66          | -6.22          | -6.22           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 303.54                      | 303.54          | -0.66          | -0.66           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 158.61                      | 158.61          | 2.50           | 2.50            |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 225.50                      | 225.50          | 8.06           | 8.06            |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 495.20                      | 495.20          | 1.46           | 1.46            |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |





|    |        |        |      |      |
|----|--------|--------|------|------|
| F6 | 500.88 | 500.88 | 1.98 | 1.98 |
|----|--------|--------|------|------|

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 42.05           | 42.05            | -2.15           | -2.15            |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 28.78           | 28.78            | -3.40           | -3.40            |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #139**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 8.97            | 8.97             | -26.49          | -26.49           |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -1.78           | -1.78            | -7.86           | -7.86            |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 3.20            | 3.20             | 0.16            | 0.16             |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 46.08           | 46.08            | 0.34            | 0.34             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -91.15          | -91.15           | -13.39          | -13.39           |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F6                    |          | 27.52                       | 27.52           | 0.02           | 0.02            |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F6                    |          | 41.61                       | 41.61           | 0.49           | 0.49            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F6                    |          | -18.07                      | -18.07          | -8.45          | -8.45           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F6                    |          | -118.65                     | -118.65         | -11.64         | -11.64          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F6                    |          | -33.80                      | -33.80          | -9.79          | -9.79           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F6                    |          | 102.92                      | 102.92          | 10.30          | 10.30           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F6                    |          | -68.35                      | -68.35          | -8.71          | -8.71           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F6                    |          | 17.65                       | 17.65           | -5.97          | -5.97           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



|    |       |       |      |      |
|----|-------|-------|------|------|
| F6 | 34.19 | 34.19 | 6.36 | 6.36 |
|----|-------|-------|------|------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 120.19          | 120.19           | 9.10            | 9.10             |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 49.44           | 49.44            | 0.44            | 0.44             |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 57.25           | 57.25            | 0.70            | 0.70             |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -37.61          | -37.61           | -6.25           | -6.25            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -56.19          | -56.19           | -6.87           | -6.87            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #140**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 131.68          | 131.68           | -37.59          | -37.59           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 90.81           | 90.81            | -12.98          | -12.98           |



| Load Case: Ln        | NegLiveLoad | RAMUSER                 |         |          |  |
|----------------------|-------------|-------------------------|---------|----------|--|
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F6                   | -6.69       | -6.69                   | 1.15    | 1.15     |  |
| <b>Load Case: W1</b> | <b>W</b>    | <b>Wind_IBC09_1_X</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F6                   | 255.37      | 255.37                  | -2.07   | -2.07    |  |
| <b>Load Case: W2</b> | <b>W</b>    | <b>Wind_IBC09_1_Y</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F6                   | -6.06       | -6.06                   | -76.70  | -76.70   |  |
| <b>Load Case: W3</b> | <b>W</b>    | <b>Wind_IBC09_2_X+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F6                   | 206.08      | 206.08                  | -3.51   | -3.51    |  |
| <b>Load Case: W4</b> | <b>W</b>    | <b>Wind_IBC09_2_X-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F6                   | 176.98      | 176.98                  | 0.41    | 0.41     |  |
| <b>Load Case: W5</b> | <b>W</b>    | <b>Wind_IBC09_2_Y+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F6                   | -109.17     | -109.17                 | -43.73  | -43.73   |  |
| <b>Load Case: W6</b> | <b>W</b>    | <b>Wind_IBC09_2_Y-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F6                   | 100.09      | 100.09                  | -71.32  | -71.32   |  |
| <b>Load Case: W7</b> | <b>W</b>    | <b>Wind_IBC09_3_X+Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F6                   | 186.99      | 186.99                  | -59.07  | -59.07   |  |
| <b>Load Case: W8</b> | <b>W</b>    | <b>Wind_IBC09_3_X-Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F6                    |          | 196.07                      | 196.07          | 55.97          | 55.97           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 229.63                      | 229.63          | -56.13         | -56.13          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 50.85                       | 50.85           | -32.49         | -32.49          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 236.44                      | 236.44          | 30.16          | 30.16           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 57.67                       | 57.67           | 53.80          | 53.80           |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 346.56                      | 346.56          | -4.92          | -4.92           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 330.93                      | 330.93          | -2.65          | -2.65           |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | -27.52                      | -27.52          | -34.13         | -34.13          |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F6                    |          | 9.34                        | 9.34            | -39.50         | -39.50          |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F6            | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #141**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F5           | -18.09   | -18.09   | 535.22  | 535.22   |  |
| F4           | 0.00     | 18.09    | 0.00    | -535.22  |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F5            | -4.66       | -4.66    | 165.57  | 165.57   |  |
| F4            | 0.00        | 4.66     | 0.00    | -165.57  |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F5            | 0.07        | 0.07     | 20.01   | 20.01    |  |
| F4            | 0.00        | -0.07    | 0.00    | -20.01   |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F5            | 4.17    | 4.17           | -58.09  | -58.09   |  |
| F4            | 0.00    | -4.17          | 0.00    | 58.09    |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F5            | 5.34    | 5.34           | 857.27  | 857.27   |  |
| F4            | 0.00    | -5.34          | 0.00    | -857.27  |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F5            | 3.12    | 3.12             | -19.74  | -19.74   |  |
| F4            | 0.00    | -3.12            | 0.00    | 19.74    |  |



**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.13            | 3.13             | -67.40          | -67.40           |
| F4    | 0.00            | -3.13            | 0.00            | 67.40            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 4.07            | 4.07             | 474.36          | 474.36           |
| F4    | 0.00            | -4.07            | 0.00            | -474.36          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.93            | 3.93             | 811.55          | 811.55           |
| F4    | 0.00            | -3.93            | 0.00            | -811.55          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 7.13            | 7.13             | 599.39          | 599.39           |
| F4    | 0.00            | -7.13            | 0.00            | -599.39          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.88           | -0.88            | -686.52         | -686.52          |
| F4    | 0.00            | 0.88             | 0.00            | 686.52           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 5.29            | 5.29             | 593.86          | 593.86           |
| F4    | 0.00            | -5.29            | 0.00            | -593.86          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 5.40            | 5.40             | 305.22          | 305.22           |
| F4    | 0.00            | -5.40            | 0.00            | -305.22          |



**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.71           | -0.71            | -370.57         | -370.57          |
| F4    | 0.00            | 0.71             | 0.00            | 370.57           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.60           | -0.60            | -659.21         | -659.21          |
| F4    | 0.00            | 0.60             | 0.00            | 659.21           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 6.05            | 6.05             | -70.15          | -70.15           |
| F4    | 0.00            | -6.05            | 0.00            | 70.15            |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 6.06            | 6.06             | -95.93          | -95.93           |
| F4    | 0.00            | -6.06            | 0.00            | 95.93            |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.05            | 3.05             | 386.15          | 386.15           |
| F4    | 0.00            | -3.05            | 0.00            | -386.15          |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.03            | 3.03             | 447.27          | 447.27           |
| F4    | 0.00            | -3.03            | 0.00            | -447.27          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.00            | 0.00             | 0.00            | 0.00             |
| F4    | 0.00            | 0.00             | 0.00            | 0.00             |





**Frame #142**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.27            | 3.27             | 182.15          | 182.15           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.80            | 0.80             | 35.19           | 35.19            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.03            | 0.03             | -3.07           | -3.07            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.76            | 0.76             | 10.46           | 10.46            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.33           | -0.33            | 38.57           | 38.57            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.55            | 0.55             | 8.97            | 8.97             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.59            | 0.59             | 6.72            | 6.72             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.10           | -0.10            | 21.81           | 21.81            |



|  |                |                 |                |                 |  |
|--|----------------|-----------------|----------------|-----------------|--|
| <b>Load Case: W6    W    Wind_IBC09_2_Y-E</b>      |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F5   | -0.40          | -0.40           | 36.04          | 36.04           |  |
| <b>Load Case: W7    W    Wind_IBC09_3_X+Y</b>      |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F5   | 0.32           | 0.32            | 36.77          | 36.77           |  |
| <b>Load Case: W8    W    Wind_IBC09_3_X-Y</b>      |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F5   | 0.82           | 0.82            | -21.08         | -21.08          |  |
| <b>Load Case: W9    W    Wind_IBC09_4_X+Y_CW</b>   |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F5   | 0.11           | 0.11            | 33.76          | 33.76           |  |
| <b>Load Case: W10    W    Wind_IBC09_4_X+Y_CCW</b> |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F5   | 0.37           | 0.37            | 21.40          | 21.40           |  |
| <b>Load Case: W11    W    Wind_IBC09_4_X-Y_CW</b>  |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F5   | 0.49           | 0.49            | -9.63          | -9.63           |  |
| <b>Load Case: W12    W    Wind_IBC09_4_X-Y_CCW</b> |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F5   | 0.74           | 0.74            | -21.99         | -21.99          |  |
| <b>Load Case: E1    E    EQ_ASCE710_X_+E_F</b>     |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F5   | 0.82           | 0.82            | 17.23          | 17.23           |  |
| <b>Load Case: E2    E    EQ_ASCE710_X_-E_F</b>     |                |                 |                |                 |  |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|  | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |      |      |       |       |
|----|------|------|-------|-------|
| F5 | 0.84 | 0.84 | 16.09 | 16.09 |
|----|------|------|-------|-------|

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.12           | -0.12            | 16.17           | 16.17            |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.15           | -0.15            | 18.86           | 18.86            |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #143**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 16.79           | 16.79            | -1058.22        | -1058.22         |
| F4    | 0.00            | -16.79           | 0.00            | 1058.22          |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.91            | 3.91             | -347.77         | -347.77          |
| F4    | 0.00            | -3.91            | 0.00            | 347.77           |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.12            | 0.12             | -13.29          | -13.29           |
| F4    | 0.00            | -0.12            | 0.00            | 13.29            |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 2.60            | 2.60             | 136.88          | 136.88           |
| F4    | 0.00            | -2.60            | 0.00            | -136.88          |



**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -3.70           | -3.70            | 461.41          | 461.41           |
| F4    | 0.00            | 3.70             | 0.00            | -461.41          |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 1.90            | 1.90             | 110.43          | 110.43           |
| F4    | 0.00            | -1.90            | 0.00            | -110.43          |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 2.01            | 2.01             | 94.89           | 94.89            |
| F4    | 0.00            | -2.01            | 0.00            | -94.89           |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -2.30           | -2.30            | 289.86          | 289.86           |
| F4    | 0.00            | 2.30             | 0.00            | -289.86          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -3.26           | -3.26            | 402.26          | 402.26           |
| F4    | 0.00            | 3.26             | 0.00            | -402.26          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.83           | -0.83            | 448.72          | 448.72           |
| F4    | 0.00            | 0.83             | 0.00            | -448.72          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 4.73            | 4.73             | -243.40         | -243.40          |
| F4    | 0.00            | -4.73            | 0.00            | 243.40           |



**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -1.02           | -1.02            | 384.51          | 384.51           |
| F4    | 0.00            | 1.02             | 0.00            | -384.51          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.22           | -0.22            | 288.57          | 288.57           |
| F4    | 0.00            | 0.22             | 0.00            | -288.57          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.14            | 3.14             | -134.58         | -134.58          |
| F4    | 0.00            | -3.14            | 0.00            | 134.58           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.95            | 3.95             | -230.52         | -230.52          |
| F4    | 0.00            | -3.95            | 0.00            | 230.52           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.22            | 3.22             | 175.81          | 175.81           |
| F4    | 0.00            | -3.22            | 0.00            | -175.81          |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.28            | 3.28             | 169.43          | 169.43           |
| F4    | 0.00            | -3.28            | 0.00            | -169.43          |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -2.07           | -2.07            | 149.41          | 149.41           |
| F4    | 0.00            | 2.07             | 0.00            | -149.41          |



**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -2.23           | -2.23            | 164.40          | 164.40           |
| F4    | 0.00            | 2.23             | 0.00            | -164.40          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.00            | 0.00             | 0.00            | 0.00             |
| F4    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #144**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.26            | 0.26             | 244.65          | 244.65           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.16            | 0.16             | 100.61          | 100.61           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.03            | 0.03             | 3.63            | 3.63             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 2.07            | 2.07             | -98.19          | -98.19           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.64           | -0.64            | 838.44          | 838.44           |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 1.54            | 1.54             | -114.36         | -114.36          |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 1.57                        | 1.57            | -32.92         | -32.92          |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | -0.37                       | -0.37           | 913.83         | 913.83          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | -0.58                       | -0.58           | 343.82         | 343.82          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 1.08                        | 1.08            | 555.19         | 555.19          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 2.03                        | 2.03            | -702.47        | -702.47         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 0.72                        | 0.72            | 172.10         | 172.10          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 0.90                        | 0.90            | 660.69         | 660.69          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 1.44                        | 1.44            | -771.15        | -771.15         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |      |      |         |         |
|----|------|------|---------|---------|
| F5 | 1.61 | 1.61 | -282.56 | -282.56 |
|----|------|------|---------|---------|

| Load Case: E1 | E EQ_ASCE710_X_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F5    | 2.68            | 2.68             | -144.60         | -144.60          |

| Load Case: E2 | E EQ_ASCE710_X_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F5    | 2.68            | 2.68             | -103.81         | -103.81          |

| Load Case: E3 | E EQ_ASCE710_Y_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F5    | -0.15           | -0.15            | 350.61          | 350.61           |

| Load Case: E4 | E EQ_ASCE710_Y_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F5    | -0.16           | -0.16            | 254.13          | 254.13           |

| Load Case: O1 | Shear Test User_User | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|----------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                      | F5    | 0.00            | 0.00             | 0.00            | 0.00             |

Frame #145

| Load Case: D | DeadLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------------|------------------|-------|-----------------|------------------|-----------------|------------------|
|              |                  | F5    | -21.79          | -21.79           | 19.56           | 19.56            |

| Load Case: Lp | PosLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F5    | -6.38           | -6.38            | 12.23           | 12.23            |

| Load Case: Ln | NegLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F5    | 0.02            | 0.02             | -2.80           | -2.80            |





|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                   |          | 2.56                       | 2.56            | 16.58          | 16.58           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                   |          | -3.53                      | -3.53           | 46.20          | 46.20           |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                   |          | 1.93                       | 1.93            | 16.67          | 16.67           |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                   |          | 1.92                       | 1.92            | 8.21           | 8.21            |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                   |          | -2.80                      | -2.80           | 8.51           | 8.51            |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                   |          | -2.50                      | -2.50           | 60.79          | 60.79           |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                   |          | -0.73                      | -0.73           | 47.09          | 47.09           |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                   |          | 4.57                       | 4.57            | -22.22         | -22.22          |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|  |  |  |                |                 |                |                 |
|--|--|--|----------------|-----------------|----------------|-----------------|
| F5   |  |  | -0.43          | -0.43           | 58.10          | 58.10           |
| <b>Load Case: W10    W    Wind_IBC09_4_X+Y_CCW</b> |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5   |  |  | -0.66          | -0.66           | 12.54          | 12.54           |
| <b>Load Case: W11    W    Wind_IBC09_4_X-Y_CW</b>  |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5   |  |  | 3.55           | 3.55            | 6.12           | 6.12            |
| <b>Load Case: W12    W    Wind_IBC09_4_X-Y_CCW</b> |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5   |  |  | 3.31           | 3.31            | -39.44         | -39.44          |
| <b>Load Case: E1    E    EQ_ASCE710_X_+E_F</b>     |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5   |  |  | 4.01           | 4.01            | 27.62          | 27.62           |
| <b>Load Case: E2    E    EQ_ASCE710_X_-E_F</b>     |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5   |  |  | 3.97           | 3.97            | 23.94          | 23.94           |
| <b>Load Case: E3    E    EQ_ASCE710_Y_+E_F</b>     |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5   |  |  | -1.95          | -1.95           | 12.61          | 12.61           |
| <b>Load Case: E4    E    EQ_ASCE710_Y_-E_F</b>     |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5   |  |  | -1.85          | -1.85           | 21.24          | 21.24           |
| <b>Load Case: O1    Shear Test    User_User</b>    |  |  |                |                 |                |                 |
| <b>Level</b>                                       |  |  | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  |  |  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5   |  |  | 0.00           | 0.00            | 0.00           | 0.00            |



**Frame #146**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 16.40           | 16.40            | 26.71           | 26.71            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 4.94            | 4.94             | 6.16            | 6.16             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.06           | -0.06            | -0.85           | -0.85            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 1.10            | 1.10             | -12.11          | -12.11           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 2.62            | 2.62             | 24.25           | 24.25            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.84            | 0.84             | -9.96           | -9.96            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.82            | 0.82             | -8.20           | -8.20            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 1.80            | 1.80             | 23.41           | 23.41            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 2.14                        | 2.14            | 12.96          | 12.96           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 2.79                        | 2.79            | 9.11           | 9.11            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | -1.14                       | -1.14           | -27.27         | -27.27          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 2.23                        | 2.23            | 2.25           | 2.25            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 1.96                        | 1.96            | 11.41          | 11.41           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | -0.72                       | -0.72           | -25.03         | -25.03          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | -0.99                       | -0.99           | -15.87         | -15.87          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 1.75                        | 1.75            | -14.12         | -14.12          |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



|    |      |      |        |        |
|----|------|------|--------|--------|
| F5 | 1.72 | 1.72 | -13.32 | -13.32 |
|----|------|------|--------|--------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 1.43            | 1.43             | 10.18           | 10.18            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 1.51            | 1.51             | 8.32            | 8.32             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #147**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 208.48          | 208.48           | -42.44          | -42.44           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 19.96           | 19.96            | -10.67          | -10.67           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 4.20            | 4.20             | -0.32           | -0.32            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 398.71          | 398.71           | 1.19            | 1.19             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 106.81          | 106.81           | 15.81           | 15.81            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 290.02                      | 290.02          | 1.06           | 1.06            |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 308.05                      | 308.05          | 0.72           | 0.72            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 119.79                      | 119.79          | 10.66          | 10.66           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 40.42                       | 40.42           | 13.05          | 13.05           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 379.14                      | 379.14          | 12.75          | 12.75           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 218.92                      | 218.92          | -10.97         | -10.97          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 247.83                      | 247.83          | 10.59          | 10.59           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 320.88                      | 320.88          | 8.54           | 8.54            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |        |        |       |       |
|----|--------|--------|-------|-------|
| F5 | 127.67 | 127.67 | -7.20 | -7.20 |
|----|--------|--------|-------|-------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 200.72          | 200.72           | -9.25           | -9.25            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 472.01          | 472.01           | 1.66            | 1.66             |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 476.60          | 476.60           | 1.48            | 1.48             |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 59.68           | 59.68            | 7.99            | 7.99             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 49.38           | 49.38            | 8.42            | 8.42             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #148**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.67            | 0.67             | -6.82           | -6.82            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -3.68           | -3.68            | -1.68           | -1.68            |



| Load Case: Ln        | NegLiveLoad | RAMUSER                 |         |          |  |
|----------------------|-------------|-------------------------|---------|----------|--|
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F5                   | 2.51        | 2.51                    | -0.18   | -0.18    |  |
| <b>Load Case: W1</b> | <b>W</b>    | <b>Wind_IBC09_1_X</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F5                   | 48.46       | 48.46                   | 0.79    | 0.79     |  |
| <b>Load Case: W2</b> | <b>W</b>    | <b>Wind_IBC09_1_Y</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F5                   | -96.80      | -96.80                  | 2.76    | 2.76     |  |
| <b>Load Case: W3</b> | <b>W</b>    | <b>Wind_IBC09_2_X+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F5                   | 29.85       | 29.85                   | 0.73    | 0.73     |  |
| <b>Load Case: W4</b> | <b>W</b>    | <b>Wind_IBC09_2_X-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F5                   | 42.84       | 42.84                   | 0.45    | 0.45     |  |
| <b>Load Case: W5</b> | <b>W</b>    | <b>Wind_IBC09_2_Y+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F5                   | -25.40      | -25.40                  | 1.09    | 1.09     |  |
| <b>Load Case: W6</b> | <b>W</b>    | <b>Wind_IBC09_2_Y-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F5                   | -119.80     | -119.80                 | 3.05    | 3.05     |  |
| <b>Load Case: W7</b> | <b>W</b>    | <b>Wind_IBC09_3_X+Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| F5                   | -36.26      | -36.26                  | 2.66    | 2.66     |  |
| <b>Load Case: W8</b> | <b>W</b>    | <b>Wind_IBC09_3_X-Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |





|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F5                    |          | 108.94                      | 108.94          | -1.48          | -1.48           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | -67.47                      | -67.47          | 2.83           | 2.83            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 13.08                       | 13.08           | 1.15           | 1.15            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 41.43                       | 41.43           | -0.27          | -0.27           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 121.98                      | 121.98          | -1.95          | -1.95           |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 45.82                       | 45.82           | 1.42           | 1.42            |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | 52.99                       | 52.99           | 1.27           | 1.27            |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | -38.02                      | -38.02          | 0.94           | 0.94            |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F5                    |          | -55.05                      | -55.05          | 1.28           | 1.28            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F5            | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #149**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F5           | -42.61   | -42.61   | 99.75   | 99.75    |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F5            | 35.29       | 35.29    | 30.22   | 30.22    |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F5            | -8.26       | -8.26    | -1.28   | -1.28    |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F5            |   | 267.38         | 267.38   | 1.09    | 1.09     |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F5            |   | -59.49         | -59.49   | 38.08   | 38.08    |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F5            |   | 219.75           | 219.75   | 1.54    | 1.54     |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F5            |   | 181.32           | 181.32   | 0.09    | 0.09     |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F5                    |          | -151.06                     | -151.06         | 23.61          | 23.61           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F5                    |          | 61.83                       | 61.83           | 33.51          | 33.51           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F5                    |          | 155.92                      | 155.92          | 29.38          | 29.38           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F5                    |          | 245.15                      | 245.15          | -27.75         | -27.75          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F5                    |          | 211.18                      | 211.18          | 26.29          | 26.29           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F5                    |          | 22.70                       | 22.70           | 17.77          | 17.77           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F5                    |          | 278.11                      | 278.11          | -16.55         | -16.55          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F5                    |          | 89.62                       | 89.62           | -25.07         | -25.07          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |        |        |      |      |
|----|--------|--------|------|------|
| F5 | 328.40 | 328.40 | 2.17 | 2.17 |
|----|--------|--------|------|------|

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 314.27          | 314.27           | 1.48            | 1.48             |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -59.28          | -59.28           | 17.10           | 17.10            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -26.51          | -26.51           | 18.72           | 18.72            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #150**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -17.70          | -17.70           | 273.64          | 273.64           |
| F3    | 0.00            | 17.70            | 0.00            | -273.64          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -4.62           | -4.62            | 102.01          | 102.01           |
| F3    | 0.00            | 4.62             | 0.00            | -102.01          |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.06            | 0.06             | 6.22            | 6.22             |
| F3    | 0.00            | -0.06            | 0.00            | -6.22            |



**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 4.11            | 4.11             | 0.65            | 0.65             |
| F3    | 0.00            | -4.11            | 0.00            | -0.65            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 4.33            | 4.33             | 923.57          | 923.57           |
| F3    | 0.00            | -4.33            | 0.00            | -923.57          |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 3.04            | 3.04             | 27.85           | 27.85            |
| F3    | 0.00            | -3.04            | 0.00            | -27.85           |

**Load Case: W4    W    Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 3.12            | 3.12             | -26.87          | -26.87           |
| F3    | 0.00            | -3.12            | 0.00            | 26.87            |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 3.30            | 3.30             | 506.94          | 506.94           |
| F3    | 0.00            | -3.30            | 0.00            | -506.94          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 3.20            | 3.20             | 878.42          | 878.42           |
| F3    | 0.00            | -3.20            | 0.00            | -878.42          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 6.33            | 6.33             | 693.17          | 693.17           |
| F3    | 0.00            | -6.33            | 0.00            | -693.17          |



**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -0.16           | -0.16            | -692.19         | -692.19          |
| F3    | 0.00            | 0.16             | 0.00            | 692.19           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 4.68            | 4.68             | 679.70          | 679.70           |
| F3    | 0.00            | -4.68            | 0.00            | -679.70          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 4.81            | 4.81             | 360.06          | 360.06           |
| F3    | 0.00            | -4.81            | 0.00            | -360.06          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -0.19           | -0.19            | -359.32         | -359.32          |
| F3    | 0.00            | 0.19             | 0.00            | 359.32           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -0.05           | -0.05            | -678.96         | -678.96          |
| F3    | 0.00            | 0.05             | 0.00            | 678.96           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 5.53            | 5.53             | 13.04           | 13.04            |
| F3    | 0.00            | -5.53            | 0.00            | -13.04           |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 5.57            | 5.57             | -12.78          | -12.78           |
| F3    | 0.00            | -5.57            | 0.00            | 12.78            |



**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 2.64            | 2.64             | 383.58          | 383.58           |
| F3    | 0.00            | -2.64            | 0.00            | -383.58          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 2.57            | 2.57             | 444.57          | 444.57           |
| F3    | 0.00            | -2.57            | 0.00            | -444.57          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.00            | 0.00             | 0.00            | 0.00             |
| F3    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #151**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 1.07            | 1.07             | 261.16          | 261.16           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.12            | 0.12             | 59.74           | 59.74            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.00            | 0.00             | -1.31           | -1.31            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 1.11            | 1.11             | -2.68           | -2.68            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 1.11            | 1.11             | -2.68           | -2.68            |



RAM Structural System

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|                       |          |                             |                 |                |                 |       |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|-------|
| F4                    |          |                             | -0.18           | -0.18          | 69.28           | 69.28 |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F4                    |          | 0.82                        | 0.82            | -0.96          | -0.96           |       |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F4                    |          | 0.85                        | 0.85            | -3.05          | -3.05           |       |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F4                    |          | -0.25                       | -0.25           | 44.25          | 44.25           |       |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F4                    |          | -0.02                       | -0.02           | 59.68          | 59.68           |       |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F4                    |          | 0.70                        | 0.70            | 49.96          | 49.96           |       |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F4                    |          | 0.97                        | 0.97            | -53.97         | -53.97          |       |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F4                    |          | 0.60                        | 0.60            | 44.04          | 44.04           |       |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F4                    |          | 0.45                        | 0.45            | 30.89          | 30.89           |       |





**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.81            | 0.81             | -33.91          | -33.91           |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.65            | 0.65             | -47.05          | -47.05           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 1.27            | 1.27             | -1.19           | -1.19            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 1.27            | 1.27             | -2.96           | -2.96            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.05            | 0.05             | 33.51           | 33.51            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.05            | 0.05             | 37.73           | 37.73            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #152**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 12.06           | 12.06            | -718.40         | -718.40          |
| F3    | 0.00            | -12.06           | 0.00            | 718.40           |



**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 2.73            | 2.73             | -260.88         | -260.88          |
| F3    | 0.00            | -2.73            | 0.00            | 260.88           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.02            | 0.02             | -6.37           | -6.37            |
| F3    | 0.00            | -0.02            | 0.00            | 6.37             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 1.89            | 1.89             | 109.17          | 109.17           |
| F3    | 0.00            | -1.89            | 0.00            | -109.17          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -4.36           | -4.36            | 451.39          | 451.39           |
| F3    | 0.00            | 4.36             | 0.00            | -451.39          |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 1.43            | 1.43             | 87.72           | 87.72            |
| F3    | 0.00            | -1.43            | 0.00            | -87.72           |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 1.39            | 1.39             | 76.03           | 76.03            |
| F3    | 0.00            | -1.39            | 0.00            | -76.03           |

**Load Case: W5 W Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -3.68           | -3.68            | 288.66          | 288.66           |
| F3    | 0.00            | 3.68             | 0.00            | -288.66          |



**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -2.87           | -2.87            | 388.42          | 388.42           |
| F3    | 0.00            | 2.87             | 0.00            | -388.42          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -1.86           | -1.86            | 420.42          | 420.42           |
| F3    | 0.00            | 1.86             | 0.00            | -420.42          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 4.69            | 4.69             | -256.66         | -256.66          |
| F3    | 0.00            | -4.69            | 0.00            | 256.66           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -1.07           | -1.07            | 357.10          | 357.10           |
| F3    | 0.00            | 1.07             | 0.00            | -357.10          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -1.71           | -1.71            | 273.52          | 273.52           |
| F3    | 0.00            | 1.71             | 0.00            | -273.52          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 3.84            | 3.84             | -150.71         | -150.71          |
| F3    | 0.00            | -3.84            | 0.00            | 150.71           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 3.19            | 3.19             | -234.29         | -234.29          |
| F3    | 0.00            | -3.19            | 0.00            | 234.29           |



**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 2.13            | 2.13             | 137.32          | 137.32           |
| F3    | 0.00            | -2.13            | 0.00            | -137.32          |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 2.14            | 2.14             | 130.66          | 130.66           |
| F3    | 0.00            | -2.14            | 0.00            | -130.66          |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -2.21           | -2.21            | 149.67          | 149.67           |
| F3    | 0.00            | 2.21             | 0.00            | -149.67          |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -2.24           | -2.24            | 165.48          | 165.48           |
| F3    | 0.00            | 2.24             | 0.00            | -165.48          |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.00            | 0.00             | 0.00            | 0.00             |
| F3    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #153**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.26            | 0.26             | 244.65          | 244.65           |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.16            | 0.16             | 100.61          | 100.61           |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Load Case: Ln | NegLiveLoad | RAMUSER          |            |            |  |
|---------------|-------------|------------------|------------|------------|--|
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F4            | 0.03        | 0.03             | 3.63       | 3.63       |  |
| Load Case: W1 | W           | Wind_IBC09_1_X   |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F4            | 2.07        | 2.07             | -98.19     | -98.19     |  |
| Load Case: W2 | W           | Wind_IBC09_1_Y   |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F4            | -0.64       | -0.64            | 838.44     | 838.44     |  |
| Load Case: W3 | W           | Wind_IBC09_2_X+E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F4            | 1.54        | 1.54             | -114.36    | -114.36    |  |
| Load Case: W4 | W           | Wind_IBC09_2_X-E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F4            | 1.57        | 1.57             | -32.92     | -32.92     |  |
| Load Case: W5 | W           | Wind_IBC09_2_Y+E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F4            | -0.37       | -0.37            | 913.83     | 913.83     |  |
| Load Case: W6 | W           | Wind_IBC09_2_Y-E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F4            | -0.58       | -0.58            | 343.83     | 343.83     |  |
| Load Case: W7 | W           | Wind_IBC09_3_X+Y |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F4            | 1.08        | 1.08             | 555.19     | 555.19     |  |
| Load Case: W8 | W           | Wind_IBC09_3_X-Y |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F4                    |          | 2.03                        | 2.03            | -702.47        | -702.47         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 0.72                        | 0.72            | 172.10         | 172.10          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 0.90                        | 0.90            | 660.69         | 660.69          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 1.44                        | 1.44            | -771.15        | -771.15         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 1.61                        | 1.61            | -282.56        | -282.56         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 2.68                        | 2.68            | -144.60        | -144.60         |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 2.68                        | 2.68            | -103.81        | -103.81         |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | -0.15                       | -0.15           | 350.61         | 350.61          |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | -0.16                       | -0.16           | 254.13         | 254.13          |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kips       | kips      | kips    | kips     |  |
| F4            | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #154**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kips     | kips     | kips    | kips     |  |
| F4           | -19.77   | -19.77   | -41.42  | -41.42   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kips        | kips     | kips    | kips     |  |
| F4            | -5.85       | -5.85    | -8.75   | -8.75    |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kips        | kips     | kips    | kips     |  |
| F4            | 0.02        | 0.02     | -0.12   | -0.12    |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F4            |   | 2.86           | 2.86     | 14.48   | 14.48    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F4            |   | -3.36          | -3.36    | 31.47   | 31.47    |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kips             | kips     | kips    | kips     |
| F4            |   | 2.19             | 2.19     | 15.03   | 15.03    |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kips             | kips     | kips    | kips     |
| F4            |   | 2.11             | 2.11     | 6.68    | 6.68     |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | -2.68                       | -2.68           | -0.10          | -0.10           |
| <b>Load Case: W6</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | -2.37                       | -2.37           | 47.30          | 47.30           |
| <b>Load Case: W7</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | -0.37                       | -0.37           | 34.46          | 34.46           |
| <b>Load Case: W8</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | 4.67                        | 4.67            | -12.75         | -12.75          |
| <b>Load Case: W9</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | -0.14                       | -0.14           | 46.75          | 46.75           |
| <b>Load Case: W10</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | -0.43                       | -0.43           | 4.94           | 4.94            |
| <b>Load Case: W11</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | 3.65                        | 3.65            | 11.35          | 11.35           |
| <b>Load Case: W12</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | 3.36                        | 3.36            | -30.47         | -30.47          |
| <b>Load Case: E1</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |      |      |       |       |
|----|------|------|-------|-------|
| F4 | 4.13 | 4.13 | 23.60 | 23.60 |
|----|------|------|-------|-------|

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 4.08            | 4.08             | 20.16           | 20.16            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -1.92           | -1.92            | 6.90            | 6.90             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -1.80           | -1.80            | 14.95           | 14.95            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #155**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 17.38           | 17.38            | -63.36          | -63.36           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 5.18            | 5.18             | -19.86          | -19.86           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -0.04           | -0.04            | 0.24            | 0.24             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 1.46            | 1.46             | -20.86          | -20.86           |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 2.60                        | 2.60            | 11.06          | 11.06           |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 1.14                        | 1.14            | -17.23         | -17.23          |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 1.05                        | 1.05            | -14.06         | -14.06          |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 1.73                        | 1.73            | 16.57          | 16.57           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 2.18                        | 2.18            | 0.02           | 0.02            |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 3.05                        | 3.05            | -7.35          | -7.35           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | -0.86                       | -0.86           | -23.94         | -23.94          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |          | 2.49                        | 2.49            | -12.91         | -12.91          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| F4                    |                   | 2.08                        | 2.08            | 1.89           | 1.89            |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |                   | -0.44                       | -0.44           | -25.35         | -25.35          |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |                   | -0.85                       | -0.85           | -10.56         | -10.56          |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |                   | 2.05                        | 2.05            | -25.39         | -25.39          |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |                   | 2.00                        | 2.00            | -24.35         | -24.35          |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |                   | 1.35                        | 1.35            | 3.64           | 3.64            |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |                   | 1.47                        | 1.47            | 1.23           | 1.23            |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |                   | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Frame #156</b>     |                   |                             |                 |                |                 |
| <b>Load Case: D</b>   | <b>DeadLoad</b>   | <b>RAMUSER</b>              |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F4                    |                   | 63.69                       | 63.69           | -9.44          | -9.44           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F4                   | 16.39          | 16.39                      | -2.53          | -2.53           |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F4                   | 2.32           | 2.32                       | -0.03          | -0.03           |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F4                   | 49.60          | 49.60                      | 0.27           | 0.27            |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F4                   | -106.04        | -106.04                    | 0.54           | 0.54            |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F4                   | 31.09          | 31.09                      | 0.28           | 0.28            |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F4                   | 43.30          | 43.30                      | 0.13           | 0.13            |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F4                   | -33.36         | -33.36                     | -0.05          | -0.05           |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F4                   | -125.70        | -125.70                    | 0.86           | 0.86            |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |          |                             |                 |                |                 |      |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|------|
| F4                    |          |                             | -42.33          | -42.33         | 0.61            | 0.61 |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F4                    |          | 116.73                      | 116.73          | -0.20          | -0.20           |      |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F4                    |          | -70.96                      | -70.96          | 0.86           | 0.86            |      |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F4                    |          | 7.46                        | 7.46            | 0.06           | 0.06            |      |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F4                    |          | 48.34                       | 48.34           | 0.25           | 0.25            |      |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F4                    |          | 126.75                      | 126.75          | -0.55          | -0.55           |      |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F4                    |          | 41.37                       | 41.37           | 0.59           | 0.59            |      |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F4                    |          | 48.04                       | 48.04           | 0.49           | 0.49            |      |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |      |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |      |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |      |
| F4                    |          | -37.98                      | -37.98          | 0.39           | 0.39            |      |



**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -53.80          | -53.80           | 0.62            | 0.62             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #157**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 133.11          | 133.11           | 85.40           | 85.40            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 77.65           | 77.65            | 26.08           | 26.08            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -0.02           | -0.02            | -0.27           | -0.27            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 255.03          | 255.03           | -3.53           | -3.53            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -71.94          | -71.94           | 19.95           | 19.95            |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 214.08          | 214.08           | -2.49           | -2.49            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | 168.47                      | 168.47          | -2.81          | -2.81           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | -161.63                     | -161.63         | 14.29          | 14.29           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | 53.72                       | 53.72           | 15.64          | 15.64           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | 137.32                      | 137.32          | 12.32          | 12.32           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | 245.23                      | 245.23          | -17.61         | -17.61          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | 200.85                      | 200.85          | 9.87           | 9.87            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | 5.13                        | 5.13            | 8.61           | 8.61            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                    |          | 281.78                      | 281.78          | -12.58         | -12.58          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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F4 86.07 86.07 -13.84 -13.84

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F4 279.42 279.42 -5.00 -5.00

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F4 265.36 265.36 -5.29 -5.29

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F4 -53.27 -53.27 12.91 12.91

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F4 -20.86 -20.86 13.61 13.61

**Load Case: O1 Shear Test User\_User**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F4 0.00 0.00 0.00 0.00

**Frame #158**

**Load Case: D DeadLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F4 15.63 15.63 -34.72 -34.72

**Load Case: Lp PosLiveLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F4 -29.97 -29.97 -8.49 -8.49

**Load Case: Ln NegLiveLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
**kips kips kips kips**  
 F4 -2.50 -2.50 -0.16 -0.16





|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                   |          | 422.41                     | 422.41          | 0.20           | 0.20            |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                   |          | 144.65                     | 144.65          | 13.76          | 13.76           |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                   |          | 305.26                     | 305.26          | 0.26           | 0.26            |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                   |          | 328.37                     | 328.37          | 0.04           | 0.04            |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                   |          | 147.81                     | 147.81          | 9.47           | 9.47            |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                   |          | 69.16                      | 69.16           | 11.17          | 11.17           |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                   |          | 425.30                     | 425.30          | 10.47          | 10.47           |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F4                   |          | 208.33                     | 208.33          | -10.17         | -10.17          |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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| F4                    | 280.81            | 280.81                      | 8.57           | 8.57            |  |
|-----------------------|-------------------|-----------------------------|----------------|-----------------|--|
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b>    | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>       | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F4                    | 357.13            | 357.13                      | 7.13           | 7.13            |  |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b>    | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>       | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F4                    | 118.09            | 118.09                      | -6.91          | -6.91           |  |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b>    | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>       | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F4                    | 194.40            | 194.40                      | -8.35          | -8.35           |  |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b>    | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>       | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F4                    | 494.92            | 494.92                      | 0.20           | 0.20            |  |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b>    | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>       | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F4                    | 499.38            | 499.38                      | 0.02           | 0.02            |  |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b>    | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>       | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F4                    | 63.00             | 63.00                       | 8.14           | 8.14            |  |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b>    | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>       | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F4                    | 53.14             | 53.14                       | 8.59           | 8.59            |  |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                |                 |  |
| <b>Level</b>          | <b>Shear-X</b>    | <b>Change-X</b>             | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                       | <b>kips</b>       | <b>kips</b>                 | <b>kips</b>    | <b>kips</b>     |  |
| F4                    | 0.00              | 0.00                        | 0.00           | 0.00            |  |



**Frame #159**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F3           | -22.25   | -22.25   | 251.69  | 251.69   |  |
| F2           | 0.00     | 22.25    | 0.00    | -251.69  |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F3            | -5.76       | -5.76    | 93.33   | 93.33    |  |
| F2            | 0.00        | 5.76     | 0.00    | -93.33   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F3            | 0.06        | 0.06     | -0.73   | -0.73    |  |
| F2            | 0.00        | -0.06    | 0.00    | 0.73     |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F3            | 7.58    | 7.58           | 2.25    | 2.25     |  |
| F2            | 0.00    | -7.58          | 0.00    | -2.25    |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F3            | 5.01    | 5.01           | 931.98  | 931.98   |  |
| F2            | 0.00    | -5.01          | 0.00    | -931.98  |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F3            | 5.46    | 5.46             | 29.40   | 29.40    |  |
| F2            | 0.00    | -5.46            | 0.00    | -29.40   |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F3            | 5.90    | 5.90             | -26.03  | -26.03   |  |
| F2            | 0.00    | -5.90            | 0.00    | 26.03    |  |



**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 5.17            | 5.17             | 510.72          | 510.72           |
| F2    | 0.00            | -5.17            | 0.00            | -510.72          |

**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 2.35            | 2.35             | 887.25          | 887.25           |
| F2    | 0.00            | -2.35            | 0.00            | -887.25          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 9.44            | 9.44             | 700.67          | 700.67           |
| F2    | 0.00            | -9.44            | 0.00            | -700.67          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 1.92            | 1.92             | -697.30         | -697.30          |
| F2    | 0.00            | -1.92            | 0.00            | 697.30           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 5.86            | 5.86             | 687.49          | 687.49           |
| F2    | 0.00            | -5.86            | 0.00            | -687.49          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 8.31            | 8.31             | 363.52          | 363.52           |
| F2    | 0.00            | -8.31            | 0.00            | -363.52          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.22            | 0.22             | -360.99         | -360.99          |
| F2    | 0.00            | -0.22            | 0.00            | 360.99           |



**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 2.67            | 2.67             | -684.95         | -684.95          |
| F2    | 0.00            | -2.67            | 0.00            | 684.95           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 10.41           | 10.41            | 15.52           | 15.52            |
| F2    | 0.00            | -10.41           | 0.00            | -15.52           |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 10.56           | 10.56            | -10.51          | -10.51           |
| F2    | 0.00            | -10.56           | 0.00            | 10.51            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 2.94            | 2.94             | 386.28          | 386.28           |
| F2    | 0.00            | -2.94            | 0.00            | -386.28          |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 2.58            | 2.58             | 447.77          | 447.77           |
| F2    | 0.00            | -2.58            | 0.00            | -447.77          |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.00            | 0.00             | 0.00            | 0.00             |
| F2    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #160**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | -5.46           | -5.46            | 149.59          | 149.59           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F3                   | -2.77          | -2.77                      | 23.75          | 23.75           |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F3                   | -0.04          | -0.04                      | 0.01           | 0.01            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F3                   | 2.00           | 2.00                       | -0.23          | -0.23           |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F3                   | 2.88           | 2.88                       | 88.58          | 88.58           |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F3                   | 1.47           | 1.47                       | 1.12           | 1.12            |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F3                   | 1.52           | 1.52                       | -1.47          | -1.47           |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F3                   | 2.27           | 2.27                       | 56.93          | 56.93           |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F3                   | 2.05           | 2.05                       | 75.94          | 75.94           |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



RAM Structural System

RAM Frame 15.03.00.000



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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F3                    |          | 3.66                        | 3.66            | 66.26          | 66.26           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | -0.66                       | -0.66           | -66.61         | -66.61          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 2.64                        | 2.64            | 57.79          | 57.79           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 2.84                        | 2.84            | 41.59          | 41.59           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | -0.60                       | -0.60           | -41.86         | -41.86          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | -0.39                       | -0.39           | -58.06         | -58.06          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 2.49                        | 2.49            | 2.43           | 2.43            |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 2.47                        | 2.47            | 0.81           | 0.81            |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 0.83                        | 0.83            | 26.21          | 26.21           |



**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.89            | 0.89             | 30.06           | 30.06            |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #161**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 5.64            | 5.64             | -303.28         | -303.28          |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 3.05            | 3.05             | -116.37         | -116.37          |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.00            | 0.00             | -3.39           | -3.39            |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 2.77            | 2.77             | 109.94          | 109.94           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.07            | 0.07             | 653.20          | 653.20           |

**Load Case: W3    W    Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 1.87            | 1.87             | 89.08           | 89.08            |





|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 2.29                        | 2.29            | 75.83          | 75.83           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 1.46                        | 1.46            | 438.25         | 438.25          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | -1.35                       | -1.35           | 541.55         | 541.55          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 2.13                        | 2.13            | 572.36         | 572.36          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 2.02                        | 2.02            | -407.44        | -407.44         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 0.39                        | 0.39            | 472.97         | 472.97          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 2.81                        | 2.81            | 385.56         | 385.56          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 0.30                        | 0.30            | -261.88        | -261.88         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|    |      |      |         |         |
|----|------|------|---------|---------|
| F3 | 2.73 | 2.73 | -349.29 | -349.29 |
|----|------|------|---------|---------|

| Load Case: E1 | E EQ_ASCE710_X_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F3    | 3.60            | 3.60             | 132.50          | 132.50           |

| Load Case: E2 | E EQ_ASCE710_X_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F3    | 3.71            | 3.71             | 124.25          | 124.25           |

| Load Case: E3 | E EQ_ASCE710_Y_+E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F3    | -0.85           | -0.85            | 214.07          | 214.07           |

| Load Case: E4 | E EQ_ASCE710_Y_-E_F | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F3    | -1.12           | -1.12            | 233.69          | 233.69           |

| Load Case: O1 | Shear Test User_User | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|----------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                      | F3    | 0.00            | 0.00             | 0.00            | 0.00             |

Frame #162

| Load Case: D | DeadLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------------|------------------|-------|-----------------|------------------|-----------------|------------------|
|              |                  | F3    | 0.26            | 0.26             | 244.65          | 244.65           |

| Load Case: Lp | PosLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F3    | 0.16            | 0.16             | 100.61          | 100.61           |

| Load Case: Ln | NegLiveLoad RAMUSER | Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|-------|-----------------|------------------|-----------------|------------------|
|               |                     | F3    | 0.03            | 0.03             | 3.63            | 3.63             |



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | 2.07                       | 2.07            | -98.19         | -98.19          |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | -0.64                      | -0.64           | 838.44         | 838.44          |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | 1.54                       | 1.54            | -114.36        | -114.36         |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | 1.57                       | 1.57            | -32.92         | -32.92          |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | -0.37                      | -0.37           | 913.83         | 913.83          |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | -0.58                      | -0.58           | 343.82         | 343.82          |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | 1.08                       | 1.08            | 555.19         | 555.19          |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | 2.03                       | 2.03            | -702.47        | -702.47         |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| F3                    |                   | 0.72                        | 0.72            | 172.10         | 172.10          |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |                   | 0.90                        | 0.90            | 660.69         | 660.69          |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |                   | 1.44                        | 1.44            | -771.15        | -771.15         |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |                   | 1.61                        | 1.61            | -282.56        | -282.56         |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |                   | 2.68                        | 2.68            | -144.60        | -144.60         |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |                   | 2.68                        | 2.68            | -103.81        | -103.81         |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |                   | -0.15                       | -0.15           | 350.61         | 350.61          |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |                   | -0.16                       | -0.16           | 254.13         | 254.13          |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |                   | 0.00                        | 0.00            | 0.00           | 0.00            |



**Frame #163**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F3           | -15.75   | -15.75   | -177.57 | -177.57  |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F3            | -4.50       | -4.50    | -50.71  | -50.71   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F3            | 0.04        | 0.04     | 1.62    | 1.62     |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F3            | 2.72    | 2.72           | 27.61   | 27.61    |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F3            | -3.35   | -3.35          | -12.39  | -12.39   |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F3            | 2.10    | 2.10             | 24.82   | 24.82    |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F3            | 1.98    | 1.98             | 16.60   | 16.60    |  |

| Load Case: W5 | W       | Wind_IBC09_2_Y+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F3            | -2.85   | -2.85            | -35.14  | -35.14   |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | -2.18                       | -2.18           | 16.55          | 16.55           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | -0.48                       | -0.48           | 11.42          | 11.42           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 4.55                        | 4.55            | 30.00          | 30.00           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | -0.06                       | -0.06           | 31.03          | 31.03           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | -0.66                       | -0.66           | -13.91         | -13.91          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 3.71                        | 3.71            | 44.97          | 44.97           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 3.12                        | 3.12            | 0.03           | 0.03            |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 3.92                        | 3.92            | 43.25          | 43.25           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |      |      |       |       |
|----|------|------|-------|-------|
| F3 | 3.88 | 3.88 | 40.52 | 40.52 |
|----|------|------|-------|-------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | -1.55           | -1.55            | -17.96          | -17.96           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | -1.44           | -1.44            | -11.60          | -11.60           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #164**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 16.61           | 16.61            | -235.39         | -235.39          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 5.03            | 5.03             | -73.89          | -73.89           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.00            | 0.00             | 1.05            | 1.05             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 1.89            | 1.89             | -26.52          | -26.52           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.92            | 0.92             | -2.82           | -2.82            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 1.44                        | 1.44            | -21.98         | -21.98          |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 1.40                        | 1.40            | -17.80         | -17.80          |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 0.65                        | 0.65            | 10.87          | 10.87           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 0.73                        | 0.73            | -15.10         | -15.10          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 2.11                        | 2.11            | -22.01         | -22.01          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 0.73                        | 0.73            | -17.77         | -17.77          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 1.63                        | 1.63            | -27.81         | -27.81          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 1.54                        | 1.54            | -5.20          | -5.20           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |





|    |      |      |        |        |
|----|------|------|--------|--------|
| F3 | 0.59 | 0.59 | -24.64 | -24.64 |
|----|------|------|--------|--------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.50            | 0.50             | -2.02           | -2.02            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 2.57            | 2.57             | -34.37          | -34.37           |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 2.57            | 2.57             | -32.69          | -32.69           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.94            | 0.94             | -18.92          | -18.92           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.94            | 0.94             | -22.87          | -22.87           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #165**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | -109.89         | -109.89          | -27.78          | -27.78           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | -70.33          | -70.33           | -6.50           | -6.50            |



| Load Case: Ln | NegLiveLoad | RAMUSER          |            |            |  |
|---------------|-------------|------------------|------------|------------|--|
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F3            | -5.34       | -5.34            | -0.13      | -0.13      |  |
| Load Case: W1 | W           | Wind_IBC09_1_X   |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F3            | 403.74      | 403.74           | -3.38      | -3.38      |  |
| Load Case: W2 | W           | Wind_IBC09_1_Y   |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F3            | 232.04      | 232.04           | 12.35      | 12.35      |  |
| Load Case: W3 | W           | Wind_IBC09_2_X+E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F3            | 289.05      | 289.05           | -2.58      | -2.58      |  |
| Load Case: W4 | W           | Wind_IBC09_2_X-E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F3            | 316.56      | 316.56           | -2.49      | -2.49      |  |
| Load Case: W5 | W           | Wind_IBC09_2_Y+E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F3            | 250.98      | 250.98           | 9.36       | 9.36       |  |
| Load Case: W6 | W           | Wind_IBC09_2_Y-E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F3            | 97.08       | 97.08            | 9.17       | 9.17       |  |
| Load Case: W7 | W           | Wind_IBC09_3_X+Y |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F3            | 476.83      | 476.83           | 6.72       | 6.72       |  |
| Load Case: W8 | W           | Wind_IBC09_3_X-Y |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |



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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F3                    |          | 128.77                      | 128.77          | -11.80         | -11.80          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 289.59                      | 289.59          | 4.94           | 4.94            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 425.66                      | 425.66          | 5.15           | 5.15            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 28.55                       | 28.55           | -8.95          | -8.95           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 164.61                      | 164.61          | -8.74          | -8.74           |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 465.88                      | 465.88          | -3.95          | -3.95           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 470.82                      | 470.82          | -4.04          | -4.04           |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 55.70                       | 55.70           | 6.52           | 6.52            |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F3                    |          | 44.67                       | 44.67           | 6.73           | 6.73            |



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| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F3            | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #166**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F3           | 129.05   | 129.05   | -15.33  | -15.33   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F3            | 39.77       | 39.77    | -4.47   | -4.47    |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F3            | 1.84        | 1.84     | 0.03    | 0.03     |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F3            |   | 58.20          | 58.20    | -0.41   | -0.41    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F3            |   | -126.49        | -126.49  | -1.46   | -1.46    |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F3            |   | 38.33            | 38.33    | -0.30   | -0.30    |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F3            |   | 48.97            | 48.97    | -0.32   | -0.32    |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | -57.74                      | -57.74          | -1.22          | -1.22           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | -131.99                     | -131.99         | -0.96          | -0.96           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | -51.21                      | -51.21          | -1.40          | -1.40           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | 138.52                      | 138.52          | 0.78           | 0.78            |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | -70.24                      | -70.24          | -0.94          | -0.94           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | -6.58                       | -6.58           | -1.16          | -1.16           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | 72.06                       | 72.06           | 0.69           | 0.69            |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | 135.72                      | 135.72          | 0.48           | 0.48            |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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|    |       |       |       |       |
|----|-------|-------|-------|-------|
| F3 | 49.33 | 49.33 | -0.17 | -0.17 |
|----|-------|-------|-------|-------|

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 55.36           | 55.36            | -0.19           | -0.19            |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | -35.72          | -35.72           | -1.04           | -1.04            |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | -50.04          | -50.04           | -0.98           | -0.98            |

**Load Case: O1    Shear Test    User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #167**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 223.77          | 223.77           | 29.29           | 29.29            |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 102.58          | 102.58           | 7.55            | 7.55             |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 4.05            | 4.05             | 0.24            | 0.24             |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 255.65          | 255.65           | -5.33           | -5.33            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | -156.28                     | -156.28         | -1.29          | -1.29           |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | 218.80                      | 218.80          | -4.24          | -4.24           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | 164.67                      | 164.67          | -3.75          | -3.75           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | -281.11                     | -281.11         | 0.56           | 0.56            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | 46.69                       | 46.69           | -2.49          | -2.49           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | 74.52                       | 74.52           | -4.96          | -4.96           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | 308.95                      | 308.95          | -3.03          | -3.03           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                    |          | 199.12                      | 199.12          | -5.05          | -5.05           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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F3 -87.33 -87.33 -2.40 -2.40

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 374.93          | 374.93           | -3.60           | -3.60            |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 88.49           | 88.49            | -0.95           | -0.95            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 259.80          | 259.80           | -6.25           | -6.25            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 244.27          | 244.27           | -6.00           | -6.00            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | -41.78          | -41.78           | -2.18           | -2.18            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | -5.92           | -5.92            | -2.78           | -2.78            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F3    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #168**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -10.92          | -10.92           | 262.16          | 262.16           |





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|         |      |       |      |         |
|---------|------|-------|------|---------|
| Fground | 0.00 | 10.92 | 0.00 | -262.16 |
|---------|------|-------|------|---------|

**Load Case: Lp PosLiveLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | -2.58           | -2.58            | 99.35           | 99.35            |
| Fground | 0.00            | 2.58             | 0.00            | -99.35           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 0.03            | 0.03             | -1.44           | -1.44            |
| Fground | 0.00            | -0.03            | 0.00            | 1.44             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 6.14            | 6.14             | 4.01            | 4.01             |
| Fground | 0.00            | -6.14            | 0.00            | -4.01            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 2.12            | 2.12             | 956.50          | 956.50           |
| Fground | 0.00            | -2.12            | 0.00            | -956.50          |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 4.61            | 4.61             | 31.42           | 31.42            |
| Fground | 0.00            | -4.61            | 0.00            | -31.42           |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 4.60            | 4.60             | -25.41          | -25.41           |
| Fground | 0.00            | -4.60            | 0.00            | 25.41            |

**Load Case: W5 W Wind\_IBC09\_2\_Y+E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 1.54            | 1.54             | 524.35          | 524.35           |
| Fground | 0.00            | -1.54            | 0.00            | -524.35          |



**Load Case: W6    W    Wind\_IBC09\_2\_Y-E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 1.64            | 1.64             | 910.40          | 910.40           |
| Fground | 0.00            | -1.64            | 0.00            | -910.40          |

**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 6.19            | 6.19             | 720.38          | 720.38           |
| Fground | 0.00            | -6.19            | 0.00            | -720.38          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 3.01            | 3.01             | -714.37         | -714.37          |
| Fground | 0.00            | -3.01            | 0.00            | 714.37           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 4.69            | 4.69             | 706.36          | 706.36           |
| Fground | 0.00            | -4.69            | 0.00            | -706.36          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 4.60            | 4.60             | 374.21          | 374.21           |
| Fground | 0.00            | -4.60            | 0.00            | -374.21          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 2.30            | 2.30             | -369.70         | -369.70          |
| Fground | 0.00            | -2.30            | 0.00            | 369.70           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 2.22            | 2.22             | -701.86         | -701.86          |
| Fground | 0.00            | -2.22            | 0.00            | 701.86           |



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**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 7.89            | 7.89             | 17.81           | 17.81            |
| Fground | 0.00            | -7.89            | 0.00            | -17.81           |

**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 7.87            | 7.87             | -8.87           | -8.87            |
| Fground | 0.00            | -7.87            | 0.00            | 8.87             |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 1.37            | 1.37             | 395.07          | 395.07           |
| Fground | 0.00            | -1.37            | 0.00            | -395.07          |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 1.41            | 1.41             | 458.08          | 458.08           |
| Fground | 0.00            | -1.41            | 0.00            | -458.08          |

**Load Case: O1    Shear Test    User\_User**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F2      | 0.00            | 0.00             | 0.00            | 0.00             |
| Fground | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #169**

**Load Case: D    DeadLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 2.48            | 2.48             | -8.84           | -8.84            |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 0.45            | 0.45             | -19.83          | -19.83           |



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| Load Case: Ln | NegLiveLoad | RAMUSER          |            |            |  |
|---------------|-------------|------------------|------------|------------|--|
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F2            | -0.01       | -0.01            | 1.23       | 1.23       |  |
| Load Case: W1 | W           | Wind_IBC09_1_X   |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F2            | 0.26        | 0.26             | 44.20      | 44.20      |  |
| Load Case: W2 | W           | Wind_IBC09_1_Y   |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F2            | -0.35       | -0.35            | 117.69     | 117.69     |  |
| Load Case: W3 | W           | Wind_IBC09_2_X+E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F2            | 0.25        | 0.25             | 37.96      | 37.96      |  |
| Load Case: W4 | W           | Wind_IBC09_2_X-E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F2            | 0.15        | 0.15             | 28.35      | 28.35      |  |
| Load Case: W5 | W           | Wind_IBC09_2_Y+E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F2            | -0.57       | -0.57            | 56.89      | 56.89      |  |
| Load Case: W6 | W           | Wind_IBC09_2_Y-E |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F2            | 0.04        | 0.04             | 119.64     | 119.64     |  |
| Load Case: W7 | W           | Wind_IBC09_3_X+Y |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |
| F2            | -0.06       | -0.06            | 121.42     | 121.42     |  |
| Load Case: W8 | W           | Wind_IBC09_3_X-Y |            |            |  |
| Level         | Shear-X     | Change-X         | Shear-Y    | Change-Y   |  |
|               | <b>kip</b>  | <b>kip</b>       | <b>kip</b> | <b>kip</b> |  |



RAM Structural System

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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| F2                    |          | 0.46                        | 0.46            | -55.11         | -55.11          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 0.22                        | 0.22            | 118.20         | 118.20          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -0.31                       | -0.31           | 63.93          | 63.93           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 0.61                        | 0.61            | -14.20         | -14.20          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 0.08                        | 0.08            | -68.47         | -68.47          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 0.15                        | 0.15            | 54.67          | 54.67           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 0.11                        | 0.11            | 51.45          | 51.45           |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -0.24                       | -0.24           | 29.84          | 29.84           |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -0.15                       | -0.15           | 37.35          | 37.35           |



| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| F2            | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #170**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F2           | 19.00    | 19.00    | -200.31 | -200.31  |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F2            | 4.64        | 4.64     | -72.96  | -72.96   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F2            | -0.03       | -0.03    | 1.60    | 1.60     |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F2            |   | -1.87          | -1.87    | 180.21  | 180.21   |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F2            |   | -5.40          | -5.40    | 397.07  | 397.07   |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F2            |   | -1.14            | -1.14    | 146.97  | 146.97   |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| F2            |   | -1.66            | -1.66    | 123.35  | 123.35   |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                    |          | -5.78                       | -5.78           | 221.46         | 221.46          |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                    |          | -2.33                       | -2.33           | 374.14         | 374.14          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                    |          | -5.45                       | -5.45           | 432.96         | 432.96          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                    |          | 2.65                        | 2.65            | -162.64        | -162.64         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                    |          | -2.60                       | -2.60           | 390.83         | 390.83          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                    |          | -5.58                       | -5.58           | 258.61         | 258.61          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                    |          | 3.48                        | 3.48            | -55.87         | -55.87          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                    |          | 0.50                        | 0.50            | -188.09        | -188.09         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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|    |       |       |        |        |
|----|-------|-------|--------|--------|
| F2 | -2.96 | -2.96 | 209.34 | 209.34 |
|----|-------|-------|--------|--------|

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -3.15           | -3.15            | 201.73          | 201.73           |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -3.10           | -3.10            | 112.82          | 112.82           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -2.64           | -2.64            | 130.54          | 130.54           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #171**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 5.75            | 5.75             | 158.50          | 158.50           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 1.11            | 1.11             | 40.18           | 40.18            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -0.17           | -0.17            | -0.51           | -0.51            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -4.52           | -4.52            | -257.28         | -257.28          |





|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -1.99                       | -1.99           | 1047.78        | 1047.78         |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -3.05                       | -3.05           | -245.73        | -245.73         |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -3.72                       | -3.72           | -140.19        | -140.19         |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -3.74                       | -3.74           | 1138.84        | 1138.84         |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 0.75                        | 0.75            | 432.83         | 432.83          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -4.88                       | -4.88           | 592.87         | 592.87          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -1.89                       | -1.89           | -978.80        | -978.80         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -1.72                       | -1.72           | 140.32         | 140.32          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|    |       |       |        |        |
|----|-------|-------|--------|--------|
| F2 | -5.60 | -5.60 | 748.99 | 748.99 |
|----|-------|-------|--------|--------|

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 0.52            | 0.52             | -1038.43        | -1038.43         |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -3.36           | -3.36            | -429.76         | -429.76          |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -7.08           | -7.08            | -319.73         | -319.73          |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -7.39           | -7.39            | -275.88         | -275.88          |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -1.58           | -1.58            | 388.44          | 388.44           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -0.86           | -0.86            | 285.30          | 285.30           |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #172**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -17.49          | -17.49           | -51.29          | -51.29           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F2                   | -5.23          | -5.23                      | -14.15         | -14.15          |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F2                   | 0.00           | 0.00                       | 0.70           | 0.70            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F2                   | 2.04           | 2.04                       | 17.86          | 17.86           |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F2                   | -2.92          | -2.92                      | 46.86          | 46.86           |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F2                   | 1.61           | 1.61                       | 15.88          | 15.88           |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F2                   | 1.46           | 1.46                       | 10.91          | 10.91           |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F2                   | -2.73          | -2.73                      | 18.69          | 18.69           |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| F2                   | -1.64          | -1.64                      | 51.60          | 51.60           |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



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|                       |          |                             |                 |                |                 |       |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|-------|
| F2                    |          |                             | -0.65           | -0.65          | 48.54           | 48.54 |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F2                    |          | 3.72                        | 3.72            | -21.75         | -21.75          |       |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F2                    |          | -0.02                       | -0.02           | 50.61          | 50.61           |       |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F2                    |          | -0.96                       | -0.96           | 22.20          | 22.20           |       |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F2                    |          | 3.26                        | 3.26            | -2.11          | -2.11           |       |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F2                    |          | 2.32                        | 2.32            | -30.52         | -30.52          |       |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F2                    |          | 2.99                        | 2.99            | 24.69          | 24.69           |       |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F2                    |          | 2.90                        | 2.90            | 22.96          | 22.96           |       |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |       |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |       |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |       |
| F2                    |          | -1.56                       | -1.56           | 8.72           | 8.72            |       |



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**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -1.33           | -1.33            | 12.78           | 12.78            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #173**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 21.81           | 21.81            | -73.00          | -73.00           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 6.25            | 6.25             | -23.30          | -23.30           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -0.01           | -0.01            | 0.89            | 0.89             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 1.64            | 1.64             | 5.55            | 5.55             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 1.66            | 1.66             | 13.85           | 13.85            |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 1.28            | 1.28             | 4.71            | 4.71             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 1.18                        | 1.18            | 3.60           | 3.60            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 0.92                        | 0.92            | 7.28           | 7.28            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 1.57                        | 1.57            | 13.50          | 13.50           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 2.48                        | 2.48            | 14.55          | 14.55           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -0.01                       | -0.01           | -6.23          | -6.23           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 2.14                        | 2.14            | 13.66          | 13.66           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 1.58                        | 1.58            | 8.16           | 8.16            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 0.27                        | 0.27            | -1.92          | -1.92           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

F2 -0.29 -0.29 -7.42 -7.42

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F2 2.04 2.04 4.59 4.59

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F2 2.00 2.00 4.70 4.70

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F2 0.82 0.82 -3.34 -3.34

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F2 0.91 0.91 -3.65 -3.65

**Load Case: O1 Shear Test User\_User**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F2 0.00 0.00 0.00 0.00

**Frame #174**

**Load Case: D DeadLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F2 452.64 452.64 -94.93 -94.93

**Load Case: Lp PosLiveLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F2 105.07 105.07 -24.30 -24.30

**Load Case: Ln NegLiveLoad RAMUSER**  
**Level Shear-X Change-X Shear-Y Change-Y**  
 **kips kips kips kips**  
 F2 -3.08 -3.08 -0.23 -0.23



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                   |          | 402.05                     | 402.05          | 1.16           | 1.16            |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                   |          | -32.12                     | -32.12          | 33.39          | 33.39           |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                   |          | 304.15                     | 304.15          | 1.41           | 1.41            |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                   |          | 298.92                     | 298.92          | 0.32           | 0.32            |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                   |          | -37.24                     | -37.24          | 21.30          | 21.30           |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                   |          | -10.94                     | -10.94          | 28.79          | 28.79           |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                   |          | 277.45                     | 277.45          | 25.91          | 25.91           |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F2                   |          | 325.62                     | 325.62          | -24.18         | -24.18          |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |





|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| F2                    |                   | 219.91                      | 219.91          | 22.65          | 22.65           |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |                   | 196.26                      | 196.26          | 16.22          | 16.22           |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |                   | 256.04                      | 256.04          | -14.92         | -14.92          |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |                   | 232.39                      | 232.39          | -21.35         | -21.35          |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |                   | 405.11                      | 405.11          | 1.91           | 1.91            |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |                   | 402.98                      | 402.98          | 1.37           | 1.37            |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |                   | -24.76                      | -24.76          | 15.70          | 15.70           |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |                   | -19.82                      | -19.82          | 16.98          | 16.98           |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |                   | 0.00                        | 0.00            | 0.00           | 0.00            |



**Frame #175**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| F2           | 117.08   | 117.08   | -26.19  | -26.19   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F2            | 14.92       | 14.92    | -7.85   | -7.85    |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| F2            | 0.14        | 0.14     | 0.04    | 0.04     |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F2            | 29.77   | 29.77          | 1.43    | 1.43     |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| F2            | -34.48  | -34.48         | -2.27   | -2.27    |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F2            | 22.77   | 22.77            | 1.15    | 1.15     |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F2            | 21.88   | 21.88            | 0.99    | 0.99     |  |

| Load Case: W5 | W       | Wind_IBC09_2_Y+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| F2            | -32.46  | -32.46           | -2.24   | -2.24    |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -19.26                      | -19.26          | -1.16          | -1.16           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -3.53                       | -3.53           | -0.63          | -0.63           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 48.19                       | 48.19           | 2.77           | 2.77            |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 2.63                        | 2.63            | -0.01          | -0.01           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -7.93                       | -7.93           | -0.94          | -0.94           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 41.42                       | 41.42           | 2.55           | 2.55            |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 30.86                       | 30.86           | 1.61           | 1.61            |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -14.23                      | -14.23          | 2.05           | 2.05            |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|    |        |        |      |      |
|----|--------|--------|------|------|
| F2 | -14.43 | -14.43 | 1.99 | 1.99 |
|----|--------|--------|------|------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -38.81          | -38.81           | -1.78           | -1.78            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -38.32          | -38.32           | -1.65           | -1.65            |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #176**

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 28.06           | 28.06            | 21.00           | 21.00            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 1.65            | 1.65             | 5.80            | 5.80             |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -0.55           | -0.55            | -0.06           | -0.06            |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 11.55           | 11.55            | 4.55            | 4.55             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 32.98           | 32.98            | 11.70           | 11.70            |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 12.57                       | 12.57           | 3.78           | 3.78            |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 4.76                        | 4.76            | 3.04           | 3.04            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -3.06                       | -3.06           | 6.36           | 6.36            |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 52.53                       | 52.53           | 11.18          | 11.18           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 33.40                       | 33.40           | 12.18          | 12.18           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | -16.07                      | -16.07          | -5.36          | -5.36           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 48.82                       | 48.82           | 11.22          | 11.22           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F2                    |          | 1.28                        | 1.28            | 7.06           | 7.06            |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|    |       |       |       |       |
|----|-------|-------|-------|-------|
| F2 | 11.72 | 11.72 | -1.94 | -1.94 |
|----|-------|-------|-------|-------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -35.83          | -35.83           | -6.10           | -6.10            |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 2.91            | 2.91             | 5.67            | 5.67             |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -0.67           | -0.67            | 5.43            | 5.43             |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 1.90            | 1.90             | 4.18            | 4.18             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 10.35           | 10.35            | 4.74            | 4.74             |

**Load Case: O1 Shear Test User\_User**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #177**

**Load Case: D DeadLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | -3.44           | -3.44            | 23.16           | 23.16            |
| Cellar  | 0.00            | 3.44             | 0.00            | -23.16           |

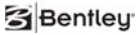
**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
|-------|-----------------|------------------|-----------------|------------------|



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|         |       |       |       |        |
|---------|-------|-------|-------|--------|
| Fground | -0.59 | -0.59 | 25.80 | 25.80  |
| Cellar  | 0.00  | 0.59  | 0.00  | -25.80 |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.04            | 0.04             | -5.31           | -5.31            |
| Cellar  | 0.00            | -0.04            | 0.00            | 5.31             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 5.44            | 5.44             | 19.48           | 19.48            |
| Cellar  | 0.00            | -5.44            | 0.00            | -19.48           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.29            | 0.29             | 909.78          | 909.78           |
| Cellar  | 0.00            | -0.29            | 0.00            | -909.78          |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 4.00            | 4.00             | 42.00           | 42.00            |
| Cellar  | 0.00            | -4.00            | 0.00            | -42.00           |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 4.17            | 4.17             | -12.79          | -12.79           |
| Cellar  | 0.00            | -4.17            | 0.00            | 12.79            |

**Load Case: W5 W Wind\_IBC09\_2\_Y+E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.80            | 0.80             | 496.45          | 496.45           |
| Cellar  | 0.00            | -0.80            | 0.00            | -496.45          |

**Load Case: W6 W Wind\_IBC09\_2\_Y-E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | -0.36           | -0.36            | 868.21          | 868.21           |
| Cellar  | 0.00            | 0.36             | 0.00            | -868.21          |



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**Load Case: W7    W    Wind\_IBC09\_3\_X+Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 4.30            | 4.30             | 696.94          | 696.94           |
| Cellar  | 0.00            | -4.30            | 0.00            | -696.94          |

**Load Case: W8    W    Wind\_IBC09\_3\_X-Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 3.86            | 3.86             | -667.72         | -667.72          |
| Cellar  | 0.00            | -3.86            | 0.00            | 667.72           |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 2.73            | 2.73             | 682.66          | 682.66           |
| Cellar  | 0.00            | -2.73            | 0.00            | -682.66          |

**Load Case: W10    W    Wind\_IBC09\_4\_X+Y\_CCW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 3.73            | 3.73             | 362.75          | 362.75           |
| Cellar  | 0.00            | -3.73            | 0.00            | -362.75          |

**Load Case: W11    W    Wind\_IBC09\_4\_X-Y\_CW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 2.40            | 2.40             | -340.84         | -340.84          |
| Cellar  | 0.00            | -2.40            | 0.00            | 340.84           |

**Load Case: W12    W    Wind\_IBC09\_4\_X-Y\_CCW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 3.40            | 3.40             | -660.75         | -660.75          |
| Cellar  | 0.00            | -3.40            | 0.00            | 660.75           |

**Load Case: E1    E    EQ\_ASCE710\_X\_+E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 6.18            | 6.18             | 36.62           | 36.62            |
| Cellar  | 0.00            | -6.18            | 0.00            | -36.62           |





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**Load Case: E2    E    EQ\_ASCE710\_X\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 6.25            | 6.25             | 11.84           | 11.84            |
| Cellar  | 0.00            | -6.25            | 0.00            | -11.84           |

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.59            | 0.59             | 364.26          | 364.26           |
| Cellar  | 0.00            | -0.59            | 0.00            | -364.26          |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.40            | 0.40             | 422.76          | 422.76           |
| Cellar  | 0.00            | -0.40            | 0.00            | -422.76          |

**Load Case: O1    Shear Test    User\_User**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.00            | 0.00             | 0.00            | 0.00             |
| Cellar  | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #178**

**Load Case: D    DeadLoad    RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 2.99            | 2.99             | 34.69           | 34.69            |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.71            | 0.71             | -8.93           | -8.93            |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.00            | 0.00             | 2.21            | 2.21             |



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 0.91                       | 0.91            | 32.81          | 32.81           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | -0.36                      | -0.36           | 134.01         | 134.01          |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 0.69                       | 0.69            | 29.79          | 29.79           |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 0.68                       | 0.68            | 19.43          | 19.43           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | -0.30                      | -0.30           | 66.89          | 66.89           |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | -0.24                      | -0.24           | 134.13         | 134.13          |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 0.41                       | 0.41            | 125.11         | 125.11          |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 0.95                       | 0.95            | -75.90         | -75.90          |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| Fground               |                   | 0.33                        | 0.33            | 122.94         | 122.94          |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | 0.28                        | 0.28            | 64.74          | 64.74           |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | 0.74                        | 0.74            | -27.83         | -27.83          |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | 0.69                        | 0.69            | -86.02         | -86.02          |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | 0.80                        | 0.80            | 35.92          | 35.92           |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | 0.80                        | 0.80            | 32.82          | 32.82           |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | -0.28                       | -0.28           | 28.58          | 28.58           |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | -0.28                       | -0.28           | 35.81          | 35.81           |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | 0.00                        | 0.00            | 0.00           | 0.00            |



**Frame #180**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| Fground      | 17.51    | 17.51    | -23.61  | -23.61   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| Fground       | 3.86        | 3.86     | -21.72  | -21.72   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| Fground       | 0.10        | 0.10     | 4.19    | 4.19     |  |

| Load Case: W1 | W       | Wind_IBC09_1_X |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| Fground       | 3.28    | 3.28           | 126.86  | 126.86   |  |

| Load Case: W2 | W       | Wind_IBC09_1_Y |         |          |  |
|---------------|---------|----------------|---------|----------|--|
| Level         | Shear-X | Change-X       | Shear-Y | Change-Y |  |
|               | kip     | kip            | kip     | kip      |  |
| Fground       | -6.02   | -6.02          | 391.36  | 391.36   |  |

| Load Case: W3 | W       | Wind_IBC09_2_X+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| Fground       | 2.31    | 2.31             | 106.59  | 106.59   |  |

| Load Case: W4 | W       | Wind_IBC09_2_X-E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| Fground       | 2.61    | 2.61             | 83.70   | 83.70    |  |

| Load Case: W5 | W       | Wind_IBC09_2_Y+E |         |          |  |
|---------------|---------|------------------|---------|----------|--|
| Level         | Shear-X | Change-X         | Shear-Y | Change-Y |  |
|               | kip     | kip              | kip     | kip      |  |
| Fground       | -3.50   | -3.50            | 219.35  | 219.35   |  |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -5.53                       | -5.53           | 367.68         | 367.68          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -2.06                       | -2.06           | 388.66         | 388.66          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 6.98                        | 6.98            | -198.37        | -198.37         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -2.42                       | -2.42           | 355.71         | 355.71          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -0.67                       | -0.67           | 227.29         | 227.29          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 4.36                        | 4.36            | -84.57         | -84.57          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 6.10                        | 6.10            | -212.99        | -212.99         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 3.66                        | 3.66            | 138.11         | 138.11          |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

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|         |      |      |        |        |
|---------|------|------|--------|--------|
| Fground | 3.82 | 3.82 | 131.22 | 131.22 |
|---------|------|------|--------|--------|

**Load Case: E3    E    EQ\_ASCE710\_Y\_+E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | -3.03           | -3.03            | 98.13           | 98.13            |

**Load Case: E4    E    EQ\_ASCE710\_Y\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | -3.41           | -3.41            | 114.20          | 114.20           |

**Load Case: O1    Shear Test    User\_User**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #181**

**Load Case: D    DeadLoad    RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 7.99            | 7.99             | 18.48           | 18.48            |

**Load Case: Lp    PosLiveLoad    RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 1.34            | 1.34             | 3.09            | 3.09             |

**Load Case: Ln    NegLiveLoad    RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.19            | 0.19             | -0.71           | -0.71            |

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 3.76            | 3.76             | -181.36         | -181.36          |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 1.39            | 1.39             | 1086.80         | 1086.80          |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 2.83                        | 2.83            | -188.75        | -188.75         |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 2.81                        | 2.81            | -83.30         | -83.30          |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 0.97                        | 0.97            | 1167.67        | 1167.67         |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 1.12                        | 1.12            | 462.53         | 462.53          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 3.86                        | 3.86            | 679.08         | 679.08          |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 1.78                        | 1.78            | -951.13        | -951.13         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 2.96                        | 2.96            | 205.34         | 205.34          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 2.83                        | 2.83            | 813.28         | 813.28          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|         |      |      |          |          |
|---------|------|------|----------|----------|
| Fground | 1.40 | 1.40 | -1017.31 | -1017.31 |
|---------|------|------|----------|----------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 1.27            | 1.27             | -409.37         | -409.37          |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 3.99            | 3.99             | -211.16         | -211.16          |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 4.04            | 4.04             | -169.14         | -169.14          |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.14            | 0.14             | 391.88          | 391.88           |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.02            | 0.02             | 293.02          | 293.02           |

**Load Case: O1 Shear Test User\_User**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #182**

**Load Case: D DeadLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | -29.65          | -29.65           | 15.07           | 15.07            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | -9.40           | -9.40            | 6.84            | 6.84             |





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DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Load Case: Ln        | NegLiveLoad | RAMUSER                 |         |          |  |
|----------------------|-------------|-------------------------|---------|----------|--|
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| Fground              | 0.07        | 0.07                    | 0.91    | 0.91     |  |
| <b>Load Case: W1</b> | <b>W</b>    | <b>Wind_IBC09_1_X</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| Fground              | 5.58        | 5.58                    | 11.46   | 11.46    |  |
| <b>Load Case: W2</b> | <b>W</b>    | <b>Wind_IBC09_1_Y</b>   |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| Fground              | -2.74       | -2.74                   | 77.75   | 77.75    |  |
| <b>Load Case: W3</b> | <b>W</b>    | <b>Wind_IBC09_2_X+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| Fground              | 4.48        | 4.48                    | 11.77   | 11.77    |  |
| <b>Load Case: W4</b> | <b>W</b>    | <b>Wind_IBC09_2_X-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| Fground              | 3.89        | 3.89                    | 5.42    | 5.42     |  |
| <b>Load Case: W5</b> | <b>W</b>    | <b>Wind_IBC09_2_Y+E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| Fground              | -4.06       | -4.06                   | 37.42   | 37.42    |  |
| <b>Load Case: W6</b> | <b>W</b>    | <b>Wind_IBC09_2_Y-E</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| Fground              | -0.05       | -0.05                   | 79.21   | 79.21    |  |
| <b>Load Case: W7</b> | <b>W</b>    | <b>Wind_IBC09_3_X+Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |
| Fground              | 2.13        | 2.13                    | 66.91   | 66.91    |  |
| <b>Load Case: W8</b> | <b>W</b>    | <b>Wind_IBC09_3_X-Y</b> |         |          |  |
| Level                | Shear-X     | Change-X                | Shear-Y | Change-Y |  |
|                      | kip         | kip                     | kip     | kip      |  |



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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| Fground               |          | 6.25                        | 6.25            | -49.72         | -49.72          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 3.32                        | 3.32            | 68.24          | 68.24           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -0.13                       | -0.13           | 32.13          | 32.13           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 6.41                        | 6.41            | -19.24         | -19.24          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 2.96                        | 2.96            | -55.34         | -55.34          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 7.31                        | 7.31            | 12.55          | 12.55           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 7.05                        | 7.05            | 10.42          | 10.42           |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -2.42                       | -2.42           | 20.78          | 20.78           |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -1.82                       | -1.82           | 25.75          | 25.75           |



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| Load Case: O1 | Shear Test | User_User |         |          |  |
|---------------|------------|-----------|---------|----------|--|
| Level         | Shear-X    | Change-X  | Shear-Y | Change-Y |  |
|               | kip        | kip       | kip     | kip      |  |
| Fground       | 0.00       | 0.00      | 0.00    | 0.00     |  |

**Frame #183**

| Load Case: D | DeadLoad | RAMUSER  |         |          |  |
|--------------|----------|----------|---------|----------|--|
| Level        | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|              | kip      | kip      | kip     | kip      |  |
| Fground      | 35.51    | 35.51    | -51.56  | -51.56   |  |

| Load Case: Lp | PosLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| Fground       | 10.09       | 10.09    | -16.10  | -16.10   |  |

| Load Case: Ln | NegLiveLoad | RAMUSER  |         |          |  |
|---------------|-------------|----------|---------|----------|--|
| Level         | Shear-X     | Change-X | Shear-Y | Change-Y |  |
|               | kip         | kip      | kip     | kip      |  |
| Fground       | -0.05       | -0.05    | 0.79    | 0.79     |  |

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| Fground       |   | 3.70           | 3.70     | -5.61   | -5.61    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| Fground       |   | 2.36           | 2.36     | 38.25   | 38.25    |

| Load Case: W3 | W | Wind_IBC09_2_X+E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| Fground       |   | 2.89             | 2.89     | -3.55   | -3.55    |

| Load Case: W4 | W | Wind_IBC09_2_X-E |          |         |          |
|---------------|---|------------------|----------|---------|----------|
| Level         |   | Shear-X          | Change-X | Shear-Y | Change-Y |
|               |   | kip              | kip      | kip     | kip      |
| Fground       |   | 2.65             | 2.65     | -4.86   | -4.86    |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 0.95                        | 0.95            | 24.75          | 24.75           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 2.58                        | 2.58            | 32.62          | 32.62           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 4.54                        | 4.54            | 24.48          | 24.48           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 1.00                        | 1.00            | -32.90         | -32.90          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 4.11                        | 4.11            | 21.80          | 21.80           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 2.70                        | 2.70            | 14.92          | 14.92           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 1.45                        | 1.45            | -21.23         | -21.23          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 0.05                        | 0.05            | -28.11         | -28.11          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|         |      |      |       |       |
|---------|------|------|-------|-------|
| Fground | 4.48 | 4.48 | -6.86 | -6.86 |
|---------|------|------|-------|-------|

|                      |          |                          |                 |                |
|----------------------|----------|--------------------------|-----------------|----------------|
| <b>Load Case: E2</b> | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>           | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kips</b>              | <b>kips</b>     | <b>kips</b>    |
| Fground              |          | 4.36                     | 4.36            | -6.98          |

|                      |          |                          |                 |                |
|----------------------|----------|--------------------------|-----------------|----------------|
| <b>Load Case: E3</b> | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>           | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kips</b>              | <b>kips</b>     | <b>kips</b>    |
| Fground              |          | 1.57                     | 1.57            | 8.04           |

|                      |          |                          |                 |                |
|----------------------|----------|--------------------------|-----------------|----------------|
| <b>Load Case: E4</b> | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>           | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kips</b>              | <b>kips</b>     | <b>kips</b>    |
| Fground              |          | 1.85                     | 1.85            | 8.28           |

|                      |                   |                  |                 |                |
|----------------------|-------------------|------------------|-----------------|----------------|
| <b>Load Case: O1</b> | <b>Shear Test</b> | <b>User_User</b> |                 |                |
| <b>Level</b>         |                   | <b>Shear-X</b>   | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |                   | <b>kips</b>      | <b>kips</b>     | <b>kips</b>    |
| Fground              |                   | 0.00             | 0.00            | 0.00           |

**Frame #184**

|                     |                 |                |                 |                |
|---------------------|-----------------|----------------|-----------------|----------------|
| <b>Load Case: D</b> | <b>DeadLoad</b> | <b>RAMUSER</b> |                 |                |
| <b>Level</b>        |                 | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> |
|                     |                 | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    |
| Fground             |                 | 11.18          | 11.18           | -18.69         |

|                      |                    |                |                 |                |
|----------------------|--------------------|----------------|-----------------|----------------|
| <b>Load Case: Lp</b> | <b>PosLiveLoad</b> | <b>RAMUSER</b> |                 |                |
| <b>Level</b>         |                    | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |                    | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    |
| Fground              |                    | 2.49           | 2.49            | -5.53          |

|                      |                    |                |                 |                |
|----------------------|--------------------|----------------|-----------------|----------------|
| <b>Load Case: Ln</b> | <b>NegLiveLoad</b> | <b>RAMUSER</b> |                 |                |
| <b>Level</b>         |                    | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |                    | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    |
| Fground              |                    | 0.22           | 0.22            | 0.06           |

|                      |          |                       |                 |                |
|----------------------|----------|-----------------------|-----------------|----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    |
| Fground              |          | 22.87                 | 22.87           | 0.67           |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -4.98                       | -4.98           | 0.94           | 0.94            |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 17.33                       | 17.33           | 0.61           | 0.61            |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 16.97                       | 16.97           | 0.40           | 0.40            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -5.13                       | -5.13           | -0.03          | -0.03           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -2.34                       | -2.34           | 1.43           | 1.43            |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 13.42                       | 13.42           | 1.21           | 1.21            |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 20.89                       | 20.89           | -0.20          | -0.20           |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 11.24                       | 11.24           | 1.53           | 1.53            |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| Fground               |                   | 8.88                        | 8.88            | 0.28           | 0.28            |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | 16.85                       | 16.85           | 0.48           | 0.48            |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | 14.48                       | 14.48           | -0.78          | -0.78           |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | 17.14                       | 17.14           | 0.93           | 0.93            |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | 17.16                       | 17.16           | 0.84           | 0.84            |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | -5.03                       | -5.03           | -0.14          | -0.14           |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | -5.07                       | -5.07           | 0.07           | 0.07            |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | 0.00                        | 0.00            | 0.00           | 0.00            |
| <b>Frame #185</b>     |                   |                             |                 |                |                 |
| <b>Load Case: D</b>   | <b>DeadLoad</b>   | <b>RAMUSER</b>              |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |                   | -31.10                      | -31.10          | 98.36          | 98.36           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Fground              | -23.68         | -23.68                     | 28.89          | 28.89           |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Fground              | 0.95           | 0.95                       | 0.09           | 0.09            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Fground              | 162.94         | 162.94                     | -0.99          | -0.99           |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Fground              | 64.01          | 64.01                      | 21.79          | 21.79           |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Fground              | 133.37         | 133.37                     | -0.58          | -0.58           |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Fground              | 111.03         | 111.03                     | -0.92          | -0.92           |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Fground              | -28.45         | -28.45                     | 15.22          | 15.22           |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Fground              | 124.47         | 124.47                     | 17.46          | 17.46           |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |





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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| Fground               |          | 170.21                      | 170.21          | 15.60          | 15.60           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 74.19                       | 74.19           | -17.09         | -17.09          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 193.38                      | 193.38          | 12.66          | 12.66           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 61.93                       | 61.93           | 10.73          | 10.73           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 121.37                      | 121.37          | -11.85         | -11.85          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -10.08                      | -10.08          | -13.78         | -13.78          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 152.44                      | 152.44          | -2.66          | -2.66           |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 143.69                      | 143.69          | -2.80          | -2.80           |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -5.35                       | -5.35           | 11.03          | 11.03           |



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**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 15.26           | 15.26            | 11.35           | 11.35            |

**Load Case: O1 Shear Test User\_User**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #186**

**Load Case: D DeadLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 220.34          | 220.34           | -111.48         | -111.48          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 55.41           | 55.41            | -29.73          | -29.73           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | -2.27           | -2.27            | 0.12            | 0.12             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 401.94          | 401.94           | 0.57            | 0.57             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | -14.48          | -14.48           | 40.56           | 40.56            |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| Fground | 298.02          | 298.02           | 1.19            | 1.19             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 304.89                      | 304.89          | -0.33          | -0.33           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 13.76                       | 13.76           | 25.27          | 25.27           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | -35.48                      | -35.48          | 35.56          | 35.56           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 290.59                      | 290.59          | 30.85          | 30.85           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 312.31                      | 312.31          | -29.99         | -29.99          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 196.91                      | 196.91          | 27.57          | 27.57           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 238.98                      | 238.98          | 18.70          | 18.70           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground               |          | 213.19                      | 213.19          | -18.06         | -18.06          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|         |        |        |        |        |
|---------|--------|--------|--------|--------|
| Fground | 255.27 | 255.27 | -26.92 | -26.92 |
|---------|--------|--------|--------|--------|

| Load Case: E1 | E EQ_ASCE710_X_+E_F | Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|---------|-----------------|------------------|-----------------|------------------|
|               |                     | Fground | 400.76          | 400.76           | 0.39            | 0.39             |

| Load Case: E2 | E EQ_ASCE710_X_-E_F | Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|---------|-----------------|------------------|-----------------|------------------|
|               |                     | Fground | 403.24          | 403.24           | -0.28           | -0.28            |

| Load Case: E3 | E EQ_ASCE710_Y_+E_F | Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|---------|-----------------|------------------|-----------------|------------------|
|               |                     | Fground | -3.58           | -3.58            | 17.94           | 17.94            |

| Load Case: E4 | E EQ_ASCE710_Y_-E_F | Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|---------|-----------------|------------------|-----------------|------------------|
|               |                     | Fground | -9.43           | -9.43            | 19.52           | 19.52            |

| Load Case: O1 | Shear Test User_User | Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|----------------------|---------|-----------------|------------------|-----------------|------------------|
|               |                      | Fground | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #187**

| Load Case: D | DeadLoad RAMUSER | Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------------|------------------|--------|-----------------|------------------|-----------------|------------------|
|              |                  | Cellar | -1.86           | -1.86            | 36.81           | 36.81            |

| Load Case: Lp | PosLiveLoad RAMUSER | Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|--------|-----------------|------------------|-----------------|------------------|
|               |                     | Cellar | -0.11           | -0.11            | 35.30           | 35.30            |

| Load Case: Ln | NegLiveLoad RAMUSER | Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------------|---------------------|--------|-----------------|------------------|-----------------|------------------|
|               |                     | Cellar | -0.03           | -0.03            | -7.37           | -7.37            |



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 4.11                       | 4.11            | 18.72          | 18.72           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 0.08                       | 0.08            | 880.42         | 880.42          |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 3.13                       | 3.13            | 40.54          | 40.54           |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 3.03                       | 3.03            | -12.47         | -12.47          |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | -0.27                      | -0.27           | 480.44         | 480.44          |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 0.39                       | 0.39            | 840.19         | 840.19          |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 3.14                       | 3.14            | 674.35         | 674.35          |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 3.02                       | 3.02            | -646.28        | -646.28         |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>                | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| Cellar                |                   | 2.64                        | 2.64            | 660.55         | 660.55          |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 2.08                        | 2.08            | 350.98         | 350.98          |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 2.55                        | 2.55            | -329.92        | -329.92         |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 1.99                        | 1.99            | -639.49        | -639.49         |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 4.16                        | 4.16            | 35.23          | 35.23           |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 4.12                        | 4.12            | 11.31          | 11.31           |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 0.03                        | 0.03            | 351.84         | 351.84          |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 0.12                        | 0.12            | 408.30         | 408.30          |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 0.00                        | 0.00            | 0.00           | 0.00            |



**Frame #188**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 10.47           | 10.47            | 51.05           | 51.05            |

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 3.44            | 3.44             | 3.03            | 3.03             |

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -0.07           | -0.07            | 2.45            | 2.45             |

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 13.53           | 13.53            | 45.43           | 45.43            |

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -8.27           | -8.27            | 347.13          | 347.13           |

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 9.94            | 9.94             | 42.79           | 42.79            |

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 10.36           | 10.36            | 25.36           | 25.36            |

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -4.75           | -4.75            | 204.19          | 204.19           |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W6</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | -7.65                       | -7.65           | 316.51         | 316.51          |
| <b>Load Case: W7</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 3.95                        | 3.95            | 294.42         | 294.42          |
| <b>Load Case: W8</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 16.35                       | 16.35           | -226.28        | -226.28         |
| <b>Load Case: W9</b>  |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 1.71                        | 1.71            | 269.48         | 269.48          |
| <b>Load Case: W10</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 4.21                        | 4.21            | 172.16         | 172.16          |
| <b>Load Case: W11</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 11.01                       | 11.01           | -121.05        | -121.05         |
| <b>Load Case: W12</b> |          |                             |                 |                |                 |
|                       | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 13.51                       | 13.51           | -218.37        | -218.37         |
| <b>Load Case: E1</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 13.73                       | 13.73           | 46.59          | 46.59           |
| <b>Load Case: E2</b>  |          |                             |                 |                |                 |
|                       | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |





RAM Structural System  
Bentley

RAM Frame 15.03.00.000  
DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |       |       |       |       |
|--------|-------|-------|-------|-------|
| Cellar | 13.90 | 13.90 | 42.02 | 42.02 |
|--------|-------|-------|-------|-------|

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -3.18           | -3.18            | 83.89           | 83.89            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -3.57           | -3.57            | 94.51           | 94.51            |

**Load Case: O1 Shear Test User\_User**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #189**

**Load Case: D DeadLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 1.74            | 1.74             | 62.01           | 62.01            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 0.42            | 0.42             | 8.23            | 8.23             |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -0.02           | -0.02            | 1.13            | 1.13             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 2.88            | 2.88             | 11.25           | 11.25            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -0.97           | -0.97            | 120.69          | 120.69           |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 2.08                        | 2.08            | 12.50          | 12.50           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 2.24                        | 2.24            | 4.37           | 4.37            |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | -0.21                       | -0.21           | 64.25          | 64.25           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | -1.25                       | -1.25           | 116.79         | 116.79          |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 1.43                        | 1.43            | 98.95          | 98.95           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 2.89                        | 2.89            | -82.08         | -82.08          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 0.62                        | 0.62            | 96.96          | 96.96           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 1.52                        | 1.52            | 51.47          | 51.47           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System  
Bentley

RAM Frame 15.03.00.000  
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|        |      |      |        |        |
|--------|------|------|--------|--------|
| Cellar | 1.72 | 1.72 | -38.81 | -38.81 |
|--------|------|------|--------|--------|

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 2.62            | 2.62             | -84.31          | -84.31           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 2.82            | 2.82             | 10.94           | 10.94            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 2.87            | 2.87             | 8.75            | 8.75             |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -0.33           | -0.33            | 24.72           | 24.72            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -0.45           | -0.45            | 29.83           | 29.83            |

**Load Case: O1 Shear Test User\_User**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #190**

**Load Case: D DeadLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -12.74          | -12.74           | -22.41          | -22.41           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -1.12           | -1.12            | -33.50          | -33.50           |



| Load Case: Ln |  | NegLiveLoad RAMUSER |                  |                 |                  |
|---------------|--|---------------------|------------------|-----------------|------------------|
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| Cellar        |  | -0.18               | -0.18            | 1.05            | 1.05             |
| Load Case: W1 |  | W Wind_IBC09_1_X    |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| Cellar        |  | 26.72               | 26.72            | -70.34          | -70.34           |
| Load Case: W2 |  | W Wind_IBC09_1_Y    |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| Cellar        |  | -0.76               | -0.76            | 1114.02         | 1114.02          |
| Load Case: W3 |  | W Wind_IBC09_2_X+E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| Cellar        |  | 20.14               | 20.14            | -105.12         | -105.12          |
| Load Case: W4 |  | W Wind_IBC09_2_X-E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| Cellar        |  | 19.93               | 19.93            | -0.39           | -0.39            |
| Load Case: W5 |  | W Wind_IBC09_2_Y+E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| Cellar        |  | -1.22               | -1.22            | 1185.30         | 1185.30          |
| Load Case: W6 |  | W Wind_IBC09_2_Y-E  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| Cellar        |  | 0.08                | 0.08             | 485.73          | 485.73           |
| Load Case: W7 |  | W Wind_IBC09_3_X+Y  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| Cellar        |  | 19.47               | 19.47            | 782.76          | 782.76           |
| Load Case: W8 |  | W Wind_IBC09_3_X-Y  |                  |                 |                  |
| Level         |  | Shear-X<br>kips     | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|               |  |                     |                  |                 |                  |



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|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| Cellar                |          | 20.61                       | 20.61           | -888.27        | -888.27         |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 15.17                       | 15.17           | 285.46         | 285.46          |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 14.03                       | 14.03           | 888.68         | 888.68          |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 16.03                       | 16.03           | -967.81        | -967.81         |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 14.89                       | 14.89           | -364.59        | -364.59         |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 26.85                       | 26.85           | -86.19         | -86.19          |
| <b>Load Case: E2</b>  | <b>E</b> | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 26.77                       | 26.77           | -45.79         | -45.79          |
| <b>Load Case: E3</b>  | <b>E</b> | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 0.17                        | 0.17            | 389.80         | 389.80          |
| <b>Load Case: E4</b>  | <b>E</b> | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 0.36                        | 0.36            | 294.74         | 294.74          |



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**Load Case: O1 Shear Test User\_User**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #191**

**Load Case: D DeadLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -30.73          | -30.73           | -26.11          | -26.11           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -9.22           | -9.22            | -7.44           | -7.44            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 0.05            | 0.05             | 0.49            | 0.49             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 9.24            | 9.24             | 10.62           | 10.62            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -4.36           | -4.36            | 55.67           | 55.67            |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 7.26            | 7.26             | 10.73           | 10.73            |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 6.60            | 6.60             | 5.20            | 5.20             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar                |          | -5.49                       | -5.49           | 23.61          | 23.61           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar                |          | -1.05                       | -1.05           | 59.89          | 59.89           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar                |          | 3.66                        | 3.66            | 49.71          | 49.71           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar                |          | 10.20                       | 10.20           | -33.79         | -33.79          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar                |          | 4.66                        | 4.66            | 52.96          | 52.96           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar                |          | 0.83                        | 0.83            | 21.61          | 21.61           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar                |          | 9.56                        | 9.56            | -9.67          | -9.67           |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar                |          | 5.73                        | 5.73            | -41.02         | -41.02          |
| <b>Load Case: E1</b>  | <b>E</b> | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kip</b>                  | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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|        |       |       |       |       |
|--------|-------|-------|-------|-------|
| Cellar | 10.80 | 10.80 | 13.21 | 13.21 |
|--------|-------|-------|-------|-------|

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 10.53           | 10.53            | 11.42           | 11.42            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -2.97           | -2.97            | 11.63           | 11.63            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -2.32           | -2.32            | 15.82           | 15.82            |

**Load Case: O1 Shear Test User\_User**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #192**

**Load Case: D DeadLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 24.56           | 24.56            | -71.59          | -71.59           |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 7.16            | 7.16             | -21.43          | -21.43           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -0.02           | -0.02            | 0.46            | 0.46             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 5.87            | 5.87             | -7.34           | -7.34            |





|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b>  | <b>W</b> | <b>Wind_IBC09_1_Y</b>       |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 2.22                        | 2.22            | 37.59          | 37.59           |
| <b>Load Case: W3</b>  | <b>W</b> | <b>Wind_IBC09_2_X+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 4.58                        | 4.58            | -4.78          | -4.78           |
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 4.22                        | 4.22            | -6.23          | -6.23           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 0.46                        | 0.46            | 23.64          | 23.64           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 2.87                        | 2.87            | 32.75          | 32.75           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 6.07                        | 6.07            | 22.69          | 22.69           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 2.73                        | 2.73            | -33.70         | -33.70          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 5.59                        | 5.59            | 20.98          | 20.98           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|        |      |      |       |       |
|--------|------|------|-------|-------|
| Cellar | 3.51 | 3.51 | 13.05 | 13.05 |
|--------|------|------|-------|-------|

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 3.09            | 3.09             | -21.31          | -21.31           |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 1.01            | 1.01             | -29.24          | -29.24           |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 6.44            | 6.44             | -9.57           | -9.57            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 6.30            | 6.30             | -9.77           | -9.77            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 1.02            | 1.02             | 6.93            | 6.93             |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 1.35            | 1.35             | 7.38            | 7.38             |

**Load Case: O1 Shear Test User\_User**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #193**

**Load Case: D DeadLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -16.53          | -16.53           | -28.40          | -28.40           |



| <b>Load Case: Lp</b> |                | <b>PosLiveLoad RAMUSER</b> |                |                 |  |
|----------------------|----------------|----------------------------|----------------|-----------------|--|
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Cellar               | 1.83           | 1.83                       | -8.45          | -8.45           |  |
| <b>Load Case: Ln</b> |                | <b>NegLiveLoad RAMUSER</b> |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Cellar               | 0.08           | 0.08                       | 0.10           | 0.10            |  |
| <b>Load Case: W1</b> |                | <b>W Wind_IBC09_1_X</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Cellar               | 148.78         | 148.78                     | 0.46           | 0.46            |  |
| <b>Load Case: W2</b> |                | <b>W Wind_IBC09_1_Y</b>    |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Cellar               | -1.86          | -1.86                      | 11.07          | 11.07           |  |
| <b>Load Case: W3</b> |                | <b>W Wind_IBC09_2_X+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Cellar               | 114.55         | 114.55                     | 0.80           | 0.80            |  |
| <b>Load Case: W4</b> |                | <b>W Wind_IBC09_2_X-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Cellar               | 108.62         | 108.62                     | -0.11          | -0.11           |  |
| <b>Load Case: W5</b> |                | <b>W Wind_IBC09_2_Y+E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Cellar               | -21.18         | -21.18                     | 5.31           | 5.31            |  |
| <b>Load Case: W6</b> |                | <b>W Wind_IBC09_2_Y-E</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |
| Cellar               | 18.39          | 18.39                      | 11.30          | 11.30           |  |
| <b>Load Case: W7</b> |                | <b>W Wind_IBC09_3_X+Y</b>  |                |                 |  |
| <b>Level</b>         | <b>Shear-X</b> | <b>Change-X</b>            | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|                      | <b>kip</b>     | <b>kip</b>                 | <b>kip</b>     | <b>kip</b>      |  |



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| Cellar   | 110.19         | 110.19          | 8.65           | 8.65            |
|--|----------------|-----------------|----------------|-----------------|
| <b>Load Case: W8    W    Wind_IBC09_3_X-Y</b>      |                |                 |                |                 |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar   | 112.98         | 112.98          | -7.96          | -7.96           |
| <b>Load Case: W9    W    Wind_IBC09_4_X+Y_CW</b>   |                |                 |                |                 |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar   | 99.71          | 99.71           | 9.07           | 9.07            |
| <b>Load Case: W10    W    Wind_IBC09_4_X+Y_CCW</b> |                |                 |                |                 |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar   | 65.58          | 65.58           | 3.90           | 3.90            |
| <b>Load Case: W11    W    Wind_IBC09_4_X-Y_CW</b>  |                |                 |                |                 |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar   | 101.80         | 101.80          | -3.39          | -3.39           |
| <b>Load Case: W12    W    Wind_IBC09_4_X-Y_CCW</b> |                |                 |                |                 |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar   | 67.67          | 67.67           | -8.56          | -8.56           |
| <b>Load Case: E1    E    EQ_ASCE710_X_+E_F</b>     |                |                 |                |                 |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar   | 142.60         | 142.60          | 0.81           | 0.81            |
| <b>Load Case: E2    E    EQ_ASCE710_X_-E_F</b>     |                |                 |                |                 |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar   | 140.81         | 140.81          | 0.52           | 0.52            |
| <b>Load Case: E3    E    EQ_ASCE710_Y_+E_F</b>     |                |                 |                |                 |
| <b>Level</b>                                       | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|  | <b>kips</b>    | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar   | -8.97          | -8.97           | 2.06           | 2.06            |



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**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -4.76           | -4.76            | 2.75            | 2.75             |

**Load Case: O1 Shear Test User\_User**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #194**

**Load Case: D DeadLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -60.93          | -60.93           | 65.71           | 65.71            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -12.49          | -12.49           | 19.69           | 19.69            |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 0.38            | 0.38             | 0.22            | 0.22             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 246.73          | 246.73           | -1.98           | -1.98            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 88.18           | 88.18            | 74.78           | 74.78            |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 198.12          | 198.12           | 0.54            | 0.54             |



|                       |          |                             |                 |                |                 |
|-----------------------|----------|-----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W4</b>  | <b>W</b> | <b>Wind_IBC09_2_X-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 171.97                      | 171.97          | -3.51          | -3.51           |
| <b>Load Case: W5</b>  | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | -21.41                      | -21.41          | 42.92          | 42.92           |
| <b>Load Case: W6</b>  | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 153.68                      | 153.68          | 69.26          | 69.26           |
| <b>Load Case: W7</b>  | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 251.18                      | 251.18          | 54.60          | 54.60           |
| <b>Load Case: W8</b>  | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>     |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 118.91                      | 118.91          | -57.57         | -57.57          |
| <b>Load Case: W9</b>  | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 263.85                      | 263.85          | 52.35          | 52.35           |
| <b>Load Case: W10</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 112.92                      | 112.92          | 29.56          | 29.56           |
| <b>Load Case: W11</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |          | 164.65                      | 164.65          | -31.78         | -31.78          |
| <b>Load Case: W12</b> | <b>W</b> | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |          | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |          | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



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|        |       |       |        |        |
|--------|-------|-------|--------|--------|
| Cellar | 13.72 | 13.72 | -54.58 | -54.58 |
|--------|-------|-------|--------|--------|

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 238.39          | 238.39           | -3.42           | -3.42            |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 229.07          | 229.07           | -4.58           | -4.58            |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 5.52            | 5.52             | 22.15           | 22.15            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 27.41           | 27.41            | 24.87           | 24.87            |

**Load Case: O1 Shear Test User\_User**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #195**

**Load Case: D DeadLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -10.28          | -10.28           | -111.18         | -111.18          |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 15.82           | 15.82            | -29.57          | -29.57           |

**Load Case: Ln NegLiveLoad RAMUSER**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -2.66           | -2.66            | 0.26            | 0.26             |



|                      |          |                            |                 |                |                 |
|----------------------|----------|----------------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar               |          | 400.40                     | 400.40          | -1.84          | -1.84           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b>      |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar               |          | -49.06                     | -49.06          | 98.27          | 98.27           |
| <b>Load Case: W3</b> | <b>W</b> | <b>Wind_IBC09_2_X+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar               |          | 288.79                     | 288.79          | 1.07           | 1.07            |
| <b>Load Case: W4</b> | <b>W</b> | <b>Wind_IBC09_2_X-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar               |          | 311.81                     | 311.81          | -3.83          | -3.83           |
| <b>Load Case: W5</b> | <b>W</b> | <b>Wind_IBC09_2_Y+E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar               |          | 40.28                      | 40.28           | 57.57          | 57.57           |
| <b>Load Case: W6</b> | <b>W</b> | <b>Wind_IBC09_2_Y-E</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar               |          | -113.87                    | -113.87         | 89.83          | 89.83           |
| <b>Load Case: W7</b> | <b>W</b> | <b>Wind_IBC09_3_X+Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar               |          | 263.51                     | 263.51          | 72.32          | 72.32           |
| <b>Load Case: W8</b> | <b>W</b> | <b>Wind_IBC09_3_X-Y</b>    |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| Cellar               |          | 337.10                     | 337.10          | -75.08         | -75.08          |
| <b>Load Case: W9</b> | <b>W</b> | <b>Wind_IBC09_4_X+Y_CW</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>             | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>                 | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |





|                       |                   |                             |                 |                |                 |
|-----------------------|-------------------|-----------------------------|-----------------|----------------|-----------------|
| Cellar                |                   | 131.19                      | 131.19          | 68.18          | 68.18           |
| <b>Load Case: W10</b> | <b>W</b>          | <b>Wind_IBC09_4_X+Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 264.06                      | 264.06          | 40.30          | 40.30           |
| <b>Load Case: W11</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CW</b>  |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 186.39                      | 186.39          | -42.37         | -42.37          |
| <b>Load Case: W12</b> | <b>W</b>          | <b>Wind_IBC09_4_X-Y_CCW</b> |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 319.26                      | 319.26          | -70.25         | -70.25          |
| <b>Load Case: E1</b>  | <b>E</b>          | <b>EQ_ASCE710_X_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 404.01                      | 404.01          | -2.70          | -2.70           |
| <b>Load Case: E2</b>  | <b>E</b>          | <b>EQ_ASCE710_X_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 411.76                      | 411.76          | -4.32          | -4.32           |
| <b>Load Case: E3</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_+E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 5.19                        | 5.19            | 32.57          | 32.57           |
| <b>Load Case: E4</b>  | <b>E</b>          | <b>EQ_ASCE710_Y_-E_F</b>    |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | -13.01                      | -13.01          | 36.37          | 36.37           |
| <b>Load Case: O1</b>  | <b>Shear Test</b> | <b>User_User</b>            |                 |                |                 |
| <b>Level</b>          |                   | <b>Shear-X</b>              | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                       |                   | <b>kips</b>                 | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar                |                   | 0.00                        | 0.00            | 0.00           | 0.00            |

**Severud Associates**

1568 Broadway

Structural Calculations

# **CHAPTER 9**

## **RAM Building Story Shears**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

11/01/16 16:55:07

**CRITERIA:**

Rigid End Zones: Ignore Effects  
 Member Force Output: At Face of Joint  
 P-Delta: Yes Scale Factor (DL): 1.20 Scale Factor (LL): 0.50  
 Scale Factor (Roof): 1.00 Scale Factor (Snow): 1.00

Ground Level: Base

Mesh Criteria :

Max. Distance Between Nodes on Mesh Line (ft) : 6.00  
 Merge Node Tolerance (in) : 0.2000  
 Geometry Tolerance (in) : 0.0050

Walls Out-of-plane Stiffness Included in Analysis.  
 Sign considered for Dynamic Load Case Results.  
 Rigid Links Included at Fixed Beam-to-Wall Locations  
 Eigenvalue Analysis : Ritz Vectors (Load Dependent)

| Load Case: D | DeadLoad | RAMUSER  |         |         |  |
|--------------|----------|----------|---------|---------|--|
| Level        |          | Diaph. # | Shear-X | Shear-Y |  |
|              |          |          | kips    | kips    |  |
| F47roof      |          | 1        | -0.34   | 1.75    |  |
| F46MEP       |          | 1        | -0.73   | 3.92    |  |
| F45          |          | 1        | -0.96   | 5.41    |  |
| F44          |          | 1        | -1.21   | 6.92    |  |
| F43          |          | 1        | -1.50   | 8.34    |  |
| F42          |          | 1        | -1.72   | 9.95    |  |
| F41          |          | 1        | -1.91   | 11.54   |  |
| F40          |          | 1        | -2.12   | 13.03   |  |
| F39          |          | 1        | -2.28   | 14.50   |  |
| F38          |          | 1        | -2.44   | 15.94   |  |
| F37          |          | 1        | -2.57   | 17.34   |  |
| F36          |          | 1        | -2.67   | 18.73   |  |
| F35          |          | 1        | -2.74   | 20.10   |  |
| F34          |          | 1        | -2.78   | 21.43   |  |
| F33          |          | 1        | -2.78   | 22.73   |  |
| F32          |          | 1        | -2.75   | 23.99   |  |
| F31          |          | 1        | -2.67   | 25.22   |  |
| F30          |          | 1        | -2.55   | 26.41   |  |
| F29          |          | 1        | -2.38   | 27.55   |  |
| F28          |          | 1        | -2.18   | 28.64   |  |
| F27          |          | 1        | -1.92   | 29.71   |  |
| F26          |          | 1        | -1.61   | 30.75   |  |
| F25          |          | 1        | -1.27   | 31.75   |  |
| F24          |          | 1        | -0.89   | 32.72   |  |
| F23          |          | 1        | -0.46   | 33.63   |  |
| F22          |          | 1        | 0.00    | 34.49   |  |
| F21          |          | 1        | 0.47    | 35.29   |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |          |          |
|---------|------|----------|----------|
| F20     | 1    | 0.91     | 36.03    |
| F19     | 1    | 1.15     | 36.65    |
| F18     | 1    | 1.18     | 36.95    |
| F17     | 1    | -1.21    | 36.52    |
| F16     | 1    | -21.05   | 35.41    |
| F15     | 1    | -515.88  | -1532.18 |
| F15     | None | -0.00    | 246.09   |
| F14     | 1    | -516.24  | -3474.43 |
| F14     | None | -1.06    | 3510.03  |
| F13     | 1    | -1811.10 | -1244.15 |
| F13     | None | 1293.75  | 1289.71  |
| F12     | 1    | 1.29     | -35.62   |
| F11demo | None | 15.91    | 57.50    |
| F11     | 1    | 14.57    | 64.61    |
| F9demo  | None | 14.57    | -151.68  |
| F10     | 1    | 15.25    | 49.20    |
| F9      | 1    | 138.16   | 4.79     |
| F9      | None | -116.84  | 34.29    |
| F8      | 1    | 17.63    | -709.74  |
| F8      | None | 0.27     | 738.43   |
| F7      | 1    | -10.58   | 89.41    |
| F7      | None | 0.26     | 757.94   |
| F6      | 1    | -10.64   | -894.05  |
| F6      | None | 0.26     | 863.15   |
| F5      | 1    | -11.08   | -786.44  |
| F5      | None | 0.26     | 776.05   |
| F4      | 1    | -13.01   | -531.91  |
| F4      | None | 0.26     | 517.81   |
| F3      | 1    | -12.37   | -521.52  |
| F3      | None | 0.26     | 495.39   |
| F2      | 1    | -10.61   | -295.61  |
| F2      | None | 0.16     | 262.20   |
| Fground | 1    | -16.42   | -504.42  |
| Fground | None | 0.04     | 466.79   |
| Cellar  | 1    | -25.71   | -75.56   |
| Cellar  | None | 0.04     | 37.50    |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | -0.34           | -0.34            | 1.75            | 1.75             |
| F46MEP  | -0.73           | -0.38            | 3.92            | 2.17             |
| F45     | -0.96           | -0.23            | 5.41            | 1.49             |
| F44     | -1.21           | -0.25            | 6.92            | 1.51             |
| F43     | -1.50           | -0.29            | 8.34            | 1.42             |
| F42     | -1.72           | -0.22            | 9.95            | 1.61             |



|         |         |         |          |          |
|---------|---------|---------|----------|----------|
| F41     | -1.91   | -0.19   | 11.54    | 1.60     |
| F40     | -2.12   | -0.21   | 13.03    | 1.49     |
| F39     | -2.28   | -0.17   | 14.50    | 1.47     |
| F38     | -2.44   | -0.16   | 15.94    | 1.44     |
| F37     | -2.57   | -0.13   | 17.34    | 1.41     |
| F36     | -2.67   | -0.09   | 18.73    | 1.39     |
| F35     | -2.74   | -0.07   | 20.10    | 1.36     |
| F34     | -2.78   | -0.04   | 21.43    | 1.33     |
| F33     | -2.78   | -0.00   | 22.73    | 1.30     |
| F32     | -2.75   | 0.03    | 23.99    | 1.26     |
| F31     | -2.67   | 0.08    | 25.22    | 1.23     |
| F30     | -2.55   | 0.12    | 26.41    | 1.19     |
| F29     | -2.38   | 0.17    | 27.55    | 1.14     |
| F28     | -2.18   | 0.21    | 28.64    | 1.09     |
| F27     | -1.92   | 0.26    | 29.71    | 1.06     |
| F26     | -1.61   | 0.31    | 30.75    | 1.05     |
| F25     | -1.27   | 0.34    | 31.75    | 1.00     |
| F24     | -0.89   | 0.38    | 32.72    | 0.97     |
| F23     | -0.46   | 0.43    | 33.63    | 0.91     |
| F22     | 0.00    | 0.46    | 34.49    | 0.86     |
| F21     | 0.47    | 0.47    | 35.29    | 0.81     |
| F20     | 0.91    | 0.43    | 36.03    | 0.74     |
| F19     | 1.15    | 0.24    | 36.65    | 0.62     |
| F18     | 1.18    | 0.03    | 36.95    | 0.31     |
| F17     | -1.21   | -2.39   | 36.52    | -0.44    |
| F16     | -21.05  | -19.85  | 35.41    | -1.11    |
| F15     | -515.88 | -494.82 | -1286.08 | -1321.49 |
| F14     | -517.29 | -1.42   | 35.60    | 1321.68  |
| F13     | -517.35 | -0.05   | 45.56    | 9.96     |
| F12     | 1.29    | 518.63  | -35.62   | -81.18   |
| F11demo | 15.91   | 14.62   | 57.50    | 93.12    |
| F11     | 14.57   | -1.34   | 64.61    | 7.10     |
| F9demo  | 14.57   | 0.00    | -151.68  | -216.29  |
| F10     | 15.25   | 0.68    | 49.20    | 200.88   |
| F9      | 21.33   | 6.08    | 39.08    | -10.12   |
| F8      | 17.89   | -3.43   | 28.69    | -10.38   |
| F7      | -10.32  | -28.21  | 847.36   | 818.66   |
| F6      | -10.38  | -0.06   | -30.90   | -878.25  |
| F5      | -10.82  | -0.45   | -10.39   | 20.50    |
| F4      | -12.75  | -1.93   | -14.10   | -3.71    |
| F3      | -12.11  | 0.64    | -26.12   | -12.02   |
| F2      | -10.46  | 1.65    | -33.41   | -7.28    |
| Fground | -16.37  | -5.92   | -37.62   | -4.22    |
| Cellar  | -25.67  | -9.29   | -38.06   | -0.43    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Load Case: Lp | PosLiveLoad | RAMUSER  |                 |                 |
|---------------|-------------|----------|-----------------|-----------------|
| Level         |             | Diaph. # | Shear-X<br>kips | Shear-Y<br>kips |
| F47roof       |             | 1        | -0.18           | 1.05            |
| F46MEP        |             | 1        | -0.39           | 2.34            |
| F45           |             | 1        | -0.51           | 3.20            |
| F44           |             | 1        | -0.65           | 4.08            |
| F43           |             | 1        | -0.80           | 4.89            |
| F42           |             | 1        | -0.92           | 5.81            |
| F41           |             | 1        | -1.03           | 6.72            |
| F40           |             | 1        | -1.15           | 7.55            |
| F39           |             | 1        | -1.26           | 8.37            |
| F38           |             | 1        | -1.37           | 9.17            |
| F37           |             | 1        | -1.47           | 9.95            |
| F36           |             | 1        | -1.56           | 10.71           |
| F35           |             | 1        | -1.64           | 11.45           |
| F34           |             | 1        | -1.72           | 12.17           |
| F33           |             | 1        | -1.79           | 12.87           |
| F32           |             | 1        | -1.85           | 13.54           |
| F31           |             | 1        | -1.89           | 14.18           |
| F30           |             | 1        | -1.93           | 14.80           |
| F29           |             | 1        | -1.96           | 15.38           |
| F28           |             | 1        | -1.97           | 15.94           |
| F27           |             | 1        | -1.97           | 16.47           |
| F26           |             | 1        | -1.96           | 16.98           |
| F25           |             | 1        | -1.93           | 17.47           |
| F24           |             | 1        | -1.90           | 17.92           |
| F23           |             | 1        | -1.85           | 18.34           |
| F22           |             | 1        | -1.80           | 18.72           |
| F21           |             | 1        | -1.74           | 19.06           |
| F20           |             | 1        | -1.69           | 19.35           |
| F19           |             | 1        | -1.69           | 19.56           |
| F18           |             | 1        | -1.75           | 19.59           |
| F17           |             | 1        | -2.45           | 19.21           |
| F16           |             | 1        | -7.24           | 18.81           |
| F15           |             | 1        | -127.65         | -643.05         |
| F15           |             | None     | -0.00           | 48.80           |
| F14           |             | 1        | -128.94         | -1196.61        |
| F14           |             | None     | 0.78            | 1216.78         |
| F13           |             | 1        | -455.28         | -348.26         |
| F13           |             | None     | 327.03          | 372.38          |
| F12           |             | 1        | -2.14           | -5.57           |
| F11demo       |             | None     | 2.30            | 28.40           |
| F11           |             | 1        | 1.50            | 30.74           |
| F9demo        |             | None     | 1.50            | -48.84          |
| F10           |             | 1        | 1.58            | 25.72           |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |         |
|---------|------|--------|---------|
| F9      | 1    | 43.67  | 15.69   |
| F9      | None | -39.48 | 12.43   |
| F8      | 1    | 2.34   | -214.50 |
| F8      | None | 0.17   | 232.55  |
| F7      | 1    | 0.12   | -18.29  |
| F7      | None | 0.16   | 249.65  |
| F6      | 1    | 0.44   | -309.27 |
| F6      | None | 0.16   | 291.28  |
| F5      | 1    | 0.56   | -278.02 |
| F5      | None | 0.16   | 264.96  |
| F4      | 1    | 0.29   | -217.93 |
| F4      | None | 0.16   | 202.56  |
| F3      | 1    | 0.53   | -213.65 |
| F3      | None | 0.16   | 193.59  |
| F2      | 1    | 1.13   | -121.78 |
| F2      | None | 0.04   | 99.28   |
| Fground | 1    | 0.06   | -242.25 |
| Fground | None | 0.01   | 217.31  |
| Cellar  | 1    | -1.73  | -61.44  |
| Cellar  | None | 0.01   | 35.68   |

**Summary - Total Story Shears**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | -0.18                   | -0.18                    | 1.05                    | 1.05                     |
| F46MEP       | -0.39                   | -0.20                    | 2.34                    | 1.29                     |
| F45          | -0.51                   | -0.12                    | 3.20                    | 0.87                     |
| F44          | -0.65                   | -0.14                    | 4.08                    | 0.87                     |
| F43          | -0.80                   | -0.15                    | 4.89                    | 0.82                     |
| F42          | -0.92                   | -0.12                    | 5.81                    | 0.92                     |
| F41          | -1.03                   | -0.11                    | 6.72                    | 0.91                     |
| F40          | -1.15                   | -0.12                    | 7.55                    | 0.84                     |
| F39          | -1.26                   | -0.11                    | 8.37                    | 0.82                     |
| F38          | -1.37                   | -0.11                    | 9.17                    | 0.80                     |
| F37          | -1.47                   | -0.10                    | 9.95                    | 0.78                     |
| F36          | -1.56                   | -0.09                    | 10.71                   | 0.76                     |
| F35          | -1.64                   | -0.09                    | 11.45                   | 0.74                     |
| F34          | -1.72                   | -0.08                    | 12.17                   | 0.72                     |
| F33          | -1.79                   | -0.07                    | 12.87                   | 0.70                     |
| F32          | -1.85                   | -0.06                    | 13.54                   | 0.67                     |
| F31          | -1.89                   | -0.05                    | 14.18                   | 0.64                     |
| F30          | -1.93                   | -0.04                    | 14.80                   | 0.62                     |
| F29          | -1.96                   | -0.02                    | 15.38                   | 0.59                     |
| F28          | -1.97                   | -0.02                    | 15.94                   | 0.55                     |
| F27          | -1.97                   | -0.00                    | 16.47                   | 0.53                     |
| F26          | -1.96                   | 0.01                     | 16.98                   | 0.52                     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |         |         |
|---------|---------|---------|---------|---------|
| F25     | -1.93   | 0.02    | 17.47   | 0.48    |
| F24     | -1.90   | 0.03    | 17.92   | 0.46    |
| F23     | -1.85   | 0.05    | 18.34   | 0.42    |
| F22     | -1.80   | 0.06    | 18.72   | 0.38    |
| F21     | -1.74   | 0.06    | 19.06   | 0.34    |
| F20     | -1.69   | 0.05    | 19.35   | 0.29    |
| F19     | -1.69   | -0.00   | 19.56   | 0.21    |
| F18     | -1.75   | -0.06   | 19.59   | 0.02    |
| F17     | -2.45   | -0.70   | 19.21   | -0.37   |
| F16     | -7.24   | -4.79   | 18.81   | -0.40   |
| F15     | -127.65 | -120.41 | -594.25 | -613.06 |
| F14     | -128.15 | -0.50   | 20.17   | 614.41  |
| F13     | -128.25 | -0.10   | 24.12   | 3.95    |
| F12     | -2.14   | 126.11  | -5.57   | -29.69  |
| F11demo | 2.30    | 4.45    | 28.40   | 33.97   |
| F11     | 1.50    | -0.81   | 30.74   | 2.34    |
| F9demo  | 1.50    | 0.00    | -48.84  | -79.59  |
| F10     | 1.58    | 0.08    | 25.72   | 74.56   |
| F9      | 4.19    | 2.61    | 28.12   | 2.40    |
| F8      | 2.51    | -1.68   | 18.05   | -10.07  |
| F7      | 0.28    | -2.23   | 231.36  | 213.31  |
| F6      | 0.60    | 0.32    | -17.99  | -249.35 |
| F5      | 0.72    | 0.12    | -13.06  | 4.93    |
| F4      | 0.45    | -0.27   | -15.37  | -2.31   |
| F3      | 0.69    | 0.24    | -20.06  | -4.70   |
| F2      | 1.17    | 0.47    | -22.49  | -2.43   |
| Fground | 0.07    | -1.10   | -24.93  | -2.44   |
| Cellar  | -1.72   | -1.79   | -25.76  | -0.83   |

| Load Case: Ln | NegLiveLoad | RAMUSER  |                 |                 |
|---------------|-------------|----------|-----------------|-----------------|
| Level         |             | Diaph. # | Shear-X<br>kips | Shear-Y<br>kips |
| F47roof       |             | 1        | 0.00            | -0.01           |
| F46MEP        |             | 1        | 0.01            | -0.01           |
| F45           |             | 1        | 0.01            | -0.02           |
| F44           |             | 1        | 0.01            | -0.02           |
| F43           |             | 1        | 0.02            | -0.03           |
| F42           |             | 1        | 0.02            | -0.04           |
| F41           |             | 1        | 0.02            | -0.04           |
| F40           |             | 1        | 0.03            | -0.05           |
| F39           |             | 1        | 0.03            | -0.05           |
| F38           |             | 1        | 0.03            | -0.06           |
| F37           |             | 1        | 0.04            | -0.07           |
| F36           |             | 1        | 0.04            | -0.07           |
| F35           |             | 1        | 0.04            | -0.08           |
| F34           |             | 1        | 0.05            | -0.08           |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |       |        |
|---------|------|-------|--------|
| F33     | 1    | 0.05  | -0.09  |
| F32     | 1    | 0.05  | -0.09  |
| F31     | 1    | 0.05  | -0.10  |
| F30     | 1    | 0.06  | -0.11  |
| F29     | 1    | 0.06  | -0.11  |
| F28     | 1    | 0.06  | -0.12  |
| F27     | 1    | 0.06  | -0.13  |
| F26     | 1    | 0.07  | -0.13  |
| F25     | 1    | 0.07  | -0.14  |
| F24     | 1    | 0.07  | -0.15  |
| F23     | 1    | 0.07  | -0.15  |
| F22     | 1    | 0.07  | -0.16  |
| F21     | 1    | 0.08  | -0.17  |
| F20     | 1    | 0.08  | -0.17  |
| F19     | 1    | 0.08  | -0.18  |
| F18     | 1    | 0.08  | -0.18  |
| F17     | 1    | 0.08  | -0.19  |
| F16     | 1    | 0.04  | -0.19  |
| F15     | 1    | -0.26 | 4.82   |
| F15     | None | -0.00 | 0.77   |
| F14     | 1    | -0.17 | 3.05   |
| F14     | None | -0.09 | -3.29  |
| F13     | 1    | -0.46 | 3.97   |
| F13     | None | 0.20  | -4.27  |
| F12     | 1    | 0.13  | -0.13  |
| F11demo | None | 0.11  | -0.37  |
| F11     | 1    | 0.14  | -0.45  |
| F9demo  | None | 0.14  | -0.35  |
| F10     | 1    | 0.19  | -0.65  |
| F9      | 1    | 4.04  | -1.90  |
| F9      | None | -3.76 | 0.98   |
| F8      | 1    | 0.19  | -19.61 |
| F8      | None | 0.03  | 18.52  |
| F7      | 1    | -0.33 | -9.60  |
| F7      | None | 0.03  | 16.97  |
| F6      | 1    | -0.32 | -14.15 |
| F6      | None | 0.03  | 15.82  |
| F5      | 1    | -0.33 | -22.27 |
| F5      | None | 0.03  | 23.78  |
| F4      | 1    | -0.39 | -8.10  |
| F4      | None | 0.03  | 9.80   |
| F3      | 1    | -0.44 | -0.99  |
| F3      | None | 0.03  | 2.88   |
| F2      | 1    | -0.47 | 3.73   |
| F2      | None | -0.00 | -1.49  |
| Fground | 1    | -0.48 | 21.67  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |       |        |
|---------|------|-------|--------|
| Fground | None | 0.00  | -19.20 |
| Cellar  | 1    | -0.52 | 9.88   |
| Cellar  | None | 0.00  | -7.34  |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 0.00            | 0.00             | -0.01           | -0.01            |
| F46MEP  | 0.01            | 0.00             | -0.01           | -0.01            |
| F45     | 0.01            | 0.00             | -0.02           | -0.01            |
| F44     | 0.01            | 0.00             | -0.02           | -0.01            |
| F43     | 0.02            | 0.00             | -0.03           | -0.01            |
| F42     | 0.02            | 0.00             | -0.04           | -0.01            |
| F41     | 0.02            | 0.00             | -0.04           | -0.01            |
| F40     | 0.03            | 0.00             | -0.05           | -0.01            |
| F39     | 0.03            | 0.00             | -0.05           | -0.01            |
| F38     | 0.03            | 0.00             | -0.06           | -0.01            |
| F37     | 0.04            | 0.00             | -0.07           | -0.01            |
| F36     | 0.04            | 0.00             | -0.07           | -0.01            |
| F35     | 0.04            | 0.00             | -0.08           | -0.01            |
| F34     | 0.05            | 0.00             | -0.08           | -0.01            |
| F33     | 0.05            | 0.00             | -0.09           | -0.01            |
| F32     | 0.05            | 0.00             | -0.09           | -0.01            |
| F31     | 0.05            | 0.00             | -0.10           | -0.01            |
| F30     | 0.06            | 0.00             | -0.11           | -0.01            |
| F29     | 0.06            | 0.00             | -0.11           | -0.01            |
| F28     | 0.06            | 0.00             | -0.12           | -0.01            |
| F27     | 0.06            | 0.00             | -0.13           | -0.01            |
| F26     | 0.07            | 0.00             | -0.13           | -0.01            |
| F25     | 0.07            | 0.00             | -0.14           | -0.01            |
| F24     | 0.07            | 0.00             | -0.15           | -0.01            |
| F23     | 0.07            | 0.00             | -0.15           | -0.01            |
| F22     | 0.07            | 0.00             | -0.16           | -0.01            |
| F21     | 0.08            | 0.00             | -0.17           | -0.01            |
| F20     | 0.08            | 0.00             | -0.17           | -0.01            |
| F19     | 0.08            | 0.00             | -0.18           | -0.01            |
| F18     | 0.08            | 0.00             | -0.18           | -0.01            |
| F17     | 0.08            | -0.00            | -0.19           | -0.00            |
| F16     | 0.04            | -0.04            | -0.19           | -0.00            |
| F15     | -0.26           | -0.30            | 5.59            | 5.79             |
| F14     | -0.26           | 0.00             | -0.25           | -5.84            |
| F13     | -0.25           | 0.00             | -0.30           | -0.05            |
| F12     | 0.13            | 0.38             | -0.13           | 0.17             |
| F11demo | 0.11            | -0.02            | -0.37           | -0.24            |
| F11     | 0.14            | 0.03             | -0.45           | -0.08            |
| F9demo  | 0.14            | 0.00             | -0.35           | 0.10             |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |       |       |       |       |
|---------|-------|-------|-------|-------|
| F10     | 0.19  | 0.05  | -0.65 | -0.31 |
| F9      | 0.28  | 0.09  | -0.92 | -0.27 |
| F8      | 0.22  | -0.05 | -1.09 | -0.17 |
| F7      | -0.30 | -0.52 | 7.36  | 8.45  |
| F6      | -0.29 | 0.01  | 1.67  | -5.69 |
| F5      | -0.30 | -0.01 | 1.51  | -0.16 |
| F4      | -0.36 | -0.06 | 1.70  | 0.19  |
| F3      | -0.40 | -0.05 | 1.89  | 0.19  |
| F2      | -0.47 | -0.07 | 2.24  | 0.35  |
| Fground | -0.48 | -0.00 | 2.47  | 0.23  |
| Cellar  | -0.52 | -0.05 | 2.54  | 0.07  |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level   | Diaph. # | Shear-X<br>kips | Shear-Y<br>kips |
|---------|----------|-----------------|-----------------|
| F47roof | 1        | 10.82           | -0.45           |
| F46MEP  | 1        | 31.02           | -1.01           |
| F45     | 1        | 52.72           | -1.39           |
| F44     | 1        | 77.46           | -1.79           |
| F43     | 1        | 100.18          | -2.20           |
| F42     | 1        | 119.35          | -2.60           |
| F41     | 1        | 139.90          | -3.01           |
| F40     | 1        | 160.28          | -3.40           |
| F39     | 1        | 179.25          | -3.79           |
| F38     | 1        | 198.12          | -4.17           |
| F37     | 1        | 216.86          | -4.54           |
| F36     | 1        | 235.56          | -4.91           |
| F35     | 1        | 254.18          | -5.26           |
| F34     | 1        | 272.70          | -5.60           |
| F33     | 1        | 291.11          | -5.93           |
| F32     | 1        | 309.40          | -6.24           |
| F31     | 1        | 327.56          | -6.53           |
| F30     | 1        | 345.58          | -6.80           |
| F29     | 1        | 363.45          | -7.05           |
| F28     | 1        | 381.11          | -7.27           |
| F27     | 1        | 398.48          | -7.48           |
| F26     | 1        | 415.81          | -7.65           |
| F25     | 1        | 432.95          | -7.80           |
| F24     | 1        | 449.86          | -7.92           |
| F23     | 1        | 466.41          | -7.89           |
| F22     | 1        | 482.64          | -7.79           |
| F21     | 1        | 498.51          | -7.62           |
| F20     | 1        | 513.97          | -7.37           |
| F19     | 1        | 528.89          | -7.00           |
| F18     | 1        | 543.19          | -6.43           |
| F17     | 1        | 555.09          | -5.65           |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |         |
|---------|------|--------|---------|
| F16     | 1    | 551.90 | -6.22   |
| F15     | 1    | 417.49 | 20.26   |
| F15     | None | -0.00  | 2.95    |
| F14     | 1    | 436.30 | 79.28   |
| F14     | None | -3.61  | -86.48  |
| F13     | 1    | 218.66 | -339.73 |
| F13     | None | 230.51 | 331.91  |
| F12     | 1    | 639.38 | -4.45   |
| F11demo | None | 642.77 | -7.60   |
| F11     | 1    | 678.22 | -7.73   |
| F9demo  | None | 678.22 | 0.12    |
| F10     | 1    | 712.81 | -6.72   |
| F9      | 1    | 708.65 | 7.45    |
| F9      | None | 40.70  | -10.54  |
| F8      | 1    | 783.88 | 162.56  |
| F8      | None | 2.07   | -166.28 |
| F7      | 1    | 770.48 | 141.59  |
| F7      | None | 2.07   | -159.15 |
| F6      | 1    | 810.86 | 170.04  |
| F6      | None | 2.07   | -169.86 |
| F5      | 1    | 852.78 | 157.58  |
| F5      | None | 2.07   | -156.32 |
| F4      | 1    | 891.50 | 98.65   |
| F4      | None | 2.07   | -97.38  |
| F3      | 1    | 922.46 | 96.72   |
| F3      | None | 2.07   | -95.49  |
| F2      | 1    | 947.61 | 1.51    |
| F2      | None | 0.02   | 3.62    |
| Fground | 1    | 978.98 | 22.29   |
| Fground | None | 0.06   | -16.90  |
| Cellar  | 1    | 999.39 | -13.79  |
| Cellar  | None | 0.06   | 18.66   |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 10.82           | 10.82            | -0.45           | -0.45            |
| F46MEP  | 31.02           | 20.20            | -1.01           | -0.56            |
| F45     | 52.72           | 21.70            | -1.39           | -0.38            |
| F44     | 77.46           | 24.75            | -1.79           | -0.39            |
| F43     | 100.18          | 22.71            | -2.20           | -0.42            |
| F42     | 119.35          | 19.17            | -2.60           | -0.40            |
| F41     | 139.90          | 20.54            | -3.01           | -0.41            |
| F40     | 160.28          | 20.38            | -3.40           | -0.39            |
| F39     | 179.25          | 18.96            | -3.79           | -0.39            |
| F38     | 198.12          | 18.87            | -4.17           | -0.38            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |         |        |        |
|---------|--------|---------|--------|--------|
| F37     | 216.86 | 18.74   | -4.54  | -0.38  |
| F36     | 235.56 | 18.71   | -4.91  | -0.37  |
| F35     | 254.18 | 18.62   | -5.26  | -0.35  |
| F34     | 272.70 | 18.52   | -5.60  | -0.34  |
| F33     | 291.11 | 18.41   | -5.93  | -0.33  |
| F32     | 309.40 | 18.29   | -6.24  | -0.31  |
| F31     | 327.56 | 18.16   | -6.53  | -0.29  |
| F30     | 345.58 | 18.02   | -6.80  | -0.27  |
| F29     | 363.45 | 17.86   | -7.05  | -0.25  |
| F28     | 381.11 | 17.66   | -7.27  | -0.22  |
| F27     | 398.48 | 17.37   | -7.48  | -0.21  |
| F26     | 415.81 | 17.33   | -7.65  | -0.18  |
| F25     | 432.95 | 17.13   | -7.80  | -0.15  |
| F24     | 449.86 | 16.91   | -7.92  | -0.12  |
| F23     | 466.41 | 16.55   | -7.89  | 0.03   |
| F22     | 482.64 | 16.23   | -7.79  | 0.10   |
| F21     | 498.51 | 15.87   | -7.62  | 0.17   |
| F20     | 513.97 | 15.45   | -7.37  | 0.25   |
| F19     | 528.89 | 14.92   | -7.00  | 0.37   |
| F18     | 543.19 | 14.31   | -6.43  | 0.58   |
| F17     | 555.09 | 11.90   | -5.65  | 0.78   |
| F16     | 551.90 | -3.19   | -6.22  | -0.57  |
| F15     | 417.49 | -134.41 | 23.21  | 29.43  |
| F14     | 432.69 | 15.20   | -7.20  | -30.41 |
| F13     | 449.17 | 16.48   | -7.82  | -0.62  |
| F12     | 639.38 | 190.21  | -4.45  | 3.37   |
| F11demo | 642.77 | 3.39    | -7.60  | -3.14  |
| F11     | 678.22 | 35.44   | -7.73  | -0.14  |
| F9demo  | 678.22 | -0.00   | 0.12   | 7.86   |
| F10     | 712.81 | 34.59   | -6.72  | -6.84  |
| F9      | 749.35 | 36.54   | -3.09  | 3.63   |
| F8      | 785.95 | 36.61   | -3.72  | -0.63  |
| F7      | 772.55 | -13.40  | -17.57 | -13.84 |
| F6      | 812.93 | 40.38   | 0.18   | 17.75  |
| F5      | 854.86 | 41.92   | 1.25   | 1.07   |
| F4      | 893.57 | 38.72   | 1.27   | 0.02   |
| F3      | 924.54 | 30.96   | 1.23   | -0.05  |
| F2      | 947.64 | 23.10   | 5.13   | 3.90   |
| Fground | 979.04 | 31.40   | 5.38   | 0.25   |
| Cellar  | 999.45 | 20.41   | 4.86   | -0.52  |

| Load Case: W2 | W | Wind_IBC09_1_Y |         |         |  |
|---------------|---|----------------|---------|---------|--|
| Level         |   | Diaph. #       | Shear-X | Shear-Y |  |
|               |   |                | kips    | kips    |  |
| F47roof       |   | 1              | -1.71   | 37.69   |  |
| F46MEP        |   | 1              | -3.80   | 106.49  |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |          |
|---------|------|--------|----------|
| F45     | 1    | -5.23  | 175.69   |
| F44     | 1    | -6.72  | 254.48   |
| F43     | 1    | -8.23  | 325.97   |
| F42     | 1    | -9.69  | 385.24   |
| F41     | 1    | -11.19 | 448.66   |
| F40     | 1    | -12.61 | 511.64   |
| F39     | 1    | -14.03 | 570.24   |
| F38     | 1    | -15.43 | 628.60   |
| F37     | 1    | -16.81 | 686.66   |
| F36     | 1    | -18.16 | 744.52   |
| F35     | 1    | -19.47 | 802.13   |
| F34     | 1    | -20.74 | 859.45   |
| F33     | 1    | -21.96 | 916.47   |
| F32     | 1    | -23.12 | 973.15   |
| F31     | 1    | -24.22 | 1029.48  |
| F30     | 1    | -25.24 | 1085.43  |
| F29     | 1    | -26.18 | 1140.95  |
| F28     | 1    | -27.03 | 1196.02  |
| F27     | 1    | -27.79 | 1250.56  |
| F26     | 1    | -28.46 | 1304.78  |
| F25     | 1    | -29.00 | 1358.50  |
| F24     | 1    | -29.40 | 1411.68  |
| F23     | 1    | -29.31 | 1463.90  |
| F22     | 1    | -28.93 | 1515.38  |
| F21     | 1    | -28.29 | 1566.07  |
| F20     | 1    | -27.38 | 1615.81  |
| F19     | 1    | -26.18 | 1664.18  |
| F18     | 1    | -24.62 | 1710.11  |
| F17     | 1    | -21.63 | 1752.84  |
| F16     | 1    | -8.72  | 1802.36  |
| F15     | 1    | 61.57  | -1921.01 |
| F15     | None | 0.00   | -73.99   |
| F14     | 1    | 74.13  | 988.54   |
| F14     | None | -13.14 | 949.56   |
| F13     | 1    | 60.61  | 1537.49  |
| F13     | None | 0.38   | 459.07   |
| F12     | 1    | -1.81  | 2040.86  |
| F11demo | None | -7.43  | 2086.19  |
| F11     | 1    | -8.68  | 2188.12  |
| F9demo  | None | -8.68  | 1892.42  |
| F10     | 1    | -8.80  | 2280.13  |
| F9      | 1    | 67.34  | 2362.07  |
| F9      | None | -74.46 | 19.46    |
| F8      | 1    | -7.91  | 962.73   |
| F8      | None | -0.64  | 1575.91  |
| F7      | 1    | 14.33  | 498.64   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |       |         |
|---------|------|-------|---------|
| F7      | None | -0.64 | 1617.54 |
| F6      | 1    | 13.51 | 434.65  |
| F6      | None | -0.64 | 1851.64 |
| F5      | 1    | 13.43 | 643.62  |
| F5      | None | -0.64 | 1692.24 |
| F4      | 1    | 13.67 | 609.40  |
| F4      | None | -0.64 | 1762.01 |
| F3      | 1    | 13.71 | 796.13  |
| F3      | None | -0.64 | 1772.18 |
| F2      | 1    | 15.18 | 1679.80 |
| F2      | None | -0.07 | 953.90  |
| Fground | 1    | 18.35 | 2219.98 |
| Fground | None | -0.03 | 494.73  |
| Cellar  | 1    | 21.14 | 1889.49 |
| Cellar  | None | -0.03 | 877.12  |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | -1.71           | -1.71            | 37.69           | 37.69            |
| F46MEP  | -3.80           | -2.09            | 106.49          | 68.80            |
| F45     | -5.23           | -1.44            | 175.69          | 69.20            |
| F44     | -6.72           | -1.49            | 254.48          | 78.79            |
| F43     | -8.23           | -1.51            | 325.97          | 71.49            |
| F42     | -9.69           | -1.46            | 385.24          | 59.27            |
| F41     | -11.19          | -1.50            | 448.66          | 63.42            |
| F40     | -12.61          | -1.42            | 511.64          | 62.98            |
| F39     | -14.03          | -1.42            | 570.24          | 58.61            |
| F38     | -15.43          | -1.40            | 628.60          | 58.36            |
| F37     | -16.81          | -1.38            | 686.66          | 58.05            |
| F36     | -18.16          | -1.35            | 744.52          | 57.87            |
| F35     | -19.47          | -1.31            | 802.13          | 57.61            |
| F34     | -20.74          | -1.27            | 859.45          | 57.32            |
| F33     | -21.96          | -1.22            | 916.47          | 57.02            |
| F32     | -23.12          | -1.16            | 973.15          | 56.69            |
| F31     | -24.22          | -1.10            | 1029.48         | 56.33            |
| F30     | -25.24          | -1.02            | 1085.43         | 55.94            |
| F29     | -26.18          | -0.94            | 1140.95         | 55.53            |
| F28     | -27.03          | -0.84            | 1196.02         | 55.07            |
| F27     | -27.79          | -0.77            | 1250.56         | 54.54            |
| F26     | -28.46          | -0.67            | 1304.78         | 54.22            |
| F25     | -29.00          | -0.54            | 1358.50         | 53.72            |
| F24     | -29.40          | -0.40            | 1411.68         | 53.19            |
| F23     | -29.31          | 0.10             | 1463.90         | 52.21            |
| F22     | -28.93          | 0.37             | 1515.38         | 51.49            |
| F21     | -28.29          | 0.64             | 1566.07         | 50.69            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |          |          |
|---------|--------|--------|----------|----------|
| F20     | -27.38 | 0.91   | 1615.81  | 49.73    |
| F19     | -26.18 | 1.20   | 1664.18  | 48.38    |
| F18     | -24.62 | 1.56   | 1710.11  | 45.93    |
| F17     | -21.63 | 2.99   | 1752.84  | 42.73    |
| F16     | -8.72  | 12.91  | 1802.36  | 49.52    |
| F15     | 61.57  | 70.28  | -1994.99 | -3797.35 |
| F14     | 60.99  | -0.58  | 1938.10  | 3933.09  |
| F13     | 60.99  | 0.00   | 1996.56  | 58.46    |
| F12     | -1.81  | -62.80 | 2040.86  | 44.31    |
| F11demo | -7.43  | -5.63  | 2086.19  | 45.33    |
| F11     | -8.68  | -1.25  | 2188.12  | 101.93   |
| F9demo  | -8.68  | -0.00  | 1892.42  | -295.70  |
| F10     | -8.80  | -0.12  | 2280.13  | 387.71   |
| F9      | -7.12  | 1.68   | 2381.53  | 101.40   |
| F8      | -8.55  | -1.42  | 2538.64  | 157.11   |
| F7      | 13.70  | 22.24  | 2116.19  | -422.45  |
| F6      | 12.88  | -0.82  | 2286.29  | 170.10   |
| F5      | 12.80  | -0.08  | 2335.86  | 49.57    |
| F4      | 13.03  | 0.24   | 2371.40  | 35.54    |
| F3      | 13.07  | 0.04   | 2568.31  | 196.91   |
| F2      | 15.10  | 2.03   | 2633.70  | 65.39    |
| Fground | 18.31  | 3.21   | 2714.71  | 81.00    |
| Cellar  | 21.11  | 2.80   | 2766.61  | 51.91    |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level   | Diaph. # | Shear-X<br>kips | Shear-Y<br>kips |
|---------|----------|-----------------|-----------------|
| F47roof | 1        | 8.15            | -0.29           |
| F46MEP  | 1        | 23.34           | -0.66           |
| F45     | 1        | 39.65           | -0.92           |
| F44     | 1        | 58.24           | -1.17           |
| F43     | 1        | 75.31           | -1.45           |
| F42     | 1        | 89.74           | -1.71           |
| F41     | 1        | 105.19          | -1.98           |
| F40     | 1        | 120.52          | -2.23           |
| F39     | 1        | 134.78          | -2.49           |
| F38     | 1        | 148.98          | -2.74           |
| F37     | 1        | 163.07          | -2.99           |
| F36     | 1        | 177.15          | -3.23           |
| F35     | 1        | 191.16          | -3.46           |
| F34     | 1        | 205.09          | -3.69           |
| F33     | 1        | 218.94          | -3.90           |
| F32     | 1        | 232.70          | -4.11           |
| F31     | 1        | 246.36          | -4.30           |
| F30     | 1        | 259.92          | -4.48           |
| F29     | 1        | 273.35          | -4.64           |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |         |
|---------|------|--------|---------|
| F28     | 1    | 286.63 | -4.79   |
| F27     | 1    | 299.69 | -4.94   |
| F26     | 1    | 312.71 | -5.06   |
| F25     | 1    | 325.59 | -5.16   |
| F24     | 1    | 338.29 | -5.25   |
| F23     | 1    | 350.69 | -5.21   |
| F22     | 1    | 362.83 | -5.11   |
| F21     | 1    | 374.68 | -4.97   |
| F20     | 1    | 386.21 | -4.76   |
| F19     | 1    | 397.30 | -4.47   |
| F18     | 1    | 407.90 | -4.03   |
| F17     | 1    | 416.61 | -3.46   |
| F16     | 1    | 413.88 | -3.96   |
| F15     | 1    | 313.39 | -77.91  |
| F15     | None | 0.00   | -1.30   |
| F14     | 1    | 327.66 | 52.46   |
| F14     | None | -2.87  | -56.99  |
| F13     | 1    | 163.58 | -310.62 |
| F13     | None | 173.56 | 305.79  |
| F12     | 1    | 479.61 | -2.94   |
| F11demo | None | 482.07 | -4.37   |
| F11     | 1    | 508.68 | -4.46   |
| F9demo  | None | 508.68 | -4.18   |
| F10     | 1    | 534.69 | -3.77   |
| F9      | 1    | 532.21 | 6.37    |
| F9      | None | 30.01  | -7.77   |
| F8      | 1    | 588.16 | 143.35  |
| F8      | None | 1.54   | -144.90 |
| F7      | 1    | 578.76 | 117.79  |
| F7      | None | 1.54   | -138.57 |
| F6      | 1    | 609.03 | 136.48  |
| F6      | None | 1.54   | -140.02 |
| F5      | 1    | 640.46 | 131.73  |
| F5      | None | 1.54   | -134.24 |
| F4      | 1    | 669.50 | 83.86   |
| F4      | None | 1.54   | -86.39  |
| F3      | 1    | 692.78 | 81.96   |
| F3      | None | 1.54   | -84.63  |
| F2      | 1    | 711.81 | -30.51  |
| F2      | None | 0.02   | 31.04   |
| Fground | 1    | 735.22 | -1.99   |
| Fground | None | 0.04   | 2.49    |
| Cellar  | 1    | 750.32 | -40.69  |
| Cellar  | None | 0.04   | 40.32   |

**Summary - Total Story Shears**



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 8.15            | 8.15             | -0.29           | -0.29            |
| F46MEP  | 23.34           | 15.19            | -0.66           | -0.37            |
| F45     | 39.65           | 16.31            | -0.92           | -0.25            |
| F44     | 58.24           | 18.59            | -1.17           | -0.26            |
| F43     | 75.31           | 17.07            | -1.45           | -0.27            |
| F42     | 89.74           | 14.42            | -1.71           | -0.26            |
| F41     | 105.19          | 15.45            | -1.98           | -0.27            |
| F40     | 120.52          | 15.33            | -2.23           | -0.26            |
| F39     | 134.78          | 14.26            | -2.49           | -0.25            |
| F38     | 148.98          | 14.20            | -2.74           | -0.25            |
| F37     | 163.07          | 14.10            | -2.99           | -0.25            |
| F36     | 177.15          | 14.07            | -3.23           | -0.24            |
| F35     | 191.16          | 14.01            | -3.46           | -0.23            |
| F34     | 205.09          | 13.93            | -3.69           | -0.23            |
| F33     | 218.94          | 13.85            | -3.90           | -0.22            |
| F32     | 232.70          | 13.76            | -4.11           | -0.21            |
| F31     | 246.36          | 13.66            | -4.30           | -0.19            |
| F30     | 259.92          | 13.55            | -4.48           | -0.18            |
| F29     | 273.35          | 13.43            | -4.64           | -0.17            |
| F28     | 286.63          | 13.28            | -4.79           | -0.15            |
| F27     | 299.69          | 13.06            | -4.94           | -0.14            |
| F26     | 312.71          | 13.03            | -5.06           | -0.12            |
| F25     | 325.59          | 12.87            | -5.16           | -0.10            |
| F24     | 338.29          | 12.70            | -5.25           | -0.09            |
| F23     | 350.69          | 12.40            | -5.21           | 0.04             |
| F22     | 362.83          | 12.14            | -5.11           | 0.10             |
| F21     | 374.68          | 11.86            | -4.97           | 0.15             |
| F20     | 386.21          | 11.52            | -4.76           | 0.21             |
| F19     | 397.30          | 11.10            | -4.47           | 0.29             |
| F18     | 407.90          | 10.60            | -4.03           | 0.43             |
| F17     | 416.61          | 8.71             | -3.46           | 0.57             |
| F16     | 413.88          | -2.73            | -3.96           | -0.50            |
| F15     | 313.39          | -100.49          | -79.21          | -75.25           |
| F14     | 324.78          | 11.39            | -4.53           | 74.68            |
| F13     | 337.14          | 12.36            | -4.83           | -0.30            |
| F12     | 479.61          | 142.47           | -2.94           | 1.88             |
| F11demo | 482.07          | 2.45             | -4.37           | -1.43            |
| F11     | 508.68          | 26.61            | -4.46           | -0.09            |
| F9demo  | 508.68          | 0.00             | -4.18           | 0.28             |
| F10     | 534.69          | 26.01            | -3.77           | 0.41             |
| F9      | 562.22          | 27.53            | -1.40           | 2.37             |
| F8      | 589.71          | 27.48            | -1.56           | -0.16            |
| F7      | 580.30          | -9.41            | -20.78          | -19.22           |
| F6      | 610.57          | 30.27            | -3.54           | 17.24            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |       |       |       |
|---------|--------|-------|-------|-------|
| F5      | 642.00 | 31.43 | -2.51 | 1.03  |
| F4      | 671.04 | 29.03 | -2.53 | -0.02 |
| F3      | 694.32 | 23.29 | -2.67 | -0.15 |
| F2      | 711.82 | 17.50 | 0.53  | 3.20  |
| Fground | 735.26 | 23.44 | 0.50  | -0.03 |
| Cellar  | 750.37 | 15.11 | -0.37 | -0.87 |

**Load Case: W4 W Wind\_IBC09\_2\_X-E**

| Level   | Diaph. # | Shear-X<br>kips | Shear-Y<br>kips |
|---------|----------|-----------------|-----------------|
| F47roof | 1        | 8.09            | -0.38           |
| F46MEP  | 1        | 23.19           | -0.85           |
| F45     | 1        | 39.43           | -1.17           |
| F44     | 1        | 57.96           | -1.51           |
| F43     | 1        | 74.96           | -1.86           |
| F42     | 1        | 89.30           | -2.19           |
| F41     | 1        | 104.66          | -2.54           |
| F40     | 1        | 119.91          | -2.87           |
| F39     | 1        | 134.09          | -3.19           |
| F38     | 1        | 148.20          | -3.51           |
| F37     | 1        | 162.21          | -3.83           |
| F36     | 1        | 176.20          | -4.14           |
| F35     | 1        | 190.12          | -4.43           |
| F34     | 1        | 203.96          | -4.72           |
| F33     | 1        | 217.73          | -4.99           |
| F32     | 1        | 231.40          | -5.25           |
| F31     | 1        | 244.99          | -5.50           |
| F30     | 1        | 258.46          | -5.72           |
| F29     | 1        | 271.82          | -5.93           |
| F28     | 1        | 285.04          | -6.11           |
| F27     | 1        | 298.04          | -6.28           |
| F26     | 1        | 311.01          | -6.42           |
| F25     | 1        | 323.84          | -6.54           |
| F24     | 1        | 336.50          | -6.62           |
| F23     | 1        | 348.93          | -6.62           |
| F22     | 1        | 361.13          | -6.57           |
| F21     | 1        | 373.09          | -6.47           |
| F20     | 1        | 384.74          | -6.30           |
| F19     | 1        | 396.03          | -6.04           |
| F18     | 1        | 406.89          | -5.61           |
| F17     | 1        | 416.03          | -5.01           |
| F16     | 1        | 413.97          | -5.38           |
| F15     | 1        | 312.85          | 108.29          |
| F15     | None     | -0.00           | 5.73            |
| F14     | 1        | 326.80          | 66.46           |
| F14     | None     | -2.55           | -72.73          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |         |
|---------|------|--------|---------|
| F13     | 1    | 164.41 | -198.97 |
| F13     | None | 172.20 | 192.07  |
| F12     | 1    | 479.46 | -3.74   |
| F11demo | None | 482.09 | -7.02   |
| F11     | 1    | 508.65 | -7.14   |
| F9demo  | None | 508.65 | 4.36    |
| F10     | 1    | 534.52 | -6.31   |
| F9      | 1    | 530.76 | 4.80    |
| F9      | None | 31.03  | -8.04   |
| F8      | 1    | 587.65 | 100.49  |
| F8      | None | 1.57   | -104.51 |
| F7      | 1    | 576.96 | 94.59   |
| F7      | None | 1.57   | -100.16 |
| F6      | 1    | 607.25 | 118.59  |
| F6      | None | 1.57   | -114.77 |
| F5      | 1    | 638.71 | 104.64  |
| F5      | None | 1.57   | -100.25 |
| F4      | 1    | 667.76 | 64.12   |
| F4      | None | 1.57   | -59.68  |
| F3      | 1    | 690.91 | 63.12   |
| F3      | None | 1.57   | -58.61  |
| F2      | 1    | 709.62 | 32.77   |
| F2      | None | 0.01   | -25.61  |
| Fground | 1    | 733.25 | 35.41   |
| Fground | None | 0.04   | -27.84  |
| Cellar  | 1    | 748.76 | 20.00   |
| Cellar  | None | 0.04   | -12.34  |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 8.09            | 8.09             | -0.38           | -0.38            |
| F46MEP  | 23.19           | 15.10            | -0.85           | -0.47            |
| F45     | 39.43           | 16.24            | -1.17           | -0.32            |
| F44     | 57.96           | 18.53            | -1.51           | -0.33            |
| F43     | 74.96           | 17.00            | -1.86           | -0.35            |
| F42     | 89.30           | 14.34            | -2.19           | -0.34            |
| F41     | 104.66          | 15.36            | -2.54           | -0.35            |
| F40     | 119.91          | 15.25            | -2.87           | -0.33            |
| F39     | 134.09          | 14.18            | -3.19           | -0.33            |
| F38     | 148.20          | 14.11            | -3.51           | -0.32            |
| F37     | 162.21          | 14.01            | -3.83           | -0.31            |
| F36     | 176.20          | 13.99            | -4.14           | -0.31            |
| F35     | 190.12          | 13.92            | -4.43           | -0.30            |
| F34     | 203.96          | 13.85            | -4.72           | -0.29            |
| F33     | 217.73          | 13.77            | -4.99           | -0.27            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |         |        |         |
|---------|--------|---------|--------|---------|
| F32     | 231.40 | 13.68   | -5.25  | -0.26   |
| F31     | 244.99 | 13.58   | -5.50  | -0.24   |
| F30     | 258.46 | 13.48   | -5.72  | -0.23   |
| F29     | 271.82 | 13.36   | -5.93  | -0.20   |
| F28     | 285.04 | 13.21   | -6.11  | -0.18   |
| F27     | 298.04 | 13.00   | -6.28  | -0.17   |
| F26     | 311.01 | 12.97   | -6.42  | -0.14   |
| F25     | 323.84 | 12.83   | -6.54  | -0.12   |
| F24     | 336.50 | 12.67   | -6.62  | -0.09   |
| F23     | 348.93 | 12.43   | -6.62  | 0.00    |
| F22     | 361.13 | 12.20   | -6.57  | 0.05    |
| F21     | 373.09 | 11.95   | -6.47  | 0.10    |
| F20     | 384.74 | 11.66   | -6.30  | 0.17    |
| F19     | 396.03 | 11.28   | -6.04  | 0.26    |
| F18     | 406.89 | 10.86   | -5.61  | 0.43    |
| F17     | 416.03 | 9.14    | -5.01  | 0.60    |
| F16     | 413.97 | -2.06   | -5.38  | -0.36   |
| F15     | 312.85 | -101.12 | 114.02 | 119.39  |
| F14     | 324.25 | 11.40   | -6.27  | -120.29 |
| F13     | 336.61 | 12.36   | -6.90  | -0.63   |
| F12     | 479.46 | 142.85  | -3.74  | 3.17    |
| F11demo | 482.09 | 2.63    | -7.02  | -3.29   |
| F11     | 508.65 | 26.55   | -7.14  | -0.12   |
| F9demo  | 508.65 | -0.00   | 4.36   | 11.50   |
| F10     | 534.52 | 25.87   | -6.31  | -10.68  |
| F9      | 561.80 | 27.28   | -3.24  | 3.07    |
| F8      | 589.22 | 27.43   | -4.02  | -0.78   |
| F7      | 578.53 | -10.70  | -5.57  | -1.55   |
| F6      | 608.82 | 30.29   | 3.81   | 9.39    |
| F5      | 640.28 | 31.46   | 4.39   | 0.57    |
| F4      | 669.33 | 29.05   | 4.44   | 0.05    |
| F3      | 692.48 | 23.16   | 4.51   | 0.07    |
| F2      | 709.63 | 17.14   | 7.16   | 2.65    |
| Fground | 733.30 | 23.67   | 7.57   | 0.41    |
| Cellar  | 748.80 | 15.50   | 7.66   | 0.09    |

**Load Case: W5    W    Wind\_IBC09\_2\_Y+E**

| <b>Level</b> | <b>Diaph. #</b> | <b>Shear-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> |
|--------------|-----------------|-------------------------|-------------------------|
| F47roof      | 1               | -1.49                   | 27.96                   |
| F46MEP       | 1               | -3.38                   | 79.20                   |
| F45          | 1               | -4.70                   | 130.84                  |
| F44          | 1               | -6.04                   | 189.66                  |
| F43          | 1               | -7.43                   | 243.00                  |
| F42          | 1               | -8.82                   | 287.18                  |
| F41          | 1               | -10.26                  | 334.46                  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |         |
|---------|------|--------|---------|
| F40     | 1    | -11.62 | 381.43  |
| F39     | 1    | -12.98 | 425.13  |
| F38     | 1    | -14.33 | 468.64  |
| F37     | 1    | -15.66 | 511.94  |
| F36     | 1    | -16.98 | 555.11  |
| F35     | 1    | -18.27 | 598.08  |
| F34     | 1    | -19.53 | 640.85  |
| F33     | 1    | -20.75 | 683.40  |
| F32     | 1    | -21.92 | 725.71  |
| F31     | 1    | -23.03 | 767.78  |
| F30     | 1    | -24.07 | 809.57  |
| F29     | 1    | -25.04 | 851.06  |
| F28     | 1    | -25.90 | 892.24  |
| F27     | 1    | -26.68 | 933.06  |
| F26     | 1    | -27.38 | 973.64  |
| F25     | 1    | -27.95 | 1013.88 |
| F24     | 1    | -28.38 | 1053.76 |
| F23     | 1    | -28.21 | 1092.76 |
| F22     | 1    | -27.71 | 1131.21 |
| F21     | 1    | -26.90 | 1169.06 |
| F20     | 1    | -25.74 | 1206.21 |
| F19     | 1    | -24.18 | 1242.37 |
| F18     | 1    | -22.09 | 1276.81 |
| F17     | 1    | -18.30 | 1308.93 |
| F16     | 1    | -6.21  | 1346.55 |
| F15     | 1    | 44.09  | -759.75 |
| F15     | None | 0.00   | -30.42  |
| F14     | 1    | 52.33  | 792.95  |
| F14     | None | -8.63  | 654.14  |
| F13     | 1    | 48.33  | 1552.86 |
| F13     | None | -4.64  | -63.17  |
| F12     | 1    | -1.92  | 1527.66 |
| F11demo | None | -5.46  | 1554.73 |
| F11     | 1    | -6.62  | 1631.05 |
| F9demo  | None | -6.62  | 1453.06 |
| F10     | 1    | -7.21  | 1700.50 |
| F9      | 1    | 45.02  | 1766.36 |
| F9      | None | -51.83 | 13.53   |
| F8      | 1    | -7.69  | 575.82  |
| F8      | None | -0.37  | 1319.87 |
| F7      | 1    | 4.50   | 294.05  |
| F7      | None | -0.37  | 1344.72 |
| F6      | 1    | 3.91   | 265.93  |
| F6      | None | -0.37  | 1474.48 |
| F5      | 1    | 3.91   | 389.40  |
| F5      | None | -0.37  | 1386.27 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |       |         |
|---------|------|-------|---------|
| F4      | 1    | 4.12  | 381.74  |
| F4      | None | -0.37 | 1420.57 |
| F3      | 1    | 3.81  | 525.07  |
| F3      | None | -0.37 | 1425.93 |
| F2      | 1    | 3.80  | 1475.79 |
| F2      | None | -0.05 | 523.02  |
| Fground | 1    | 6.98  | 1793.86 |
| Fground | None | -0.02 | 267.25  |
| Cellar  | 1    | 10.43 | 1624.13 |
| Cellar  | None | -0.02 | 479.13  |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | -1.49           | -1.49            | 27.96           | 27.96            |
| F46MEP  | -3.38           | -1.89            | 79.20           | 51.23            |
| F45     | -4.70           | -1.31            | 130.84          | 51.64            |
| F44     | -6.04           | -1.35            | 189.66          | 58.82            |
| F43     | -7.43           | -1.38            | 243.00          | 53.34            |
| F42     | -8.82           | -1.39            | 287.18          | 44.18            |
| F41     | -10.26          | -1.44            | 334.46          | 47.28            |
| F40     | -11.62          | -1.35            | 381.43          | 46.97            |
| F39     | -12.98          | -1.37            | 425.13          | 43.69            |
| F38     | -14.33          | -1.35            | 468.64          | 43.51            |
| F37     | -15.66          | -1.33            | 511.94          | 43.30            |
| F36     | -16.98          | -1.32            | 555.11          | 43.16            |
| F35     | -18.27          | -1.29            | 598.08          | 42.97            |
| F34     | -19.53          | -1.26            | 640.85          | 42.77            |
| F33     | -20.75          | -1.22            | 683.40          | 42.55            |
| F32     | -21.92          | -1.17            | 725.71          | 42.31            |
| F31     | -23.03          | -1.11            | 767.78          | 42.06            |
| F30     | -24.07          | -1.04            | 809.57          | 41.79            |
| F29     | -25.04          | -0.97            | 851.06          | 41.50            |
| F28     | -25.90          | -0.86            | 892.24          | 41.18            |
| F27     | -26.68          | -0.78            | 933.06          | 40.82            |
| F26     | -27.38          | -0.70            | 973.64          | 40.58            |
| F25     | -27.95          | -0.57            | 1013.88         | 40.24            |
| F24     | -28.38          | -0.43            | 1053.76         | 39.88            |
| F23     | -28.21          | 0.17             | 1092.76         | 39.00            |
| F22     | -27.71          | 0.50             | 1131.21         | 38.45            |
| F21     | -26.90          | 0.81             | 1169.06         | 37.85            |
| F20     | -25.74          | 1.16             | 1206.21         | 37.15            |
| F19     | -24.18          | 1.56             | 1242.37         | 36.16            |
| F18     | -22.09          | 2.08             | 1276.81         | 34.44            |
| F17     | -18.30          | 3.79             | 1308.93         | 32.12            |
| F16     | -6.21           | 12.09            | 1346.55         | 37.61            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |       |        |         |          |
|---------|-------|--------|---------|----------|
| F15     | 44.09 | 50.31  | -790.17 | -2136.72 |
| F14     | 43.70 | -0.39  | 1447.09 | 2237.26  |
| F13     | 43.69 | -0.01  | 1489.69 | 42.60    |
| F12     | -1.92 | -45.61 | 1527.66 | 37.97    |
| F11demo | -5.46 | -3.55  | 1554.73 | 27.08    |
| F11     | -6.62 | -1.15  | 1631.05 | 76.32    |
| F9demo  | -6.62 | -0.00  | 1453.06 | -177.99  |
| F10     | -7.21 | -0.59  | 1700.50 | 247.44   |
| F9      | -6.81 | 0.40   | 1779.90 | 79.40    |
| F8      | -8.06 | -1.25  | 1895.69 | 115.80   |
| F7      | 4.12  | 12.18  | 1638.78 | -256.91  |
| F6      | 3.53  | -0.59  | 1740.41 | 101.63   |
| F5      | 3.54  | 0.00   | 1775.68 | 35.27    |
| F4      | 3.74  | 0.20   | 1802.31 | 26.63    |
| F3      | 3.43  | -0.31  | 1950.99 | 148.69   |
| F2      | 3.75  | 0.32   | 1998.81 | 47.81    |
| Fground | 6.96  | 3.21   | 2061.11 | 62.31    |
| Cellar  | 10.41 | 3.45   | 2103.26 | 42.14    |

**Load Case: W6 W Wind\_IBC09\_2\_Y-E**

| Level   | Diaph. # | Shear-X<br>kips | Shear-Y<br>kips |
|---------|----------|-----------------|-----------------|
| F47roof | 1        | -1.07           | 28.57           |
| F46MEP  | 1        | -2.31           | 80.54           |
| F45     | 1        | -3.15           | 132.70          |
| F44     | 1        | -4.04           | 192.06          |
| F43     | 1        | -4.92           | 245.96          |
| F42     | 1        | -5.71           | 290.68          |
| F41     | 1        | -6.52           | 338.52          |
| F40     | 1        | -7.30           | 386.03          |
| F39     | 1        | -8.06           | 430.24          |
| F38     | 1        | -8.82           | 474.26          |
| F37     | 1        | -9.55           | 518.04          |
| F36     | 1        | -10.26          | 561.68          |
| F35     | 1        | -10.93          | 605.11          |
| F34     | 1        | -11.58          | 648.33          |
| F33     | 1        | -12.19          | 691.30          |
| F32     | 1        | -12.77          | 734.02          |
| F31     | 1        | -13.30          | 776.45          |
| F30     | 1        | -13.80          | 818.57          |
| F29     | 1        | -14.24          | 860.36          |
| F28     | 1        | -14.64          | 901.79          |
| F27     | 1        | -15.01          | 942.78          |
| F26     | 1        | -15.32          | 983.53          |
| F25     | 1        | -15.56          | 1023.87         |
| F24     | 1        | -15.73          | 1063.77         |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |          |
|---------|------|--------|----------|
| F23     | 1    | -15.75 | 1103.09  |
| F22     | 1    | -15.69 | 1141.87  |
| F21     | 1    | -15.55 | 1180.05  |
| F20     | 1    | -15.34 | 1217.50  |
| F19     | 1    | -15.09 | 1253.90  |
| F18     | 1    | -14.84 | 1288.36  |
| F17     | 1    | -14.15 | 1320.32  |
| F16     | 1    | -6.86  | 1356.99  |
| F15     | 1    | 48.26  | -2121.75 |
| F15     | None | 0.00   | -80.56   |
| F14     | 1    | 58.86  | 689.86   |
| F14     | None | -11.08 | 770.20   |
| F13     | 1    | 42.58  | 753.37   |
| F13     | None | 5.22   | 751.78   |
| F12     | 1    | -0.79  | 1533.64  |
| F11demo | None | -5.68  | 1574.55  |
| F11     | 1    | -6.40  | 1651.13  |
| F9demo  | None | -6.40  | 1385.58  |
| F10     | 1    | -5.99  | 1719.70  |
| F9      | 1    | 55.99  | 1776.74  |
| F9      | None | -59.86 | 15.66    |
| F8      | 1    | -4.18  | 868.28   |
| F8      | None | -0.58  | 1043.99  |
| F7      | 1    | 17.00  | 453.91   |
| F7      | None | -0.58  | 1081.59  |
| F6      | 1    | 16.36  | 386.04   |
| F6      | None | -0.58  | 1302.98  |
| F5      | 1    | 16.23  | 576.03   |
| F5      | None | -0.58  | 1152.08  |
| F4      | 1    | 16.39  | 532.36   |
| F4      | None | -0.58  | 1222.44  |
| F3      | 1    | 16.75  | 669.13   |
| F3      | None | -0.58  | 1232.35  |
| F2      | 1    | 18.97  | 1043.91  |
| F2      | None | -0.06  | 907.84   |
| Fground | 1    | 20.54  | 1536.11  |
| Fground | None | -0.03  | 474.84   |
| Cellar  | 1    | 21.29  | 1210.10  |
| Cellar  | None | -0.03  | 836.56   |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | -1.07           | -1.07            | 28.57           | 28.57            |
| F46MEP  | -2.31           | -1.25            | 80.54           | 51.97            |
| F45     | -3.15           | -0.84            | 132.70          | 52.16            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |          |          |
|---------|--------|--------|----------|----------|
| F44     | -4.04  | -0.88  | 192.06   | 59.37    |
| F43     | -4.92  | -0.88  | 245.96   | 53.89    |
| F42     | -5.71  | -0.79  | 290.68   | 44.72    |
| F41     | -6.52  | -0.81  | 338.52   | 47.84    |
| F40     | -7.30  | -0.78  | 386.03   | 47.50    |
| F39     | -8.06  | -0.76  | 430.24   | 44.22    |
| F38     | -8.82  | -0.75  | 474.26   | 44.02    |
| F37     | -9.55  | -0.74  | 518.04   | 43.78    |
| F36     | -10.26 | -0.70  | 561.68   | 43.64    |
| F35     | -10.93 | -0.68  | 605.11   | 43.44    |
| F34     | -11.58 | -0.65  | 648.33   | 43.22    |
| F33     | -12.19 | -0.61  | 691.30   | 42.97    |
| F32     | -12.77 | -0.58  | 734.02   | 42.71    |
| F31     | -13.30 | -0.54  | 776.45   | 42.43    |
| F30     | -13.80 | -0.49  | 818.57   | 42.12    |
| F29     | -14.24 | -0.44  | 860.36   | 41.79    |
| F28     | -14.64 | -0.40  | 901.79   | 41.42    |
| F27     | -15.01 | -0.38  | 942.78   | 40.99    |
| F26     | -15.32 | -0.30  | 983.53   | 40.75    |
| F25     | -15.56 | -0.24  | 1023.87  | 40.34    |
| F24     | -15.73 | -0.17  | 1063.77  | 39.90    |
| F23     | -15.75 | -0.03  | 1103.09  | 39.31    |
| F22     | -15.69 | 0.06   | 1141.87  | 38.78    |
| F21     | -15.55 | 0.14   | 1180.05  | 38.18    |
| F20     | -15.34 | 0.21   | 1217.50  | 37.45    |
| F19     | -15.09 | 0.25   | 1253.90  | 36.40    |
| F18     | -14.84 | 0.25   | 1288.36  | 34.46    |
| F17     | -14.15 | 0.69   | 1320.32  | 31.97    |
| F16     | -6.86  | 7.28   | 1356.99  | 36.66    |
| F15     | 48.26  | 55.12  | -2202.32 | -3559.30 |
| F14     | 47.78  | -0.47  | 1460.06  | 3662.37  |
| F13     | 47.80  | 0.01   | 1505.15  | 45.09    |
| F12     | -0.79  | -48.59 | 1533.64  | 28.49    |
| F11demo | -5.68  | -4.89  | 1574.55  | 40.91    |
| F11     | -6.40  | -0.71  | 1651.13  | 76.58    |
| F9demo  | -6.40  | -0.00  | 1385.58  | -265.56  |
| F10     | -5.99  | 0.40   | 1719.70  | 334.13   |
| F9      | -3.87  | 2.12   | 1792.40  | 72.69    |
| F8      | -4.76  | -0.89  | 1912.26  | 119.87   |
| F7      | 16.42  | 21.18  | 1535.50  | -376.76  |
| F6      | 15.78  | -0.64  | 1689.03  | 153.53   |
| F5      | 15.66  | -0.13  | 1728.11  | 39.08    |
| F4      | 15.81  | 0.15   | 1754.80  | 26.69    |
| F3      | 16.17  | 0.37   | 1901.48  | 146.68   |
| F2      | 18.91  | 2.73   | 1951.75  | 50.27    |
| Fground | 20.51  | 1.60   | 2010.95  | 59.20    |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|        |       |      |         |       |
|--------|-------|------|---------|-------|
| Cellar | 21.26 | 0.75 | 2046.66 | 35.71 |
|--------|-------|------|---------|-------|

**Load Case: W7 W Wind\_IBC09\_3\_X+Y**

| Level   | Diaph. # | Shear-X<br>kips | Shear-Y<br>kips |
|---------|----------|-----------------|-----------------|
| F47roof | 1        | 6.84            | 27.93           |
| F46MEP  | 1        | 20.42           | 79.11           |
| F45     | 1        | 35.61           | 130.72          |
| F44     | 1        | 53.06           | 189.52          |
| F43     | 1        | 68.96           | 242.83          |
| F42     | 1        | 82.25           | 286.98          |
| F41     | 1        | 96.53           | 334.23          |
| F40     | 1        | 110.75          | 381.18          |
| F39     | 1        | 123.91          | 424.84          |
| F38     | 1        | 137.01          | 468.33          |
| F37     | 1        | 150.04          | 511.58          |
| F36     | 1        | 163.05          | 554.71          |
| F35     | 1        | 176.03          | 597.65          |
| F34     | 1        | 188.97          | 640.39          |
| F33     | 1        | 201.86          | 682.90          |
| F32     | 1        | 214.71          | 725.19          |
| F31     | 1        | 227.51          | 767.21          |
| F30     | 1        | 240.25          | 808.97          |
| F29     | 1        | 252.95          | 850.43          |
| F28     | 1        | 265.56          | 891.56          |
| F27     | 1        | 278.02          | 932.31          |
| F26     | 1        | 290.51          | 972.85          |
| F25     | 1        | 302.96          | 1013.02         |
| F24     | 1        | 315.34          | 1052.82         |
| F23     | 1        | 327.83          | 1092.01         |
| F22     | 1        | 340.28          | 1130.69         |
| F21     | 1        | 352.66          | 1168.84         |
| F20     | 1        | 364.94          | 1206.33         |
| F19     | 1        | 377.03          | 1242.88         |
| F18     | 1        | 388.93          | 1277.76         |
| F17     | 1        | 400.10          | 1310.39         |
| F16     | 1        | 407.39          | 1347.10         |
| F15     | 1        | 359.30          | -1425.56        |
| F15     | None     | 0.00            | -53.28          |
| F14     | 1        | 382.82          | 800.86          |
| F14     | None     | -12.56          | 647.31          |
| F13     | 1        | 209.45          | 898.32          |
| F13     | None     | 173.17          | 593.23          |
| F12     | 1        | 478.18          | 1527.31         |
| F11demo | None     | 476.51          | 1558.94         |
| F11     | 1        | 502.15          | 1635.29         |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |         |
|---------|------|--------|---------|
| F9demo  | None | 502.15 | 1419.41 |
| F10     | 1    | 528.00 | 1705.06 |
| F9      | 1    | 581.99 | 1777.13 |
| F9      | None | -25.32 | 6.69    |
| F8      | 1    | 581.98 | 843.96  |
| F8      | None | 1.08   | 1057.22 |
| F7      | 1    | 588.61 | 480.17  |
| F7      | None | 1.08   | 1093.80 |
| F6      | 1    | 618.28 | 453.52  |
| F6      | None | 1.08   | 1261.34 |
| F5      | 1    | 649.66 | 600.90  |
| F5      | None | 1.08   | 1151.94 |
| F4      | 1    | 678.88 | 531.04  |
| F4      | None | 1.08   | 1248.47 |
| F3      | 1    | 702.13 | 669.64  |
| F3      | None | 1.08   | 1257.52 |
| F2      | 1    | 722.10 | 1260.98 |
| F2      | None | -0.04  | 718.14  |
| Fground | 1    | 748.00 | 1681.70 |
| Fground | None | 0.02   | 358.37  |
| Cellar  | 1    | 765.40 | 1406.77 |
| Cellar  | None | 0.02   | 671.83  |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 6.84            | 6.84             | 27.93           | 27.93            |
| F46MEP  | 20.42           | 13.58            | 79.11           | 51.18            |
| F45     | 35.61           | 15.20            | 130.72          | 51.61            |
| F44     | 53.06           | 17.45            | 189.52          | 58.80            |
| F43     | 68.96           | 15.90            | 242.83          | 53.30            |
| F42     | 82.25           | 13.29            | 286.98          | 44.15            |
| F41     | 96.53           | 14.28            | 334.23          | 47.26            |
| F40     | 110.75          | 14.22            | 381.18          | 46.94            |
| F39     | 123.91          | 13.16            | 424.84          | 43.67            |
| F38     | 137.01          | 13.10            | 468.33          | 43.48            |
| F37     | 150.04          | 13.02            | 511.58          | 43.26            |
| F36     | 163.05          | 13.02            | 554.71          | 43.13            |
| F35     | 176.03          | 12.98            | 597.65          | 42.94            |
| F34     | 188.97          | 12.94            | 640.39          | 42.74            |
| F33     | 201.86          | 12.89            | 682.90          | 42.52            |
| F32     | 214.71          | 12.85            | 725.19          | 42.28            |
| F31     | 227.51          | 12.80            | 767.21          | 42.03            |
| F30     | 240.25          | 12.75            | 808.97          | 41.75            |
| F29     | 252.95          | 12.69            | 850.43          | 41.46            |
| F28     | 265.56          | 12.61            | 891.56          | 41.14            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |          |          |
|---------|--------|--------|----------|----------|
| F27     | 278.02 | 12.45  | 932.31   | 40.75    |
| F26     | 290.51 | 12.50  | 972.85   | 40.53    |
| F25     | 302.96 | 12.45  | 1013.02  | 40.18    |
| F24     | 315.34 | 12.38  | 1052.82  | 39.80    |
| F23     | 327.83 | 12.49  | 1092.01  | 39.18    |
| F22     | 340.28 | 12.45  | 1130.69  | 38.69    |
| F21     | 352.66 | 12.38  | 1168.84  | 38.14    |
| F20     | 364.94 | 12.28  | 1206.33  | 37.49    |
| F19     | 377.03 | 12.09  | 1242.88  | 36.56    |
| F18     | 388.93 | 11.90  | 1277.76  | 34.88    |
| F17     | 400.10 | 11.17  | 1310.39  | 32.63    |
| F16     | 407.39 | 7.29   | 1347.10  | 36.71    |
| F15     | 359.30 | -48.09 | -1478.84 | -2825.94 |
| F14     | 370.26 | 10.96  | 1448.17  | 2927.01  |
| F13     | 382.62 | 12.36  | 1491.55  | 43.38    |
| F12     | 478.18 | 95.56  | 1527.31  | 35.75    |
| F11demo | 476.51 | -1.68  | 1558.94  | 31.64    |
| F11     | 502.15 | 25.65  | 1635.29  | 76.35    |
| F9demo  | 502.15 | -0.00  | 1419.41  | -215.88  |
| F10     | 528.00 | 25.85  | 1705.06  | 285.65   |
| F9      | 556.67 | 28.66  | 1783.83  | 78.77    |
| F8      | 583.06 | 26.39  | 1901.19  | 117.36   |
| F7      | 589.69 | 6.63   | 1573.97  | -327.22  |
| F6      | 619.36 | 29.67  | 1714.85  | 140.89   |
| F5      | 650.74 | 31.38  | 1752.83  | 37.98    |
| F4      | 679.95 | 29.22  | 1779.51  | 26.67    |
| F3      | 703.21 | 23.25  | 1927.16  | 147.65   |
| F2      | 722.05 | 18.85  | 1979.12  | 51.97    |
| Fground | 748.01 | 25.96  | 2040.07  | 60.94    |
| Cellar  | 765.42 | 17.40  | 2078.61  | 38.54    |

**Load Case: W8 W Wind\_IBC09\_3\_X-Y**

| <b>Level</b> | <b>Diaph. #</b> | <b>Shear-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> |
|--------------|-----------------|-------------------------|-------------------------|
| F47roof      | 1               | 9.40                    | -28.60                  |
| F46MEP       | 1               | 26.11                   | -80.63                  |
| F45          | 1               | 43.46                   | -132.81                 |
| F44          | 1               | 63.14                   | -192.20                 |
| F43          | 1               | 81.31                   | -246.13                 |
| F42          | 1               | 96.78                   | -290.88                 |
| F41          | 1               | 113.32                  | -338.75                 |
| F40          | 1               | 129.67                  | -386.28                 |
| F39          | 1               | 144.96                  | -430.52                 |
| F38          | 1               | 160.16                  | -474.58                 |
| F37          | 1               | 175.25                  | -518.40                 |
| F36          | 1               | 190.29                  | -562.07                 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |          |
|---------|------|--------|----------|
| F35     | 1    | 205.24 | -605.54  |
| F34     | 1    | 220.08 | -648.79  |
| F33     | 1    | 234.80 | -691.80  |
| F32     | 1    | 249.39 | -734.55  |
| F31     | 1    | 263.84 | -777.01  |
| F30     | 1    | 278.12 | -819.17  |
| F29     | 1    | 292.22 | -861.00  |
| F28     | 1    | 306.10 | -902.47  |
| F27     | 1    | 319.71 | -943.53  |
| F26     | 1    | 333.21 | -984.33  |
| F25     | 1    | 346.46 | -1024.72 |
| F24     | 1    | 359.45 | -1064.70 |
| F23     | 1    | 371.79 | -1103.84 |
| F22     | 1    | 383.68 | -1142.38 |
| F21     | 1    | 395.11 | -1180.27 |
| F20     | 1    | 406.01 | -1217.38 |
| F19     | 1    | 416.30 | -1253.39 |
| F18     | 1    | 425.86 | -1287.41 |
| F17     | 1    | 432.54 | -1318.87 |
| F16     | 1    | 420.46 | -1356.43 |
| F15     | 1    | 266.94 | 1455.95  |
| F15     | None | -0.00  | 57.70    |
| F14     | 1    | 271.63 | -681.94  |
| F14     | None | 7.14   | -777.03  |
| F13     | 1    | 118.54 | -1407.91 |
| F13     | None | 172.60 | -95.37   |
| F12     | 1    | 480.89 | -1533.99 |
| F11demo | None | 487.65 | -1570.34 |
| F11     | 1    | 515.17 | -1646.89 |
| F9demo  | None | 515.17 | -1419.23 |
| F10     | 1    | 541.21 | -1715.14 |
| F9      | 1    | 480.98 | -1765.97 |
| F9      | None | 86.37  | -22.50   |
| F8      | 1    | 593.84 | -600.13  |
| F8      | None | 2.03   | -1306.64 |
| F7      | 1    | 567.11 | -267.79  |
| F7      | None | 2.03   | -1332.52 |
| F6      | 1    | 598.01 | -198.45  |
| F6      | None | 2.03   | -1516.13 |
| F5      | 1    | 629.51 | -364.53  |
| F5      | None | 2.03   | -1386.42 |
| F4      | 1    | 658.37 | -383.06  |
| F4      | None | 2.03   | -1394.54 |
| F3      | 1    | 681.57 | -524.56  |
| F3      | None | 2.03   | -1400.75 |
| F2      | 1    | 699.33 | -1258.72 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |          |
|---------|------|--------|----------|
| F2      | None | 0.07   | -712.71  |
| Fground | 1    | 720.48 | -1648.27 |
| Fground | None | 0.07   | -383.72  |
| Cellar  | 1    | 733.68 | -1427.46 |
| Cellar  | None | 0.07   | -643.85  |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 9.40            | 9.40             | -28.60          | -28.60           |
| F46MEP  | 26.11           | 16.72            | -80.63          | -52.02           |
| F45     | 43.46           | 17.35            | -132.81         | -52.19           |
| F44     | 63.14           | 19.68            | -192.20         | -59.39           |
| F43     | 81.31           | 18.17            | -246.13         | -53.93           |
| F42     | 96.78           | 15.47            | -290.88         | -44.75           |
| F41     | 113.32          | 16.53            | -338.75         | -47.87           |
| F40     | 129.67          | 16.36            | -386.28         | -47.53           |
| F39     | 144.96          | 15.29            | -430.52         | -44.24           |
| F38     | 160.16          | 15.20            | -474.58         | -44.05           |
| F37     | 175.25          | 15.09            | -518.40         | -43.82           |
| F36     | 190.29          | 15.04            | -562.07         | -43.67           |
| F35     | 205.24          | 14.95            | -605.54         | -43.47           |
| F34     | 220.08          | 14.84            | -648.79         | -43.25           |
| F33     | 234.80          | 14.72            | -691.80         | -43.01           |
| F32     | 249.39          | 14.59            | -734.55         | -42.75           |
| F31     | 263.84          | 14.45            | -777.01         | -42.46           |
| F30     | 278.12          | 14.28            | -819.17         | -42.16           |
| F29     | 292.22          | 14.10            | -861.00         | -41.83           |
| F28     | 306.10          | 13.88            | -902.47         | -41.47           |
| F27     | 319.71          | 13.60            | -943.53         | -41.06           |
| F26     | 333.21          | 13.50            | -984.33         | -40.80           |
| F25     | 346.46          | 13.26            | -1024.72        | -40.40           |
| F24     | 359.45          | 12.99            | -1064.70        | -39.98           |
| F23     | 371.79          | 12.34            | -1103.84        | -39.14           |
| F22     | 383.68          | 11.89            | -1142.38        | -38.54           |
| F21     | 395.11          | 11.43            | -1180.27        | -37.89           |
| F20     | 406.01          | 10.91            | -1217.38        | -37.11           |
| F19     | 416.30          | 10.29            | -1253.39        | -36.01           |
| F18     | 425.86          | 9.56             | -1287.41        | -34.02           |
| F17     | 432.54          | 6.68             | -1318.87        | -31.46           |
| F16     | 420.46          | -12.08           | -1356.43        | -37.57           |
| F15     | 266.94          | -153.52          | 1513.65         | 2870.08          |
| F14     | 278.77          | 11.83            | -1458.97        | -2972.62         |
| F13     | 291.13          | 12.36            | -1503.28        | -44.31           |
| F12     | 480.89          | 189.76           | -1533.99        | -30.70           |
| F11demo | 487.65          | 6.76             | -1570.34        | -36.35           |



|         |        |        |          |         |
|---------|--------|--------|----------|---------|
| F11     | 515.17 | 27.52  | -1646.89 | -76.55  |
| F9demo  | 515.17 | -0.00  | -1419.23 | 227.67  |
| F10     | 541.21 | 26.04  | -1715.14 | -295.91 |
| F9      | 567.35 | 26.15  | -1788.47 | -73.33  |
| F8      | 595.87 | 28.52  | -1906.77 | -118.30 |
| F7      | 569.14 | -26.73 | -1600.31 | 306.46  |
| F6      | 600.04 | 30.90  | -1714.58 | -114.27 |
| F5      | 631.54 | 31.50  | -1750.95 | -36.37  |
| F4      | 660.41 | 28.86  | -1777.60 | -26.64  |
| F3      | 683.60 | 23.19  | -1925.31 | -147.72 |
| F2      | 699.40 | 15.80  | -1971.43 | -46.11  |
| Fground | 720.54 | 21.15  | -2031.99 | -60.56  |
| Cellar  | 733.75 | 13.21  | -2071.31 | -39.32  |

**Load Case: W9    W    Wind\_IBC09\_4\_X+Y\_CW**

| <b>Level</b> | <b>Diaph. #</b> | <b>Shear-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> |
|--------------|-----------------|-------------------------|-------------------------|
| F47roof      | 1               | 5.31                    | 21.21                   |
| F46MEP       | 1               | 15.77                   | 59.91                   |
| F45          | 1               | 27.37                   | 98.84                   |
| F44          | 1               | 40.65                   | 143.17                  |
| F43          | 1               | 52.79                   | 183.38                  |
| F42          | 1               | 63.02                   | 216.73                  |
| F41          | 1               | 74.00                   | 252.41                  |
| F40          | 1               | 84.91                   | 287.84                  |
| F39          | 1               | 95.04                   | 320.82                  |
| F38          | 1               | 105.12                  | 353.64                  |
| F37          | 1               | 115.14                  | 386.29                  |
| F36          | 1               | 125.17                  | 418.84                  |
| F35          | 1               | 135.17                  | 451.24                  |
| F34          | 1               | 145.13                  | 483.48                  |
| F33          | 1               | 155.06                  | 515.55                  |
| F32          | 1               | 164.95                  | 547.43                  |
| F31          | 1               | 174.79                  | 579.11                  |
| F30          | 1               | 184.59                  | 610.57                  |
| F29          | 1               | 194.33                  | 641.79                  |
| F28          | 1               | 203.99                  | 672.75                  |
| F27          | 1               | 213.50                  | 703.38                  |
| F26          | 1               | 223.05                  | 733.85                  |
| F25          | 1               | 232.52                  | 764.03                  |
| F24          | 1               | 241.92                  | 793.89                  |
| F23          | 1               | 251.20                  | 823.41                  |
| F22          | 1               | 260.35                  | 852.56                  |
| F21          | 1               | 269.35                  | 881.31                  |
| F20          | 1               | 278.15                  | 909.56                  |
| F19          | 1               | 286.66                  | 937.07                  |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |          |
|---------|------|--------|----------|
| F18     | 1    | 294.80 | 963.24   |
| F17     | 1    | 301.85 | 987.65   |
| F16     | 1    | 305.27 | 1014.77  |
| F15     | 1    | 271.24 | -1649.75 |
| F15     | None | 0.00   | -61.40   |
| F14     | 1    | 289.89 | 556.74   |
| F14     | None | -10.47 | 534.91   |
| F13     | 1    | 154.62 | 332.06   |
| F13     | None | 134.09 | 793.18   |
| F12     | 1    | 359.11 | 1148.02  |
| F11demo | None | 357.29 | 1177.63  |
| F11     | 1    | 376.71 | 1235.00  |
| F9demo  | None | 376.71 | 1036.05  |
| F10     | 1    | 396.52 | 1286.95  |
| F9      | 1    | 441.14 | 1337.33  |
| F9      | None | -22.38 | 5.92     |
| F8      | 1    | 437.99 | 758.72   |
| F8      | None | 0.72   | 674.31   |
| F7      | 1    | 446.82 | 428.77   |
| F7      | None | 0.72   | 707.27   |
| F6      | 1    | 469.05 | 391.89   |
| F6      | None | 0.72   | 872.22   |
| F5      | 1    | 492.52 | 530.82   |
| F5      | None | 0.72   | 763.39   |
| F4      | 1    | 514.41 | 462.16   |
| F4      | None | 0.72   | 852.04   |
| F3      | 1    | 532.15 | 563.32   |
| F3      | None | 0.72   | 860.79   |
| F2      | 1    | 548.08 | 760.05   |
| F2      | None | -0.03  | 704.16   |
| Fground | 1    | 566.82 | 1150.59  |
| Fground | None | 0.01   | 357.99   |
| Cellar  | 1    | 578.71 | 877.06   |
| Cellar  | None | 0.01   | 657.66   |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 5.31            | 5.31             | 21.21           | 21.21            |
| F46MEP  | 15.77           | 10.46            | 59.91           | 38.70            |
| F45     | 27.37           | 11.60            | 98.84           | 38.93            |
| F44     | 40.65           | 13.28            | 143.17          | 44.33            |
| F43     | 52.79           | 12.14            | 183.38          | 40.21            |
| F42     | 63.02           | 10.22            | 216.73          | 33.35            |
| F41     | 74.00           | 10.98            | 252.41          | 35.68            |
| F40     | 84.91           | 10.91            | 287.84          | 35.43            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |          |          |
|---------|--------|--------|----------|----------|
| F39     | 95.04  | 10.13  | 320.82   | 32.97    |
| F38     | 105.12 | 10.08  | 353.64   | 32.83    |
| F37     | 115.14 | 10.02  | 386.29   | 32.65    |
| F36     | 125.17 | 10.03  | 418.84   | 32.55    |
| F35     | 135.17 | 10.00  | 451.24   | 32.40    |
| F34     | 145.13 | 9.96   | 483.48   | 32.24    |
| F33     | 155.06 | 9.93   | 515.55   | 32.07    |
| F32     | 164.95 | 9.89   | 547.43   | 31.88    |
| F31     | 174.79 | 9.85   | 579.11   | 31.68    |
| F30     | 184.59 | 9.80   | 610.57   | 31.46    |
| F29     | 194.33 | 9.74   | 641.79   | 31.22    |
| F28     | 203.99 | 9.66   | 672.75   | 30.96    |
| F27     | 213.50 | 9.51   | 703.38   | 30.64    |
| F26     | 223.05 | 9.54   | 733.85   | 30.47    |
| F25     | 232.52 | 9.48   | 764.03   | 30.18    |
| F24     | 241.92 | 9.40   | 793.89   | 29.86    |
| F23     | 251.20 | 9.28   | 823.41   | 29.52    |
| F22     | 260.35 | 9.15   | 852.56   | 29.16    |
| F21     | 269.35 | 9.00   | 881.31   | 28.75    |
| F20     | 278.15 | 8.80   | 909.56   | 28.25    |
| F19     | 286.66 | 8.51   | 937.07   | 27.52    |
| F18     | 294.80 | 8.14   | 963.24   | 26.17    |
| F17     | 301.85 | 7.05   | 987.65   | 24.41    |
| F16     | 305.27 | 3.42   | 1014.77  | 27.12    |
| F15     | 271.24 | -34.03 | -1711.14 | -2725.91 |
| F14     | 279.42 | 8.19   | 1091.65  | 2802.79  |
| F13     | 288.71 | 9.28   | 1125.24  | 33.59    |
| F12     | 359.11 | 70.41  | 1148.02  | 22.78    |
| F11demo | 357.29 | -1.83  | 1177.63  | 29.61    |
| F11     | 376.71 | 19.42  | 1235.00  | 57.37    |
| F9demo  | 376.71 | -0.00  | 1036.05  | -198.96  |
| F10     | 396.52 | 19.81  | 1286.95  | 250.91   |
| F9      | 418.76 | 22.24  | 1343.25  | 56.30    |
| F8      | 438.71 | 19.95  | 1433.03  | 89.78    |
| F7      | 447.54 | 8.83   | 1136.04  | -296.98  |
| F6      | 469.77 | 22.23  | 1264.12  | 128.07   |
| F5      | 493.24 | 23.48  | 1294.20  | 30.09    |
| F4      | 515.13 | 21.89  | 1314.20  | 20.00    |
| F3      | 532.87 | 17.74  | 1424.10  | 109.90   |
| F2      | 548.05 | 15.18  | 1464.21  | 40.10    |
| Fground | 566.83 | 18.78  | 1508.59  | 44.38    |
| Cellar  | 578.72 | 11.89  | 1534.72  | 26.13    |

Load Case: W10 W Wind\_IBC09\_4\_X+Y\_CCW

Level Diaph. # Shear-X Shear-Y  
kips



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |         |
|---------|------|--------|---------|
| F47roof | 1    | 4.95   | 20.69   |
| F46MEP  | 1    | 14.85  | 58.76   |
| F45     | 1    | 26.05  | 97.25   |
| F44     | 1    | 38.93  | 141.12  |
| F43     | 1    | 50.65  | 180.86  |
| F42     | 1    | 60.36  | 213.74  |
| F41     | 1    | 70.80  | 248.94  |
| F40     | 1    | 81.22  | 283.92  |
| F39     | 1    | 90.83  | 316.45  |
| F38     | 1    | 100.40 | 348.84  |
| F37     | 1    | 109.91 | 381.09  |
| F36     | 1    | 119.41 | 413.23  |
| F35     | 1    | 128.88 | 445.24  |
| F34     | 1    | 138.32 | 477.10  |
| F33     | 1    | 147.73 | 508.80  |
| F32     | 1    | 157.12 | 540.35  |
| F31     | 1    | 166.47 | 571.71  |
| F30     | 1    | 175.79 | 602.88  |
| F29     | 1    | 185.09 | 633.85  |
| F28     | 1    | 194.35 | 664.60  |
| F27     | 1    | 203.52 | 695.09  |
| F26     | 1    | 212.72 | 725.42  |
| F25     | 1    | 221.92 | 755.51  |
| F24     | 1    | 231.09 | 785.35  |
| F23     | 1    | 240.54 | 814.60  |
| F22     | 1    | 250.07 | 843.48  |
| F21     | 1    | 259.64 | 871.94  |
| F20     | 1    | 269.26 | 899.93  |
| F19     | 1    | 278.89 | 927.25  |
| F18     | 1    | 288.60 | 953.40  |
| F17     | 1    | 298.30 | 977.94  |
| F16     | 1    | 305.82 | 1005.88 |
| F15     | 1    | 267.71 | -488.60 |
| F15     | None | 0.00   | -18.52  |
| F14     | 1    | 284.35 | 644.56  |
| F14     | None | -8.38  | 436.06  |
| F13     | 1    | 159.56 | 1015.42 |
| F13     | None | 125.67 | 96.67   |
| F12     | 1    | 358.16 | 1142.94 |
| F11demo | None | 357.47 | 1160.78 |
| F11     | 1    | 376.52 | 1217.93 |
| F9demo  | None | 376.52 | 1093.07 |
| F10     | 1    | 395.48 | 1270.64 |
| F9      | 1    | 431.84 | 1328.37 |
| F9      | None | -15.60 | 4.12    |
| F8      | 1    | 434.98 | 507.23  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |         |
|---------|------|--------|---------|
| F8      | None | 0.90   | 911.52  |
| F7      | 1    | 436.09 | 291.48  |
| F7      | None | 0.90   | 933.42  |
| F6      | 1    | 458.37 | 288.39  |
| F6      | None | 0.90   | 1019.78 |
| F5      | 1    | 481.97 | 370.53  |
| F5      | None | 0.90   | 964.52  |
| F4      | 1    | 503.90 | 334.39  |
| F4      | None | 0.90   | 1020.67 |
| F3      | 1    | 521.04 | 441.14  |
| F3      | None | 0.90   | 1025.49 |
| F2      | 1    | 535.06 | 1131.42 |
| F2      | None | -0.03  | 373.06  |
| Fground | 1    | 555.18 | 1371.96 |
| Fground | None | 0.02   | 179.56  |
| Cellar  | 1    | 569.39 | 1233.09 |
| Cellar  | None | 0.02   | 350.09  |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 4.95            | 4.95             | 20.69           | 20.69            |
| F46MEP  | 14.85           | 9.91             | 58.76           | 38.07            |
| F45     | 26.05           | 11.19            | 97.25           | 38.49            |
| F44     | 38.93           | 12.89            | 141.12          | 43.87            |
| F43     | 50.65           | 11.71            | 180.86          | 39.74            |
| F42     | 60.36           | 9.71             | 213.74          | 32.88            |
| F41     | 70.80           | 10.44            | 248.94          | 35.20            |
| F40     | 81.22           | 10.42            | 283.92          | 34.98            |
| F39     | 90.83           | 9.61             | 316.45          | 32.53            |
| F38     | 100.40          | 9.57             | 348.84          | 32.40            |
| F37     | 109.91          | 9.51             | 381.09          | 32.24            |
| F36     | 119.41          | 9.50             | 413.23          | 32.14            |
| F35     | 128.88          | 9.47             | 445.24          | 32.01            |
| F34     | 138.32          | 9.44             | 477.10          | 31.86            |
| F33     | 147.73          | 9.41             | 508.80          | 31.71            |
| F32     | 157.12          | 9.38             | 540.35          | 31.54            |
| F31     | 166.47          | 9.35             | 571.71          | 31.36            |
| F30     | 175.79          | 9.32             | 602.88          | 31.17            |
| F29     | 185.09          | 9.30             | 633.85          | 30.97            |
| F28     | 194.35          | 9.26             | 664.60          | 30.75            |
| F27     | 203.52          | 9.17             | 695.09          | 30.49            |
| F26     | 212.72          | 9.20             | 725.42          | 30.33            |
| F25     | 221.92          | 9.19             | 755.51          | 30.09            |
| F24     | 231.09          | 9.18             | 785.35          | 29.84            |
| F23     | 240.54          | 9.45             | 814.60          | 29.25            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |         |          |
|---------|--------|--------|---------|----------|
| F22     | 250.07 | 9.53   | 843.48  | 28.88    |
| F21     | 259.64 | 9.57   | 871.94  | 28.47    |
| F20     | 269.26 | 9.61   | 899.93  | 27.99    |
| F19     | 278.89 | 9.63   | 927.25  | 27.32    |
| F18     | 288.60 | 9.71   | 953.40  | 26.15    |
| F17     | 298.30 | 9.70   | 977.94  | 24.54    |
| F16     | 305.82 | 7.52   | 1005.88 | 27.94    |
| F15     | 267.71 | -38.11 | -507.11 | -1512.99 |
| F14     | 275.97 | 8.26   | 1080.61 | 1587.73  |
| F13     | 285.22 | 9.26   | 1112.09 | 31.48    |
| F12     | 358.16 | 72.93  | 1142.94 | 30.85    |
| F11demo | 357.47 | -0.68  | 1160.78 | 17.84    |
| F11     | 376.52 | 19.05  | 1217.93 | 57.15    |
| F9demo  | 376.52 | 0.00   | 1093.07 | -124.87  |
| F10     | 395.48 | 18.96  | 1270.64 | 177.57   |
| F9      | 416.24 | 20.75  | 1332.49 | 61.85    |
| F8      | 435.87 | 19.64  | 1418.75 | 86.26    |
| F7      | 436.99 | 1.12   | 1224.90 | -193.85  |
| F6      | 459.27 | 22.28  | 1308.17 | 83.26    |
| F5      | 482.86 | 23.60  | 1335.05 | 26.88    |
| F4      | 504.80 | 21.94  | 1355.06 | 20.01    |
| F3      | 521.94 | 17.14  | 1466.63 | 111.57   |
| F2      | 535.03 | 13.10  | 1504.48 | 37.85    |
| Fground | 555.19 | 20.16  | 1551.51 | 47.04    |
| Cellar  | 569.41 | 14.21  | 1583.19 | 31.68    |

**Load Case: W11 W Wind\_IBC09\_4\_X-Y\_CW**

| <b>Level</b> | <b>Diaph. #</b> | <b>Shear-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> |
|--------------|-----------------|-------------------------|-------------------------|
| F47roof      | 1               | 7.23                    | -21.19                  |
| F46MEP       | 1               | 20.04                   | -59.89                  |
| F45          | 1               | 33.26                   | -98.81                  |
| F44          | 1               | 48.21                   | -143.13                 |
| F43          | 1               | 62.05                   | -183.34                 |
| F42          | 1               | 73.92                   | -216.67                 |
| F41          | 1               | 86.59                   | -252.33                 |
| F40          | 1               | 99.10                   | -287.75                 |
| F39          | 1               | 110.82                  | -320.71                 |
| F38          | 1               | 122.48                  | -353.53                 |
| F37          | 1               | 134.05                  | -386.20                 |
| F36          | 1               | 145.60                  | -418.75                 |
| F35          | 1               | 157.07                  | -451.16                 |
| F34          | 1               | 168.46                  | -483.40                 |
| F33          | 1               | 179.76                  | -515.48                 |
| F32          | 1               | 190.96                  | -547.37                 |
| F31          | 1               | 202.04                  | -579.06                 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |          |
|---------|------|--------|----------|
| F30     | 1    | 212.99 | -610.53  |
| F29     | 1    | 223.79 | -641.78  |
| F28     | 1    | 234.40 | -672.78  |
| F27     | 1    | 244.77 | -703.50  |
| F26     | 1    | 255.07 | -734.03  |
| F25     | 1    | 265.15 | -764.28  |
| F24     | 1    | 275.00 | -794.26  |
| F23     | 1    | 284.17 | -823.48  |
| F22     | 1    | 292.90 | -852.24  |
| F21     | 1    | 301.18 | -880.52  |
| F20     | 1    | 308.96 | -908.23  |
| F19     | 1    | 316.11 | -935.13  |
| F18     | 1    | 322.50 | -960.63  |
| F17     | 1    | 326.18 | -984.30  |
| F16     | 1    | 315.07 | -1012.88 |
| F15     | 1    | 201.97 | 511.39   |
| F15     | None | -0.00  | 21.84    |
| F14     | 1    | 206.49 | -555.37  |
| F14     | None | 4.31   | -533.34  |
| F13     | 1    | 86.43  | -1397.61 |
| F13     | None | 133.65 | 276.73   |
| F12     | 1    | 361.15 | -1147.95 |
| F11demo | None | 365.65 | -1169.33 |
| F11     | 1    | 386.47 | -1226.63 |
| F9demo  | None | 386.47 | -1092.93 |
| F10     | 1    | 406.42 | -1278.20 |
| F9      | 1    | 365.39 | -1320.00 |
| F9      | None | 61.39  | -15.98   |
| F8      | 1    | 446.89 | -324.35  |
| F8      | None | 1.44   | -1098.58 |
| F7      | 1    | 430.70 | -132.20  |
| F7      | None | 1.44   | -1112.47 |
| F6      | 1    | 453.84 | -97.09   |
| F6      | None | 1.44   | -1210.88 |
| F5      | 1    | 477.41 | -193.26  |
| F5      | None | 1.44   | -1140.38 |
| F4      | 1    | 499.04 | -223.41  |
| F4      | None | 1.44   | -1130.22 |
| F3      | 1    | 516.73 | -332.33  |
| F3      | None | 1.44   | -1132.92 |
| F2      | 1    | 531.01 | -1129.72 |
| F2      | None | 0.05   | -368.98  |
| Fground | 1    | 546.18 | -1346.89 |
| Fground | None | 0.05   | -198.57  |
| Cellar  | 1    | 554.92 | -1248.61 |
| Cellar  | None | 0.05   | -329.11  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

**Summary - Total Story Shears**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | 7.23                    | 7.23                     | -21.19                  | -21.19                   |
| F46MEP       | 20.04                   | 12.81                    | -59.89                  | -38.70                   |
| F45          | 33.26                   | 13.21                    | -98.81                  | -38.92                   |
| F44          | 48.21                   | 14.96                    | -143.13                 | -44.31                   |
| F43          | 62.05                   | 13.84                    | -183.34                 | -40.21                   |
| F42          | 73.92                   | 11.86                    | -216.67                 | -33.33                   |
| F41          | 86.59                   | 12.67                    | -252.33                 | -35.66                   |
| F40          | 99.10                   | 12.51                    | -287.75                 | -35.42                   |
| F39          | 110.82                  | 11.72                    | -320.71                 | -32.96                   |
| F38          | 122.48                  | 11.66                    | -353.53                 | -32.82                   |
| F37          | 134.05                  | 11.57                    | -386.20                 | -32.67                   |
| F36          | 145.60                  | 11.55                    | -418.75                 | -32.55                   |
| F35          | 157.07                  | 11.47                    | -451.16                 | -32.41                   |
| F34          | 168.46                  | 11.39                    | -483.40                 | -32.25                   |
| F33          | 179.76                  | 11.30                    | -515.48                 | -32.07                   |
| F32          | 190.96                  | 11.20                    | -547.37                 | -31.89                   |
| F31          | 202.04                  | 11.08                    | -579.06                 | -31.69                   |
| F30          | 212.99                  | 10.95                    | -610.53                 | -31.48                   |
| F29          | 223.79                  | 10.80                    | -641.78                 | -31.25                   |
| F28          | 234.40                  | 10.61                    | -672.78                 | -31.00                   |
| F27          | 244.77                  | 10.37                    | -703.50                 | -30.72                   |
| F26          | 255.07                  | 10.30                    | -734.03                 | -30.53                   |
| F25          | 265.15                  | 10.08                    | -764.28                 | -30.25                   |
| F24          | 275.00                  | 9.85                     | -794.26                 | -29.97                   |
| F23          | 284.17                  | 9.17                     | -823.48                 | -29.22                   |
| F22          | 292.90                  | 8.73                     | -852.24                 | -28.77                   |
| F21          | 301.18                  | 8.28                     | -880.52                 | -28.28                   |
| F20          | 308.96                  | 7.77                     | -908.23                 | -27.71                   |
| F19          | 316.11                  | 7.15                     | -935.13                 | -26.90                   |
| F18          | 322.50                  | 6.39                     | -960.63                 | -25.50                   |
| F17          | 326.18                  | 3.69                     | -984.30                 | -23.66                   |
| F16          | 315.07                  | -11.11                   | -1012.88                | -28.58                   |
| F15          | 201.97                  | -113.10                  | 533.22                  | 1546.10                  |
| F14          | 210.81                  | 8.84                     | -1088.71                | -1621.93                 |
| F13          | 220.09                  | 9.28                     | -1120.89                | -32.18                   |
| F12          | 361.15                  | 141.06                   | -1147.95                | -27.06                   |
| F11demo      | 365.65                  | 4.50                     | -1169.33                | -21.38                   |
| F11          | 386.47                  | 20.83                    | -1226.63                | -57.30                   |
| F9demo       | 386.47                  | 0.00                     | -1092.93                | 133.70                   |
| F10          | 406.42                  | 19.95                    | -1278.20                | -185.27                  |
| F9           | 426.78                  | 20.35                    | -1335.97                | -57.77                   |
| F8           | 448.32                  | 21.55                    | -1422.94                | -86.97                   |
| F7           | 432.13                  | -16.19                   | -1244.66                | 178.27                   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |       |          |         |
|---------|--------|-------|----------|---------|
| F6      | 455.28 | 23.15 | -1307.96 | -63.30  |
| F5      | 478.85 | 23.57 | -1333.64 | -25.68  |
| F4      | 500.47 | 21.62 | -1353.63 | -19.99  |
| F3      | 518.17 | 17.69 | -1465.25 | -111.62 |
| F2      | 531.06 | 12.89 | -1498.71 | -33.46  |
| Fground | 546.22 | 15.17 | -1545.46 | -46.75  |
| Cellar  | 554.97 | 8.74  | -1577.72 | -32.26  |

**Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW**

| Level   | Diaph. # | Shear-X<br>kips | Shear-Y<br>kips |
|---------|----------|-----------------|-----------------|
| F47roof | 1        | 6.87            | -21.71          |
| F46MEP  | 1        | 19.13           | -61.04          |
| F45     | 1        | 31.94           | -100.40         |
| F44     | 1        | 46.50           | -145.18         |
| F43     | 1        | 59.91           | -185.86         |
| F42     | 1        | 71.25           | -219.66         |
| F41     | 1        | 83.38           | -255.80         |
| F40     | 1        | 95.41           | -291.67         |
| F39     | 1        | 106.61          | -325.08         |
| F38     | 1        | 117.76          | -358.33         |
| F37     | 1        | 128.82          | -391.40         |
| F36     | 1        | 139.84          | -424.36         |
| F35     | 1        | 150.79          | -457.16         |
| F34     | 1        | 161.66          | -489.79         |
| F33     | 1        | 172.44          | -522.22         |
| F32     | 1        | 183.13          | -554.45         |
| F31     | 1        | 193.72          | -586.46         |
| F30     | 1        | 204.19          | -618.22         |
| F29     | 1        | 214.55          | -649.72         |
| F28     | 1        | 224.76          | -680.92         |
| F27     | 1        | 234.79          | -711.79         |
| F26     | 1        | 244.74          | -742.46         |
| F25     | 1        | 254.54          | -772.80         |
| F24     | 1        | 264.17          | -802.80         |
| F23     | 1        | 273.51          | -832.28         |
| F22     | 1        | 282.62          | -861.33         |
| F21     | 1        | 291.47          | -889.89         |
| F20     | 1        | 300.06          | -917.85         |
| F19     | 1        | 308.34          | -944.95         |
| F18     | 1        | 316.29          | -970.47         |
| F17     | 1        | 322.63          | -994.00         |
| F16     | 1        | 315.62          | -1021.77        |
| F15     | 1        | 198.44          | 1672.53         |
| F15     | None     | -0.00           | 64.72           |
| F14     | 1        | 200.95          | -467.55         |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |          |
|---------|------|--------|----------|
| F14     | None | 6.40   | -632.20  |
| F13     | 1    | 91.37  | -714.26  |
| F13     | None | 125.24 | -419.78  |
| F12     | 1    | 360.19 | -1153.03 |
| F11demo | None | 365.83 | -1186.18 |
| F11     | 1    | 386.28 | -1243.70 |
| F9demo  | None | 386.28 | -1035.91 |
| F10     | 1    | 405.39 | -1294.51 |
| F9      | 1    | 356.08 | -1328.95 |
| F9      | None | 68.17  | -17.78   |
| F8      | 1    | 443.88 | -575.84  |
| F8      | None | 1.61   | -861.37  |
| F7      | 1    | 419.97 | -269.49  |
| F7      | None | 1.61   | -886.31  |
| F6      | 1    | 443.17 | -200.59  |
| F6      | None | 1.61   | -1063.32 |
| F5      | 1    | 466.86 | -353.54  |
| F5      | None | 1.61   | -939.25  |
| F4      | 1    | 488.53 | -351.18  |
| F4      | None | 1.61   | -961.59  |
| F3      | 1    | 505.62 | -454.51  |
| F3      | None | 1.61   | -968.22  |
| F2      | 1    | 517.98 | -758.35  |
| F2      | None | 0.06   | -700.09  |
| Fground | 1    | 534.54 | -1125.52 |
| Fground | None | 0.06   | -377.01  |
| Cellar  | 1    | 545.60 | -892.58  |
| Cellar  | None | 0.06   | -636.67  |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 6.87            | 6.87             | -21.71          | -21.71           |
| F46MEP  | 19.13           | 12.26            | -61.04          | -39.33           |
| F45     | 31.94           | 12.81            | -100.40         | -39.36           |
| F44     | 46.50           | 14.56            | -145.18         | -44.78           |
| F43     | 59.91           | 13.41            | -185.86         | -40.68           |
| F42     | 71.25           | 11.35            | -219.66         | -33.79           |
| F41     | 83.38           | 12.13            | -255.80         | -36.14           |
| F40     | 95.41           | 12.02            | -291.67         | -35.87           |
| F39     | 106.61          | 11.21            | -325.08         | -33.41           |
| F38     | 117.76          | 11.15            | -358.33         | -33.26           |
| F37     | 128.82          | 11.06            | -391.40         | -33.07           |
| F36     | 139.84          | 11.02            | -424.36         | -32.96           |
| F35     | 150.79          | 10.95            | -457.16         | -32.80           |
| F34     | 161.66          | 10.87            | -489.79         | -32.63           |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |         |          |          |
|---------|--------|---------|----------|----------|
| F33     | 172.44 | 10.78   | -522.22  | -32.44   |
| F32     | 183.13 | 10.69   | -554.45  | -32.23   |
| F31     | 193.72 | 10.59   | -586.46  | -32.01   |
| F30     | 204.19 | 10.48   | -618.22  | -31.76   |
| F29     | 214.55 | 10.35   | -649.72  | -31.50   |
| F28     | 224.76 | 10.21   | -680.92  | -31.21   |
| F27     | 234.79 | 10.03   | -711.79  | -30.87   |
| F26     | 244.74 | 9.96    | -742.46  | -30.67   |
| F25     | 254.54 | 9.80    | -772.80  | -30.34   |
| F24     | 264.17 | 9.63    | -802.80  | -29.99   |
| F23     | 273.51 | 9.34    | -832.28  | -29.48   |
| F22     | 282.62 | 9.11    | -861.33  | -29.05   |
| F21     | 291.47 | 8.86    | -889.89  | -28.56   |
| F20     | 300.06 | 8.59    | -917.85  | -27.96   |
| F19     | 308.34 | 8.28    | -944.95  | -27.10   |
| F18     | 316.29 | 7.95    | -970.47  | -25.52   |
| F17     | 322.63 | 6.34    | -994.00  | -23.53   |
| F16     | 315.62 | -7.01   | -1021.77 | -27.77   |
| F15     | 198.44 | -117.18 | 1737.25  | 2759.02  |
| F14     | 207.35 | 8.91    | -1099.75 | -2837.00 |
| F13     | 216.61 | 9.26    | -1134.04 | -34.29   |
| F12     | 360.19 | 143.58  | -1153.03 | -18.99   |
| F11demo | 365.83 | 5.64    | -1186.18 | -33.15   |
| F11     | 386.28 | 20.45   | -1243.70 | -57.52   |
| F9demo  | 386.28 | 0.00    | -1035.91 | 207.79   |
| F10     | 405.39 | 19.10   | -1294.51 | -258.60  |
| F9      | 424.25 | 18.87   | -1346.73 | -52.22   |
| F8      | 445.49 | 21.24   | -1437.22 | -90.49   |
| F7      | 421.58 | -23.91  | -1155.80 | 281.41   |
| F6      | 444.78 | 23.20   | -1263.91 | -108.11  |
| F5      | 468.47 | 23.69   | -1292.79 | -28.88   |
| F4      | 490.14 | 21.67   | -1312.77 | -19.98   |
| F3      | 507.23 | 17.09   | -1422.72 | -109.95  |
| F2      | 518.04 | 10.81   | -1458.44 | -35.71   |
| Fground | 534.59 | 16.55   | -1502.53 | -44.09   |
| Cellar  | 545.66 | 11.07   | -1529.25 | -26.72   |

**Load Case: E1 E EQ\_ASCE710\_X\_+E\_F**

| <b>Level</b> | <b>Diaph. #</b> | <b>Shear-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> |
|--------------|-----------------|-------------------------|-------------------------|
| F47roof      | 1               | 35.66                   | -0.82                   |
| F46MEP       | 1               | 85.62                   | -1.84                   |
| F45          | 1               | 132.59                  | -2.54                   |
| F44          | 1               | 179.70                  | -3.26                   |
| F43          | 1               | 228.12                  | -4.02                   |
| F42          | 1               | 273.25                  | -4.74                   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |         |         |
|---------|------|---------|---------|
| F41     | 1    | 317.91  | -5.48   |
| F40     | 1    | 360.70  | -6.19   |
| F39     | 1    | 401.34  | -6.88   |
| F38     | 1    | 440.54  | -7.56   |
| F37     | 1    | 478.11  | -8.24   |
| F36     | 1    | 514.43  | -8.90   |
| F35     | 1    | 549.40  | -9.53   |
| F34     | 1    | 583.03  | -10.13  |
| F33     | 1    | 615.32  | -10.71  |
| F32     | 1    | 646.27  | -11.25  |
| F31     | 1    | 675.89  | -11.76  |
| F30     | 1    | 704.17  | -12.23  |
| F29     | 1    | 731.11  | -12.65  |
| F28     | 1    | 756.65  | -13.03  |
| F27     | 1    | 780.66  | -13.39  |
| F26     | 1    | 803.65  | -13.69  |
| F25     | 1    | 825.34  | -13.94  |
| F24     | 1    | 845.68  | -14.12  |
| F23     | 1    | 864.41  | -13.97  |
| F22     | 1    | 881.67  | -13.69  |
| F21     | 1    | 897.43  | -13.27  |
| F20     | 1    | 911.61  | -12.70  |
| F19     | 1    | 924.03  | -11.92  |
| F18     | 1    | 934.57  | -10.75  |
| F17     | 1    | 940.27  | -9.20   |
| F16     | 1    | 926.36  | -10.15  |
| F15     | 1    | 700.11  | -86.77  |
| F15     | None | -0.00   | 4.78    |
| F14     | 1    | 724.26  | 130.77  |
| F14     | None | -5.51   | -142.41 |
| F13     | 1    | 363.67  | -657.20 |
| F13     | None | 371.46  | 644.69  |
| F12     | 1    | 1021.87 | -7.22   |
| F11demo | None | 1027.11 | -11.93  |
| F11     | 1    | 1043.26 | -11.99  |
| F9demo  | None | 1043.26 | 5.80    |
| F10     | 1    | 1056.96 | -9.63   |
| F9      | 1    | 1011.55 | 10.78   |
| F9      | None | 59.75   | -15.48  |
| F8      | 1    | 1079.94 | 226.66  |
| F8      | None | 2.68    | -231.67 |
| F7      | 1    | 1020.21 | 193.51  |
| F7      | None | 2.68    | -220.38 |
| F6      | 1    | 1021.43 | 230.46  |
| F6      | None | 2.68    | -231.99 |
| F5      | 1    | 1022.19 | 215.39  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |         |         |
|---------|------|---------|---------|
| F5      | None | 2.68    | -214.95 |
| F4      | 1    | 1020.12 | 131.92  |
| F4      | None | 2.68    | -131.30 |
| F3      | 1    | 1028.14 | 129.12  |
| F3      | None | 2.68    | -128.61 |
| F2      | 1    | 1022.11 | -12.09  |
| F2      | None | 0.02    | 17.28   |
| Fground | 1    | 1016.91 | 25.05   |
| Fground | None | 0.07    | -19.83  |
| Cellar  | 1    | 1007.15 | -30.69  |
| Cellar  | None | 0.07    | 35.17   |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 35.66           | 35.66            | -0.82           | -0.82            |
| F46MEP  | 85.62           | 49.97            | -1.84           | -1.03            |
| F45     | 132.59          | 46.97            | -2.54           | -0.70            |
| F44     | 179.70          | 47.11            | -3.26           | -0.72            |
| F43     | 228.12          | 48.42            | -4.02           | -0.76            |
| F42     | 273.25          | 45.14            | -4.74           | -0.72            |
| F41     | 317.91          | 44.65            | -5.48           | -0.74            |
| F40     | 360.70          | 42.79            | -6.19           | -0.70            |
| F39     | 401.34          | 40.64            | -6.88           | -0.69            |
| F38     | 440.54          | 39.20            | -7.56           | -0.68            |
| F37     | 478.11          | 37.57            | -8.24           | -0.68            |
| F36     | 514.43          | 36.32            | -8.90           | -0.65            |
| F35     | 549.40          | 34.97            | -9.53           | -0.63            |
| F34     | 583.03          | 33.63            | -10.13          | -0.61            |
| F33     | 615.32          | 32.29            | -10.71          | -0.58            |
| F32     | 646.27          | 30.95            | -11.25          | -0.54            |
| F31     | 675.89          | 29.62            | -11.76          | -0.51            |
| F30     | 704.17          | 28.28            | -12.23          | -0.47            |
| F29     | 731.11          | 26.94            | -12.65          | -0.42            |
| F28     | 756.65          | 25.54            | -13.03          | -0.38            |
| F27     | 780.66          | 24.00            | -13.39          | -0.36            |
| F26     | 803.65          | 23.00            | -13.69          | -0.30            |
| F25     | 825.34          | 21.69            | -13.94          | -0.25            |
| F24     | 845.68          | 20.34            | -14.12          | -0.18            |
| F23     | 864.41          | 18.73            | -13.97          | 0.15             |
| F22     | 881.67          | 17.26            | -13.69          | 0.28             |
| F21     | 897.43          | 15.76            | -13.27          | 0.41             |
| F20     | 911.61          | 14.18            | -12.70          | 0.57             |
| F19     | 924.03          | 12.42            | -11.92          | 0.79             |
| F18     | 934.57          | 10.53            | -10.75          | 1.16             |
| F17     | 940.27          | 5.70             | -9.20           | 1.55             |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |        |        |
|---------|---------|---------|--------|--------|
| F16     | 926.36  | -13.91  | -10.15 | -0.95  |
| F15     | 700.11  | -226.24 | -81.99 | -71.83 |
| F14     | 718.74  | 18.63   | -11.64 | 70.34  |
| F13     | 735.12  | 16.38   | -12.51 | -0.87  |
| F12     | 1021.87 | 286.74  | -7.22  | 5.29   |
| F11demo | 1027.11 | 5.24    | -11.93 | -4.71  |
| F11     | 1043.26 | 16.15   | -11.99 | -0.06  |
| F9demo  | 1043.26 | 0.00    | 5.80   | 17.79  |
| F10     | 1056.96 | 13.70   | -9.63  | -15.43 |
| F9      | 1071.30 | 14.34   | -4.69  | 4.94   |
| F8      | 1082.62 | 11.32   | -5.00  | -0.31  |
| F7      | 1022.89 | -59.73  | -26.87 | -21.87 |
| F6      | 1024.11 | 1.23    | -1.52  | 25.35  |
| F5      | 1024.87 | 0.76    | 0.44   | 1.96   |
| F4      | 1022.80 | -2.07   | 0.62   | 0.18   |
| F3      | 1030.82 | 8.02    | 0.51   | -0.11  |
| F2      | 1022.13 | -8.69   | 5.20   | 4.69   |
| Fground | 1016.98 | -5.14   | 5.22   | 0.03   |
| Cellar  | 1007.22 | -9.76   | 4.48   | -0.74  |

**Load Case: E2 E EQ\_ASCE710\_X\_-E\_F**

| Level   | Diaph. # | Shear-X<br>kips | Shear-Y<br>kips |
|---------|----------|-----------------|-----------------|
| F47roof | 1        | 35.60           | -0.89           |
| F46MEP  | 1        | 85.49           | -2.01           |
| F45     | 1        | 132.40          | -2.77           |
| F44     | 1        | 179.45          | -3.55           |
| F43     | 1        | 227.81          | -4.38           |
| F42     | 1        | 272.87          | -5.17           |
| F41     | 1        | 317.44          | -5.98           |
| F40     | 1        | 360.17          | -6.74           |
| F39     | 1        | 400.73          | -7.50           |
| F38     | 1        | 439.86          | -8.24           |
| F37     | 1        | 477.36          | -8.98           |
| F36     | 1        | 513.61          | -9.69           |
| F35     | 1        | 548.51          | -10.37          |
| F34     | 1        | 582.06          | -11.03          |
| F33     | 1        | 614.28          | -11.65          |
| F32     | 1        | 645.16          | -12.24          |
| F31     | 1        | 674.71          | -12.79          |
| F30     | 1        | 702.93          | -13.29          |
| F29     | 1        | 729.82          | -13.75          |
| F28     | 1        | 755.31          | -14.15          |
| F27     | 1        | 779.27          | -14.52          |
| F26     | 1        | 802.23          | -14.83          |
| F25     | 1        | 823.88          | -15.09          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |         |         |
|---------|------|---------|---------|
| F24     | 1    | 844.21  | -15.26  |
| F23     | 1    | 862.97  | -15.15  |
| F22     | 1    | 880.30  | -14.90  |
| F21     | 1    | 896.15  | -14.52  |
| F20     | 1    | 910.45  | -13.98  |
| F19     | 1    | 923.04  | -13.22  |
| F18     | 1    | 933.79  | -12.06  |
| F17     | 1    | 939.85  | -10.49  |
| F16     | 1    | 926.43  | -11.35  |
| F15     | 1    | 699.11  | 60.89   |
| F15     | None | -0.00   | 9.47    |
| F14     | 1    | 723.04  | 143.95  |
| F14     | None | -5.29   | -157.02 |
| F13     | 1    | 362.74  | -577.17 |
| F13     | None | 371.39  | 563.00  |
| F12     | 1    | 1021.84 | -7.91   |
| F11demo | None | 1027.23 | -13.98  |
| F11     | 1    | 1043.33 | -14.02  |
| F9demo  | None | 1043.33 | 12.24   |
| F10     | 1    | 1056.92 | -11.46  |
| F9      | 1    | 1010.41 | 10.03   |
| F9      | None | 60.71   | -15.73  |
| F8      | 1    | 1079.71 | 207.40  |
| F8      | None | 2.68    | -213.76 |
| F7      | 1    | 1019.27 | 182.56  |
| F7      | None | 2.68    | -203.29 |
| F6      | 1    | 1020.50 | 223.95  |
| F6      | None | 2.68    | -221.76 |
| F5      | 1    | 1021.27 | 203.69  |
| F5      | None | 2.68    | -199.84 |
| F4      | 1    | 1019.20 | 120.37  |
| F4      | None | 2.68    | -116.33 |
| F3      | 1    | 1027.15 | 117.93  |
| F3      | None | 2.68    | -113.88 |
| F2      | 1    | 1021.00 | 18.11   |
| F2      | None | 0.01    | -9.31   |
| Fground | 1    | 1015.92 | 43.38   |
| Fground | None | 0.07    | -34.29  |
| Cellar  | 1    | 1006.33 | -2.59   |
| Cellar  | None | 0.07    | 11.35   |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | 35.60           | 35.60            | -0.89           | -0.89            |
| F46MEP  | 85.49           | 49.89            | -2.01           | -1.12            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |         |        |        |
|---------|---------|---------|--------|--------|
| F45     | 132.40  | 46.91   | -2.77  | -0.76  |
| F44     | 179.45  | 47.05   | -3.55  | -0.78  |
| F43     | 227.81  | 48.35   | -4.38  | -0.83  |
| F42     | 272.87  | 45.06   | -5.17  | -0.79  |
| F41     | 317.44  | 44.57   | -5.98  | -0.81  |
| F40     | 360.17  | 42.72   | -6.74  | -0.77  |
| F39     | 400.73  | 40.56   | -7.50  | -0.76  |
| F38     | 439.86  | 39.13   | -8.24  | -0.74  |
| F37     | 477.36  | 37.50   | -8.98  | -0.73  |
| F36     | 513.61  | 36.25   | -9.69  | -0.71  |
| F35     | 548.51  | 34.90   | -10.37 | -0.69  |
| F34     | 582.06  | 33.56   | -11.03 | -0.66  |
| F33     | 614.28  | 32.22   | -11.65 | -0.62  |
| F32     | 645.16  | 30.88   | -12.24 | -0.59  |
| F31     | 674.71  | 29.55   | -12.79 | -0.55  |
| F30     | 702.93  | 28.22   | -13.29 | -0.50  |
| F29     | 729.82  | 26.88   | -13.75 | -0.45  |
| F28     | 755.31  | 25.49   | -14.15 | -0.40  |
| F27     | 779.27  | 23.96   | -14.52 | -0.37  |
| F26     | 802.23  | 22.95   | -14.83 | -0.31  |
| F25     | 823.88  | 21.65   | -15.09 | -0.25  |
| F24     | 844.21  | 20.32   | -15.26 | -0.18  |
| F23     | 862.97  | 18.77   | -15.15 | 0.11   |
| F22     | 880.30  | 17.32   | -14.90 | 0.25   |
| F21     | 896.15  | 15.85   | -14.52 | 0.38   |
| F20     | 910.45  | 14.30   | -13.98 | 0.54   |
| F19     | 923.04  | 12.58   | -13.22 | 0.76   |
| F18     | 933.79  | 10.76   | -12.06 | 1.16   |
| F17     | 939.85  | 6.06    | -10.49 | 1.57   |
| F16     | 926.43  | -13.43  | -11.35 | -0.86  |
| F15     | 699.11  | -227.32 | 70.36  | 81.72  |
| F14     | 717.75  | 18.64   | -13.07 | -83.44 |
| F13     | 734.13  | 16.38   | -14.17 | -1.10  |
| F12     | 1021.84 | 287.71  | -7.91  | 6.27   |
| F11demo | 1027.23 | 5.39    | -13.98 | -6.07  |
| F11     | 1043.33 | 16.10   | -14.02 | -0.04  |
| F9demo  | 1043.33 | -0.00   | 12.24  | 26.27  |
| F10     | 1056.92 | 13.60   | -11.46 | -23.70 |
| F9      | 1071.12 | 14.20   | -5.69  | 5.76   |
| F8      | 1082.40 | 11.28   | -6.36  | -0.66  |
| F7      | 1021.96 | -60.44  | -20.73 | -14.38 |
| F6      | 1023.19 | 1.23    | 2.19   | 22.92  |
| F5      | 1023.95 | 0.76    | 3.85   | 1.66   |
| F4      | 1021.89 | -2.07   | 4.04   | 0.19   |
| F3      | 1029.84 | 7.95    | 4.06   | 0.01   |
| F2      | 1021.01 | -8.83   | 8.80   | 4.75   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |         |       |      |       |
|---------|---------|-------|------|-------|
| Fground | 1015.99 | -5.02 | 9.09 | 0.28  |
| Cellar  | 1006.40 | -9.59 | 8.76 | -0.33 |

**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level   | Diaph. # | Shear-X<br>kips | Shear-Y<br>kips |
|---------|----------|-----------------|-----------------|
| F47roof | 1        | -1.08           | 36.39           |
| F46MEP  | 1        | -2.40           | 87.19           |
| F45     | 1        | -3.31           | 134.66          |
| F44     | 1        | -4.25           | 182.27          |
| F43     | 1        | -5.21           | 231.25          |
| F42     | 1        | -6.13           | 276.81          |
| F41     | 1        | -7.08           | 321.85          |
| F40     | 1        | -7.98           | 365.06          |
| F39     | 1        | -8.87           | 406.04          |
| F38     | 1        | -9.75           | 445.59          |
| F37     | 1        | -10.61          | 483.55          |
| F36     | 1        | -11.46          | 520.19          |
| F35     | 1        | -12.28          | 555.46          |
| F34     | 1        | -13.07          | 589.38          |
| F33     | 1        | -13.82          | 621.96          |
| F32     | 1        | -14.54          | 653.21          |
| F31     | 1        | -15.21          | 683.14          |
| F30     | 1        | -15.83          | 711.74          |
| F29     | 1        | -16.39          | 739.05          |
| F28     | 1        | -16.89          | 765.04          |
| F27     | 1        | -17.34          | 789.71          |
| F26     | 1        | -17.72          | 813.23          |
| F25     | 1        | -18.02          | 835.49          |
| F24     | 1        | -18.21          | 856.50          |
| F23     | 1        | -18.07          | 876.00          |
| F22     | 1        | -17.75          | 894.20          |
| F21     | 1        | -17.26          | 911.08          |
| F20     | 1        | -16.60          | 926.59          |
| F19     | 1        | -15.75          | 940.52          |
| F18     | 1        | -14.67          | 952.28          |
| F17     | 1        | -12.71          | 961.67          |
| F16     | 1        | -4.90           | 979.66          |
| F15     | 1        | 38.14           | -1076.30        |
| F15     | None     | 0.00            | -47.01          |
| F14     | 1        | 45.06           | 492.03          |
| F14     | None     | -7.21           | 538.21          |
| F13     | 1        | 40.34           | 817.54          |
| F13     | None     | -2.48           | 233.53          |
| F12     | 1        | -1.12           | 1045.97         |
| F11demo | None     | -4.15           | 1070.10         |





RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |         |
|---------|------|--------|---------|
| F11     | 1    | -4.76  | 1078.68 |
| F9demo  | None | -4.76  | 931.47  |
| F10     | 1    | -4.72  | 1084.70 |
| F9      | 1    | 36.12  | 1070.38 |
| F9      | None | -39.76 | 10.39   |
| F8      | 1    | -4.25  | 408.93  |
| F8      | None | -0.15  | 686.16  |
| F7      | 1    | 5.73   | 208.30  |
| F7      | None | -0.15  | 704.24  |
| F6      | 1    | 5.45   | 143.46  |
| F6      | None | -0.15  | 808.24  |
| F5      | 1    | 5.55   | 221.83  |
| F5      | None | -0.15  | 735.30  |
| F4      | 1    | 5.72   | 221.02  |
| F4      | None | -0.15  | 734.20  |
| F3      | 1    | 5.62   | 223.88  |
| F3      | None | -0.15  | 737.42  |
| F2      | 1    | 5.98   | 559.76  |
| F2      | None | -0.04  | 394.18  |
| Fground | 1    | 7.53   | 742.65  |
| Fground | None | -0.01  | 202.64  |
| Cellar  | 1    | 9.22   | 582.22  |
| Cellar  | None | -0.01  | 351.35  |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | -1.08           | -1.08            | 36.39           | 36.39            |
| F46MEP  | -2.40           | -1.32            | 87.19           | 50.80            |
| F45     | -3.31           | -0.91            | 134.66          | 47.47            |
| F44     | -4.25           | -0.94            | 182.27          | 47.61            |
| F43     | -5.21           | -0.95            | 231.25          | 48.98            |
| F42     | -6.13           | -0.92            | 276.81          | 45.57            |
| F41     | -7.08           | -0.95            | 321.85          | 45.04            |
| F40     | -7.98           | -0.90            | 365.06          | 43.21            |
| F39     | -8.87           | -0.89            | 406.04          | 40.98            |
| F38     | -9.75           | -0.88            | 445.59          | 39.55            |
| F37     | -10.61          | -0.86            | 483.55          | 37.97            |
| F36     | -11.46          | -0.85            | 520.19          | 36.63            |
| F35     | -12.28          | -0.82            | 555.46          | 35.27            |
| F34     | -13.07          | -0.79            | 589.38          | 33.92            |
| F33     | -13.82          | -0.75            | 621.96          | 32.58            |
| F32     | -14.54          | -0.72            | 653.21          | 31.25            |
| F31     | -15.21          | -0.67            | 683.14          | 29.93            |
| F30     | -15.83          | -0.62            | 711.74          | 28.61            |
| F29     | -16.39          | -0.56            | 739.05          | 27.30            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |        |        |          |          |
|---------|--------|--------|----------|----------|
| F28     | -16.89 | -0.50  | 765.04   | 25.99    |
| F27     | -17.34 | -0.45  | 789.71   | 24.67    |
| F26     | -17.72 | -0.38  | 813.23   | 23.52    |
| F25     | -18.02 | -0.30  | 835.49   | 22.26    |
| F24     | -18.21 | -0.19  | 856.50   | 21.01    |
| F23     | -18.07 | 0.14   | 876.00   | 19.50    |
| F22     | -17.75 | 0.32   | 894.20   | 18.20    |
| F21     | -17.26 | 0.49   | 911.08   | 16.88    |
| F20     | -16.60 | 0.66   | 926.59   | 15.51    |
| F19     | -15.75 | 0.85   | 940.52   | 13.93    |
| F18     | -14.67 | 1.07   | 952.28   | 11.76    |
| F17     | -12.71 | 1.96   | 961.67   | 9.40     |
| F16     | -4.90  | 7.81   | 979.66   | 17.98    |
| F15     | 38.14  | 43.05  | -1123.31 | -2102.97 |
| F14     | 37.85  | -0.30  | 1030.23  | 2153.54  |
| F13     | 37.87  | 0.02   | 1051.07  | 20.84    |
| F12     | -1.12  | -38.98 | 1045.97  | -5.10    |
| F11demo | -4.15  | -3.04  | 1070.10  | 24.12    |
| F11     | -4.76  | -0.61  | 1078.68  | 8.59     |
| F9demo  | -4.76  | -0.00  | 931.47   | -147.22  |
| F10     | -4.72  | 0.04   | 1084.70  | 153.23   |
| F9      | -3.64  | 1.08   | 1080.77  | -3.93    |
| F8      | -4.39  | -0.75  | 1095.09  | 14.31    |
| F7      | 5.59   | 9.98   | 912.55   | -182.54  |
| F6      | 5.30   | -0.28  | 951.70   | 39.15    |
| F5      | 5.41   | 0.10   | 957.13   | 5.43     |
| F4      | 5.58   | 0.17   | 955.22   | -1.91    |
| F3      | 5.48   | -0.10  | 961.30   | 6.08     |
| F2      | 5.94   | 0.46   | 953.94   | -7.36    |
| Fground | 7.51   | 1.57   | 945.29   | -8.65    |
| Cellar  | 9.20   | 1.69   | 933.57   | -11.72   |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| <b>Level</b> | <b>Diaph. #</b> | <b>Shear-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> |
|--------------|-----------------|-------------------------|-------------------------|
| F47roof      | 1               | -0.95                   | 36.57                   |
| F46MEP       | 1               | -2.08                   | 87.58                   |
| F45          | 1               | -2.85                   | 135.20                  |
| F44          | 1               | -3.66                   | 182.97                  |
| F43          | 1               | -4.46                   | 232.11                  |
| F42          | 1               | -5.20                   | 277.83                  |
| F41          | 1               | -5.97                   | 323.04                  |
| F40          | 1               | -6.70                   | 366.40                  |
| F39          | 1               | -7.41                   | 407.53                  |
| F38          | 1               | -8.12                   | 447.22                  |
| F37          | 1               | -8.81                   | 485.32                  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |        |          |
|---------|------|--------|----------|
| F36     | 1    | -9.48  | 522.09   |
| F35     | 1    | -10.13 | 557.49   |
| F34     | 1    | -10.74 | 591.54   |
| F33     | 1    | -11.33 | 624.23   |
| F32     | 1    | -11.88 | 655.59   |
| F31     | 1    | -12.39 | 685.61   |
| F30     | 1    | -12.87 | 714.30   |
| F29     | 1    | -13.29 | 741.67   |
| F28     | 1    | -13.67 | 767.72   |
| F27     | 1    | -14.02 | 792.43   |
| F26     | 1    | -14.31 | 815.97   |
| F25     | 1    | -14.53 | 838.25   |
| F24     | 1    | -14.68 | 859.25   |
| F23     | 1    | -14.63 | 878.83   |
| F22     | 1    | -14.46 | 897.11   |
| F21     | 1    | -14.19 | 914.07   |
| F20     | 1    | -13.83 | 929.65   |
| F19     | 1    | -13.37 | 943.64   |
| F18     | 1    | -12.83 | 955.40   |
| F17     | 1    | -11.72 | 964.76   |
| F16     | 1    | -5.08  | 982.54   |
| F15     | 1    | 40.56  | -1429.60 |
| F15     | None | 0.00   | -58.20   |
| F14     | 1    | 47.98  | 460.40   |
| F14     | None | -7.73  | 573.26   |
| F13     | 1    | 42.62  | 626.53   |
| F13     | None | -2.35  | 428.52   |
| F12     | 1    | -1.05  | 1047.61  |
| F11demo | None | -4.45  | 1075.00  |
| F11     | 1    | -4.94  | 1083.55  |
| F9demo  | None | -4.94  | 915.99   |
| F10     | 1    | -4.64  | 1089.07  |
| F9      | 1    | 38.85  | 1072.14  |
| F9      | None | -42.06 | 11.00    |
| F8      | 1    | -3.70  | 454.30   |
| F8      | None | -0.16  | 644.00   |
| F7      | 1    | 7.94   | 234.12   |
| F7      | None | -0.16  | 664.03   |
| F6      | 1    | 7.66   | 158.65   |
| F6      | None | -0.16  | 784.27   |
| F5      | 1    | 7.75   | 249.33   |
| F5      | None | -0.16  | 699.72   |
| F4      | 1    | 7.91   | 248.41   |
| F4      | None | -0.16  | 698.72   |
| F3      | 1    | 7.96   | 250.41   |
| F3      | None | -0.16  | 702.49   |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |      |       |        |
|---------|------|-------|--------|
| F2      | 1    | 8.62  | 488.40 |
| F2      | None | -0.04 | 456.98 |
| Fground | 1    | 9.87  | 699.29 |
| Fground | None | -0.02 | 236.84 |
| Cellar  | 1    | 11.16 | 515.85 |
| Cellar  | None | -0.02 | 407.58 |

**Summary - Total Story Shears**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F47roof | -0.95           | -0.95            | 36.57           | 36.57            |
| F46MEP  | -2.08           | -1.13            | 87.58           | 51.01            |
| F45     | -2.85           | -0.77            | 135.20          | 47.62            |
| F44     | -3.66           | -0.80            | 182.97          | 47.77            |
| F43     | -4.46           | -0.80            | 232.11          | 49.14            |
| F42     | -5.20           | -0.74            | 277.83          | 45.72            |
| F41     | -5.97           | -0.76            | 323.04          | 45.20            |
| F40     | -6.70           | -0.73            | 366.40          | 43.36            |
| F39     | -7.41           | -0.72            | 407.53          | 41.13            |
| F38     | -8.12           | -0.71            | 447.22          | 39.69            |
| F37     | -8.81           | -0.69            | 485.32          | 38.10            |
| F36     | -9.48           | -0.67            | 522.09          | 36.77            |
| F35     | -10.13          | -0.64            | 557.49          | 35.40            |
| F34     | -10.74          | -0.62            | 591.54          | 34.04            |
| F33     | -11.33          | -0.59            | 624.23          | 32.70            |
| F32     | -11.88          | -0.55            | 655.59          | 31.35            |
| F31     | -12.39          | -0.51            | 685.61          | 30.02            |
| F30     | -12.87          | -0.47            | 714.30          | 28.69            |
| F29     | -13.29          | -0.43            | 741.67          | 27.37            |
| F28     | -13.67          | -0.38            | 767.72          | 26.05            |
| F27     | -14.02          | -0.35            | 792.43          | 24.71            |
| F26     | -14.31          | -0.29            | 815.97          | 23.54            |
| F25     | -14.53          | -0.22            | 838.25          | 22.28            |
| F24     | -14.68          | -0.15            | 859.25          | 21.00            |
| F23     | -14.63          | 0.05             | 878.83          | 19.58            |
| F22     | -14.46          | 0.16             | 897.11          | 18.28            |
| F21     | -14.19          | 0.27             | 914.07          | 16.96            |
| F20     | -13.83          | 0.37             | 929.65          | 15.58            |
| F19     | -13.37          | 0.46             | 943.64          | 13.99            |
| F18     | -12.83          | 0.54             | 955.40          | 11.76            |
| F17     | -11.72          | 1.11             | 964.76          | 9.36             |
| F16     | -5.08           | 6.65             | 982.54          | 17.78            |
| F15     | 40.56           | 45.64            | -1487.79        | -2470.33         |
| F14     | 40.25           | -0.31            | 1033.66         | 2521.46          |
| F13     | 40.27           | 0.02             | 1055.06         | 21.39            |
| F12     | -1.05           | -41.32           | 1047.61         | -7.44            |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |       |       |         |         |
|---------|-------|-------|---------|---------|
| F11demo | -4.45 | -3.39 | 1075.00 | 27.39   |
| F11     | -4.94 | -0.49 | 1083.55 | 8.55    |
| F9demo  | -4.94 | -0.00 | 915.99  | -167.56 |
| F10     | -4.64 | 0.30  | 1089.07 | 173.08  |
| F9      | -3.21 | 1.43  | 1083.14 | -5.93   |
| F8      | -3.86 | -0.65 | 1098.30 | 15.16   |
| F7      | 7.78  | 11.65 | 898.14  | -200.15 |
| F6      | 7.50  | -0.28 | 942.91  | 44.77   |
| F5      | 7.59  | 0.09  | 949.06  | 6.14    |
| F4      | 7.75  | 0.16  | 947.13  | -1.93   |
| F3      | 7.80  | 0.05  | 952.90  | 5.77    |
| F2      | 8.58  | 0.78  | 945.38  | -7.52   |
| Fground | 9.86  | 1.28  | 936.12  | -9.26   |
| Cellar  | 11.14 | 1.28  | 923.44  | -12.69  |

| Load Case: O1 | Shear Test | User_User |         |         |  |
|---------------|------------|-----------|---------|---------|--|
| Level         |            | Diaph. #  | Shear-X | Shear-Y |  |
|               |            |           | kips    | kips    |  |
| F47roof       |            | 1         | 0.00    | 0.00    |  |
| F46MEP        |            | 1         | 0.00    | 0.00    |  |
| F45           |            | 1         | 0.00    | 0.00    |  |
| F44           |            | 1         | 0.00    | 0.00    |  |
| F43           |            | 1         | 0.00    | 0.00    |  |
| F42           |            | 1         | 0.00    | 0.00    |  |
| F41           |            | 1         | 0.00    | 0.00    |  |
| F40           |            | 1         | 0.00    | 0.00    |  |
| F39           |            | 1         | 0.00    | 0.00    |  |
| F38           |            | 1         | 0.00    | 0.00    |  |
| F37           |            | 1         | 0.00    | 0.00    |  |
| F36           |            | 1         | 0.00    | 0.00    |  |
| F35           |            | 1         | 0.00    | 0.00    |  |
| F34           |            | 1         | 0.00    | 0.00    |  |
| F33           |            | 1         | 0.00    | 0.00    |  |
| F32           |            | 1         | 0.00    | 0.00    |  |
| F31           |            | 1         | 0.00    | 0.00    |  |
| F30           |            | 1         | 0.00    | 0.00    |  |
| F29           |            | 1         | 0.00    | 0.00    |  |
| F28           |            | 1         | 0.00    | 0.00    |  |
| F27           |            | 1         | 0.00    | 0.00    |  |
| F26           |            | 1         | 0.00    | 0.00    |  |
| F25           |            | 1         | 0.00    | 0.00    |  |
| F24           |            | 1         | 0.00    | 0.00    |  |
| F23           |            | 1         | 0.00    | 0.00    |  |
| F22           |            | 1         | 0.00    | 0.00    |  |
| F21           |            | 1         | 0.00    | 0.00    |  |
| F20           |            | 1         | 0.00    | 0.00    |  |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

|         |   |      |      |
|---------|---|------|------|
| F19     | 1 | 0.00 | 0.00 |
| F18     | 1 | 0.00 | 0.00 |
| F17     | 1 | 0.00 | 0.00 |
| F16     | 1 | 0.00 | 0.00 |
| F15     | 1 | 0.00 | 0.00 |
| F14     | 1 | 0.00 | 0.00 |
| F13     | 1 | 0.00 | 0.00 |
| F12     | 1 | 0.00 | 0.00 |
| F11     | 1 | 0.00 | 0.00 |
| F10     | 1 | 0.00 | 0.00 |
| F9      | 1 | 0.00 | 0.00 |
| F8      | 1 | 0.00 | 0.00 |
| F7      | 1 | 0.00 | 0.00 |
| F6      | 1 | 0.00 | 0.00 |
| F5      | 1 | 0.00 | 0.00 |
| F4      | 1 | 0.00 | 0.00 |
| F3      | 1 | 0.00 | 0.00 |
| F2      | 1 | 0.00 | 0.00 |
| Fground | 1 | 0.00 | 0.00 |
| Cellar  | 1 | 0.00 | 0.00 |

**Summary - Total Story Shears**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F47roof      | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F46MEP       | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F45          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F44          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F43          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F42          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F41          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F40          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F39          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F38          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F37          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F36          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F35          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F34          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F33          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F32          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F31          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F30          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F29          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F28          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F27          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |
| F26          | 0.00                    | 0.00                     | 0.00                    | 0.00                     |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_161027\_Lateral Framing\_No Theatre

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|         |      |      |      |      |
|---------|------|------|------|------|
| F25     | 0.00 | 0.00 | 0.00 | 0.00 |
| F24     | 0.00 | 0.00 | 0.00 | 0.00 |
| F23     | 0.00 | 0.00 | 0.00 | 0.00 |
| F22     | 0.00 | 0.00 | 0.00 | 0.00 |
| F21     | 0.00 | 0.00 | 0.00 | 0.00 |
| F20     | 0.00 | 0.00 | 0.00 | 0.00 |
| F19     | 0.00 | 0.00 | 0.00 | 0.00 |
| F18     | 0.00 | 0.00 | 0.00 | 0.00 |
| F17     | 0.00 | 0.00 | 0.00 | 0.00 |
| F16     | 0.00 | 0.00 | 0.00 | 0.00 |
| F15     | 0.00 | 0.00 | 0.00 | 0.00 |
| F14     | 0.00 | 0.00 | 0.00 | 0.00 |
| F13     | 0.00 | 0.00 | 0.00 | 0.00 |
| F12     | 0.00 | 0.00 | 0.00 | 0.00 |
| F11demo | 0.00 | 0.00 | 0.00 | 0.00 |
| F11     | 0.00 | 0.00 | 0.00 | 0.00 |
| F9demo  | 0.00 | 0.00 | 0.00 | 0.00 |
| F10     | 0.00 | 0.00 | 0.00 | 0.00 |
| F9      | 0.00 | 0.00 | 0.00 | 0.00 |
| F8      | 0.00 | 0.00 | 0.00 | 0.00 |
| F7      | 0.00 | 0.00 | 0.00 | 0.00 |
| F6      | 0.00 | 0.00 | 0.00 | 0.00 |
| F5      | 0.00 | 0.00 | 0.00 | 0.00 |
| F4      | 0.00 | 0.00 | 0.00 | 0.00 |
| F3      | 0.00 | 0.00 | 0.00 | 0.00 |
| F2      | 0.00 | 0.00 | 0.00 | 0.00 |
| Fground | 0.00 | 0.00 | 0.00 | 0.00 |
| Cellar  | 0.00 | 0.00 | 0.00 | 0.00 |

**Severud Associates**

1568 Broadway

Structural Calculations

# **CHAPTER 10**

## **Lateral Load Resisting System Belt Diaphragm**



Project No. \_\_\_\_\_

Sheet No. \_\_\_\_\_

Client \_\_\_\_\_

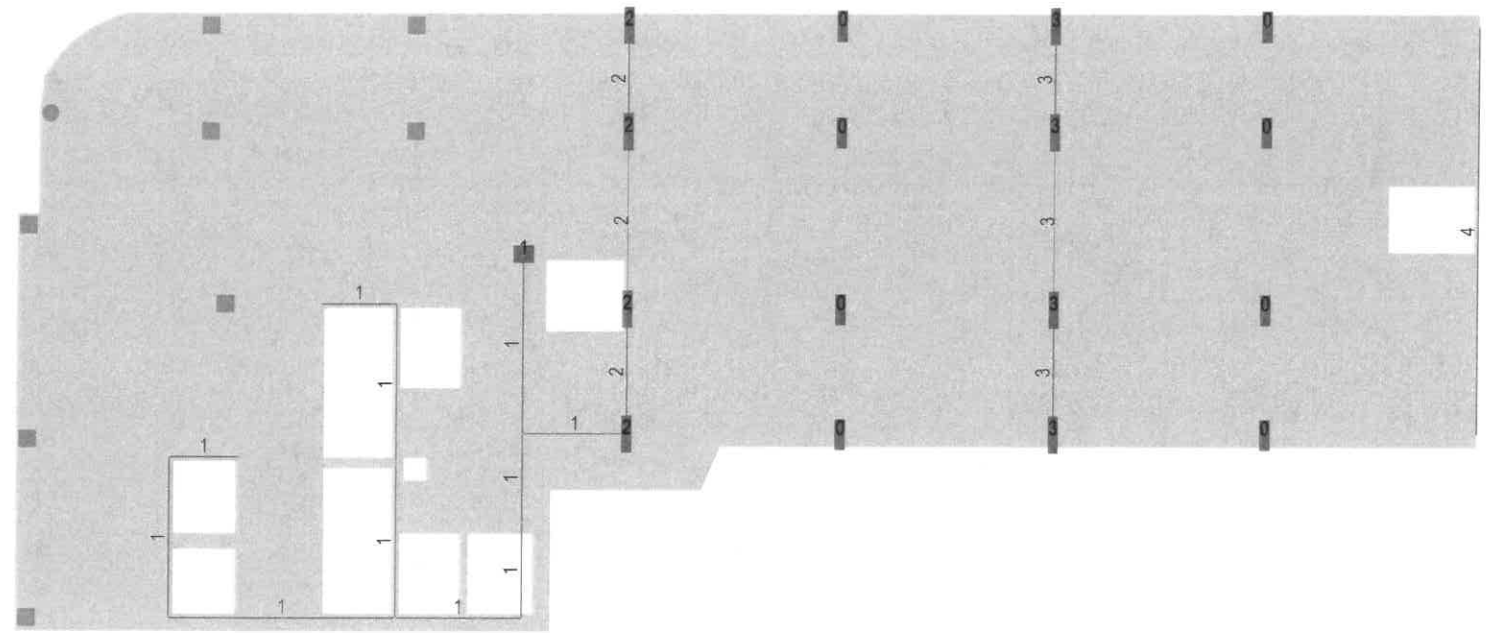
Date \_\_\_\_\_

Project \_\_\_\_\_

Subject \_\_\_\_\_

Des. By \_\_\_\_\_

LATERAL LOAD  
RESISTING SYSTEM -  
BASE (BELT)





# Frame Story Shears

RAM Frame 15.03.00.000  
Bentley DataBase: 14442\_sr\_160920\_Tower Only\_DoNotDelete

09/20/16 13:16:51

### CRITERIA:

Rigid End Zones: Ignore Effects  
 Member Force Output: At Face of Joint  
 P-Delta: Yes Scale Factor (DL): 1.20 Scale Factor (LL): 0.50  
 Scale Factor (Roof): 1.00 Scale Factor (Snow): 1.00

Ground Level: Base

#### Mesh Criteria :

Max. Distance Between Nodes on Mesh Line (ft) : 6.00

Merge Node Tolerance (in) : 0.2000

Geometry Tolerance (in) : 0.0050

Walls Out-of-plane Stiffness Included in Analysis.

Sign considered for Dynamic Load Case Results.

Rigid Links Included at Fixed Beam-to-Wall Locations

Eigenvalue Analysis : Ritz Vectors (Load Dependent)

Frame #1 *W<sub>x</sub> = 750 kips Lvl 16/14* *W<sub>y</sub> = 1490 kips Lvl 10*  
*Q<sub>x</sub> = 780 kips* *Q<sub>y</sub> = NEGLIGIBLE*

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -34.11          | -34.11           | 0.80            | 0.80             |
| F14   | -8.75           | 25.36            | 25.93           | 25.13            |
| F10   | -11.84          | -3.09            | 34.90           | 8.97             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -9.23           | -9.23            | 0.53            | 0.53             |
| F14   | 1.14            | 10.37            | 7.70            | 7.17             |
| F10   | 0.11            | -1.03            | 14.99           | 7.29             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 748.56          | 748.56           | 167.83          | 167.83           |
| F14   | 654.22          | -94.34           | 188.17          | 20.33            |
| F10   | 806.61          | 152.39           | 242.75          | 54.59            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -111.49         | -111.49          | 1085.46         | 1085.46          |
| F14   | -147.62         | -36.14           | 1173.87         | 88.41            |
| F10   | -175.21         | -27.59           | 1485.08         | 311.21           |



# Frame Story Shears

RAM Structural System

RAM Frame 15.03.00.000

Bentley DataBase: 14442\_sr\_160920\_Tower Only\_DoNotDelete

09/20/16 13:16:51



DEPT OF BLDGS 121191236 Job Number



ES685233118 Scan Code

**Load Case: W3**    W    Wind\_IBC09\_2\_X+E

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 565.86          | 565.86           | 198.04          | 198.04           |
| F14   | 491.36          | -74.50           | 221.04          | 23.00            |
| F10   | 610.48          | 119.12           | 280.67          | 59.63            |

**Load Case: W4**    W    Wind\_IBC09\_2\_X-E

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 556.98          | 556.98           | 53.71           | 53.71            |
| F14   | 489.97          | -67.02           | 61.21           | 7.50             |
| F10   | 599.44          | 109.47           | 83.46           | 22.25            |

**Load Case: W5**    W    Wind\_IBC09\_2\_Y+E

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -100.18         | -100.18          | 545.74          | 545.74           |
| F14   | -113.57         | -13.38           | 583.81          | 38.08            |
| F10   | -152.34         | -38.77           | 750.74          | 166.92           |

**Load Case: W6**    W    Wind\_IBC09\_2\_Y-E

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -67.05          | -67.05           | 1082.45         | 1082.45          |
| F14   | -107.87         | -40.82           | 1176.99         | 94.53            |
| F10   | -110.48         | -2.61            | 1476.87         | 299.89           |

**Load Case: W7**    W    Wind\_IBC09\_3\_X+Y

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 477.80          | 477.80           | 939.97          | 939.97           |
| F14   | 379.94          | -97.86           | 1021.52         | 81.56            |
| F10   | 473.55          | 93.60            | 1295.87         | 274.35           |

**Load Case: W8**    W    Wind\_IBC09\_3\_X-Y

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 645.04          | 645.04           | -688.22         | -688.22          |
| F14   | 601.38          | -43.66           | -739.28         | -51.05           |
| F10   | 736.37          | 134.99           | -931.74         | -192.47          |



# Frame Story Shears

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ES190450922 Scan Code

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**Load Case: W9**    W    Wind\_IBC09\_4\_X+Y\_CW

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 374.11          | 374.11           | 960.37          | 960.37           |
| F14   | 287.62          | -86.49           | 1048.52         | 88.15            |
| F10   | 374.99          | 87.38            | 1318.16         | 269.64           |

**Load Case: W10**    W    Wind\_IBC09\_4\_X+Y\_CCW

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 342.60          | 342.60           | 449.59          | 449.59           |
| F14   | 282.30          | -60.30           | 483.77          | 34.18            |
| F10   | 335.33          | 53.03            | 625.65          | 141.88           |

**Load Case: W11**    W    Wind\_IBC09\_4\_X-Y\_CW

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 499.53          | 499.53           | -260.78         | -260.78          |
| F14   | 453.69          | -45.84           | -272.08         | -11.30           |
| F10   | 572.11          | 118.42           | -352.55         | -80.47           |

**Load Case: W12**    W    Wind\_IBC09\_4\_X-Y\_CCW

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 468.02          | 468.02           | -771.56         | -771.56          |
| F14   | 448.38          | -19.64           | -836.83         | -65.28           |
| F10   | 532.44          | 84.07            | -1045.06        | -208.23          |

**Load Case: E1**    E    EQ\_ASCE710\_X+E\_F

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 777.56          | 777.56           | 211.64          | 211.64           |
| F14   | 711.89          | -65.68           | 249.18          | 37.54            |
| F10   | 812.57          | 100.68           | 294.43          | 45.25            |

**Load Case: E2**    E    EQ\_ASCE710\_X-E\_F

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 774.81          | 774.81           | 169.31          | 169.31           |
| F14   | 711.25          | -63.56           | 199.86          | 30.55            |
| F10   | 808.83          | 97.58            | 238.56          | 38.70            |



# Frame Story Shears

DEPT OF BLDGS 121191236 Job Number

ES901530788 Scan Code

RAM Frame 15.03.00.000  
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**Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -47.62          | -47.62           | 414.94          | 414.94           |
| F14   | -62.62          | -15.00           | 470.48          | 55.55            |
| F10   | -72.37          | -9.76            | 546.92          | 76.44            |

**Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -41.05          | -41.05           | 515.76          | 515.76           |
| F14   | -61.08          | -20.03           | 587.85          | 72.09            |
| F10   | -63.44          | -2.36            | 679.84          | 91.99            |

## Frame #2

**Load Case: D DeadLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -26.17          | -26.17           | 13.83           | 13.83            |

**Load Case: Lp PosLiveLoad RAMUSER**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -8.64           | -8.64            | 5.17            | 5.17             |

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 23.58           | 23.58            | 98.86           | 98.86            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 8.32            | 8.32             | 314.52          | 314.52           |

**Load Case: W3 W Wind\_IBC09\_2\_X+E**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 21.13           | 21.13            | 90.09           | 90.09            |



# Frame Story Shears

DEPT OF BLDGS 121191236 Job Number

ES494318666 Scan Code

RAM Structural System  
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| Load Case: | W | Wind_IBC09_2_X-E     |          |         |          |
|------------|---|----------------------|----------|---------|----------|
| Level      |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|            |   | kip                  | kip      | kip     | kip      |
| F16        |   | 14.24                | 14.24    | 58.20   | 58.20    |
|            |   |                      |          |         |          |
| Load Case: | W | Wind_IBC09_2_Y+E     |          |         |          |
| Level      |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|            |   | kip                  | kip      | kip     | kip      |
| F16        |   | -6.65                | -6.65    | 176.19  | 176.19   |
|            |   |                      |          |         |          |
| Load Case: | W | Wind_IBC09_2_Y-E     |          |         |          |
| Level      |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|            |   | kip                  | kip      | kip     | kip      |
| F16        |   | 19.12                | 19.12    | 295.59  | 295.59   |
|            |   |                      |          |         |          |
| Load Case: | W | Wind_IBC09_3_X+Y     |          |         |          |
| Level      |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|            |   | kip                  | kip      | kip     | kip      |
| F16        |   | 23.92                | 23.92    | 310.03  | 310.03   |
|            |   |                      |          |         |          |
| Load Case: | W | Wind_IBC09_3_X-Y     |          |         |          |
| Level      |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|            |   | kip                  | kip      | kip     | kip      |
| F16        |   | 11.45                | 11.45    | -161.74 | -161.74  |
|            |   |                      |          |         |          |
| Load Case: | W | Wind_IBC09_4_X+Y_CW  |          |         |          |
| Level      |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|            |   | kip                  | kip      | kip     | kip      |
| F16        |   | 30.19                | 30.19    | 289.26  | 289.26   |
|            |   |                      |          |         |          |
| Load Case: | W | Wind_IBC09_4_X+Y_CCW |          |         |          |
| Level      |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|            |   | kip                  | kip      | kip     | kip      |
| F16        |   | 5.69                 | 5.69     | 175.79  | 175.79   |
|            |   |                      |          |         |          |
| Load Case: | W | Wind_IBC09_4_X-Y_CW  |          |         |          |
| Level      |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|            |   | kip                  | kip      | kip     | kip      |
| F16        |   | 20.83                | 20.83    | -64.57  | -64.57   |
|            |   |                      |          |         |          |
| Load Case: | W | Wind_IBC09_4_X-Y_CCW |          |         |          |
| Level      |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|            |   | kip                  | kip      | kip     | kip      |



# Frame Story Shears

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ES948668332 Scan Code

RAM Frame 15.03.00.000  
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| Level                                    | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--|-----------------|------------------|-----------------|------------------|
| F16                                      | -3.66           | -3.66            | -178.04         | -178.04          |
| <b>Load Case: E1 E EQ_ASCE710_X_+E_F</b> |                 |                  |                 |                  |
| Level                                    | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16                                      | 28.01           | 28.01            | 115.55          | 115.55           |
| <b>Load Case: E2 E EQ_ASCE710_X_-E_F</b> |                 |                  |                 |                  |
| Level                                    | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16                                      | 25.85           | 25.85            | 105.59          | 105.59           |
| <b>Load Case: E3 E EQ_ASCE710_Y_+E_F</b> |                 |                  |                 |                  |
| Level                                    | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16                                      | 3.04            | 3.04             | 125.30          | 125.30           |
| <b>Load Case: E4 E EQ_ASCE710_Y_-E_F</b> |                 |                  |                 |                  |
| Level                                    | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16                                      | 8.20            | 8.20             | 149.08          | 149.08           |
| <b>Frame #3</b>                          |                 |                  |                 |                  |
| <b>Load Case: D DeadLoad RAMUSER</b>     |                 |                  |                 |                  |
| Level                                    | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16                                      | -2.39           | -2.39            | 19.39           | 19.39            |
| <b>Load Case: Lp PosLiveLoad RAMUSER</b> |                 |                  |                 |                  |
| Level                                    | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16                                      | -0.36           | -0.36            | 8.62            | 8.62             |
| <b>Load Case: W1 W Wind_IBC09_1_X</b>    |                 |                  |                 |                  |
| Level                                    | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16                                      | 27.45           | 27.45            | -70.84          | -70.84           |
| <b>Load Case: W2 W Wind_IBC09_1_Y</b>    |                 |                  |                 |                  |
| Level                                    | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16                                      | -20.21          | -20.21           | 255.01          | 255.01           |





# Frame Story Shears

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ES119847116 Scan Code

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| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 23.31           | 23.31            | -61.92          | -61.92           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 17.86           | 17.86            | -44.34          | -44.34           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -25.35          | -25.35           | 223.40          | 223.40           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -4.97           | -4.97            | 159.11          | 159.11           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 5.42            | 5.42             | 138.13          | 138.13           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 35.75           | 35.75            | -244.39         | -244.39          |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 13.75           | 13.75            | 72.90           | 72.90            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -5.62           | -5.62            | 134.30          | 134.30           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   |                 |                  |                 |                  |



# Frame Story Shears

DEPT OF BLDGS 121191236 Job Number

ES111607320 Scan Code

RAM Structural System RAM Frame 15.03.00.000

Bentley DataBase: 14442\_sr\_160920\_Tower Only\_DoNotDelete

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|     |       |       |         |         |
|-----|-------|-------|---------|---------|
| F16 | 36.49 | 36.49 | -213.99 | -213.99 |
|-----|-------|-------|---------|---------|

### Load Case: W12 W Wind\_IBC09\_4\_X-Y\_CCW

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 17.12           | 17.12            | -152.59         | -152.59          |

### Load Case: E1 E EQ\_ASCE710\_X\_+E\_F

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 32.00           | 32.00            | -77.83          | -77.83           |

### Load Case: E2 E EQ\_ASCE710\_X\_-E\_F

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 30.29           | 30.29            | -73.34          | -73.34           |

### Load Case: E3 E EQ\_ASCE710\_Y\_+E\_F

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -8.87           | -8.87            | 102.68          | 102.68           |

### Load Case: E4 E EQ\_ASCE710\_Y\_-E\_F

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -4.80           | -4.80            | 92.01           | 92.01            |

### Frame #4

### Load Case: D DeadLoad RAMUSER

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 50.48           | 50.48            | -7.96           | -7.96            |

### Load Case: Lp PosLiveLoad RAMUSER

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 16.25           | 16.25            | -3.74           | -3.74            |

### Load Case: W1 W Wind\_IBC09\_1\_X

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 13.45           | 13.45            | -235.18         | -235.18          |



# Frame Story Shears

DEPT OF BLDGS 121191236 Job Number

ES439076695 Scan Code

RAM Frame 15.03.00.000

Bentley DataBase: 14442\_sr\_160920\_Tower Only\_DoNotDelete

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| Load Case: W2  | W | Wind_IBC09_1_Y       |          |         |          |
|----------------|---|----------------------|----------|---------|----------|
| Level          |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|                |   | kip                  | kip      | kip     | kip      |
| F16            |   | -10.18               | -10.18   | 402.94  | 402.94   |
|                |   |                      |          |         |          |
| Load Case: W3  | W | Wind_IBC09_2_X+E     |          |         |          |
| Level          |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|                |   | kip                  | kip      | kip     | kip      |
| F16            |   | 11.46                | 11.46    | -244.76 | -244.76  |
|                |   |                      |          |         |          |
| Load Case: W4  | W | Wind_IBC09_2_X-E     |          |         |          |
| Level          |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|                |   | kip                  | kip      | kip     | kip      |
| F16            |   | 8.71                 | 8.71     | -108.02 | -108.02  |
|                |   |                      |          |         |          |
| Load Case: W5  | W | Wind_IBC09_2_Y+E     |          |         |          |
| Level          |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|                |   | kip                  | kip      | kip     | kip      |
| F16            |   | -12.78               | -12.78   | 557.10  | 557.10   |
|                |   |                      |          |         |          |
| Load Case: W6  | W | Wind_IBC09_2_Y-E     |          |         |          |
| Level          |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|                |   | kip                  | kip      | kip     | kip      |
| F16            |   | -2.49                | -2.49    | 47.30   | 47.30    |
|                |   |                      |          |         |          |
| Load Case: W7  | W | Wind_IBC09_3_X+Y     |          |         |          |
| Level          |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|                |   | kip                  | kip      | kip     | kip      |
| F16            |   | 2.45                 | 2.45     | 125.81  | 125.81   |
|                |   |                      |          |         |          |
| Load Case: W8  | W | Wind_IBC09_3_X-Y     |          |         |          |
| Level          |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|                |   | kip                  | kip      | kip     | kip      |
| F16            |   | 17.72                | 17.72    | -478.59 | -478.59  |
|                |   |                      |          |         |          |
| Load Case: W9  | W | Wind_IBC09_4_X+Y_CW  |          |         |          |
| Level          |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|                |   | kip                  | kip      | kip     | kip      |
| F16            |   | 6.73                 | 6.73     | -148.09 | -148.09  |
|                |   |                      |          |         |          |
| Load Case: W10 | W | Wind_IBC09_4_X+Y_CCW |          |         |          |
| Level          |   | Shear-X              | Change-X | Shear-Y | Change-Y |
|                |   | kip                  | kip      | kip     | kip      |



# Frame Story Shears

DEPT OF BLDGS 121191236 Job Number

ES361895084 Scan Code

RAM Structural System RAM Frame 15.03.00.000  
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| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--|-----------------|------------------|-----------------|------------------|
| F16  | -3.05           | -3.05            | 336.81          | 336.81           |
| <b>Load Case: W11 W Wind_IBC09_4_X-Y_CW</b>  |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16  | 18.18           | 18.18            | -601.39         | -601.39          |
| <b>Load Case: W12 W Wind_IBC09_4_X-Y_CCW</b> |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16  | 8.40            | 8.40             | -116.49         | -116.49          |
| <b>Load Case: E1 E EQ_ASCE710_X_+E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16  | 15.52           | 15.52            | -287.39         | -287.39          |
| <b>Load Case: E2 E EQ_ASCE710_X_-E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16  | 14.67           | 14.67            | -246.50         | -246.50          |
| <b>Load Case: E3 E EQ_ASCE710_Y_+E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16  | -4.46           | -4.46            | 166.68          | 166.68           |
| <b>Load Case: E4 E EQ_ASCE710_Y_-E_F</b>     |                 |                  |                 |                  |
| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F16  | -2.42           | -2.42            | 69.27           | 69.27            |



# Loads and Applied Forces

RAM Structural System RAM Frame 15.03.00.000

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

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## LOAD CASE: W

Wind ASCE 7-05 / IBC2006/2009  
 Exposure: B  
 Basic Wind Speed (mph): 98.0 Importance Factor: 1.000  
 Apply Directionality Factor, Kd = 0.85  
 Use Topography Factor, Kzt: 1.00  
 Use Calculated Frequency for X-Dir.  
 Use Calculated Frequency for Y-Dir.  
 Gust Factor for Flexible Structures, G: Use Calculated G for X-Dir.  
 Gust Factor for Flexible Structures, G: Use Calculated G for Y-Dir.  
 Damping Ratio for Flexible Structures= 0.02  
 Mean Roof Height (ft): Top Story Height + Parapet = 516.17  
 Ground Level: Base

## WIND PRESSURES:

X-Direction: Natural Frequency = 0.233 Structure is Flexible  
 Y-Direction: Natural Frequency = 0.233 Structure is Flexible  
 CpWindward = 0.80 qLeeward (qh) = 33.01 psf  
 GCpn (Parapet): Windward = 1.50 Leeward = -1.00

| Height<br>ft | Kz    | Kzt   | qz<br>psf | Gust Factor G |       | CpLeeward |        | Pressure (psf) |        |
|--------------|-------|-------|-----------|---------------|-------|-----------|--------|----------------|--------|
|              |       |       |           | X             | Y     | X         | Y      | X              | Y      |
| 516.17       | 1.579 | 1.000 | 33.009    | 0.970         | 0.929 | -0.263    | -0.500 | 34.051         | 39.867 |
| 506.05       | 1.571 | 1.000 | 32.822    | 0.965         | 0.927 | -0.278    | -0.500 | 34.205         | 39.641 |
| 496.63       | 1.562 | 1.000 | 32.646    | 0.965         | 0.927 | -0.278    | -0.500 | 34.069         | 39.511 |
| 485.63       | 1.552 | 1.000 | 32.438    | 0.965         | 0.927 | -0.278    | -0.500 | 33.908         | 39.356 |
| 473.13       | 1.541 | 1.000 | 32.197    | 0.964         | 0.926 | -0.282    | -0.500 | 33.796         | 39.153 |
| 464.43       | 1.533 | 1.000 | 32.027    | 0.964         | 0.926 | -0.282    | -0.500 | 33.664         | 39.027 |
| 455.73       | 1.524 | 1.000 | 31.855    | 0.964         | 0.926 | -0.282    | -0.500 | 33.531         | 38.899 |
| 445.69       | 1.515 | 1.000 | 31.652    | 0.964         | 0.926 | -0.282    | -0.500 | 33.376         | 38.749 |
| 436.99       | 1.506 | 1.000 | 31.475    | 0.964         | 0.926 | -0.282    | -0.500 | 33.239         | 38.617 |
| 428.29       | 1.497 | 1.000 | 31.294    | 0.964         | 0.926 | -0.282    | -0.500 | 33.100         | 38.484 |
| 419.59       | 1.489 | 1.000 | 31.111    | 0.964         | 0.926 | -0.282    | -0.500 | 32.959         | 38.348 |
| 410.89       | 1.480 | 1.000 | 30.926    | 0.964         | 0.926 | -0.282    | -0.500 | 32.815         | 38.211 |
| 402.19       | 1.471 | 1.000 | 30.737    | 0.964         | 0.926 | -0.282    | -0.500 | 32.670         | 38.071 |
| 393.49       | 1.462 | 1.000 | 30.546    | 0.964         | 0.926 | -0.282    | -0.500 | 32.523         | 37.929 |
| 384.79       | 1.452 | 1.000 | 30.351    | 0.964         | 0.926 | -0.282    | -0.500 | 32.373         | 37.785 |
| 376.09       | 1.443 | 1.000 | 30.154    | 0.964         | 0.926 | -0.282    | -0.500 | 32.220         | 37.638 |
| 367.39       | 1.433 | 1.000 | 29.953    | 0.964         | 0.926 | -0.282    | -0.500 | 32.065         | 37.489 |
| 358.69       | 1.423 | 1.000 | 29.748    | 0.964         | 0.926 | -0.282    | -0.500 | 31.908         | 37.338 |
| 349.99       | 1.414 | 1.000 | 29.540    | 0.964         | 0.926 | -0.282    | -0.500 | 31.748         | 37.184 |
| 341.29       | 1.403 | 1.000 | 29.329    | 0.964         | 0.926 | -0.282    | -0.500 | 31.584         | 37.027 |
| 332.59       | 1.393 | 1.000 | 29.113    | 0.964         | 0.926 | -0.282    | -0.500 | 31.418         | 36.867 |
| 323.89       | 1.383 | 1.000 | 28.893    | 0.964         | 0.926 | -0.282    | -0.500 | 31.249         | 36.704 |
| 315.19       | 1.372 | 1.000 | 28.669    | 0.964         | 0.926 | -0.282    | -0.500 | 31.076         | 36.538 |
| 306.49       | 1.361 | 1.000 | 28.441    | 0.964         | 0.926 | -0.282    | -0.500 | 30.900         | 36.369 |
| 297.79       | 1.350 | 1.000 | 28.208    | 0.964         | 0.926 | -0.282    | -0.500 | 30.721         | 36.196 |



# Loads and Applied Forces

RAM Structural System RAM Frame 15.03.00.000

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

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|        |       |       |        |       |       |        |        |        |        |
|--------|-------|-------|--------|-------|-------|--------|--------|--------|--------|
| 289.09 | 1.338 | 1.000 | 27.970 | 0.964 | 0.926 | -0.282 | -0.500 | 30.537 | 36.020 |
| 280.39 | 1.327 | 1.000 | 27.727 | 0.964 | 0.926 | -0.282 | -0.500 | 30.350 | 35.840 |
| 271.69 | 1.315 | 1.000 | 27.478 | 0.964 | 0.926 | -0.282 | -0.500 | 30.158 | 35.656 |
| 262.99 | 1.303 | 1.000 | 27.224 | 0.964 | 0.926 | -0.282 | -0.500 | 29.962 | 35.467 |
| 254.29 | 1.290 | 1.000 | 26.964 | 0.964 | 0.926 | -0.282 | -0.500 | 29.761 | 35.274 |
| 245.59 | 1.277 | 1.000 | 26.697 | 0.964 | 0.926 | -0.282 | -0.500 | 29.556 | 35.076 |
| 236.89 | 1.264 | 1.000 | 26.423 | 0.962 | 0.917 | -0.266 | -0.500 | 28.776 | 34.528 |
| 228.19 | 1.251 | 1.000 | 26.142 | 0.962 | 0.917 | -0.266 | -0.500 | 28.560 | 34.322 |
| 219.49 | 1.237 | 1.000 | 25.853 | 0.962 | 0.917 | -0.266 | -0.500 | 28.338 | 34.110 |
| 210.79 | 1.223 | 1.000 | 25.556 | 0.960 | 0.925 | -0.290 | -0.500 | 28.810 | 34.170 |
| 202.09 | 1.208 | 1.000 | 25.250 | 0.958 | 0.916 | -0.276 | -0.500 | 28.086 | 33.622 |
| 184.69 | 1.178 | 1.000 | 24.609 | 0.958 | 0.916 | -0.276 | -0.500 | 27.595 | 33.152 |
| 167.27 | 1.145 | 1.000 | 23.922 | 0.958 | 0.916 | -0.276 | -0.500 | 27.059 | 32.643 |
| 151.27 | 1.112 | 1.000 | 23.245 | 0.941 | 0.904 | -0.297 | -0.500 | 26.725 | 31.713 |
| 136.27 | 1.080 | 1.000 | 22.562 | 0.943 | 0.917 | -0.361 | -0.500 | 28.257 | 31.685 |
| 124.02 | 1.051 | 1.000 | 21.962 | 0.953 | 0.958 | -0.500 | -0.474 | 32.480 | 31.828 |
| 111.77 | 1.020 | 1.000 | 21.319 | 0.953 | 0.958 | -0.500 | -0.474 | 31.990 | 31.335 |
| 92.52  | 0.967 | 1.000 | 20.199 | 0.955 | 0.960 | -0.500 | -0.472 | 31.209 | 30.498 |
| 76.48  | 0.915 | 1.000 | 19.129 | 0.955 | 0.960 | -0.500 | -0.472 | 30.392 | 29.676 |
| 60.50  | 0.856 | 1.000 | 17.890 | 0.941 | 0.897 | -0.285 | -0.500 | 22.311 | 27.655 |
| 49.00  | 0.806 | 1.000 | 16.844 | 0.942 | 0.905 | -0.297 | -0.500 | 21.921 | 27.132 |
| 30.00  | 0.701 | 1.000 | 14.641 | 0.933 | 0.895 | -0.299 | -0.500 | 20.146 | 25.268 |
| 15.00  | 0.575 | 1.000 | 12.011 | 0.933 | 0.895 | -0.299 | -0.500 | 18.182 | 23.384 |
| 0.00   | 0.575 | 1.000 | 12.011 | 0.933 | 0.895 | -0.299 | -0.500 | 18.182 | 23.384 |

## APPLIED DIAPHRAGM FORCES

Type: Wind\_IBC09\_1\_X

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 516.17   | 10.95      | 0.00       | 102.67  | 28.54   |
| F46MEP  | 1       | 506.05   | 21.28      | 0.00       | 102.67  | 32.07   |
| F45     | 1       | 496.63   | 23.53      | 0.00       | 102.67  | 33.92   |
| F44     | 1       | 485.63   | 26.96      | 0.00       | 102.67  | 33.92   |
| F43     | 1       | 473.13   | 24.59      | 0.00       | 102.67  | 34.40   |
| F42     | 1       | 464.43   | 20.50      | 0.00       | 102.67  | 35.08   |
| F41     | 1       | 455.73   | 21.99      | 0.00       | 102.67  | 35.08   |
| F40     | 1       | 445.69   | 21.90      | 0.00       | 102.67  | 35.08   |
| F39     | 1       | 436.99   | 20.24      | 0.00       | 102.67  | 35.08   |
| F38     | 1       | 428.29   | 20.16      | 0.00       | 102.67  | 35.08   |
| F37     | 1       | 419.59   | 20.07      | 0.00       | 102.67  | 35.08   |
| F36     | 1       | 410.89   | 19.98      | 0.00       | 102.67  | 35.08   |
| F35     | 1       | 402.19   | 19.90      | 0.00       | 102.67  | 35.08   |
| F34     | 1       | 393.49   | 19.81      | 0.00       | 102.67  | 35.08   |
| F33     | 1       | 384.79   | 19.71      | 0.00       | 102.67  | 35.08   |
| F32     | 1       | 376.09   | 19.62      | 0.00       | 102.67  | 35.08   |
| F31     | 1       | 367.39   | 19.53      | 0.00       | 102.67  | 35.08   |



# Loads and Applied Forces

RAM Structural System RAM Frame 15.03.00.000

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|         |     |        |       |      |        |       |
|---------|-----|--------|-------|------|--------|-------|
| F30     | 1   | 358.69 | 19.43 | 0.00 | 102.67 | 35.08 |
| F29     | 1   | 349.99 | 19.33 | 0.00 | 102.67 | 35.08 |
| F28     | 1   | 341.29 | 19.23 | 0.00 | 102.67 | 35.08 |
| F27     | 1   | 332.59 | 19.13 | 0.00 | 102.67 | 35.08 |
| F26     | 1   | 323.89 | 19.03 | 0.00 | 102.67 | 35.08 |
| F25     | 1   | 315.19 | 18.93 | 0.00 | 102.67 | 35.08 |
| F24     | 1   | 306.49 | 18.82 | 0.00 | 102.67 | 35.08 |
| F23     | 1   | 297.79 | 18.71 | 0.00 | 102.67 | 35.08 |
| F22     | 1   | 289.09 | 18.60 | 0.00 | 102.67 | 35.08 |
| F21     | 1   | 280.39 | 18.48 | 0.00 | 102.67 | 35.08 |
| F20     | 1   | 271.69 | 18.37 | 0.00 | 102.67 | 35.08 |
| F19     | 1   | 262.99 | 18.25 | 0.00 | 102.67 | 35.08 |
| F18     | 1   | 254.29 | 18.12 | 0.00 | 102.67 | 35.08 |
| F17     | 1   | 245.59 | 17.94 | 0.00 | 102.67 | 35.08 |
| F16     | 1   | 236.89 | 17.58 | 0.00 | 114.00 | 35.08 |
| F15     | 1   | 228.19 | 17.39 | 0.00 | 114.00 | 35.08 |
| F14     | 1   | 219.49 | 17.33 | 0.00 | 114.00 | 35.08 |
| F13     | 1   | 210.79 | 18.08 | 0.00 | 103.17 | 36.45 |
| F12     | 1   | 202.09 | 27.68 | 0.00 | 114.00 | 37.89 |
| F11demo | --- | ---    | ---   | ---  | ---    | ---   |
| F11     | 1   | 184.69 | 36.39 | 0.00 | 114.00 | 37.97 |
| F9demo  | --- | ---    | ---   | ---  | ---    | ---   |
| F10     | 1   | 167.27 | 34.98 | 0.00 | 114.21 | 37.25 |
| F9      | 1   | 151.27 | 37.78 | 0.00 | 102.37 | 47.03 |
| F8      | 1   | 136.27 | 39.87 | 0.00 | 84.21  | 51.81 |
| F7      | 1   | 124.02 | 39.72 | 0.00 | 42.79  | 51.81 |
| F6      | 1   | 111.77 | 53.66 | 0.00 | 42.79  | 53.93 |
| F5      | 1   | 92.52  | 54.87 | 0.00 | 44.34  | 50.46 |
| F4      | 1   | 76.48  | 46.53 | 0.00 | 44.34  | 50.46 |
| F3      | 1   | 60.50  | 33.93 | 0.00 | 101.12 | 48.48 |
| F2      | 1   | 49.00  | 33.03 | 0.00 | 104.17 | 50.13 |
| Fground | 1   | 30.00  | 39.93 | 0.00 | 101.55 | 57.61 |
| Cellar  | 1   | 15.00  | 31.99 | 0.00 | 101.55 | 57.60 |

### Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |



# Loads and Applied Forces

DEPT OF BLDGS 121191236 Job Number

ES101089015 Scan Code

RAM Structural System RAM Frame 15.03.00.000

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Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|        |   |            |            |
|--------|---|------------|------------|
| F38    | 1 | 0.000      | 0.000      |
| F37    | 1 | 0.000      | 0.000      |
| F36    | 1 | 0.000      | 0.000      |
| F35    | 1 | 0.000      | 0.000      |
| F34    | 1 | 0.000      | 0.000      |
| F33    | 1 | 0.000      | 0.000      |
| F32    | 1 | 0.000      | 0.000      |
| F31    | 1 | 0.000      | 0.000      |
| F30    | 1 | 0.000      | 0.000      |
| F29    | 1 | 0.000      | 0.000      |
| F28    | 1 | 0.000      | 0.000      |
| F27    | 1 | 0.000      | 0.000      |
| F26    | 1 | 0.000      | 0.000      |
| F25    | 1 | 0.000      | 0.000      |
| F24    | 1 | 0.000      | 0.000      |
| F23    | 1 | 0.000      | 0.000      |
| F22    | 1 | 0.000      | 0.000      |
| F21    | 1 | 0.000      | 0.000      |
| F20    | 1 | 0.000      | 0.000      |
| F19    | 1 | 0.000      | 0.000      |
| F18    | 1 | 0.000      | 0.000      |
| F17    | 1 | 0.000      | 0.000      |
| F16    | 1 | 0.000      | 0.000      |
| F15    | 1 | 0.000      | 0.000      |
| F14    | 1 | 0.000      | 0.000      |
| F13    | 1 | 0.000      | 0.000      |
| F12    | 1 | 0.000      | 0.000      |
| F11    | 1 | 0.000      | 0.000      |
| F8     | 1 | 0.000      | 0.000      |
| Cellar | 1 | 0.000      | 0.000      |
|        |   | <hr/> 0.00 | <hr/> 0.00 |

## APPLIED STORY FORCES

Type: Wind\_IBC09\_1\_X

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 516.17   | 10.95      | 0.00       |
| F46MEP  | 506.05   | 21.28      | 0.00       |
| F45     | 496.63   | 23.53      | 0.00       |
| F44     | 485.63   | 26.96      | 0.00       |
| F43     | 473.13   | 24.59      | 0.00       |
| F42     | 464.43   | 20.50      | 0.00       |
| F41     | 455.73   | 21.99      | 0.00       |
| F40     | 445.69   | 21.90      | 0.00       |
| F39     | 436.99   | 20.24      | 0.00       |





# Loads and Applied Forces

DEPT OF BLDGS 121191236 Job Number

ES379833865 Scan Code

RAM Structural System RAM Frame 15.03.00.000

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

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|         |        |         |       |
|---------|--------|---------|-------|
| F38     | 428.29 | 20.16   | 0.00  |
| F37     | 419.59 | 20.07   | 0.00  |
| F36     | 410.89 | 19.98   | 0.00  |
| F35     | 402.19 | 19.90   | 0.00  |
| F34     | 393.49 | 19.81   | 0.00  |
| F33     | 384.79 | 19.71   | 0.00  |
| F32     | 376.09 | 19.62   | 0.00  |
| F31     | 367.39 | 19.53   | 0.00  |
| F30     | 358.69 | 19.43   | 0.00  |
| F29     | 349.99 | 19.33   | 0.00  |
| F28     | 341.29 | 19.23   | 0.00  |
| F27     | 332.59 | 19.13   | 0.00  |
| F26     | 323.89 | 19.03   | 0.00  |
| F25     | 315.19 | 18.93   | 0.00  |
| F24     | 306.49 | 18.82   | 0.00  |
| F23     | 297.79 | 18.71   | 0.00  |
| F22     | 289.09 | 18.60   | 0.00  |
| F21     | 280.39 | 18.48   | 0.00  |
| F20     | 271.69 | 18.37   | 0.00  |
| F19     | 262.99 | 18.25   | 0.00  |
| F18     | 254.29 | 18.12   | 0.00  |
| F17     | 245.59 | 17.94   | 0.00  |
| F16     | 236.89 | 17.58   | 0.00  |
| F15     | 228.19 | 17.39   | 0.00  |
| F14     | 219.49 | 17.33   | 0.00  |
| F13     | 210.79 | 18.08   | 0.00  |
| F12     | 202.09 | 27.68   | 0.00  |
| F11demo | 193.39 | ---     | ---   |
| F11     | 184.69 | 36.39   | 0.00  |
| F9demo  | 175.98 | ---     | ---   |
| F10     | 167.27 | 34.98   | 0.00  |
| F9      | 151.27 | 37.78   | 0.00  |
| F8      | 136.27 | 39.87   | 0.00  |
| F7      | 124.02 | 39.72   | 0.00  |
| F6      | 111.77 | 53.66   | 0.00  |
| F5      | 92.52  | 54.87   | 0.00  |
| F4      | 76.48  | 46.53   | 0.00  |
| F3      | 60.50  | 33.93   | 0.00  |
| F2      | 49.00  | 33.03   | 0.00  |
| Fground | 30.00  | 39.93   | 0.00  |
| Cellar  | 15.00  | 31.99   | 0.00  |
|         |        | <hr/>   | <hr/> |
|         |        | 1193.83 | 0.00  |



# Loads and Applied Forces

DEPT OF BLDGS 121191236 Job Number

ES774404364 Scan Code

RAM Structural System RAM Frame 15.03.00.000

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

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## APPLIED DIAPHRAGM FORCES

Type: Wind\_IBC09\_1\_Y

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 516.17   | 0.00       | 33.21      | 102.67  | 30.08   |
| F46MEP  | 1       | 506.05   | 0.00       | 63.88      | 102.67  | 33.92   |
| F45     | 1       | 496.63   | 0.00       | 66.48      | 102.67  | 33.92   |
| F44     | 1       | 485.63   | 0.00       | 76.20      | 102.67  | 33.92   |
| F43     | 1       | 473.13   | 0.00       | 68.45      | 102.67  | 35.08   |
| F42     | 1       | 464.43   | 0.00       | 55.97      | 102.67  | 35.08   |
| F41     | 1       | 455.73   | 0.00       | 60.07      | 102.67  | 35.08   |
| F40     | 1       | 445.69   | 0.00       | 59.86      | 102.67  | 35.08   |
| F39     | 1       | 436.99   | 0.00       | 55.38      | 102.67  | 35.08   |
| F38     | 1       | 428.29   | 0.00       | 55.19      | 102.67  | 35.08   |
| F37     | 1       | 419.59   | 0.00       | 54.99      | 102.67  | 35.08   |
| F36     | 1       | 410.89   | 0.00       | 54.80      | 102.67  | 35.08   |
| F35     | 1       | 402.19   | 0.00       | 54.59      | 102.67  | 35.08   |
| F34     | 1       | 393.49   | 0.00       | 54.39      | 102.67  | 35.08   |
| F33     | 1       | 384.79   | 0.00       | 54.18      | 102.67  | 35.08   |
| F32     | 1       | 376.09   | 0.00       | 53.97      | 102.67  | 35.08   |
| F31     | 1       | 367.39   | 0.00       | 53.76      | 102.67  | 35.08   |
| F30     | 1       | 358.69   | 0.00       | 53.54      | 102.67  | 35.08   |
| F29     | 1       | 349.99   | 0.00       | 53.32      | 102.67  | 35.08   |
| F28     | 1       | 341.29   | 0.00       | 53.10      | 102.67  | 35.08   |
| F27     | 1       | 332.59   | 0.00       | 52.87      | 102.67  | 35.08   |
| F26     | 1       | 323.89   | 0.00       | 52.63      | 102.67  | 35.08   |
| F25     | 1       | 315.19   | 0.00       | 52.40      | 102.67  | 35.08   |
| F24     | 1       | 306.49   | 0.00       | 52.15      | 102.67  | 35.08   |
| F23     | 1       | 297.79   | 0.00       | 51.91      | 102.67  | 35.08   |
| F22     | 1       | 289.09   | 0.00       | 51.65      | 102.67  | 35.08   |
| F21     | 1       | 280.39   | 0.00       | 51.39      | 102.67  | 35.08   |
| F20     | 1       | 271.69   | 0.00       | 51.13      | 102.67  | 35.08   |
| F19     | 1       | 262.99   | 0.00       | 50.86      | 102.67  | 35.08   |
| F18     | 1       | 254.29   | 0.00       | 50.58      | 102.67  | 35.08   |
| F17     | 1       | 245.59   | 0.00       | 50.22      | 102.67  | 35.08   |
| F16     | 1       | 236.89   | 0.00       | 52.99      | 108.68  | 35.08   |
| F15     | 1       | 228.19   | 0.00       | 55.99 •    | 114.00  | 35.08   |
| F14     | 1       | 219.49   | 0.00       | 58.90 •    | 118.48  | 35.08   |
| F13     | 1       | 210.79   | 0.00       | 49.15 •    | 103.17  | 37.72   |
| F12     | 1       | 202.09   | 0.00       | 85.34 •    | 117.09  | 37.97   |
| F11demo | ---     | ---      | ---        | ---        | ---     | ---     |
| F11     | 1       | 184.69   | 0.00       | 108.20 •   | 114.00  | 37.97   |
| F9demo  | ---     | ---      | ---        | ---        | ---     | ---     |
| F10     | 1       | 167.27   | 0.00       | 102.78 •   | 114.63  | 37.97   |
| F9      | 1       | 151.27   | 0.00       | 140.71 •   | 131.87  | 52.06   |
| F8      | 1       | 136.27   | 0.00       | 154.04 •   | 107.47  | 51.81   |



# Loads and Applied Forces

RAM Frame 15.03.00.000

Page 9/62

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

09/21/16 11:46:33

|         |        |      |         |
|---------|--------|------|---------|
| F13     | 210.79 | 0.00 | 49.15   |
| F12     | 202.09 | 0.00 | 85.34   |
| F11demo | 193.39 | ---  | ---     |
| F11     | 184.69 | 0.00 | 108.20  |
| F9demo  | 175.98 | ---  | ---     |
| F10     | 167.27 | 0.00 | 102.78  |
| F9      | 151.27 | 0.00 | 140.71  |
| F8      | 136.27 | 0.00 | 154.04  |
| F7      | 124.02 | 0.00 | 35.20   |
| F6      | 111.77 | 0.00 | 46.01   |
| F5      | 92.52  | 0.00 | 47.13   |
| F4      | 76.48  | 0.00 | 41.30   |
| F3      | 60.50  | 0.00 | 205.42  |
| F2      | 49.00  | 0.00 | 84.70   |
| Fground | 30.00  | 0.00 | 103.35  |
| Cellar  | 15.00  | 0.00 | 82.50   |
|         |        | 0.00 | 3156.85 |

## APPLIED DIAPHRAGM FORCES

Type: Wind\_IBC09\_2\_X+E

| Level   | Diaph.# | Ht<br>ft | Fx<br>kips | Fy<br>kips | X<br>ft | Y<br>ft |
|---------|---------|----------|------------|------------|---------|---------|
| F47roof | 1       | 516.17   | 8.21       | 0.00       | 102.67  | 41.10   |
| F46MEP  | 1       | 506.05   | 15.96      | 0.00       | 102.67  | 45.93   |
| F45     | 1       | 496.63   | 17.65      | 0.00       | 102.67  | 47.72   |
| F44     | 1       | 485.63   | 20.22      | 0.00       | 102.67  | 47.50   |
| F43     | 1       | 473.13   | 18.44      | 0.00       | 102.67  | 49.28   |
| F42     | 1       | 464.43   | 15.38      | 0.00       | 102.67  | 50.16   |
| F41     | 1       | 455.73   | 16.49      | 0.00       | 102.67  | 50.03   |
| F40     | 1       | 445.69   | 16.42      | 0.00       | 102.67  | 49.93   |
| F39     | 1       | 436.99   | 15.18      | 0.00       | 102.67  | 49.89   |
| F38     | 1       | 428.29   | 15.12      | 0.00       | 102.67  | 49.78   |
| F37     | 1       | 419.59   | 15.05      | 0.00       | 102.67  | 49.66   |
| F36     | 1       | 410.89   | 14.99      | 0.00       | 102.67  | 49.53   |
| F35     | 1       | 402.19   | 14.92      | 0.00       | 102.67  | 49.37   |
| F34     | 1       | 393.49   | 14.85      | 0.00       | 102.67  | 49.20   |
| F33     | 1       | 384.79   | 14.79      | 0.00       | 102.67  | 48.99   |
| F32     | 1       | 376.09   | 14.72      | 0.00       | 102.67  | 48.76   |
| F31     | 1       | 367.39   | 14.65      | 0.00       | 102.67  | 48.50   |
| F30     | 1       | 358.69   | 14.57      | 0.00       | 102.67  | 48.20   |
| F29     | 1       | 349.99   | 14.50      | 0.00       | 102.67  | 47.86   |
| F28     | 1       | 341.29   | 14.43      | 0.00       | 102.67  | 47.47   |
| F27     | 1       | 332.59   | 14.35      | 0.00       | 102.67  | 47.04   |
| F26     | 1       | 323.89   | 14.27      | 0.00       | 102.67  | 46.57   |



# Loads and Applied Forces

RAM Structural System RAM Frame 15.03.00.000

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|        |   |             |             |
|--------|---|-------------|-------------|
| F13    | 1 | 0.000       | 0.000       |
| F12    | 1 | 0.000       | 0.000       |
| F11    | 1 | 0.000       | 0.000       |
| F8     | 1 | 0.000       | 0.000       |
| Cellar | 1 | 0.000       | 0.000       |
|        |   | <u>0.00</u> | <u>0.00</u> |

## APPLIED STORY FORCES

Type: Wind\_IBC09\_1\_Y

| Level   | Ht<br>ft | Fx<br>kips | Fy<br>kips |
|---------|----------|------------|------------|
| F47roof | 516.17   | 0.00       | 33.21      |
| F46MEP  | 506.05   | 0.00       | 63.88      |
| F45     | 496.63   | 0.00       | 66.48      |
| F44     | 485.63   | 0.00       | 76.20      |
| F43     | 473.13   | 0.00       | 68.45      |
| F42     | 464.43   | 0.00       | 55.97      |
| F41     | 455.73   | 0.00       | 60.07      |
| F40     | 445.69   | 0.00       | 59.86      |
| F39     | 436.99   | 0.00       | 55.38      |
| F38     | 428.29   | 0.00       | 55.19      |
| F37     | 419.59   | 0.00       | 54.99      |
| F36     | 410.89   | 0.00       | 54.80      |
| F35     | 402.19   | 0.00       | 54.59      |
| F34     | 393.49   | 0.00       | 54.39      |
| F33     | 384.79   | 0.00       | 54.18      |
| F32     | 376.09   | 0.00       | 53.97      |
| F31     | 367.39   | 0.00       | 53.76      |
| F30     | 358.69   | 0.00       | 53.54      |
| F29     | 349.99   | 0.00       | 53.32      |
| F28     | 341.29   | 0.00       | 53.10      |
| F27     | 332.59   | 0.00       | 52.87      |
| F26     | 323.89   | 0.00       | 52.63      |
| F25     | 315.19   | 0.00       | 52.40      |
| F24     | 306.49   | 0.00       | 52.15      |
| F23     | 297.79   | 0.00       | 51.91      |
| F22     | 289.09   | 0.00       | 51.65      |
| F21     | 280.39   | 0.00       | 51.39      |
| F20     | 271.69   | 0.00       | 51.13      |
| F19     | 262.99   | 0.00       | 50.86      |
| F18     | 254.29   | 0.00       | 50.58      |
| F17     | 245.59   | 0.00       | 50.22      |
| F16     | 236.89   | 0.00       | 52.99      |
| F15     | 228.19   | 0.00       | 55.99      |
| F14     | 219.49   | 0.00       | 58.90      |



# Loads and Applied Forces

RAM Frame 15.03.00.000

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|         |   |        |      |        |        |       |
|---------|---|--------|------|--------|--------|-------|
| F7      | 1 | 124.02 | 0.00 | 35.20  | 42.79  | 51.81 |
| F6      | 1 | 111.77 | 0.00 | 46.01  | 41.41  | 51.81 |
| F5      | 1 | 92.52  | 0.00 | 47.13  | 44.34  | 50.46 |
| F4      | 1 | 76.48  | 0.00 | 41.30  | 44.34  | 50.46 |
| F3      | 1 | 60.50  | 0.00 | 205.42 | 127.14 | 50.12 |
| F2      | 1 | 49.00  | 0.00 | 84.70  | 104.17 | 50.13 |
| Fground | 1 | 30.00  | 0.00 | 103.35 | 100.38 | 57.60 |
| Cellar  | 1 | 15.00  | 0.00 | 82.50  | 101.55 | 57.60 |

### Applied Loads for Pseudo-Flexible or Semirigid Diaphragms:

| Story   | Diaph # | Sum Fx<br>kips | Sum Fy<br>kips |
|---------|---------|----------------|----------------|
| F47roof | 1       | 0.000          | 0.000          |
| F46MEP  | 1       | 0.000          | 0.000          |
| F45     | 1       | 0.000          | 0.000          |
| F44     | 1       | 0.000          | 0.000          |
| F43     | 1       | 0.000          | 0.000          |
| F42     | 1       | 0.000          | 0.000          |
| F41     | 1       | 0.000          | 0.000          |
| F40     | 1       | 0.000          | 0.000          |
| F39     | 1       | 0.000          | 0.000          |
| F38     | 1       | 0.000          | 0.000          |
| F37     | 1       | 0.000          | 0.000          |
| F36     | 1       | 0.000          | 0.000          |
| F35     | 1       | 0.000          | 0.000          |
| F34     | 1       | 0.000          | 0.000          |
| F33     | 1       | 0.000          | 0.000          |
| F32     | 1       | 0.000          | 0.000          |
| F31     | 1       | 0.000          | 0.000          |
| F30     | 1       | 0.000          | 0.000          |
| F29     | 1       | 0.000          | 0.000          |
| F28     | 1       | 0.000          | 0.000          |
| F27     | 1       | 0.000          | 0.000          |
| F26     | 1       | 0.000          | 0.000          |
| F25     | 1       | 0.000          | 0.000          |
| F24     | 1       | 0.000          | 0.000          |
| F23     | 1       | 0.000          | 0.000          |
| F22     | 1       | 0.000          | 0.000          |
| F21     | 1       | 0.000          | 0.000          |
| F20     | 1       | 0.000          | 0.000          |
| F19     | 1       | 0.000          | 0.000          |
| F18     | 1       | 0.000          | 0.000          |
| F17     | 1       | 0.000          | 0.000          |
| F16     | 1       | 0.000          | 0.000          |
| F15     | 1       | 0.000          | 0.000          |
| F14     | 1       | 0.000          | 0.000          |

Project No. 14442-01 Sheet No. 1  
 Client PBDW Date 9-20-2016  
 Project 1508 B-Way Subject Lateral Stability Des. By SA

LATERAL STABILITY OF 1508 B-WAY IN THE MOST SIMPLISTIC MANNER.....

EAST/WEST DIRECTION

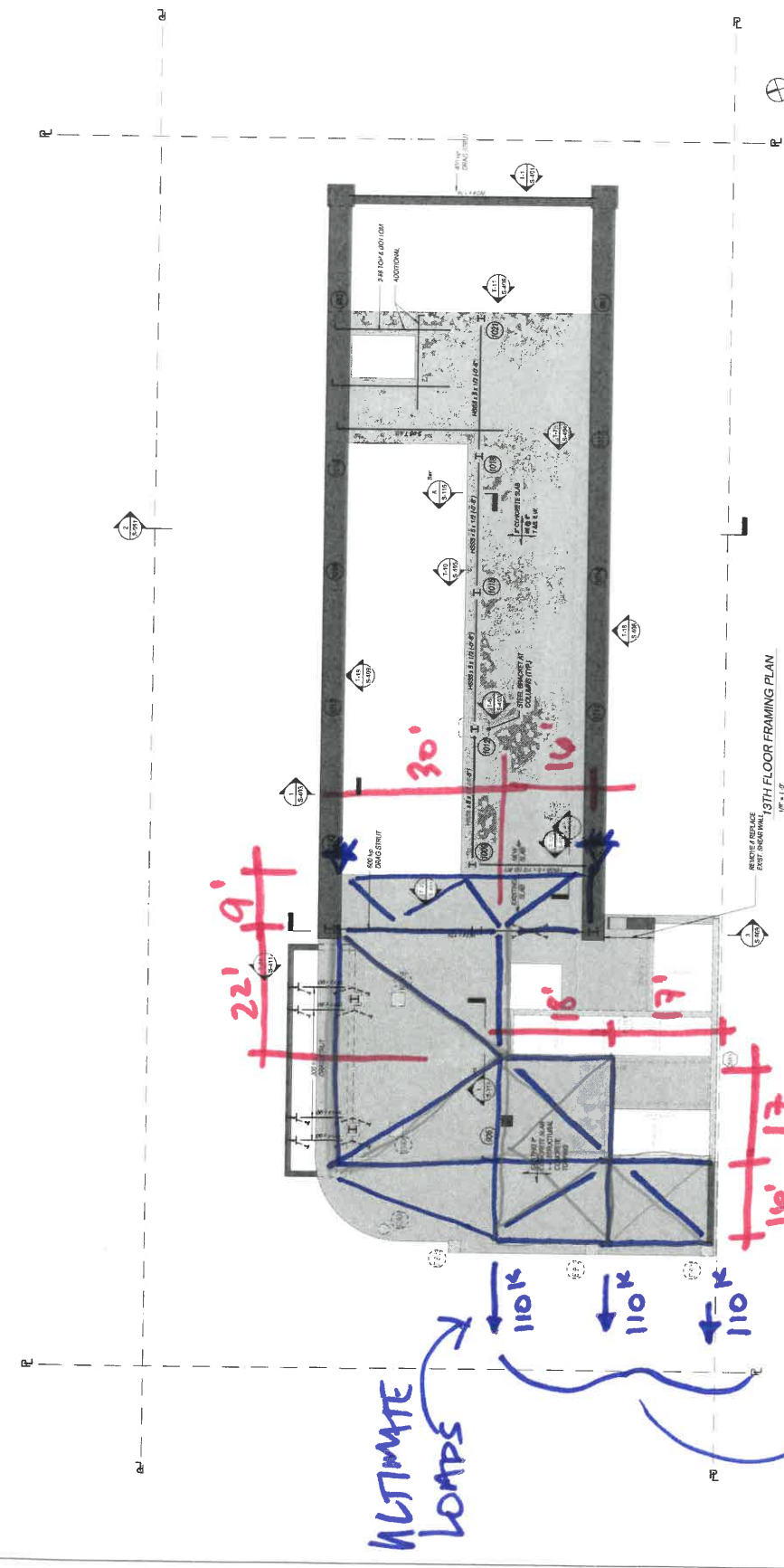
- STRAIGHT FORWARD UNTIL FLOOR FLOOR 14
  - 14 → UP
    - CORE AT SOUTH SIDE OF TOWER
  - 14 → DOWN
    - NEW CORE TO NORTH
    - CORE AT SOUTH "DISMANTLED"
- ∴ SIMPLE APPROACH
  - DESIGN NEW CORE ON NORTH FOR 50% OF FORCE  $W_x$ ,  $Q_x$  FROM LVL 14 DOWN
  - CARRY SOUTH CORE FORCES FROM NORTH
  - DIAPHRAGM FORCES OUT ON LVL 14 (S → N)

$$\begin{array}{r}
 W_x = 750k \\
 \times 0.50 \\
 \hline
 375k \\
 \hline
 \hline
 \end{array}
 \qquad
 \begin{array}{r}
 Q_x = 780k \\
 \times 0.50 \\
 \hline
 390k \\
 \hline
 \hline
 \end{array}$$

15 } DRAG OUT 33% ON EACH FLOOR  
 14 }  
 13 }  
 ≈ 125 kips SERVICE  
 325 kips ULTIMATE



STRUT & TIE MODEL FOR LVL 13-15



50% OF LOAD FROM SOUTH CASE

ULTIMATE LOADS

- NOTES:**
- THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
  - FOR FLOOR FINISHES SEE ARCHITECTURAL.
  - DATUM IS SET AT EL. 176'-8 1/2".
  - TOP OF CONCRETE SLABS IS AT FINISH ELEVATION UNLESS SHOWN OTHERWISE ON PLAN.
  - NOT USED.
  - FLOOR CONSTRUCTION SHALL BE 8" CONCRETE FLAT REINFORCED WITH A CONTINUOUS #8 @ 8" TOP AND 8" CONCRETE COMPRESSIVE STRENGTH IS 4.0 KSI.
  - NOT USED.
  - FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU S-714. FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
  - FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
  - ⊙ DENOTES COLUMN BELOW ONLY.
  - ⊙ DENOTES COLUMN ABOVE ONLY.
  - ⊙ DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
  - COPY IN FIELD ALL EXISTING CONDITIONS. INFORM THE CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO FIELD CUTTING CORING OF EXISTING BEAMS.
  - CR DENOTES CR # 11.5
  - L4 DENOTES 4x4x20/8'
  - WB DENOTES W8 # 15
  - DENOTES EXISTING STEEL BEAM
  - DENOTES NEW STEEL BEAM
  - ⊙ DENOTES EXISTING STEEL BEAM
  - ⊙ DENOTES SHORE CUT AND RECONNECT EXISTING BEAM TO NEW WORK
  - ⊙ DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENTS IS SHOWN.
  - ⊙ DENOTES APPROXIMATE AREA OF NEW CONCRETE INCL/PATCH
  - ⊙ DENOTES APPROXIMATE ENTRY OF NEW CONCRETE TOPPING SLAB TO FIELD CUTTING CORING OF EXISTING BEAM.
  - CR DENOTES CR # 11.5
  - L4 DENOTES 4x4x20/8'

NOT FOR CONSTRUCTION

DOB APPROVAL STAMP

1568 Broadway  
New York, NY 10036

13TH FLOOR PLAN (EL. 176'-8 1/2")

Signature: [Blank]  
Date: [Blank]  
Title: [Blank]

Scale: [Blank]  
Sheet Number: [Blank]

S-113.00

SAME AS LVL 13

Special Associates  
Construction Services  
Approved Architect  
Cedar 2142 Limited  
Iron Division LLC  
Project Property Consultants  
Project Manager/Structural  
JEFF MILLER  
With Supplement  
Landscape Engineering

NOT FOR CONSTRUCTION

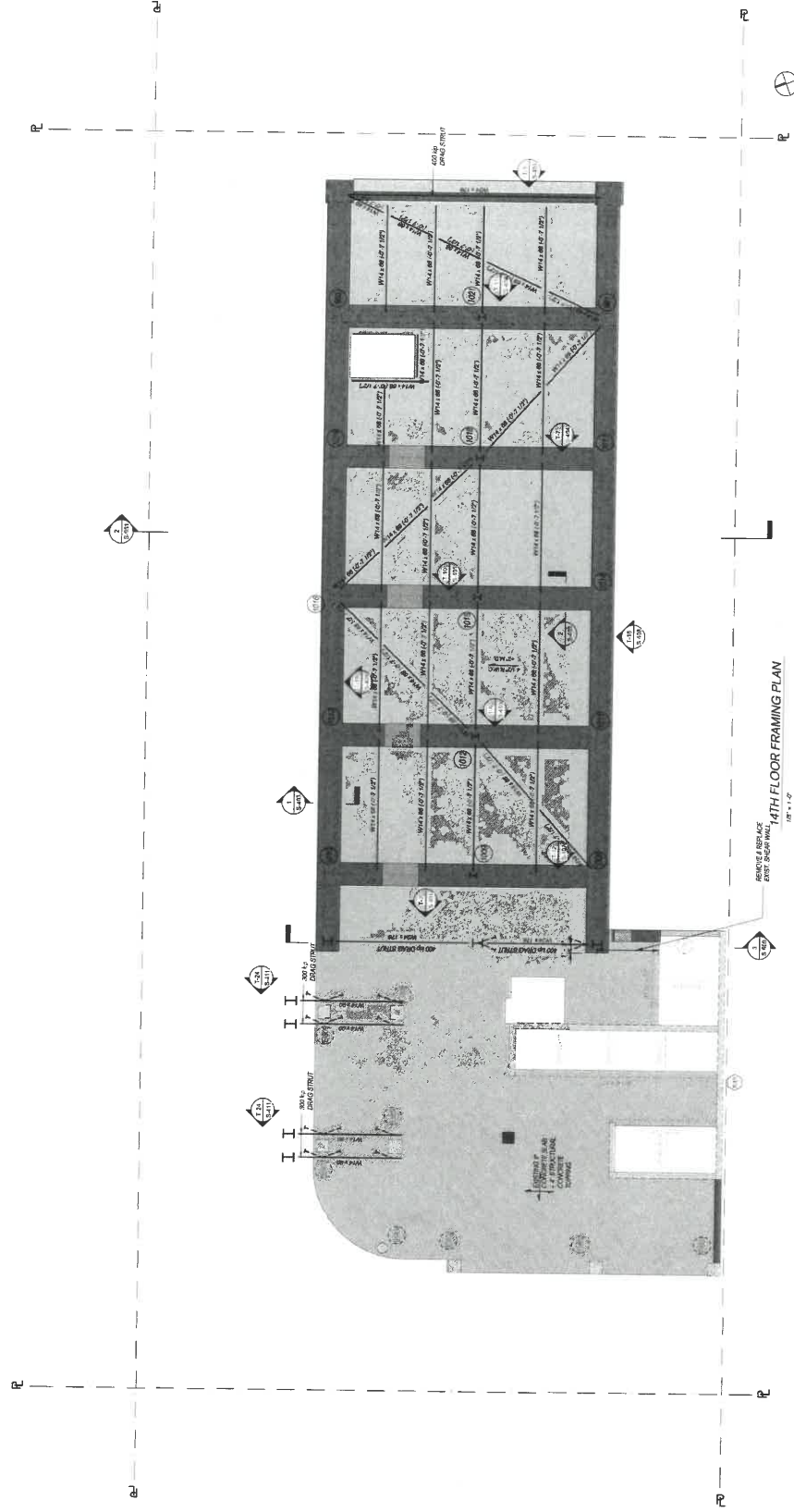
DOB APPROVAL STAMP

APPROVED FOR CONSTRUCTION  
DATE: 08/14/19  
BY: [Signature]  
PROJECT: 1568 Broadway  
SHEET: 14TH FLOOR PLAN (EL 185'-3")

1568 Broadway  
New York, NY 10018

14TH FLOOR PLAN (EL 185'-3")

Project Number: 1568  
Drawing No.: 14TH  
Revision No.:  
Scale:  
Sheet Number:  
S-114.00  
14TH FLOOR PLAN (EL 185'-3")



NOTES

- THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
- FOR FLOOR FINISHES SEE ARCHITECTURAL.
- DATUM IS SET AT EL 185'-3".
- TOP OF CONCRETE SLABS IS AT DATUM ELEVATION UNLESS SHOWN OTHERWISE ON PLAN.
- FLOOR CONSTRUCTION SHALL BE 1" OF NORMAL WEIGHT CONCRETE PLACED OVER A 3" IR GAGE ADVANCED COMPOSITE METAL DECK AND WELDED WIRE FABRIC PLACED 3/4" FROM THE TOP OF THE CONCRETE SLAB. THE SPREADIRECTION OF THE BEARS SHOWN TABS --- ON PLAN.
- VERIFY IN FIELD ALL EXISTING CONDITIONS, INFORM THE CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS.
- FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU S-714.
- FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
- FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-729.
- ⊙ DENOTES COLUMN BELOW ONLY.
- ⊙ DENOTES COLUMN ABOVE ONLY.
- ⊙ DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
- VERIFY IN FIELD ALL EXISTING CONDITIONS, INFORM THE CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS.
- CR DENOTES CR 11.5
- L4 DENOTES L4 4 x 4 x 5/8"
- WB DENOTES W8 15
- DENOTES EXISTING STEEL BEAM
- DENOTES NEW STEEL BEAM
- DENOTES SHORE CUT AND RECONNECT EXISTING BEAM TO NEW WORK
- DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENT IS SHOWN.
- DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
- DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
- DENOTES EXISTING SLAB TO REMAIN



SAME AS LVL 13

Project Information  
Client: ...  
Design: ...  
Architect: ...  
Engineer: ...  
Contractor: ...

NOT FOR CONSTRUCTION

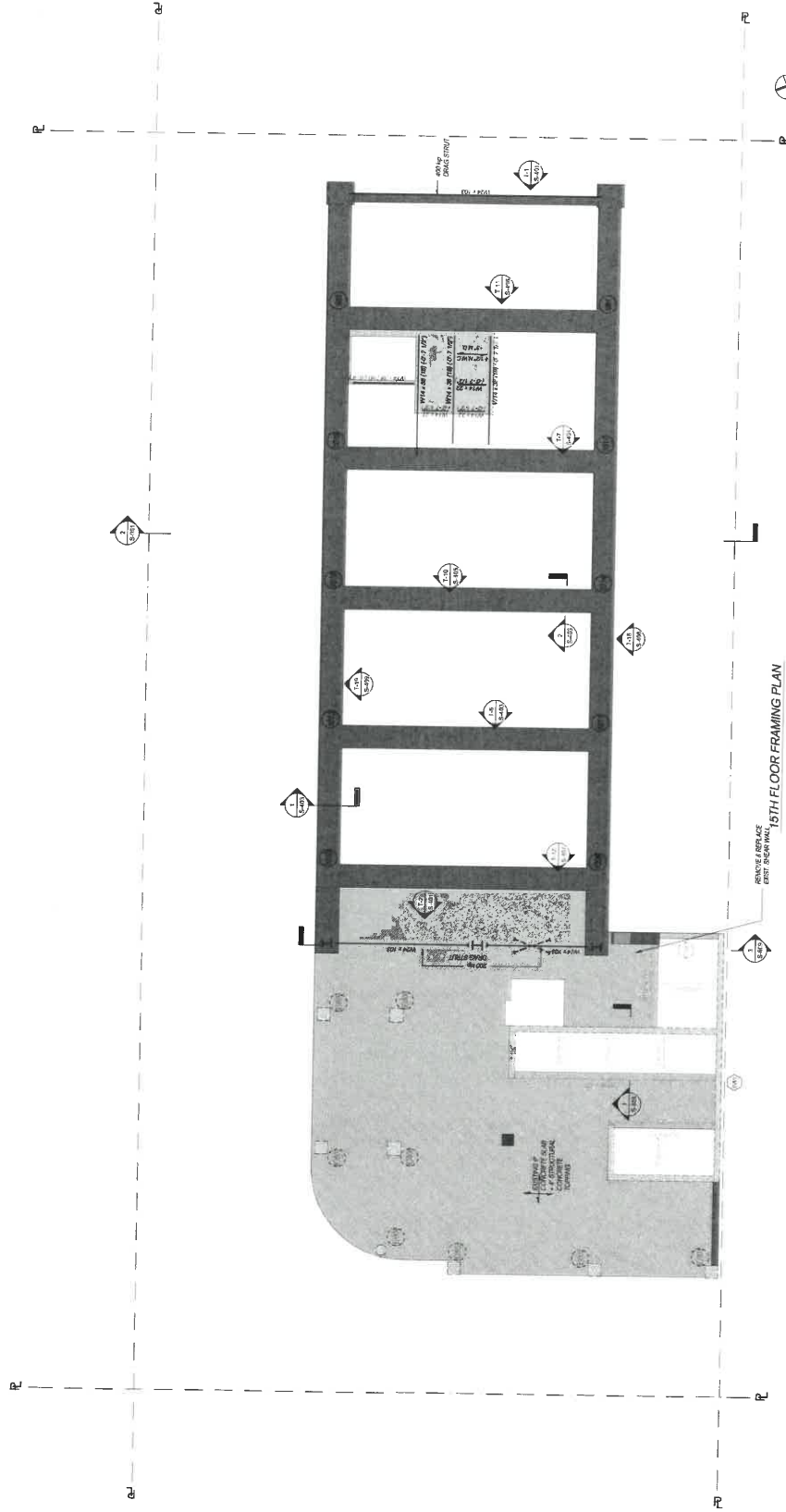
DB APPROVAL STAMP

Professional Engineer  
1568 Broadway  
New York, NY 10019

15TH FLOOR PLAN  
(EL. 193'-11 1/2")

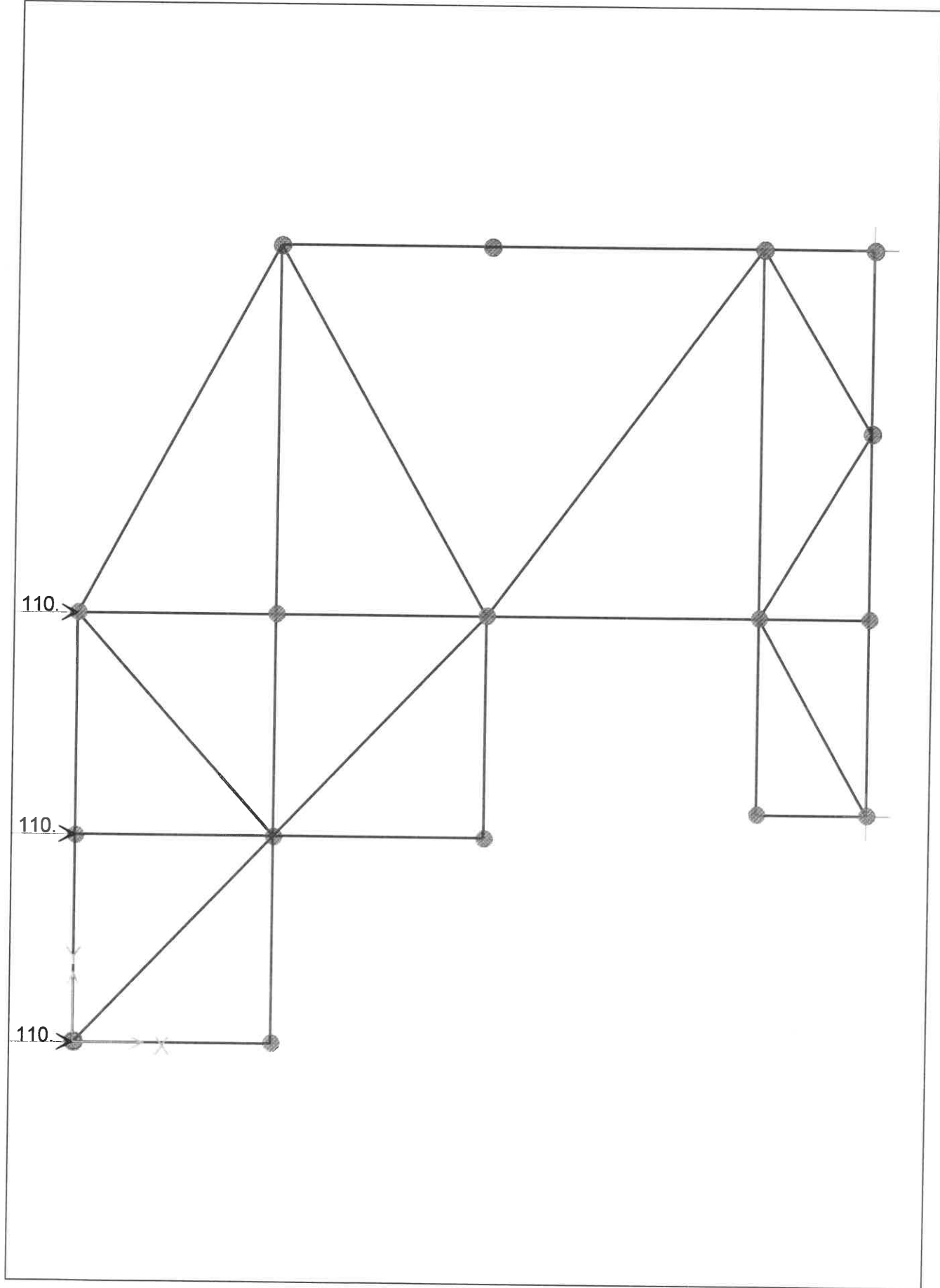
Project Information  
Drawing No.  
Sheet No.  
Scale  
Date

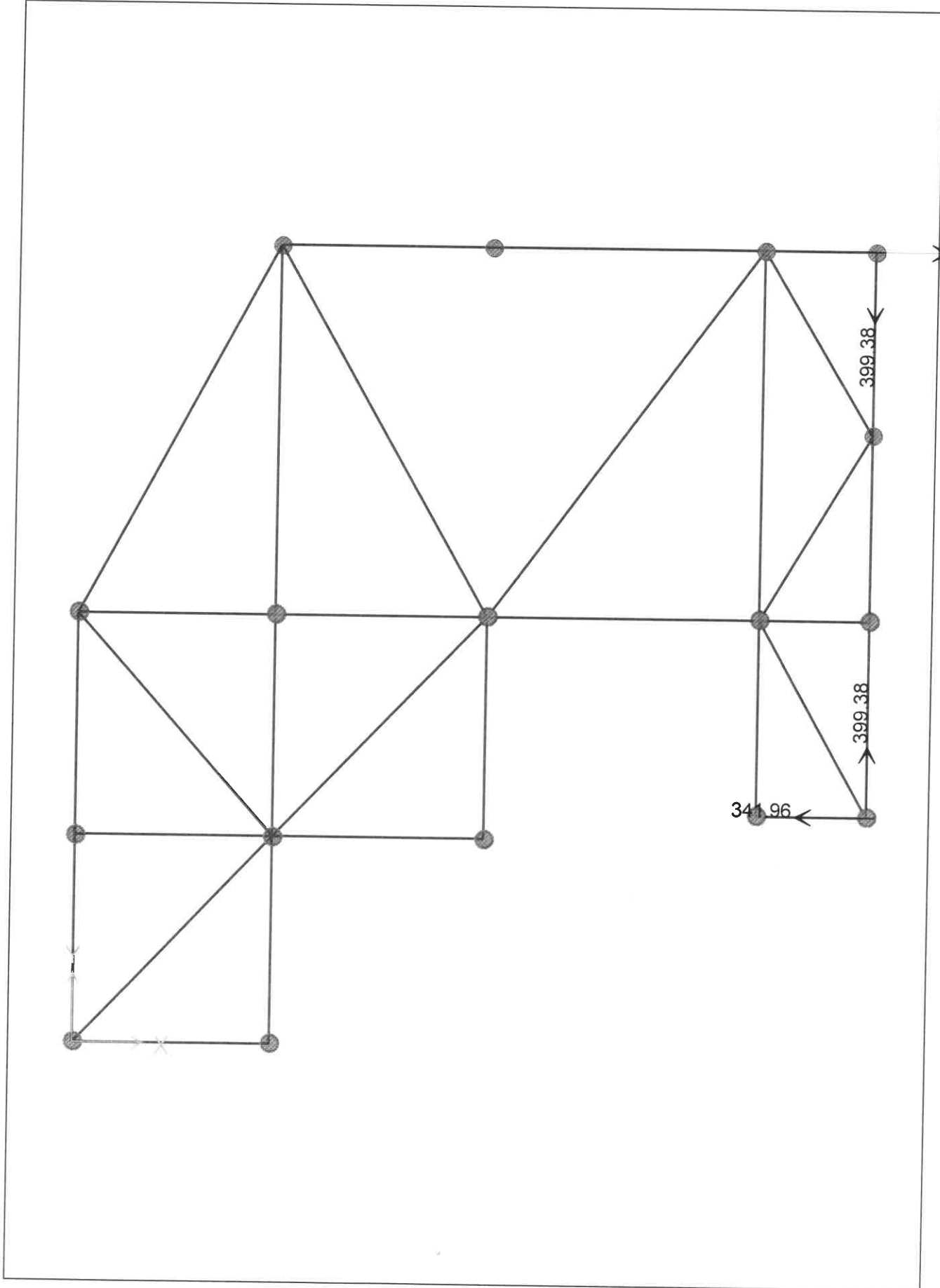
S-115.00

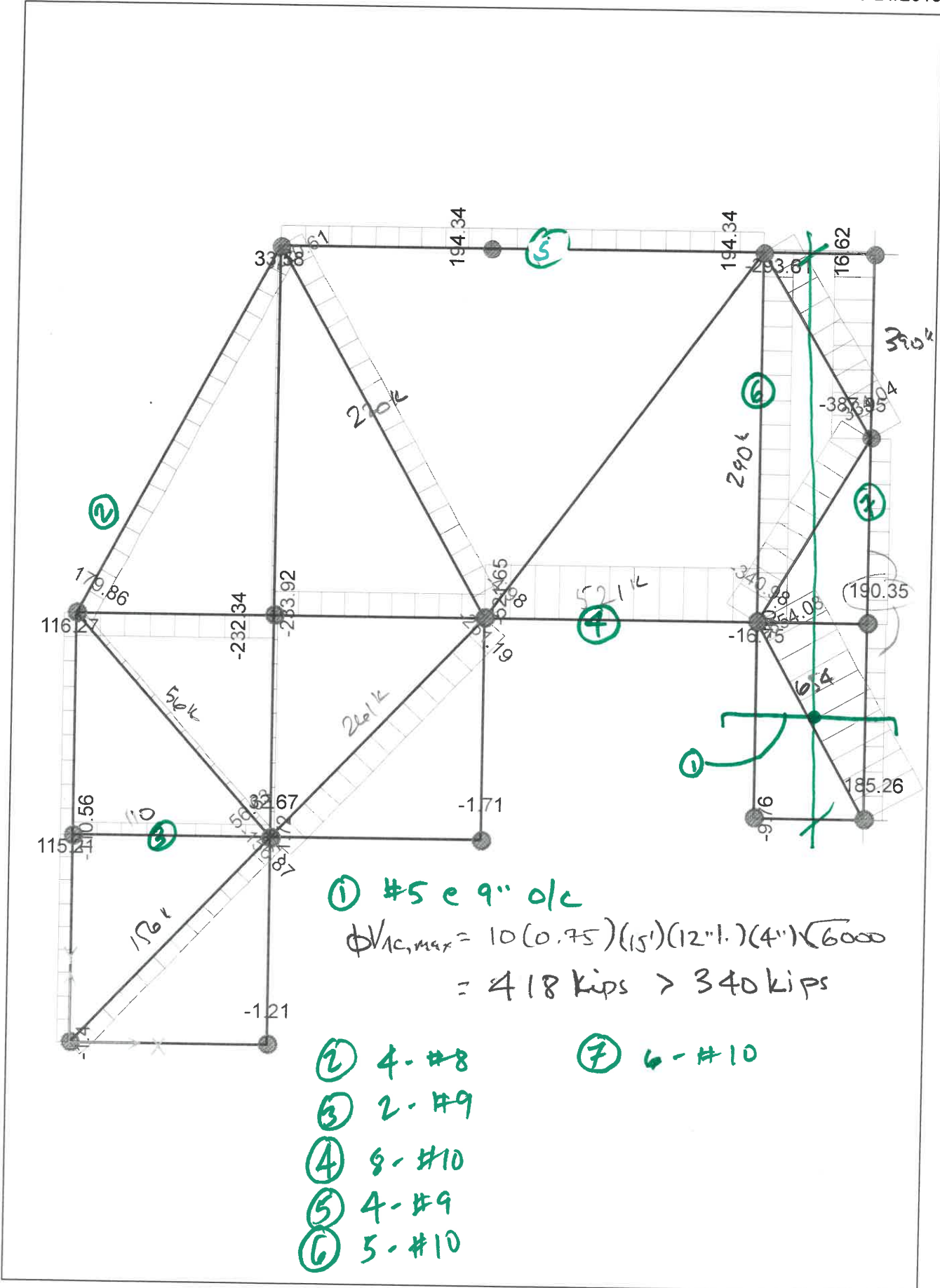


15TH FLOOR FRAMING PLAN  
18' x 132'

- NOTES:  
1. THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.  
2. FOR FLOOR FINISHES SEE ARCHITECTURAL...  
3. DATUM IS SET AT EL. 100'-11 1/2".  
4. TOP OF CONCRETE SLABS AT DATUM ELEVATION UNLESS NOTED OTHERWISE ON PLAN.  
5. TOP OF STEEL DECK SHALL BE 4" BELOW CONCRETE UNLESS NOTED THIS ELSEWHERE ON PLAN.  
6. FLOOR CONSTRUCTION SHALL BE 4" TOP OF NORMAL WEIGHT CONCRETE PLACED OVER A 3" - 18 GAGE WELDED WIRE FABRIC PLACED 3/4" FROM THE TOP OF DECK REINFORCED WITH ONE BAR PER FOOT IN THE SPAN DIRECTION OF THE DECK AS SHOWN THIS PLAN.  
7. THE NUMBER OF STUDS SHALL BE 12" LONG SHEAR STUDS IS SHOWN THIS PLAN. STUDS SHALL BE EQUALLY SPACED AT 12" ON CENTER FOR THE ENTIRE SPAN.  
8. FOR COLUMN SCHEDULE SEE DRAWINGS S-301 THRU S-314.  
9. FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.  
10. FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.  
11. DENOTES COLUMN BELOW ONLY.  
12. DENOTES COLUMN ABOVE ONLY.  
13. DENOTES BEAM OPENINGS. SEE DETAIL ON DRAWING S-301 FOR BEAM OPENING REINFORCEMENT.  
14. VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING CORNER OF EXISTING BEAMS.  
15. C8 DENOTES 8" x 11.5" DENOTES EXISTING SLAB TO REMAIN.  
16. C8 DENOTES 8" x 11.5" DENOTES EXISTING SLAB TO REMAIN.  
17. L4 DENOTES L4 x 4 x 20/8







Project No. \_\_\_\_\_

Sheet No. \_\_\_\_\_

Client \_\_\_\_\_

Date \_\_\_\_\_

Project \_\_\_\_\_

Subject \_\_\_\_\_

Des. By \_\_\_\_\_

SHEAR STIRRUPS ①

$$\phi V_{nc} = 2(0.75)(15)(12)(4)\sqrt{6000} = 83k$$

$$\#5 A_s = 0.31 \text{ in}^2 / \#5$$

$$S = \frac{0.75(0.31)(60)(15)(12)}{340k - 83k} = 9.7 \text{ in}$$

SAY 9" o/cTIE ②

$$\frac{170k}{0.9(60)} = 3.14 \text{ in}^2 \text{ SAY } 4\text{-}\#8$$

TIE ③

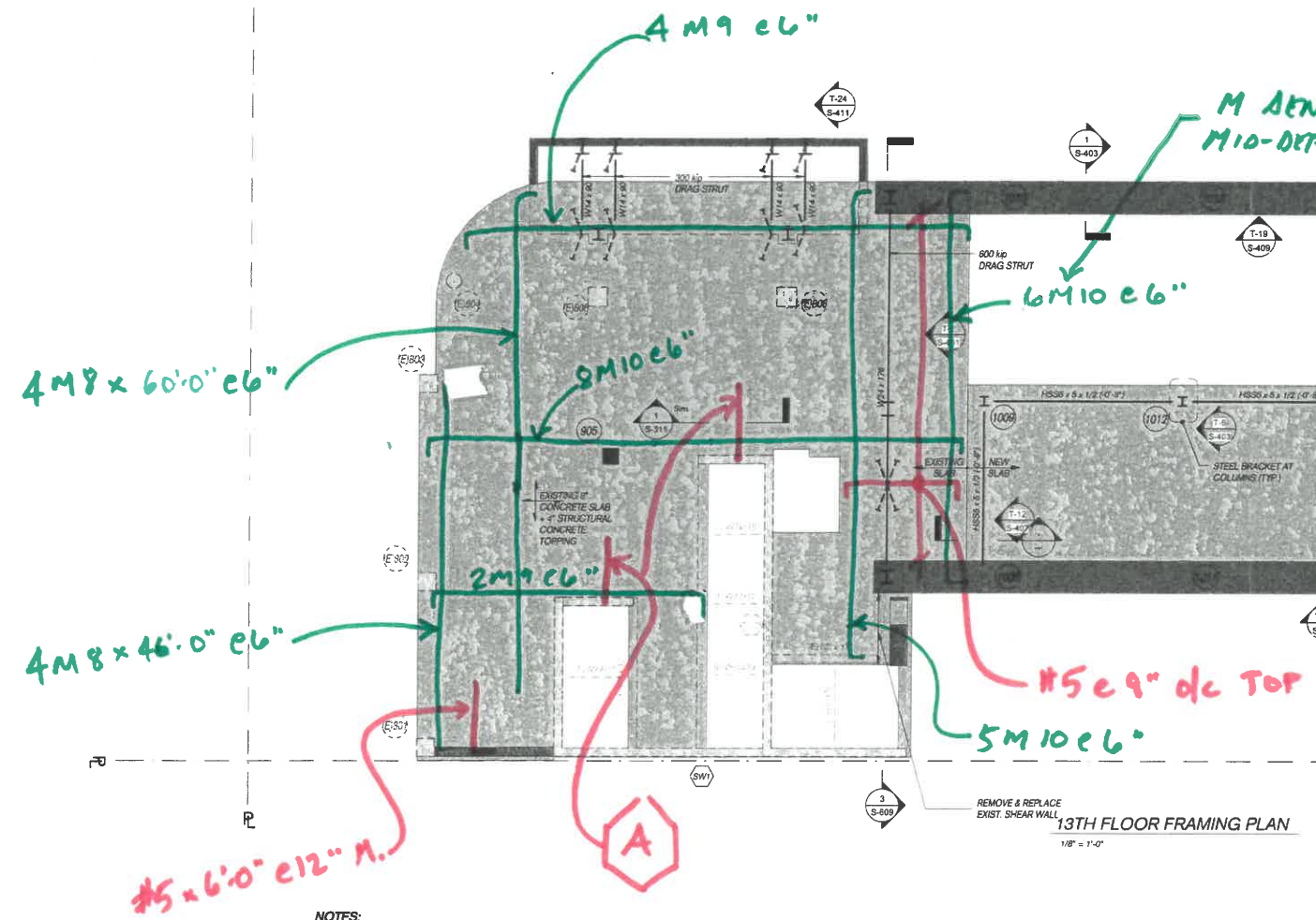
$$\frac{110k}{0.9(60)} = 2 \text{ in}^2 \text{ SAY } 2\text{-}\#9$$

TIE ④

$$\frac{521k}{0.9(60)} = 9.64 \text{ in}^2 \text{ SAY } 8\text{-}\#10$$



This Reinforcing occurs on Levels 13, 14, 15 (S112, S114, S115) - Copy to S-114 & S-115.



13TH FLOOR FRAMING PLAN  
1/8" = 1'-0"

NOTES:

- THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
- FOR FLOOR FINISHES SEE ARCHITECTURAL...
- DATUM IS SET AT EL. 176'-6 1/2".
- TOP OF CONCRETE SLAB IS AT DATUM ELEVATION UNLESS SHOWN THUS [EL. #] ON PLAN.
- NOT USED.
- FLOOR CONSTRUCTION SHALL BE 8" CONCRETE FLAT SLAB REINFORCED WITH A CONTINUOUS #8 @ 6" TOP AND BOTTOM GRID. CONCRETE COMPRESSIVE STRENGTH IS 12 KSI.
- NOT USED.
- FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU...
- FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
- FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
- ⊙ DENOTES COLUMN BELOW ONLY.
- ⊙ DENOTES COLUMN ABOVE ONLY.
- ⊗ DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
- VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE EOR OF ANY DEVIATIONS.
- CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS.
- C8 DENOTES C8 x 11.5
- L4 DENOTES L4 x 4 x 5/16"
- WB DENOTES WB x 15
- DENOTES NEW STEEL BEAM
- - - DENOTES EXISTING STEEL BEAM
- - - DENOTES SHORE, CUT AND RECONNECT EXISTING BEAM TO NEW WORK
- ⊕ DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENT IS SHOWN.
- DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
- ▨ DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
- ▩ DENOTES EXISTING SLAB TO REMAIN

TAKE LEGEND

**A** DENOTES #5 @ 6" MIDDLE BARS - DRILL & EMBED 6" INTO EXISTING CONC. WALL w/ Hilti Hit Hy 200 Epoxy.

For Board David White Architects LLP  
190 West 37th Street, 16th Floor  
New York, NY 10018  
212.691.2440 | info@whitearch.com

Senead Associates | Structural Engineer  
463 South Ave., 3rd Floor  
New York, NY 10015  
212.986.3700 | senead.com

Cosentini Associates | Mechanical Engineer  
130 West 42nd Street, 14th Floor  
New York, NY 10018  
212.611.0300 | cosentini.com

Adamson Associates | Interior Architect  
14 West Street, 2nd Floor  
New York, NY 10004  
212.984.4340 | adamsonassociates.com

Design 2147 Limited | Civil Engineer  
122 E 10th Street, Brooklyn, NY 11202  
718.273.9340 | design2147.com

Iros Elevator, LLC | Elevator Contractor  
54 Park Ave., 4th Floor, New York, NY 10017  
212.476.4494 | iros.com

Theater Projects Consultants | Theater Contractor  
47 West Street  
New York, NY 10012  
203.299.0600 | theaterprojects.com

Fisher Marantz Stone | Landscape Architect  
22 West 19th Street, 1st Floor  
New York, NY 10011  
212.631.4100 | fisherms.com

Jaffe Halden | Architectural Designer  
114 Avenue of the Americas  
New York, NY 10013  
203.537.4187 | jaffealden.com

Yabu Pushelberg | Interior Designer  
55 Bowling Green  
New York, NY 10003  
212.226.9808 | yabupushelberg.com

Langon Engineering | Geotechnical Engineer  
210 West 35th Street, 8th Floor, New York, NY 10018  
212.479.3499 | langon.com

NOT FOR CONSTRUCTION

DOB APPROVAL STAMP

| Date       | No. | Description             |
|------------|-----|-------------------------|
| 09.02.2016 | 6   | 100% DESIGN DEVELOPMENT |
| 07.16.2016 | 5   | 50% DESIGN DEVELOPMENT  |
| 06.24.2016 | 4   | TA FILING SET           |
| 05.18.2016 | 3   | DEVELOPMENT REPORT      |
| 04.02.2016 | 2   | 100% SCHEMATIC DESIGN   |
| 02.17.2016 | 1   | 50% SCHEMATIC DESIGN    |

Project:  
1568 Broadway  
New York, NY 10036

Sheet Title:  
13TH FLOOR PLAN (EL 176'-6 1/2")

Project Number: 14442  
Drawn By: SHH/LSA  
Checked By: CJ  
Scale: As indicated  
Sheet Number: S-113.00

NYC DOB Number: Sheet:

Project No. \_\_\_\_\_ Sheet No. \_\_\_\_\_  
Client \_\_\_\_\_ Date \_\_\_\_\_  
Project \_\_\_\_\_ Subject \_\_\_\_\_ Des. By \_\_\_\_\_

ON LVL. 14, 341<sup>k</sup> x 3 SHIFT FROM SOUTH TO  
NORTH.

$$T_u = 1023^k \times 45' = 46,035^k$$

$$T_u = C_u = \frac{t_u}{d} = \frac{46,035^k}{125'} = 369^k$$

FOR AXIAL LOAD IN BRACING, SEE SAP MODEL

Specialty Associates  
Creative Associates  
Allyson Associates  
Design 247 Limited  
Iron Eleventh, LLC  
Pratt Projects, Consultants  
Peter Bernardi Group  
Lyle Halpin  
New Products  
Landscape Systems

NOT FOR CONSTRUCTION

DOB APPROVAL STAMP

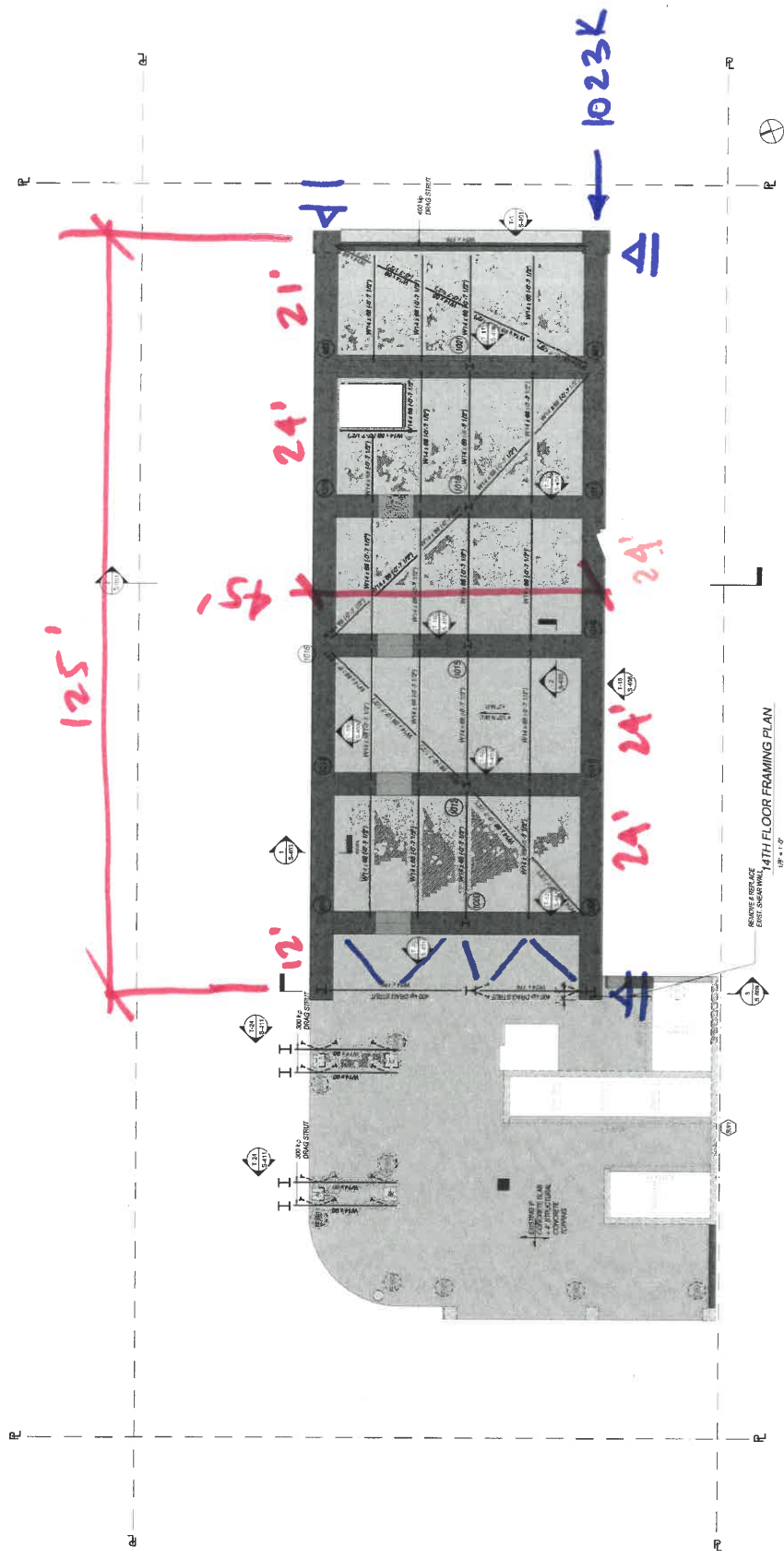
PROJECT NO: 1568 Broadway  
SHEET NO: 14TH FLOOR PLAN (EL 185'-3")

DATE: 10/27/2016

DESIGNED BY: [Signature]  
CHECKED BY: [Signature]  
DATE: 10/27/2016

PROJECT NUMBER: 1568 Broadway  
SHEET NO: 14TH FLOOR PLAN (EL 185'-3")  
DATE: 10/27/2016

S-114.00



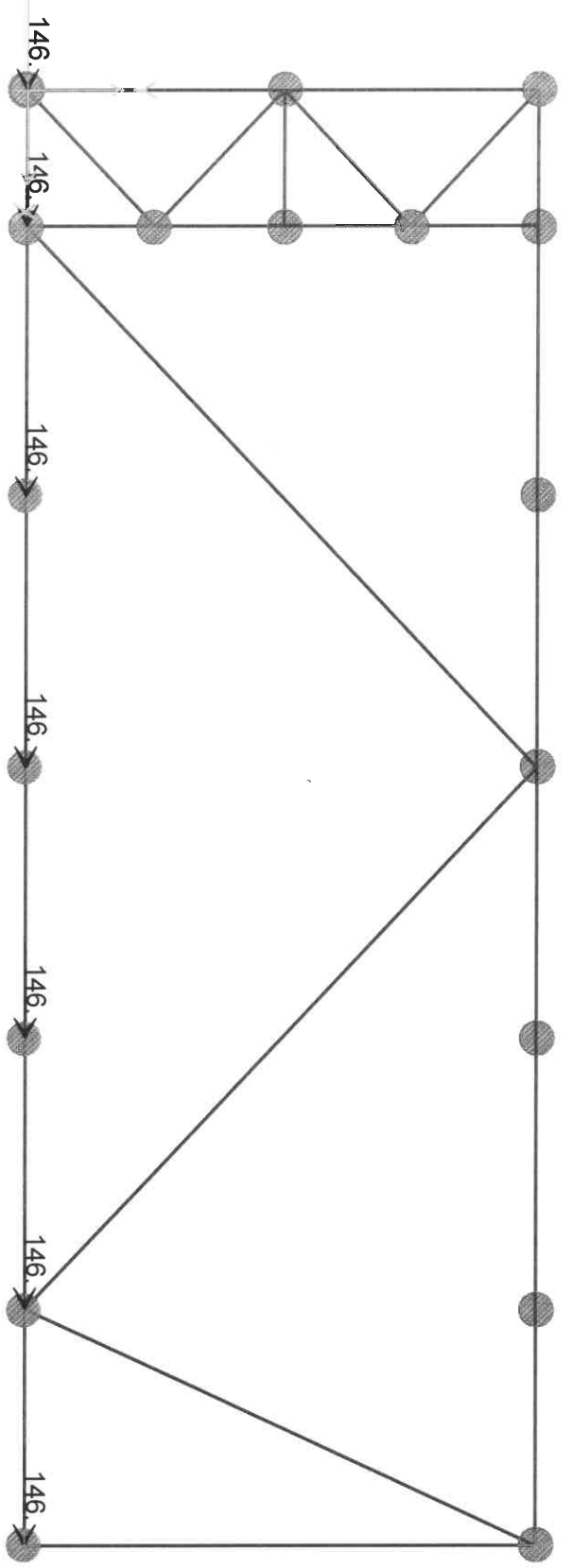
14TH FLOOR FRAMING PLAN

- NOTES:**
- THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
  - FOR FLOOR FINISHES SEE ARCHITECTURAL.
  - DATUM IS SET AT EL. 188'-3".
  - TOP OF CONCRETE IS AS SHOWN IN ELEVATION UNLESS SHOWN OTHERWISE.
  - TOP OF STEEL IS 7/16" BELOW TOP OF CONCRETE UNLESS NOTED THIS ELSEWHERE ON PLAN.
  - FLOOR CONSTRUCTION SHALL BE 4" TOP OF NORMAL WEIGHT CONCRETE PLACED OVER A 3" - 18 GAGE WELDED WIRE FABRIC PLACED 3/4" FROM THE TOP OF THE DECK REINFORCED WITH ONE LAYER OF #4 @ 18" x 18" WITH 4" MINIMUM CLEARANCE TO THE DECK'S SHOW THROUGH ON PLAN.
  - THE NUMBER OF #4 CHAMBERS (10" LONG) SUBMERGED STUDS SHALL BE EQUALLY SPACED AT 12" ON CENTER FOR THE ENTIRE SPAN.
- FOR COLUMN SCHEDULE SEE DRAWINGS S 501 THRU S 714.
  - FOR TYPICAL DETAILS SEE DRAWINGS S 701 THRU S 714.
  - FOR GENERAL NOTES SEE DRAWINGS S 721 AND S 722.
  - 3 DENOTES COLUMN BELOW ONLY.
  - 4 DENOTES COLUMN ABOVE ONLY.
  - 5 DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S 801 FOR BEAM OPENING REINFORCEMENT.
  - VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING CORING OF EXISTING BEAMS.
  - CR DENOTES CR # 11.8
  - L4 DENOTES L4 # 4 x 6/8"
  - WB DENOTES W8 x 16
  - WB DENOTES W8 x 16
  - 20 DENOTES NEW STEEL BEAM
  - 21 DENOTES EXISTING STEEL BEAM
  - 22 DENOTES SHORE. CUT AND RECONNECT EXISTING BEAM TO NEW WORK CONNECTION WHERE NO MOMENT IS SHOWN.
  - 23 DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
  - 24 DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
  - 25 DENOTES EXISTING SLAB TO REMAIN



14442-01\_sr\_2016-09-21\_c\_Lvl\_14 Torsion.sdb

9/21/2016



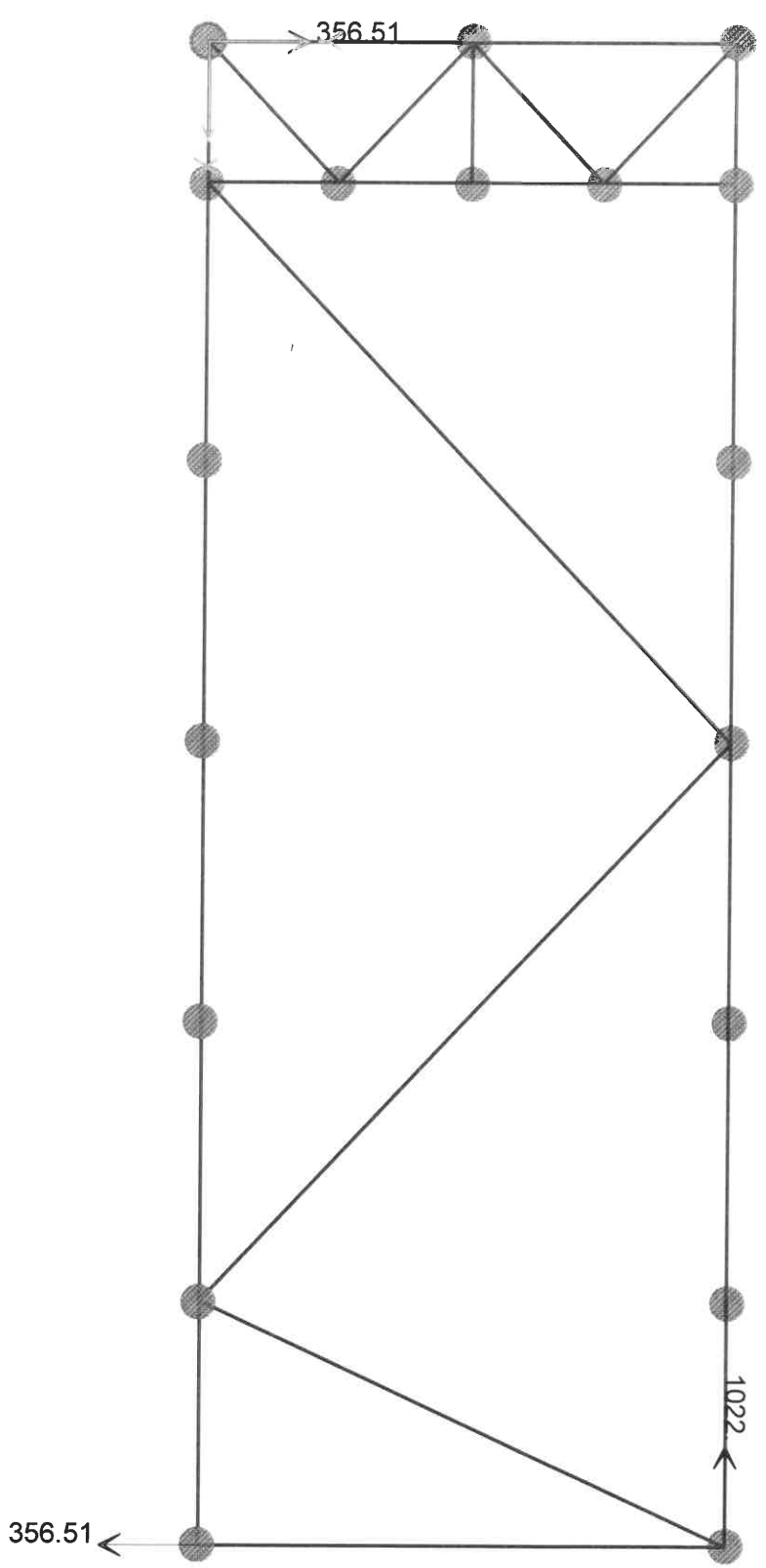
SAP2000 18.2.0

Joint Loads (DEAD) (As Defined)

Kip, in, F

14442-01\_sr\_2016-09-21\_c\_Lvl\_14 Torsion.sdb

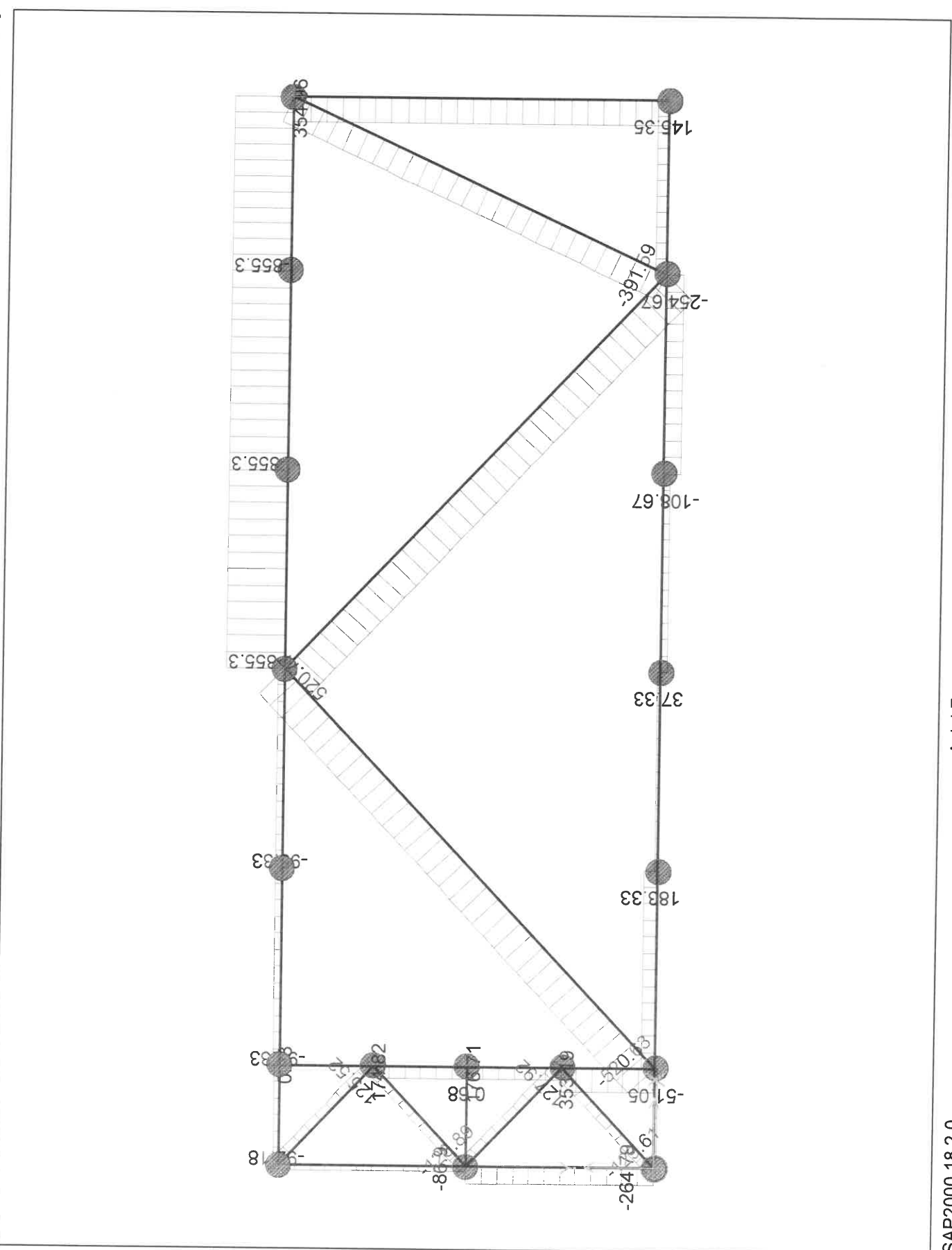
9/21/2016



SAP2000 18.2.0

Joint Reactions (DEAD)

Kip, in, F



SAP2000 18.2.0

Axial Force Diagram (DEAD)

Kip, in, F

Severud Associates | Structural Engineering  
460 Convent Avenue, 9th Floor  
New York, NY 10018  
212.986.5700 | severud.com

Cosentini Associates | Mechanical Engineering  
140 West 45th Street, 3rd Floor  
New York, NY 10036  
212.691.3600 | cosentini.com

Adams Associates | Interior Architecture  
14 West Street, 2nd Floor  
New York City, New York 10004  
212.924.4000 | adamsassociates.com

Design 2147 Limited | Data Consultant  
52 Canal Street, Brooklyn, NY 11202  
718.223.8340 | design2147.com

Iros Elevator, LLC | Elevator Consultant  
684 Princeton Ave., 12th Floor, New York, NY 10019  
973.776.4404 | iros-elevator.com

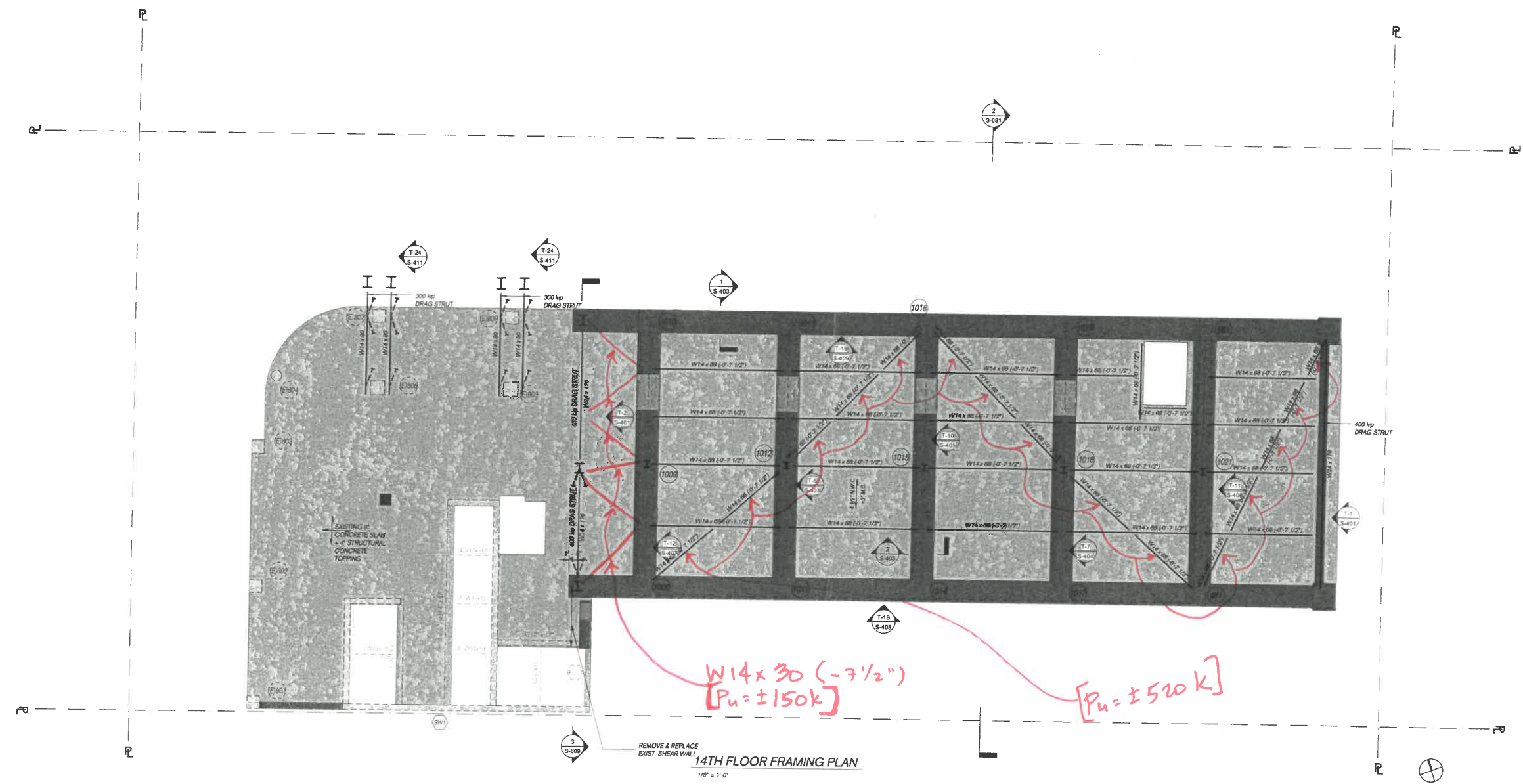
Theater Projects Consultants | Theater Consultant  
47 West Street  
Catharine Street, New York, NY 10004  
203.299.0030 | theaterprojects.com

Fisher Marantz Stone | Lighting Design  
22 West 19th Street, Floor 8  
New York, NY 10011  
212.631.4000 | fms.com

Jaffe Holden | Architectural Consultant  
114 A Wall Street, New York, NY 10005  
212.403.4167 | jh.com

Yabu Pushelberg | Interior Design  
50 Bloor Street West  
Toronto, ON M4W 1A5  
416.226.0404 | yabupushelberg.com

Langhin Engineering | Geotechnical Consultant  
21 Park Place  
New York, NY 10007  
212.471.3400 | langhin.com



**NOTES:**

- THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
- FOR FLOOR FINISHES SEE ARCHITECTURAL...
- DATUM IS SET AT EL. 185'-3".
- TOP OF CONCRETE SLAB IS AT DATUM ELEVATION UNLESS SHOWN THUS (EL. ±.....) ON PLAN.
- TOP OF STEEL IS 7 1/2" BELOW TOP OF CONCRETE UNLESS NOTED THUS (EL. ±.....) ON PLAN.
- FLOOR CONSTRUCTION SHALL BE 4 1/2" OF NORMAL WEIGHT CONCRETE PLACED OVER A 3" - 18 GAGE GALVANIZED COMPOSITE METAL DECK AND REINFORCED WITH ONE LAYER OF 6" X 6" - W1.4 X W1.4 WELDED WIRE FABRIC PLACED 3/4" FROM THE TOP OF THE CONCRETE SLAB. THE SPAN DIRECTION OF THE DECK IS SHOWN THUS ..... ON PLAN.
- THE NUMBER OF 3/4" DIAMETER (4 1/2" LONG) SHEAR STUDS IS SHOWN THUS ( ) ON PLAN. WHERE NO STUDS ARE SHOWN, STUDS SHALL BE EQUALLY SPACED AT 12" ON CENTER FOR THE ENTIRE SPAN.
- FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU...
- FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
- FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
- ⊙ DENOTES COLUMN BELOW ONLY.
- ⊙ DENOTES COLUMN ABOVE ONLY.
- ⊗ DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
- VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE EOR OF ANY DEVIATIONS.
- CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS.
- C8 DENOTES C8 x 11.5
- L4 DENOTES L4 x 4 x 5/16"
- W8 DENOTES W8 x 15
- DENOTES NEW STEEL BEAM
- - - DENOTES EXISTING STEEL BEAM
- - - → DENOTES SHORE, CUT AND RECONNECT EXISTING BEAM TO NEW WORK
- ⊕ DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENT IS SHOWN.
- ⊞ DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
- ⊞ DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
- ⊞ DENOTES EXISTING SLAB TO REMAIN

NOT FOR CONSTRUCTION

DOB APPROVAL STAMP

| Date       | No. | Description             |
|------------|-----|-------------------------|
| 09.02.2016 | 6   | 100% DESIGN DEVELOPMENT |
| 07.15.2016 | 5   | 50% DESIGN DEVELOPMENT  |
| 06.24.2016 | 4   | TAKING SET              |
| 05.18.2016 | 3   | DEVELOPMENT REPORT      |
| 04.08.2016 | 2   | 100% SCHEMATIC DESIGN   |
| 02.17.2016 | 1   | 50% SCHEMATIC DESIGN    |

Project: 1568 Broadway  
New York, NY 10036

Sheet Title:  
**14TH FLOOR PLAN (EL 185'-3")**

Project Number: 14442  
Drawn By: SNH/JBA  
Checked By: CJ  
Scale: As indicated  
Sheet Number:

**S-114.00**

Project No. \_\_\_\_\_ Sheet No. \_\_\_\_\_  
Client \_\_\_\_\_ Date \_\_\_\_\_  
Project \_\_\_\_\_ Subject \_\_\_\_\_ Des. By \_\_\_\_\_

TRANSFER LOAD INTO NORTH CORNER

$$P_u = 1022 \text{ kips}$$

$$A_{sr} = \frac{1022 \text{ k}}{0.9(60)} = 18.9 \text{ in}^2$$

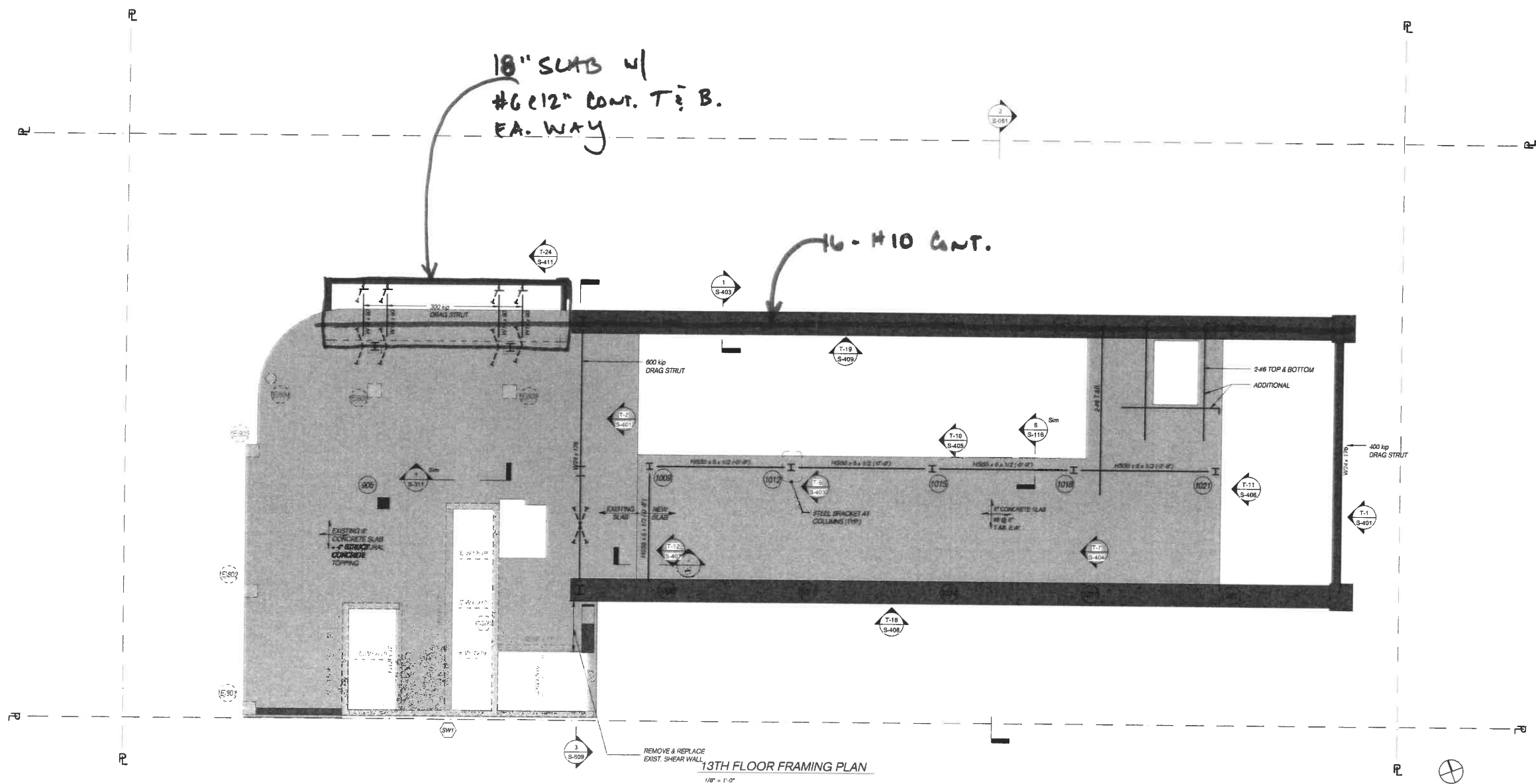
16-#10

$$\phi V_{nc} = 2(0.75)(40)(12)(16)\sqrt{6000} = 892 \text{ k}$$

$$A_{sr} = \frac{1022}{(0.75)(60)} = 22.7 \text{ in}^2 / 40' = 0.56 \text{ in}^2$$

SAY #6 @ 12" T; B EA. WAY

Matt Ayud | Lowell White Architects LLP  
 49 West 57th Street, New York, NY 10019  
 212.869.2440 | lowellwhite.com  
  
 Severud Associates | Structural Engineer  
 489 Seventh Avenue, 9th Floor  
 New York, NY 10013  
 212.986.3700 | severud.com  
  
 Cosentini Associates | Mechanical Engineer  
 Two Pennsylvania Plaza, 3rd Floor  
 New York, NY 10121  
 212.613.3600 | cosentini.com  
  
 Adamson Associates | Interior Architect  
 14 Wall Street, 2nd Floor  
 New York City, New York 10005  
 212.964.4040 | adamsonassociates.com  
  
 Design 2147 Limited | Space Consultant  
 52 Diamond Street, Brooklyn, NY 11222  
 718.383.9340 | design2147.com  
  
 Iros Elevator, LLC | Elevator Consultant  
 884 Parsons Ave., East Rutherford, NJ 07073  
 373.776.4404 | iros-elevator.com  
  
 Theater Projects Consultants | Theater Consultant  
 47 Wall Street  
 South New York, Connecticut 06854  
 203.299.0530 | theaterprojects.com  
  
 Fisher Marantz Stone | Lighting Design  
 22 West 19th Street, Floor 6  
 New York, NY 10011  
 212.931.4921 | fmspd.com  
  
 Jaffe Holden | Acoustic Consultant  
 114-A Washington Street  
 Norwalk, CT 06854  
 203.528.4197 | jhholden.com  
  
 Yabu Pushelberg | Interior Design  
 55 BLOOR STREET WEST  
 TORONTO, ON M4M 1A3  
 416.226.0808 | yabupushelberg.com  
  
 Langan Engineering | Geotechnical Engineer  
 71 Park Plaza  
 360 West 31st Street, 30th Floor, New York, NY 10001  
 212.479.3453 | langan.com



13TH FLOOR FRAMING PLAN  
1/8" = 1'-0"

NOTES:

1. THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. FOR FLOOR FINISHES SEE ARCHITECTURAL...
3. DATUM IS SET AT EL. 176'-6 1/2".
4. TOP OF CONCRETE SLAB IS AT DATUM ELEVATION UNLESS SHOWN THUS [EL. ...] ON PLAN.
5. NOT USED.
6. FLOOR CONSTRUCTION SHALL BE 8" CONCRETE FLAT SLAB REINFORCED WITH A CONTINUOUS #8 @ 6" TOP AND BOTTOM GRID. CONCRETE COMPRESSIVE STRENGTH IS 12 KSI.
7. NOT USED.
8. FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU...
9. FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
10. FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
11. (Symbol) DENOTES COLUMN BELOW ONLY.
12. (Symbol) DENOTES COLUMN ABOVE ONLY.
13. (Symbol) DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
14. VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE EOR OF ANY DEVIATIONS.
15. CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS.
16. C8 DENOTES C8 x 11.5
17. L4 DENOTES L4 x 4 x 5/16"
18. W8 DENOTES W8 x 15
19. (Symbol) DENOTES NEW STEEL BEAM
20. (Symbol) DENOTES EXISTING STEEL BEAM
21. (Symbol) DENOTES SHORE, CUT AND RECONNECT EXISTING BEAM TO NEW WORK
22. (Symbol) DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENT IS SHOWN.
23. (Symbol) DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
24. (Symbol) DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
25. (Symbol) DENOTES EXISTING SLAB TO REMAIN

NOT FOR CONSTRUCTION

DOB APPROVAL STAMP

|            |      |                         |
|------------|------|-------------------------|
| 09.02.2016 | 6    | 100% DESIGN DEVELOPMENT |
| 07.15.2016 | 5    | 50% DESIGN DEVELOPMENT  |
| 08.24.2016 | 4    | TAILING SET             |
| 05.18.2016 | 3    | DEVELOPMENT REPORT      |
| 04.08.2016 | 2    | 100% SCHEMATIC DESIGN   |
| 02.17.2016 | 1    | 50% SCHEMATIC DESIGN    |
| Date:      | No.: | Description:            |

Project: 1568 Broadway

New York, NY 10036

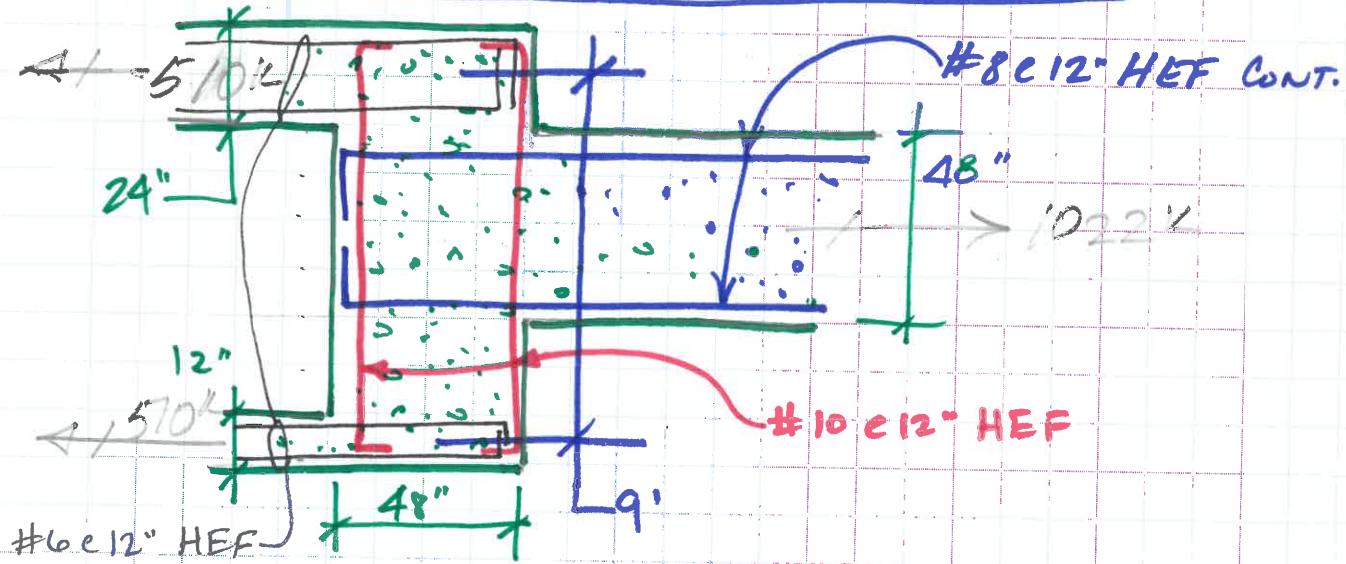
Sheet Title: 13TH FLOOR PLAN (EL 176'-6 1/2")

|                        |                   |
|------------------------|-------------------|
| Project Number: 14442  | Signature & Seal: |
| Drawn By: SNHUBA       |                   |
| Checked By: CJ         |                   |
| Scale: As indicated    |                   |
| Sheet Number: S-113.00 |                   |



Project No. \_\_\_\_\_ Sheet No. \_\_\_\_\_  
 Client \_\_\_\_\_ Date \_\_\_\_\_  
 Project \_\_\_\_\_ Subject \_\_\_\_\_ Des. By \_\_\_\_\_

AUT. BATTERING WALL BETWEEN LVLS 13 & 14:



lvl 13-14  $H_T = 9'-8"$

11'-8" SLAB TO PADS

$\frac{1022k}{11'-8"} = 88k/1, \quad 1.62 \text{ in}^2/1, \quad \approx \underline{\#8 \text{ HEF @ } 12"}$

$\frac{88k/1 \cdot (9')}{4} = 198 \text{ k/1}, \quad \frac{198 \text{ k/1}}{4(0.8)(48)} = 1.2 \text{ in}^2/1$

Project No. \_\_\_\_\_

Sheet No. 2

Client \_\_\_\_\_

Date \_\_\_\_\_

Project \_\_\_\_\_

Subject \_\_\_\_\_ Des. By \_\_\_\_\_

NORTH/SOUTH DIRECTION

• STRAIGHT FORWARD DESIGN UNTIL LVL 16

- At LVL 16, GET ALL OF  $Q_y, W_y$  IN EAST SHEAR WALLS AND DIAPHRAGM TO MIDDLE FRAME AND EAST FRAME

• At LVL 13, PLACE 25% OF LOAD IN NORTH CORE

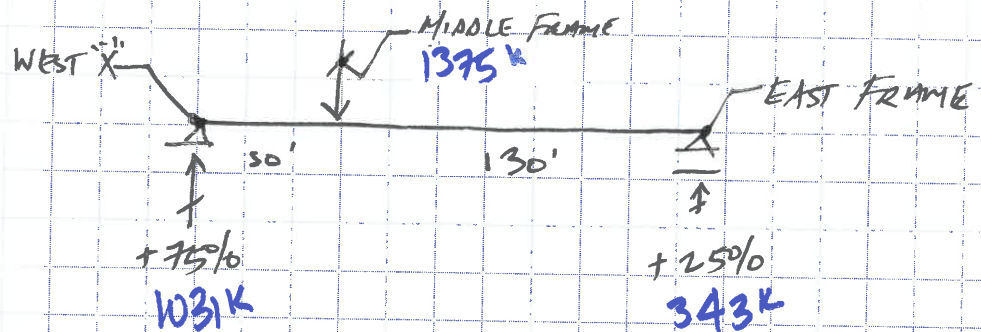
| N. CORE | M. FRAME | E. FRAME | (15% OVER-DESIGN) |
|---------|----------|----------|-------------------|
| 15%     | 50%      | 50%      |                   |
| 290k    | 590k     | 590k     |                   |

• At LVL 10, SOUTH CORE IS "MUTILATED" AND 75% OF SHEAR NEEDS TO COME OUT AND GO INTO MIDDLE FRAME, NORTH CORE AND EAST FRAME

| N. CORE | M. FRAME | E. FRAME | $W_y = 1490 \text{ kips}$ |
|---------|----------|----------|---------------------------|
| 15%     | 70%      | 5%       | $\times 0.75$             |
| 280k    | 785k     | 60k      | <u>1120k</u>              |

• At LVL 9, NEW "X" FRAME IS INTRODUCED

- TO AVOID TORQUE, KEEP EAST FRAME AS-IS AND ADD THE FOLLOWING:



310k  
255k  
600k  
1175k



Project No. \_\_\_\_\_

Sheet No. \_\_\_\_\_

Client \_\_\_\_\_

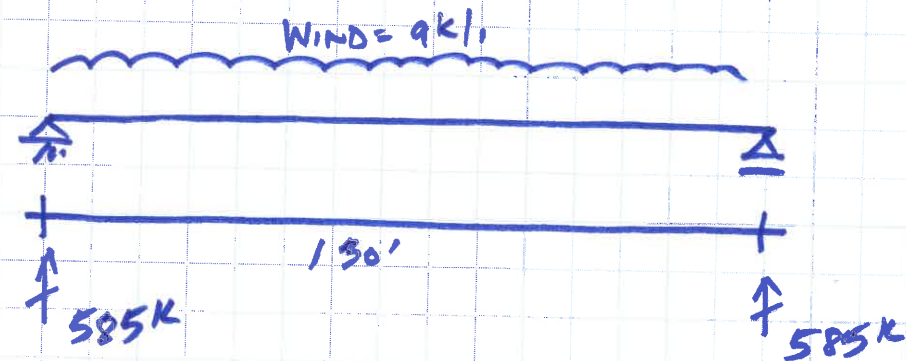
Date \_\_\_\_\_

Project \_\_\_\_\_

Subject \_\_\_\_\_

Des. By \_\_\_\_\_

LVL 16 DIAPHRAGM



$$V_u = 585 \text{ k} (1.6) = 936 \text{ k}$$

$$M_u = 9 \text{ k/ft} \cdot \frac{(130')^2}{2} = 19,015 \text{ k}$$

$$T_u = C_u = \text{CHORD} = \frac{19,015 \text{ k}}{45'} = 425 \text{ k}$$

∴ W14 x 730 OK By INSP. ✓

$$\phi V_{nc} = 0.75 (2) (45') (12 \text{ in}) (9 \text{ in}) \sqrt{6000} = 564 \text{ k} < 936 \text{ k}$$

TRY #4 T & B

$$S = \frac{0.75 (2) (0.2) (60) (45) (12)}{936 - 564} = 26 \text{ in}$$

$$M_u = 0.0018 (9) (12) = 0.19 \text{ in}^2$$

SAY #4 @ 12" T & B

Platt Byard Powell White Architects LLP  
19 West 57th Street, New York, NY 10019  
212.691.2440 | plattbyard.com

Severud Associates - Structural Engineers  
469 Seventh Avenue, 2nd Floor  
New York, NY 10015  
212.396.3700 | severud.com

Cosentini Associates - Mechanical Engineers  
Two Penn Plaza, 3rd Floor  
New York, NY 10121  
212.513.0800 | cosentini.com

Adams Associates - Interior Architects  
143 W. 57th Street, 2nd Floor  
New York, NY 10019  
212.961.4040 | adams-associates.com

Design 2147 Limited - Civil Consultant  
52 Diagonal Street, Brooklyn, NY 11222  
718.383.3340 | design2147.com

Iros Elevator, LLC - Elevator Consultant  
584 Peterson Ave., Salt Pointe, NY 11773  
973.778.4404 | iros-elevator.com

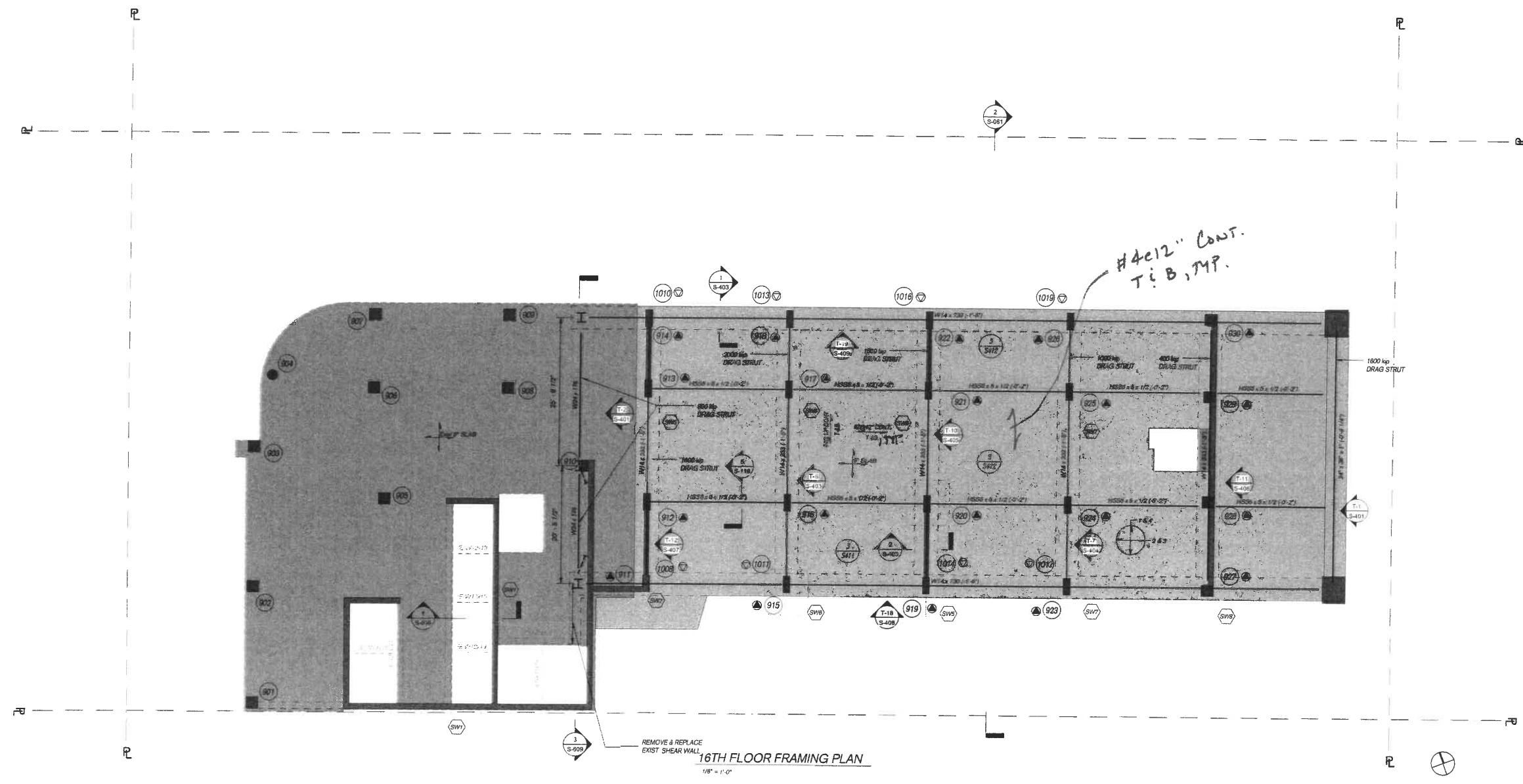
Theater Projects Consultants - Theater Consultant  
47 Water Street  
South Norwalk, Connecticut 06854  
203.299.0530 | theaterprojects.com

Fisher Marantz Stone - Lighting Design  
22 West 19th Street, Floor 5  
New York, NY 10011  
212.921.9100 | msp.com

Jaffe Holden - Acoustic Consultant  
114 A Washington Street  
Shrewsbury, CT 06884  
203.334.4167 | jaffeholden.com

Yabu Pushelberg - Interior Design  
55 King Street West, Suite 200  
Toronto, ON M5X 1C5  
416.222.0908 | yabupushelberg.com

Langan Engineering - General Engineer  
21 Park Plaza  
180 West 31st Street, 2nd Floor, New York, NY 10001  
212.479.5400 | langan.com



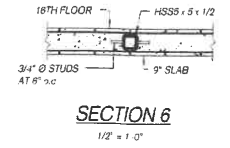
REMOVE & REPLACE EXIST SHEAR WALL  
**16TH FLOOR FRAMING PLAN**  
1/8" = 1'-0"

**NOTES:**

- THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
- FOR FLOOR FINISHES SEE ARCHITECTURAL...
- DATUM IS SET AT EL. 202'-8".
- TOP OF CONCRETE SLAB IS AT DATUM ELEVATION UNLESS SHOWN THUS (EL. ±.....) ON PLAN.
- TOP OF STEEL IS 7 1/2" BELOW TOP OF CONCRETE UNLESS NOTED THUS (EL. ±.....) ON PLAN.
- FLOOR CONSTRUCTION SHALL BE 4 1/2" OF NORMAL WEIGHT CONCRETE PLACED OVER A 3" - 18 GAGE GALVANIZED COMPOSITE METAL DECK AND REINFORCED WITH ONE LAYER OF 6" X 8" - W1.4 X W1.4 WELDED WIRE FABRIC PLACED 3/4" FROM THE TOP OF THE CONCRETE SLAB. THE SPAN DIRECTION OF THE DECK IS SHOWN THUS ----- ON PLAN.
- THE NUMBER OF 3/4" DIAMETER (4 1/2" LONG) SHEAR STUDS IS SHOWN THUS ( ) ON PLAN. WHERE NO STUDS ARE SHOWN, STUDS SHALL BE EQUALLY SPACED AT 12" ON CENTER FOR THE ENTIRE SPAN.

- FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU...
- FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
- FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
- ⊙ DENOTES COLUMN BELOW ONLY.
- ⊙ DENOTES COLUMN ABOVE ONLY.
- ⊗ DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
- VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE EOR OF ANY DEVIATIONS.
- CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS.
- C8 DENOTES C8 x 11.5
- L4 DENOTES L4 x 4 x 5/16"

- WB DENOTES WB x 15
- DENOTES NEW STEEL BEAM
- - - DENOTES EXISTING STEEL BEAM
- - - ● DENOTES SHORE, CUT AND RECONNECT EXISTING BEAM TO NEW WORK
- ⊕ DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENT IS SHOWN.
- DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
- ▨ DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
- DENOTES EXISTING SLAB TO REMAIN



NOT FOR CONSTRUCTION

DOB APPROVAL STAMP

|            |      |                         |
|------------|------|-------------------------|
| 09.02.2016 | 6    | 100% DESIGN DEVELOPMENT |
| 07.05.2016 | 5    | 50% DESIGN DEVELOPMENT  |
| 06.24.2016 | 1    | TAILING SET             |
| 05.18.2016 | 3    | DEVELOPMENT REPORT      |
| 04.08.2016 | 2    | 100% SCHEMATIC DESIGN   |
| 02.17.2016 | 1    | 50% SCHEMATIC DESIGN    |
| Date:      | No.: | Description:            |

Project:  
**1568 Broadway**  
New York, NY 10036

Sheet Title:  
**16TH FLOOR PLAN (EL. 202'-8")**

Project Number: 14442  
Drawn By: SWE/JBA  
Checked By: CJ  
Scale: As indicated  
Sheet Number:  
**S-116.00**

Herr Spard Donah White Architects LLP  
49 West 47th Street, New York, NY 10036  
212.691.2440 | hsdw.com

Severud Associates | Structural Engineer  
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212.913.3900 | cosentini.com

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718.383.3340 | design2147.com

Iros Elevator, LLC | Elevator Consultant  
984 Peterson Ave., East Rutherford, NJ 07073  
973.776.4404 | iroselevator.com

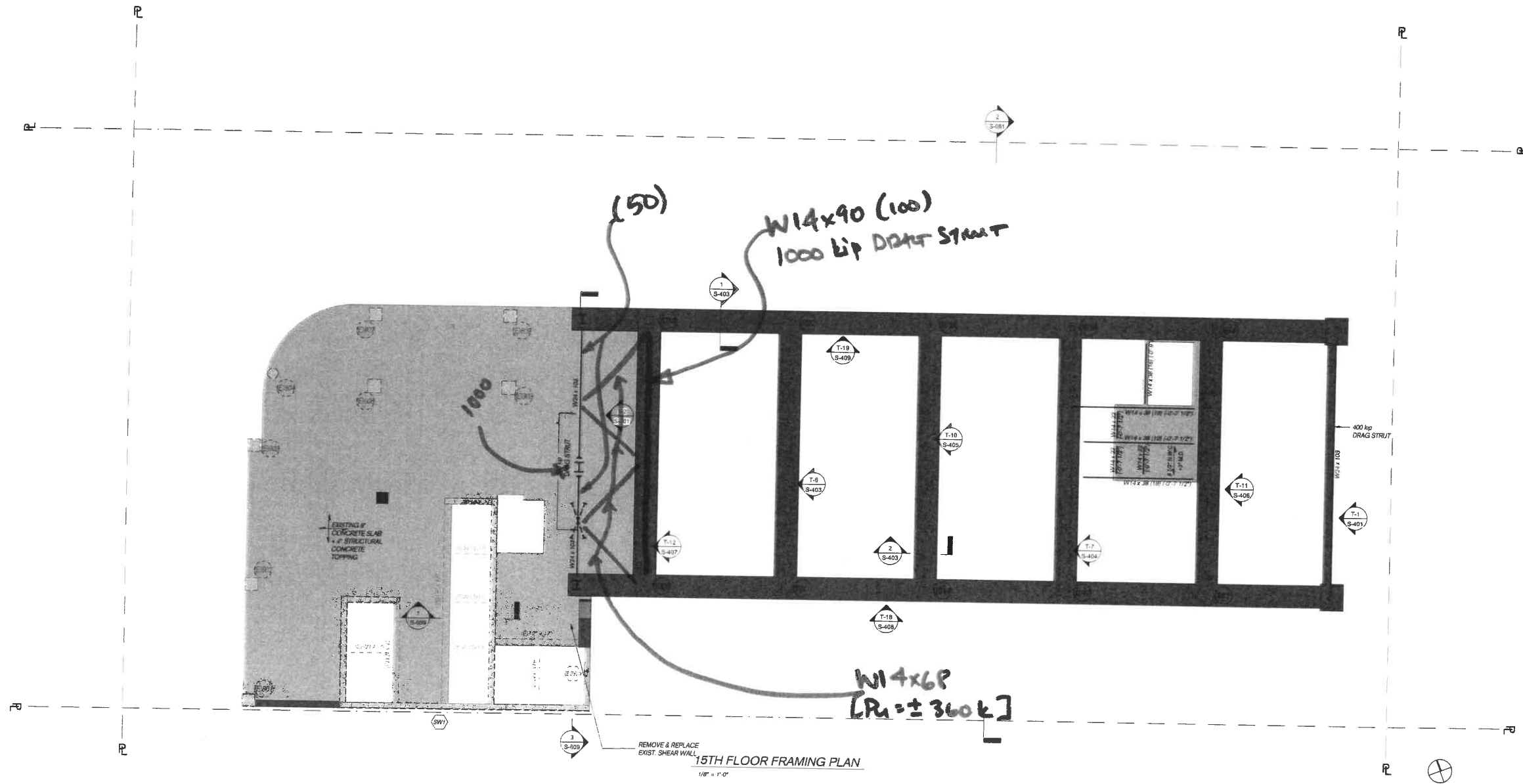
Theater Projects Consultants | Theater Consultant  
47 West Street  
South Norwalk, Connecticut 06854  
203.299.0530 | theaterprojects.com

Fisher Mirantz Stone | Lighting Design  
22 West 19th Street, Floor 6  
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212.691.4920 | fmsps.com

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203.328.4157 | jholden.com

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TORONTO, ON M5R 1A3  
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Langan Engineering | Geotechnical Engineer  
71 Main Place  
350 Main Street, 8th Floor, New York, NY 10010  
212.479.5400 | langan.com



15TH FLOOR FRAMING PLAN  
1/8" = 1'-0"

NOTES:

- THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
- FOR FLOOR FINISHES SEE ARCHITECTURAL...
- DATUM IS SET AT EL. 193'-11 1/2".
- TOP OF CONCRETE SLAB IS AT DATUM ELEVATION UNLESS SHOWN THUS (EL. ±.....) ON PLAN.
- TOP OF STEEL IS 7 1/2" BELOW TOP OF CONCRETE UNLESS NOTED THUS (EL. ±.....) ON PLAN.
- FLOOR CONSTRUCTION SHALL BE 4 1/2" OF NORMAL WEIGHT CONCRETE PLACED OVER A 3" - 18 GAGE GALVANIZED COMPOSITE METAL DECK AND REINFORCED WITH ONE LAYER OF 6" X 6" - W14 X W14 WELDED WIRE FABRIC PLACED 3/4" FROM THE TOP OF THE CONCRETE SLAB. THE SPAN DIRECTION OF THE DECK IS SHOWN THUS ----- ON PLAN.
- THE NUMBER OF 3/4" DIAMETER (4 1/2" LONG) SHEAR STUDS IS SHOWN THUS ( ) ON PLAN. WHERE NO STUDS ARE SHOWN, STUDS SHALL BE EQUALLY SPACED AT 12" ON CENTER FOR THE ENTIRE SPAN.
- FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU...
- FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
- FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
- ⊙ DENOTES COLUMN BELOW ONLY.
- ⊙ DENOTES COLUMN ABOVE ONLY.
- ⊗ DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
- VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE EOR OF ANY DEVIATIONS.
- CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS.
- C8 DENOTES C8 x 11.5
- L4 DENOTES L4 x 4 x 5/16"
- WB DENOTES W8 x 15
- DENOTES NEW STEEL BEAM
- - - DENOTES EXISTING STEEL BEAM
- - - ● DENOTES SHORE, CUT AND RECONNECT EXISTING BEAM TO NEW WORK
- ⊕ DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENT IS SHOWN.
- DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
- ▨ DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
- ▩ DENOTES EXISTING SLAB TO REMAIN

NOT FOR CONSTRUCTION

DOB APPROVAL STAMP

| Date       | No. | Description             |
|------------|-----|-------------------------|
| 09.02.2016 | 6   | 100% DESIGN DEVELOPMENT |
| 07.15.2016 | 5   | 50% DESIGN DEVELOPMENT  |
| 06.24.2016 | 4   | TRAILING SET            |
| 06.18.2016 | 3   | DEVELOPMENT REPORT      |
| 04.08.2016 | 2   | 100% SCHEMATIC DESIGN   |
| 02.17.2016 | 1   | 50% SCHEMATIC DESIGN    |

Project:  
**1568 Broadway**  
New York, NY 10036

Sheet Title:  
**15TH FLOOR PLAN  
(EL. 193'-11 1/2")**

Project Number: 14442  
Drawn By: SHH/JBA  
Checked By: CJ  
Scale: As indicated  
Sheet Number: **S-115.00**

NYC DOB Number

Project No. \_\_\_\_\_ Sheet No. \_\_\_\_\_  
Client \_\_\_\_\_ Date \_\_\_\_\_  
Project \_\_\_\_\_ Subject \_\_\_\_\_ Des. By \_\_\_\_\_

SOUTH CORE MAY DRAG OUT LOOPS OVER THE FOLLOWING LEVELS

|                 | <u>M. FRAME</u> | <u>N. CORE</u> |
|-----------------|-----------------|----------------|
| 15              | 157K ✓          | —              |
| 14              | " ✓             | 70K ✓          |
| 13              | " ✓             | " ✓            |
| 12              | " ✓             | " ✓            |
| 11              | " ✓             | " ✓            |
| <u>5</u> Floors |                 |                |

**Severud Associates** | Structural Engineer  
 169 Seventh Avenue, 8th Floor  
 New York, NY 10015  
 212.586.3700 | severud.com

**Osertini Associates** | Mechanical Engineer  
 Two Penn Plaza, 3rd Floor  
 New York, NY 10121  
 212.615.3890 | osertini.com

**Adams Associates** | Interior Architect  
 12 West Street, 2nd Floor  
 New York City, New York 10003  
 212.954.4040 | adamsac.com

**Design 2147 Limited** | Code Consultant  
 52 Clermont Street, Brooklyn, NY 11222  
 718.363.9340 | design2147.com

**Iros Elevator, LLC** | Elevator Consultant  
 884 Paterson Ave., East Rutherford, NJ 07073  
 773.775.1404 | iroselevator.com

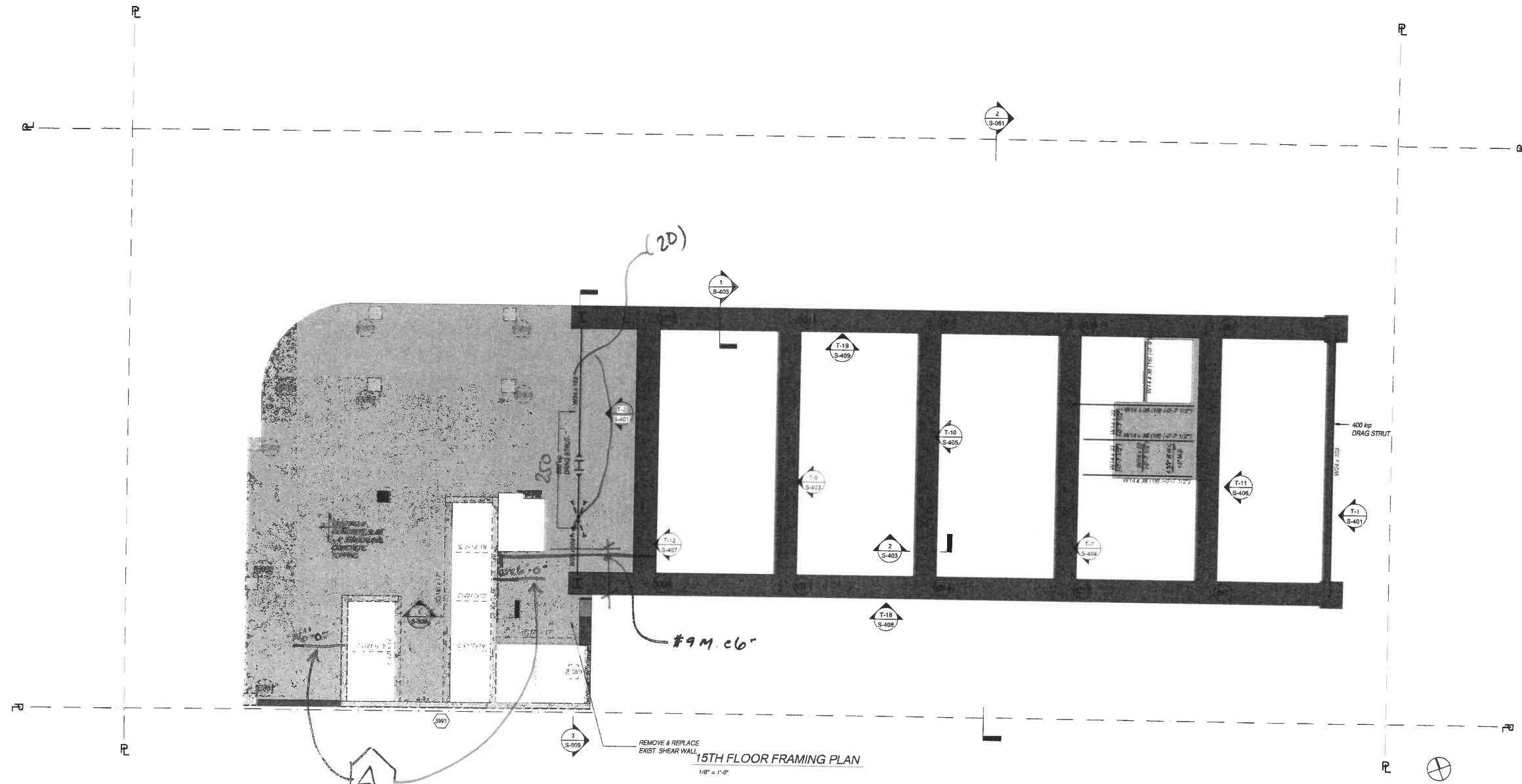
**Theater Projects Consultants** | Theater Consultant  
 47 West Street  
 Sixth Floor, New York, NY 10012  
 203.798.0530 | theaterprojects.com

**Fisher Marantz Stone** | Lighting Design  
 22 West 19th Street, Floor 8  
 New York, NY 10011  
 212.691.9020 | fmsap.com

**Jaffe Holden** | Acoustic Consultant  
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 Norwalk, CT 06854  
 203.838.1167 | jaffeholden.com

**Yabu Pushelberg** | Interior Design  
 25 BAYVIEW AVENUE  
 TORONTO, ON M5A 2M8  
 416.226.9808 | yabupushelberg.com

**Langin Engineering** | Geotechnical Engineer  
 71 Penn Plaza  
 360 West 31st Street, 8th Floor, New York, NY 10001  
 212.479.5400 | langin.com



**15TH FLOOR FRAMING PLAN**  
 1/8" = 1'-0"

**NOTES:**

1. THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. FOR FLOOR FINISHES SEE ARCHITECTURAL...
3. DATUM IS SET AT EL. 193'-11 1/2".
4. TOP OF CONCRETE SLAB IS AT DATUM ELEVATION UNLESS SHOWN THUS (EL. ...) ON PLAN.
5. TOP OF STEEL IS 7 1/2" BELOW TOP OF CONCRETE UNLESS NOTED THUS (EL. ...) ON PLAN.
6. FLOOR CONSTRUCTION SHALL BE 4 1/2" OF NORMAL WEIGHT CONCRETE PLACED OVER A 3" - 18 GAGE GALVANIZED COMPOSITE METAL DECK AND REINFORCED WITH ONE LAYER OF 6" X 6" - W1.4 X W1.4 WELDED WIRE FABRIC PLACED 3/4" FROM THE TOP OF THE CONCRETE SLAB. THE SPAN DIRECTION OF THE DECK IS SHOWN THUS (---) ON PLAN.
7. THE NUMBER OF 3/4" DIAMETER (4 1/2" LONG) SHEAR STUDS IS SHOWN THUS ( ) ON PLAN. WHERE NO STUDS ARE SHOWN, STUDS SHALL BE EQUALLY SPACED AT 12" ON CENTER FOR THE ENTIRE SPAN.

8. FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU...
9. FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
10. FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
11. (C) DENOTES COLUMN BELOW ONLY.
12. (A) DENOTES COLUMN ABOVE ONLY.
13. (X) DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
14. VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE EOR OF ANY DEVIATIONS.
15. CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS.
16. C8 DENOTES C8 x 11.5
17. L4 DENOTES L4 x 4 x 5/16"

18. WB DENOTES W8 x 15
19. ——— DENOTES NEW STEEL BEAM
20. - - - - DENOTES EXISTING STEEL BEAM
21. - - - - DENOTES SHORE, CUT AND RECONNECT EXISTING BEAM TO NEW WORK
22. —+— DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENT IS SHOWN.
23. [ ] DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
24. [ ] DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
25. [ ] DENOTES EXISTING SLAB TO REMAIN

**NOT FOR CONSTRUCTION**

DOB APPROVAL STAMP

|            |   |                         |
|------------|---|-------------------------|
| 09.02.2016 | 6 | 100% DESIGN DEVELOPMENT |
| 07.15.2016 | 5 | 50% DESIGN DEVELOPMENT  |
| 08.24.2016 | 4 | TA FILING SET           |
| 05.18.2016 | 3 | DEVELOPMENT REPORT      |
| 04.08.2016 | 2 | 100% SCHEMATIC DESIGN   |
| 02.17.2016 | 1 | 50% SCHEMATIC DESIGN    |

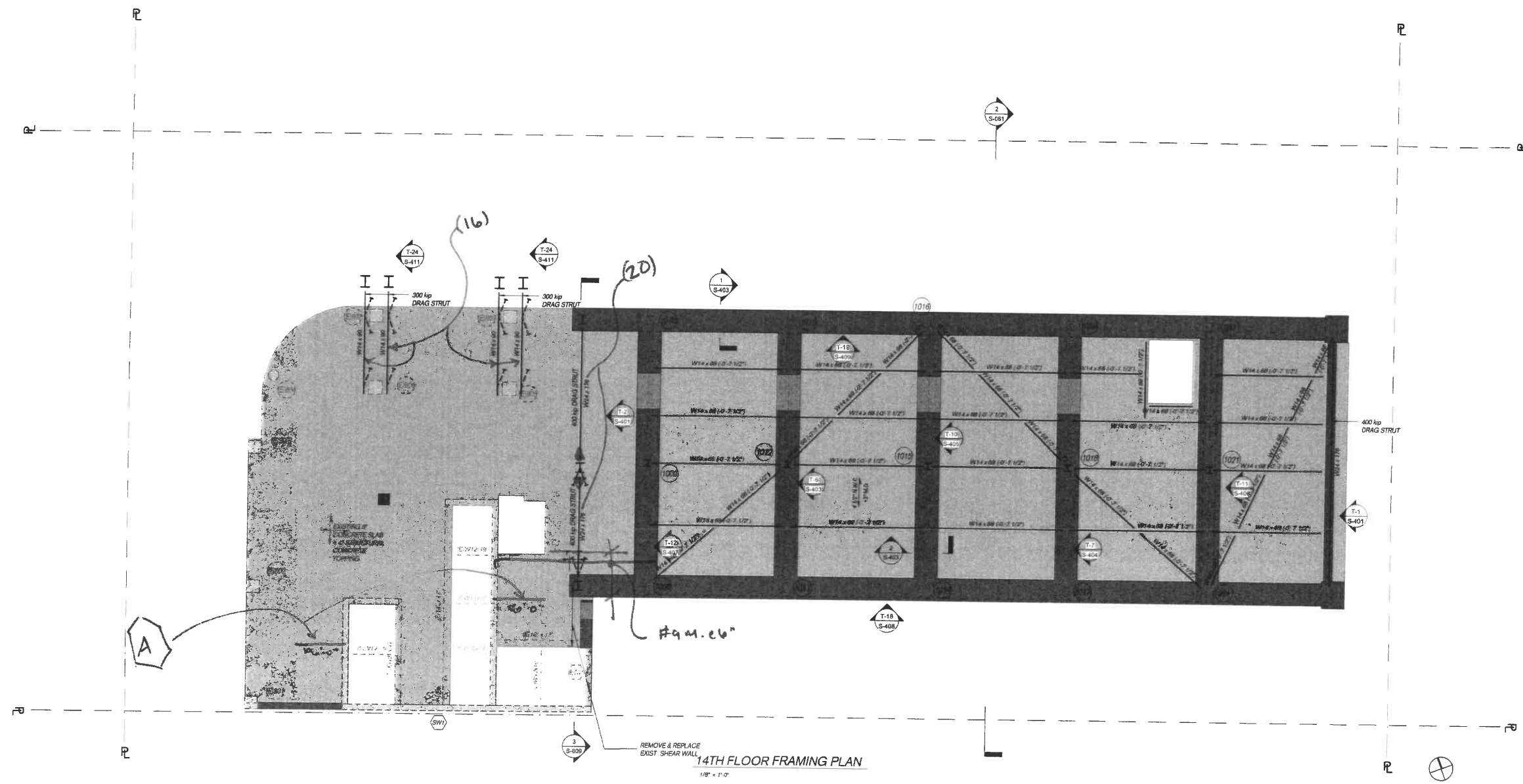
Date: No. Description:  
 Project:  
**1568 Broadway**

New York, NY 10036  
 Sheet Title:  
**15TH FLOOR PLAN (EL. 193'-11 1/2")**

Project Number: 14442  
 Signature & Seal:  
 Drawn By: SNH/JBA  
 Checked By: CJ  
 Scale: As indicated  
 Sheet Number:

**S-115.00**





14TH FLOOR FRAMING PLAN  
1/8" = 1'-0"

NOTES:

1. THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. FOR FLOOR FINISHES SEE ARCHITECTURAL...
3. DATUM IS SET AT EL. 185'-3".
4. TOP OF CONCRETE SLAB IS AT DATUM ELEVATION UNLESS SHOWN THUS (EL. ±... ) ON PLAN.
5. TOP OF STEEL IS 7 1/2" BELOW TOP OF CONCRETE UNLESS NOTED THUS (EL. ±... ) ON PLAN.
6. FLOOR CONSTRUCTION SHALL BE 4 1/2" OF NORMAL WEIGHT CONCRETE PLACED OVER A 3" - 18 GAGE GALVANIZED COMPOSITE METAL DECK AND REINFORCED WITH ONE LAYER OF 6" X 8" - W1.4 X W1.4 WELDED WIRE FABRIC PLACED 3/4" FROM THE TOP OF THE CONCRETE SLAB. THE SPAN DIRECTION OF THE DECK IS SHOWN THUS ----- ON PLAN.
7. THE NUMBER OF 3/4" DIAMETER (4 1/2" LONG) SHEAR STUDS IS SHOWN THUS ( ) ON PLAN. WHERE NO STUDS ARE SHOWN, STUDS SHALL BE EQUALLY SPACED AT 12" ON CENTER FOR THE ENTIRE SPAN.
8. FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU...
9. FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
10. FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
11. (V) DENOTES COLUMN BELOW ONLY
12. (A) DENOTES COLUMN ABOVE ONLY.
13. (X) DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
14. VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE EOR OF ANY DEVIATIONS.
15. CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS.
16. C8 DENOTES C8 x 11.5
17. L4 DENOTES L4 x 4 x 5/16"
18. WB DENOTES WB x 15
19. ——— DENOTES NEW STEEL BEAM
20. - - - - DENOTES EXISTING STEEL BEAM
21. - - - • - - - DENOTES SHORE, CUT AND RECONNECT EXISTING BEAM TO NEW WORK
22. [Symbol] DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENT IS SHOWN.
23. [Symbol] DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
24. [Symbol] DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
25. [Symbol] DENOTES EXISTING SLAB TO REMAIN

NOT FOR CONSTRUCTION

Pratt Byrd Covey White Architects LLP  
469 Seventh Avenue, 9th Floor  
New York, NY 10018  
212.691.2440 | pbw.com

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New York City, New York 10005  
212.904.4040 | adamsassociates.com

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718.383.9340 | design2147.com

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884 Patterson Ave., East Rutherford, NJ 07073  
973.773.4404 | iroselevator.com

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South Norwalk, Connecticut 06854  
703.299.0539 | theaterprojects.com

Fisher Mirantz Stone | Lighting Design  
22 West 136th Street, Floor 5  
New York, NY 10011  
212.691.4500 | fmsp.com

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114 A Washington Street  
Newark, CT 07102  
203.535.1157 | jhacoustic.com

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75 West Plaza  
880 West 121st St., 8th Floor, Minneapolis, MN 55404  
212.471.5473 | langan.com

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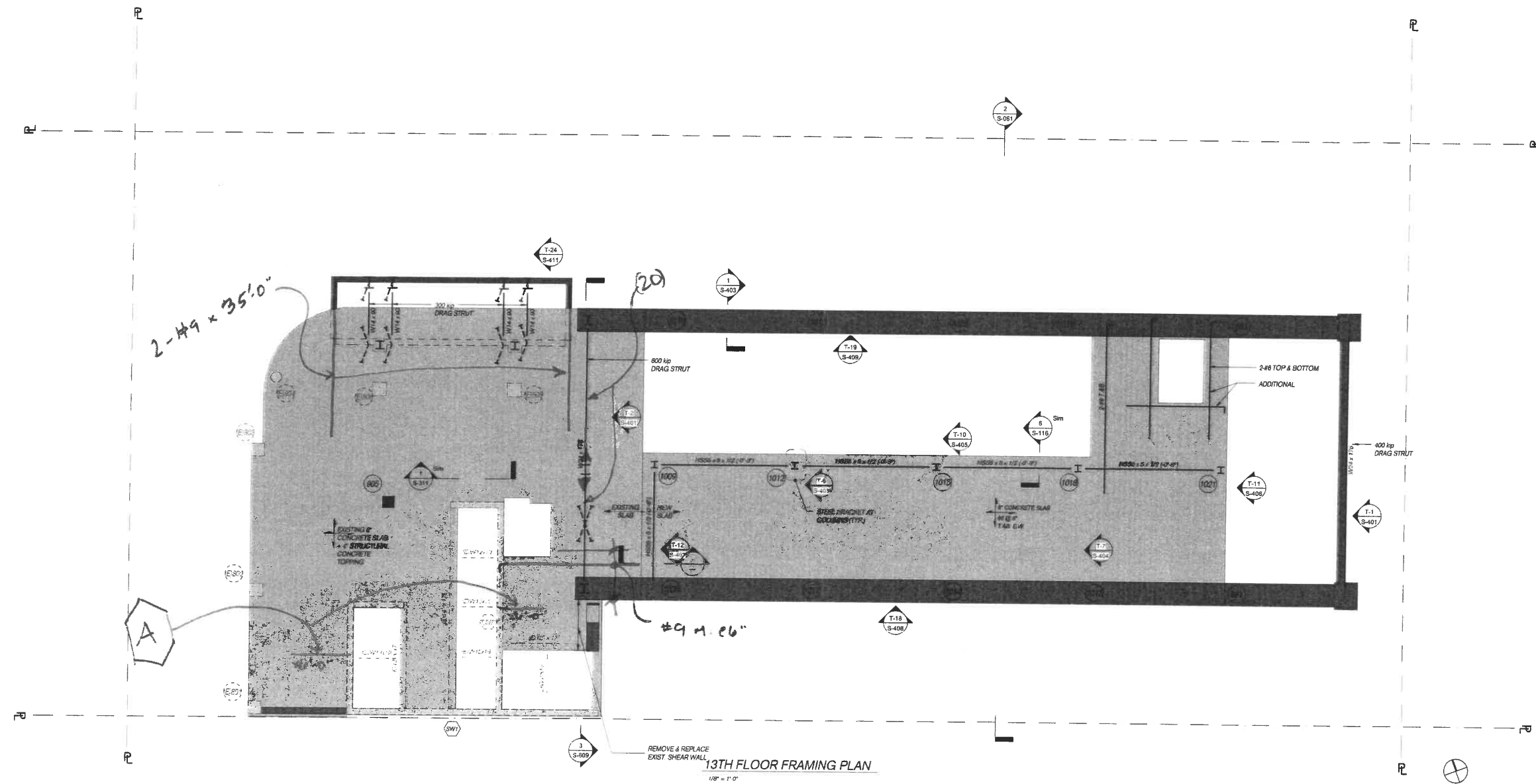
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| 09.02.2016 | 6   | 100% DESIGN DEVELOPMENT |
| 07.15.2016 | 5   | 50% DESIGN DEVELOPMENT  |
| 06.24.2016 | 4   | TRAILING SET            |
| 06.18.2016 | 3   | DEVELOPMENT REPORT      |
| 04.08.2016 | 2   | 100% SCHEMATIC DESIGN   |
| 02.17.2016 | 1   | 50% SCHEMATIC DESIGN    |

Project:  
**1568 Broadway**  
New York, NY 10038

Sheet Title:  
**14TH FLOOR PLAN (EL 185'-3")**

Project Number: 14442  
Drawn By: SNH/JBA  
Checked By: CJ  
Scale: As indicated  
Sheet Number:

**S-114.00**



13TH FLOOR FRAMING PLAN  
1/8" = 1'-0"

NOTES:

1. THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. FOR FLOOR FINISHES SEE ARCHITECTURAL...
3. DATUM IS SET AT EL. 176'-6 1/2".
4. TOP OF CONCRETE SLAB IS AT DATUM ELEVATION UNLESS SHOWN THUS [EL. ....] ON PLAN.
5. NOT USED.
6. FLOOR CONSTRUCTION SHALL BE 8" CONCRETE FLAT SLAB REINFORCED WITH A CONTINUOUS #8 @ 8" TOP AND BOTTOM GRID. CONCRETE COMPRESSIVE STRENGTH IS 12 KSI.
7. NOT USED.
8. FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU...
9. FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
10. FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
11. [Symbol] DENOTES COLUMN BELOW ONLY.
12. [Symbol] DENOTES COLUMN ABOVE ONLY.
13. [Symbol] DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
14. VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE EOR OF ANY DEVIATIONS.
15. CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS
16. C8 DENOTES C8 x 11.5
17. L4 DENOTES L4 x 4 x 5/16"
18. W8 DENOTES W8 x 15
19. [Symbol] DENOTES NEW STEEL BEAM
20. [Symbol] DENOTES EXISTING STEEL BEAM
21. [Symbol] DENOTES SHORE, CUT AND RECONNECT EXISTING BEAM TO NEW WORK
22. [Symbol] DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENT IS SHOWN.
23. [Symbol] DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
24. [Symbol] DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
25. [Symbol] DENOTES EXISTING SLAB TO REMAIN

Severud Associates - Structural Engineer  
169 Seventh Avenue, 9th Floor  
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212.986.3750 | severud.com

Cosentini Associates - Mechanical Engineer  
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New York, NY 10121  
212.615.3900 | cosentini.com

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New York, NY 10013  
212.934.4340 | adamsassociates.com

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718.363.9740 | design2147.com

Iros Elevator, LLC - Elevator Consultant  
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973.776.4404 | iroselevator.com

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New York, NY 10011  
212.691.4030 | fishsp.com

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Norfolk, VT 06854  
203.824.4167 | jhacoustic.com

Yabu Pushelberg - Interior Design  
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TORONTO, ON M5M 1M3  
416.225.9808 | yabupushelberg.com

Langan Engineering - Structural Engineer  
71 Penn Plaza  
380 West 33rd Street, 9th Floor, New York, NY 10001  
212.479.5470 | langan.com

NOT FOR CONSTRUCTION

DOB APPROVAL STAMP

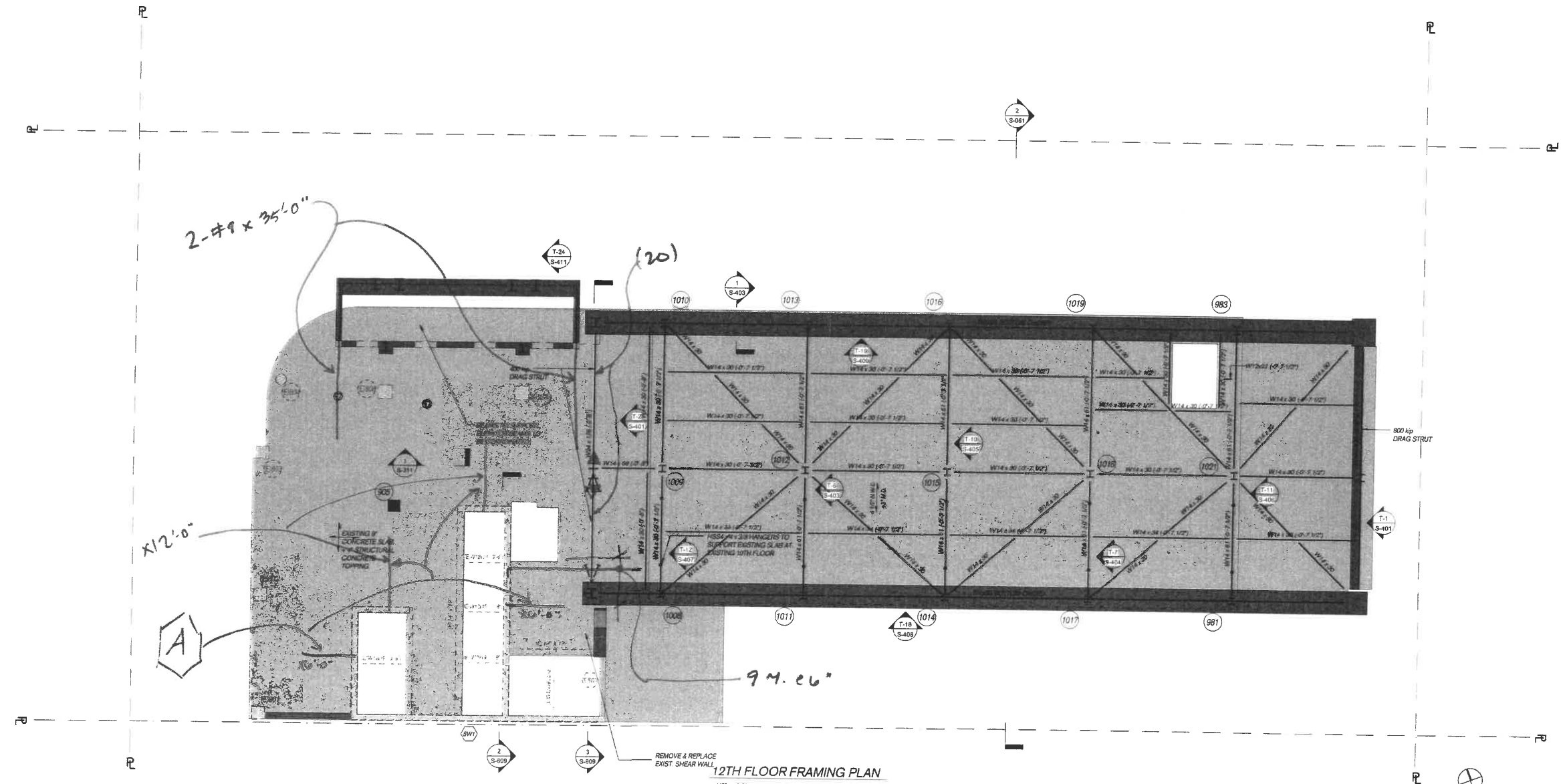
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| 07.15.2016 | 5   | 30% DESIGN DEVELOPMENT  |
| 06.24.2016 | 4   | TAKING SET              |
| 05.18.2016 | 3   | DEVELOPMENT REPORT      |
| 04.08.2016 | 2   | 100% SCHEMATIC DESIGN   |
| 02.17.2016 | 1   | 50% SCHEMATIC DESIGN    |

Project:  
1568 Broadway  
New York, NY 10036

Sheet Title:  
13TH FLOOR PLAN (EL 176'-6 1/2")

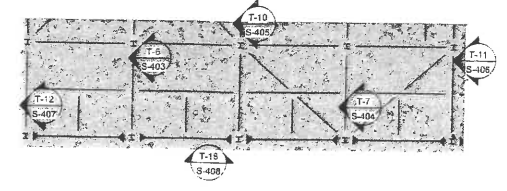
Project Number: 14442  
Drawn By: SHH/JBA  
Checked By: CJ

Scale: As indicated  
Sheet Number: S-113.00



**NOTES:**

1. THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. FOR FLOOR FINISHES SEE ARCHITECTURAL...
3. DATUM IS SET AT EL. 167'-10".
4. TOP OF CONCRETE SLAB IS AT DATUM ELEVATION UNLESS SHOWN THUS (EL. ±.....) ON PLAN.
5. TOP OF STEEL IS 7 1/2" BELOW TOP OF CONCRETE UNLESS NOTED THUS (EL. ±.....) ON PLAN.
6. FLOOR CONSTRUCTION SHALL BE 4 1/2" OF NORMAL WEIGHT CONCRETE PLACED OVER A 3" - 18 GAGE GALVANIZED COMPOSITE METAL DECK AND REINFORCED WITH ONE LAYER OF 6" X 6" - W1.4 WELDED WIRE FABRIC PLACED 3/4" FROM THE TOP OF THE CONCRETE SLAB. THE SPAN DIRECTION OF THE DECK IS SHOWN THUS ---- ON PLAN.
7. THE NUMBER OF 3/4" DIAMETER (4 1/2" LONG) SHEAR STUDS IS SHOWN THUS ( ) ON PLAN WHERE NO STUDS ARE SHOWN, STUDS SHALL BE EQUALLY SPACED AT 12" ON CENTER FOR THE ENTIRE SPAN
8. FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU...
9. FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
10. FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
11. (C) DENOTES COLUMN BELOW ONLY.
12. (C) DENOTES COLUMN ABOVE ONLY.
13. (X) DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
14. VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE EOR OF ANY DEVIATIONS.
15. CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS.
16. C8 DENOTES C8 x 11.5
17. L4 DENOTES L4 x 4 x 5/16"
18. W8 DENOTES W8 x 15
19. ——— DENOTES NEW STEEL BEAM
20. - - - - DENOTES EXISTING STEEL BEAM
21. - - - - DENOTES SHORE, CUT AND RECONNECT EXISTING BEAM TO NEW WORK
22. [Symbol] DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENT IS SHOWN.
23. [Symbol] DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
24. [Symbol] DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
25. [Symbol] DENOTES EXISTING SLAB TO REMAIN



NOT FOR CONSTRUCTION

DOB APPROVAL STAMP

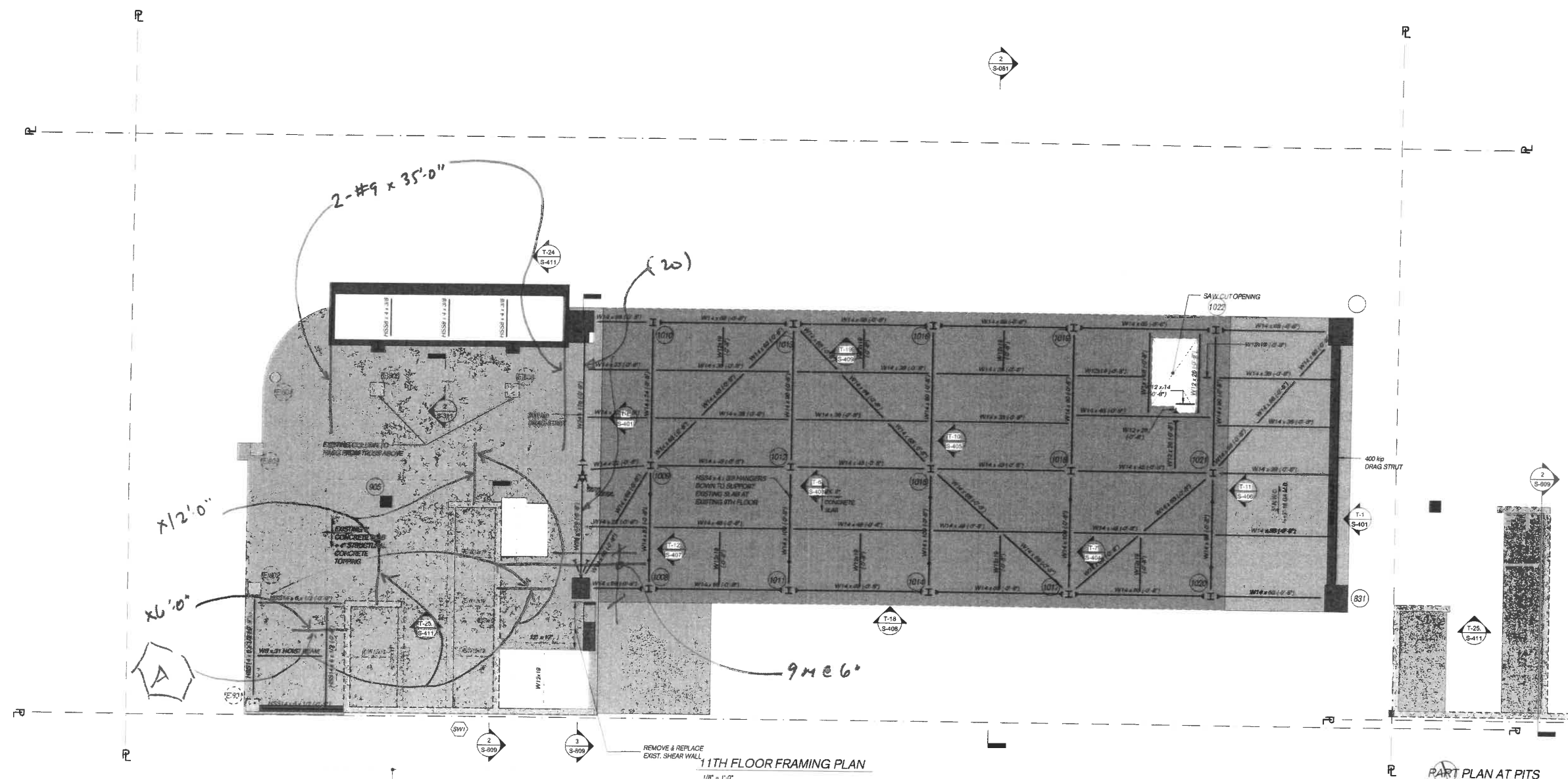
| Date       | No. | Description             |
|------------|-----|-------------------------|
| 09.02.2016 | 6   | 100% DESIGN DEVELOPMENT |
| 07.13.2016 | 5   | 50% DESIGN DEVELOPMENT  |
| 08.24.2016 | 4   | TAKING SET              |
| 05.18.2016 | 3   | DEVELOPMENT REPORT      |
| 04.08.2016 | 2   | 100% SCHEMATIC DESIGN   |
| 02.17.2016 | 1   | 30% SCHEMATIC DESIGN    |

Project:  
**1568 Broadway**  
New York, NY 10036

Sheet Title:  
**12TH FLOOR PLAN (EL 167'-10")**

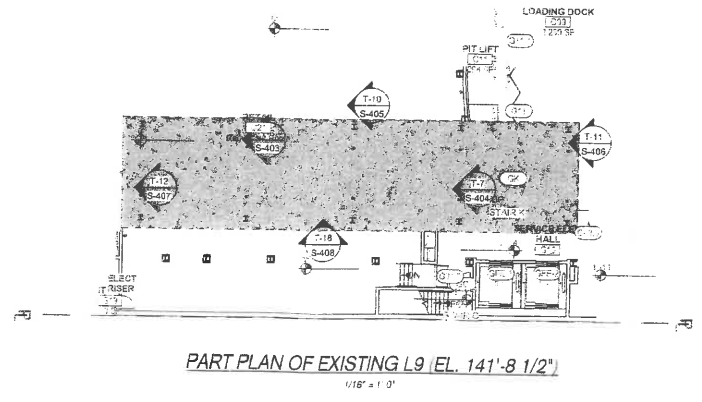
Project Number: 14442  
Signature & Seal:  
Drawn By: SHH/JBA  
Checked By: C.I.  
Scale: As indicated  
Sheet Number: **S-112.00**





**NOTES:**

- THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
- FOR FLOOR FINISHES SEE ARCHITECTURAL...
- DATUM IS SET AT EL. 150'-5"
- TOP OF CONCRETE SLAB IS AT DATUM ELEVATION UNLESS SHOWN THUS [EL. ...] ON PLAN.
- TOP OF STEEL IS 7 1/2" BELOW TOP OF CONCRETE UNLESS NOTED THUS (EL. ± ...) ON PLAN.
- FLOOR CONSTRUCTION SHALL BE 5" OF NORMAL WEIGHT CONCRETE PLACED OVER A 3" 18 GAGE GALVANIZED COMPOSITE METAL DECK AND REINFORCED WITH ONE LAYER OF 6" X 8" W1.4 X W1.4 WELDED WIRE FABRIC PLACED 3/4" FROM THE TOP OF THE CONCRETE SLAB. THE SPAN DIRECTION OF THE DECK IS SHOWN THUS ---- ON PLAN.
- THE NUMBER OF 3/4" DIAMETER (4 1/2" LONG) SHEAR STUDS IS SHOWN THUS ( ) ON PLAN. WHERE NO STUDS ARE SHOWN, STUDS SHALL BE EQUALLY SPACED AT 12" ON CENTER FOR THE ENTIRE SPAN.
- FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU...
- FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
- FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
- ⊙ DENOTES COLUMN BELOW ONLY.
- ⊙ DENOTES COLUMN ABOVE ONLY.
- ⊗ DENOTES BEAM OPENING. SEE DETAIL ON DRAWING S-501 FOR BEAM OPENING REINFORCEMENT.
- VERIFY IN FIELD ALL EXISTING CONDITIONS. INFORM THE EOR OF ANY DEVIATIONS.
- CONTRACTOR TO COORDINATE ALL SLAB PENETRATIONS TO AVOID CUTTING/CORING OF EXISTING BEAMS
- C8 DENOTES C8 x 11.5
- L4 DENOTES L4 x 4 x 5/16"
- WB DENOTES W8 x 15
- DENOTES NEW STEEL BEAM
- - - DENOTES EXISTING STEEL BEAM
- · - · - DENOTES SHORE, CUT AND RECONNECT EXISTING BEAM TO NEW WORK
- ⊕ DENOTES MOMENT CONNECTION. PROVIDE FULL CAPACITY MOMENT CONNECTION WHERE NO MOMENT IS SHOWN.
- ▭ DENOTES APPROXIMATE AREA OF NEW CONCRETE INFILL/PATCH
- ▨ DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
- ▩ DENOTES EXISTING SLAB TO REMAIN



NOT FOR CONSTRUCTION

Flat Board Elevator White Architects LLP  
49 West 37th Street, New York, NY 10018  
212.691.1410 | white.com

Severud Associates - Structural Engineers  
469 South Avenue, 9th Floor  
New York, NY 10015  
212.696.1700 | severud.com

Cosentini Associates - Mechanical Engineer  
Two Penn Plaza, 2nd Floor  
New York, NY 10121  
212.615.3600 | cosentini.com

Adams Associates - Interior Architect  
14 West Street, 2nd Floor  
New York City, New York 10002  
212.904.4910 | adamsassociates.com

Design 2147 Limited - Space Consultant  
52 Lenox Street, Brooklyn, NY 11222  
718.383.3340 | design2147.com

Iros Elevator, LLC - Elevator Consultant  
864 Pelham Ave. East Palisades, NY 10964  
973.776.4404 | iroselevator.com

Theater Projects Consultants - Theater Consultant  
47 West Street  
South Norwalk, Connecticut 06854  
203.239.0330 | theaterprojects.com

Fisher Marantz Stone - Lighting Design  
22 West 15th Street, Floor 5  
New York, NY 10001  
212.901.8100 | fisherms.com

Jaffe Holden - Architectural Consultant  
114 A Washington Street  
Norwalk, CT 06854  
203.338.4167 | jaffeholden.com

Yabu Pushelberg - Interior Design  
55 BOUTH AVENUE  
TORONTO, ON M4M 1A3  
416.228.0908 | yabupushelberg.com

Langan Engineering - Geotechnical Engineer  
11 West Plaza  
300 West 12th Street, 18th Floor, New York, NY 10001  
212.771.3410 | langan.com

DOB APPROVAL STAMP

| Date       | No. | Description             |
|------------|-----|-------------------------|
| 09.02.2016 | 6   | 100% DESIGN DEVELOPMENT |
| 07.15.2016 | 5   | 50% DESIGN DEVELOPMENT  |
| 06.24.2016 | 4   | TA FILING SET           |
| 06.18.2016 | 3   | DEVELOPMENT REPORT      |
| 04.08.2016 | 2   | 100% SCHEMATIC DESIGN   |
| 02.17.2016 | 1   | 50% SCHEMATIC DESIGN    |

Project: 1568 Broadway  
New York, NY 10036

Sheet Title:  
**11TH FLOOR PLAN (EL 150'-5")**

Project Number: 14442  
Signature & Seal:  
Drawn By: SNH/JBA  
Checked By: CJ  
Scale: As indicated  
Sheet Number: **S-111.00**

Patt Sheard Jewell White Architects LLP  
49 West 47th Street, New York, NY 10018  
212.691.2440 | pbdw.com

Severud Associates - Structural Engineers  
489 Seventh Avenue, 9th Floor  
New York, NY 10015  
212.386.3700 | severud.com

Cosentini Associates - Mechanical Engineers  
Two Pennsylvania Plaza, 2nd Floor  
New York, NY 10021  
212.613.3000 | cosentini.com

Adamson Associates - Interior Architect  
14 Wall Street, 2nd Floor  
New York City, New York 10005  
212.904.1040 | adamson-associates.com

Design 2147 Limited - Code Consultants  
22 Stuyvesant Street, Brooklyn, NY 11222  
718.383.8340 | design2147.com

Iros Elevator, LLC - Elevator Consultant  
884 Peterson Ave., East Rutherford, NJ 07073  
973.776.4404 | iros-elevator.com

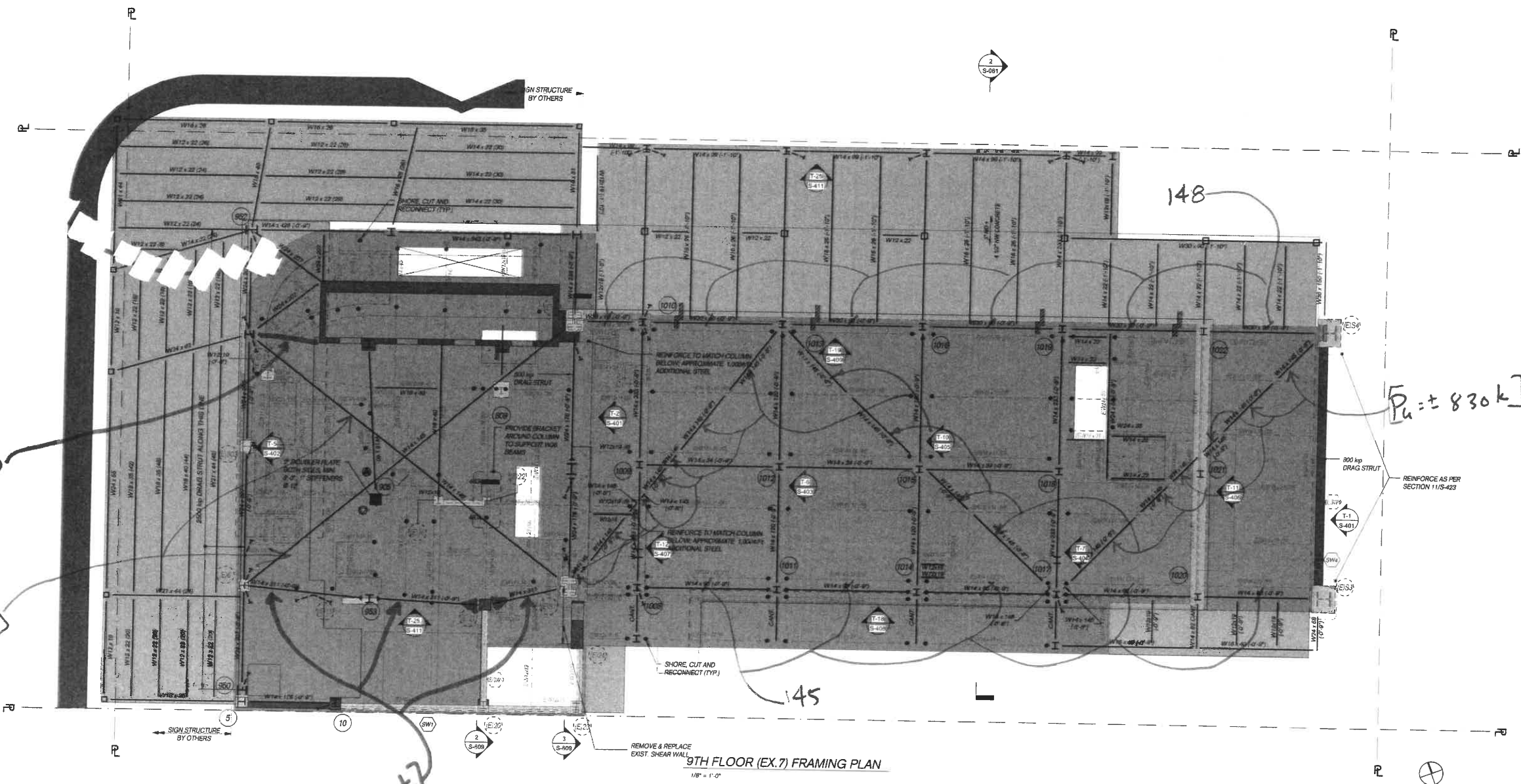
Theater Projects Consultants - Theater Consultant  
47 Water Street  
South Norwalk, Connecticut 06854  
203.299.0530 | theaterprojects.com

Fisher Marantz Stone - Lighting Design  
22 West 19th Street, Floor 9  
New York, NY 10011  
212.691.4120 | fmsdp.com

Jaffe Holden - Acoustic Consultant  
114-A Washington Street  
Newark, CT 06854  
203.338.4167 | jaffeholden.com

Yabu Pushelberg - Interior Design  
55 SOUTH MIDDLE  
TORONTO, ON M4V 2M3  
712.226.0804 | yabupushelberg.com

Langan Engineering - Geotechnical Engineer  
71 Pine Plaza  
300 West 41st Street, 8th Floor, New York, NY 10018  
212.479.5400 | langan.com



9TH FLOOR (EX.7) FRAMING PLAN  
1/8" = 1'-0"

NOTES:

- THIS DRAWING SHALL BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
- FOR FLOOR FINISHES SEE ARCHITECTURAL...
- DATUM IS SET AT EL. 117'-0".
- TOP OF CONCRETE SLAB IS AT DATUM ELEVATION UNLESS SHOWN THUS (EL. ±.....) ON PLAN.
- TOP OF STEEL IS 7 1/2" BELOW TOP OF CONCRETE UNLESS NOTED THUS (EL. ±.....) ON PLAN.
- FLOOR CONSTRUCTION SHALL BE 4 1/2" OF NORMAL WEIGHT CONCRETE PLACED OVER A 3" 18 GAGE GALVANIZED COMPOSITE METAL DECK AND REINFORCED WITH ONE LAYER OF 8" X 8" W1.4 X W1.4 WELDED WIRE FABRIC PLACED 3/4" FROM THE TOP OF THE CONCRETE SLAB. THE SPAN DIRECTION OF THE DECK IS SHOWN THUS ----- ON PLAN.
- THE NUMBER OF 3/4" DIAMETER (4 1/2" LONG) SHEAR STUDS IS SHOWN THUS (L) ON PLAN. WHERE NO STUDS ARE SHOWN, STUDS SHALL BE EQUALLY SPACED AT 12" ON CENTER FOR THE ENTIRE SPAN.
- FOR COLUMN SCHEDULE SEE DRAWINGS S-501 THRU...
- FOR TYPICAL DETAILS SEE DRAWINGS S-701 THRU S-714.
- FOR GENERAL NOTES SEE DRAWINGS S-721 AND S-722.
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- ▨ DENOTES APPROXIMATE EXTENT OF NEW CONCRETE TOPPING SLAB
- DENOTES EXISTING SLAB TO REMAIN

NOT FOR CONSTRUCTION

DOB APPROVAL STAMP

|            |   |                         |
|------------|---|-------------------------|
| 09.02.2016 | 6 | 100% DESIGN DEVELOPMENT |
| 07.15.2016 | 5 | 50% DESIGN DEVELOPMENT  |
| 06.24.2016 | 4 | TA FILING SET           |
| 05.18.2016 | 3 | DEVELOPMENT REPORT      |
| 04.08.2016 | 2 | 100% SCHEMATIC DESIGN   |
| 02.17.2016 | 1 | 50% SCHEMATIC DESIGN    |

Project:  
**1568 Broadway**  
New York, NY 10036

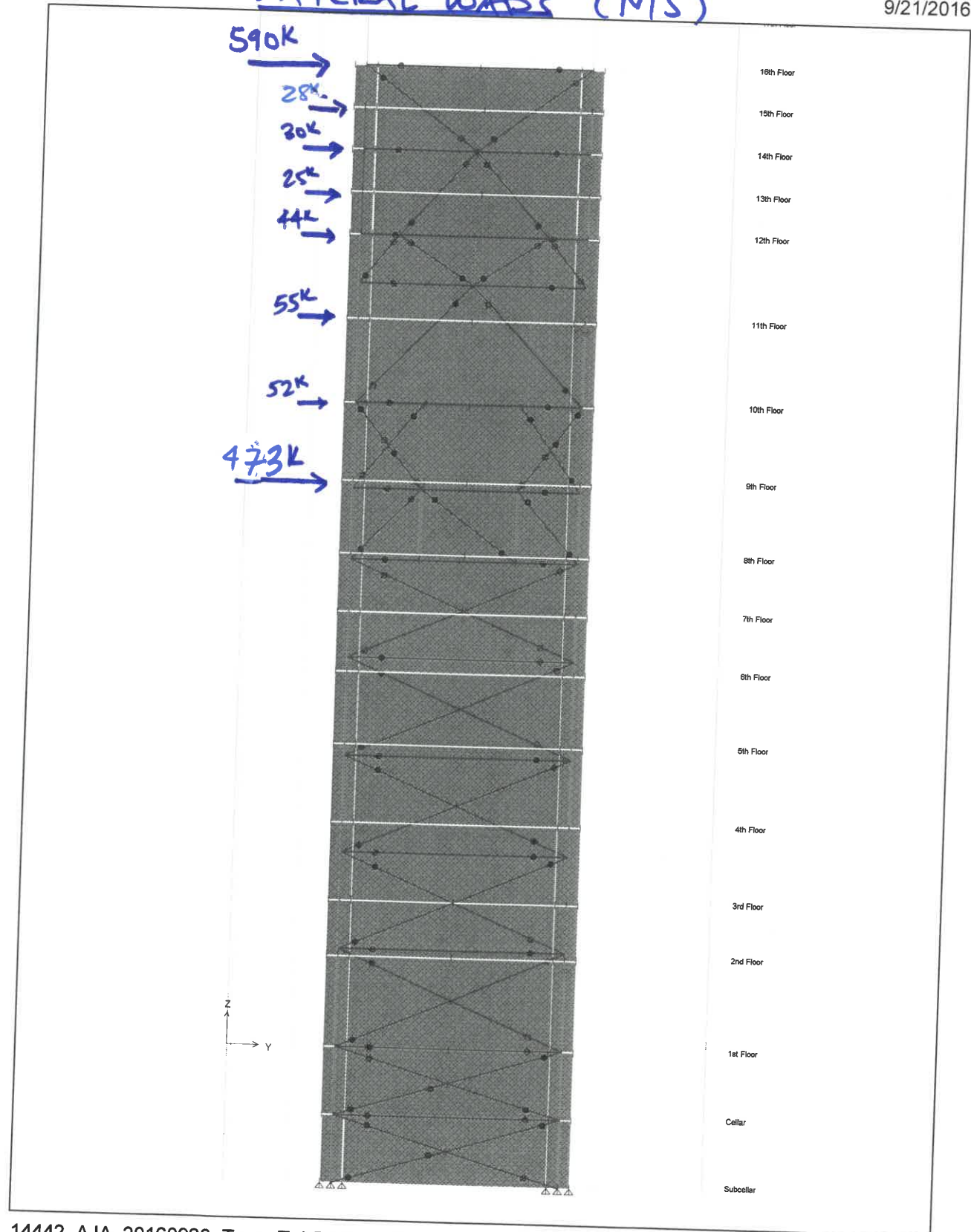
Sheet Title:  
**9TH FLOOR PLAN (EL 117'-0")**

Project Number: 14442  
Signature & Seal:  
Drawn By: Author  
Checked By: CJ  
Scale: As indicated  
Sheet Number:  
**S-109.00**

ETABS 2015 15.2.2

# LATERAL LOADS (K/S)

9/21/2016



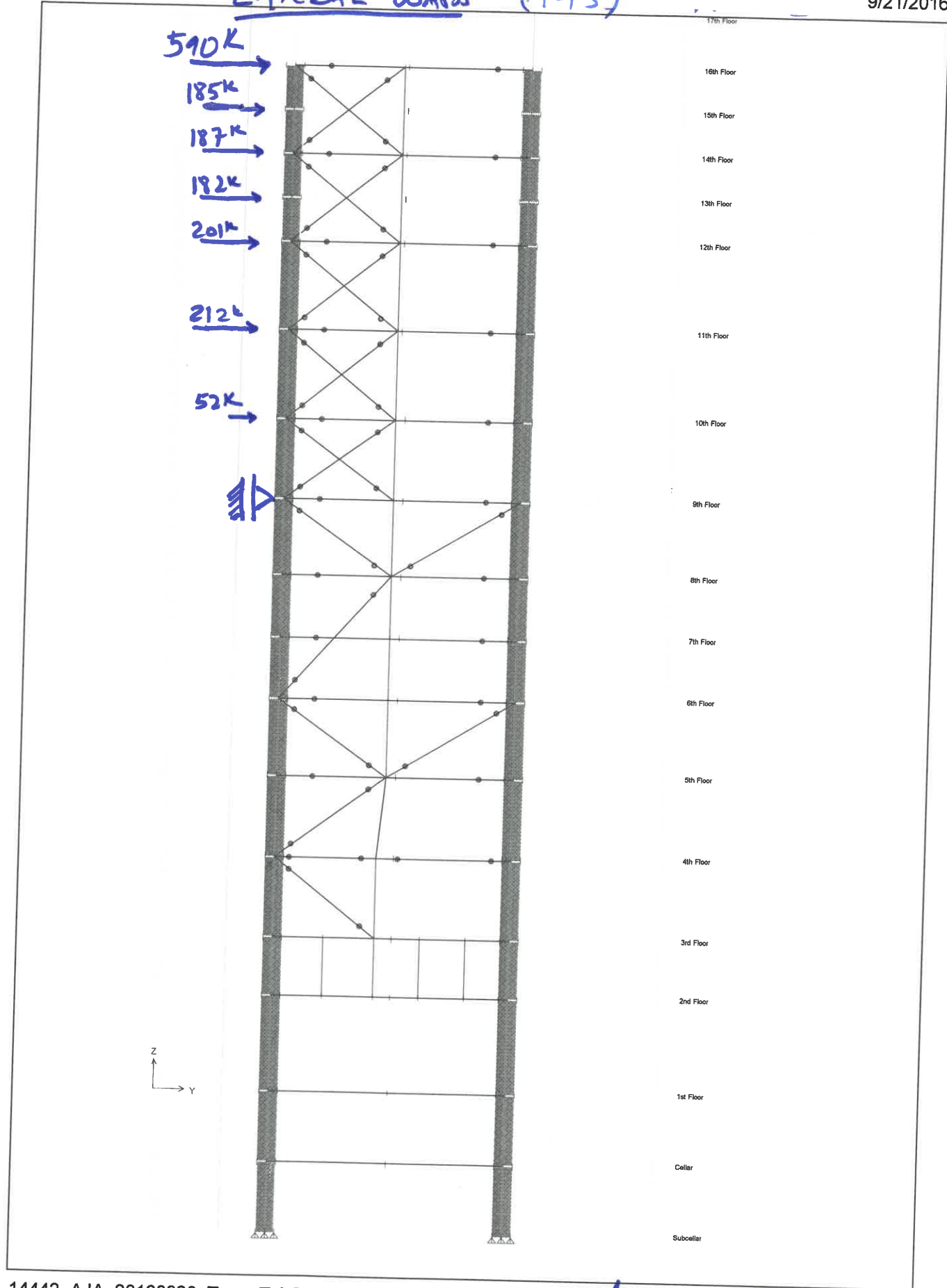
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Elevation View - 9

## EAST FRAME

# LATERAL LOADS (N/S)

9/21/2016



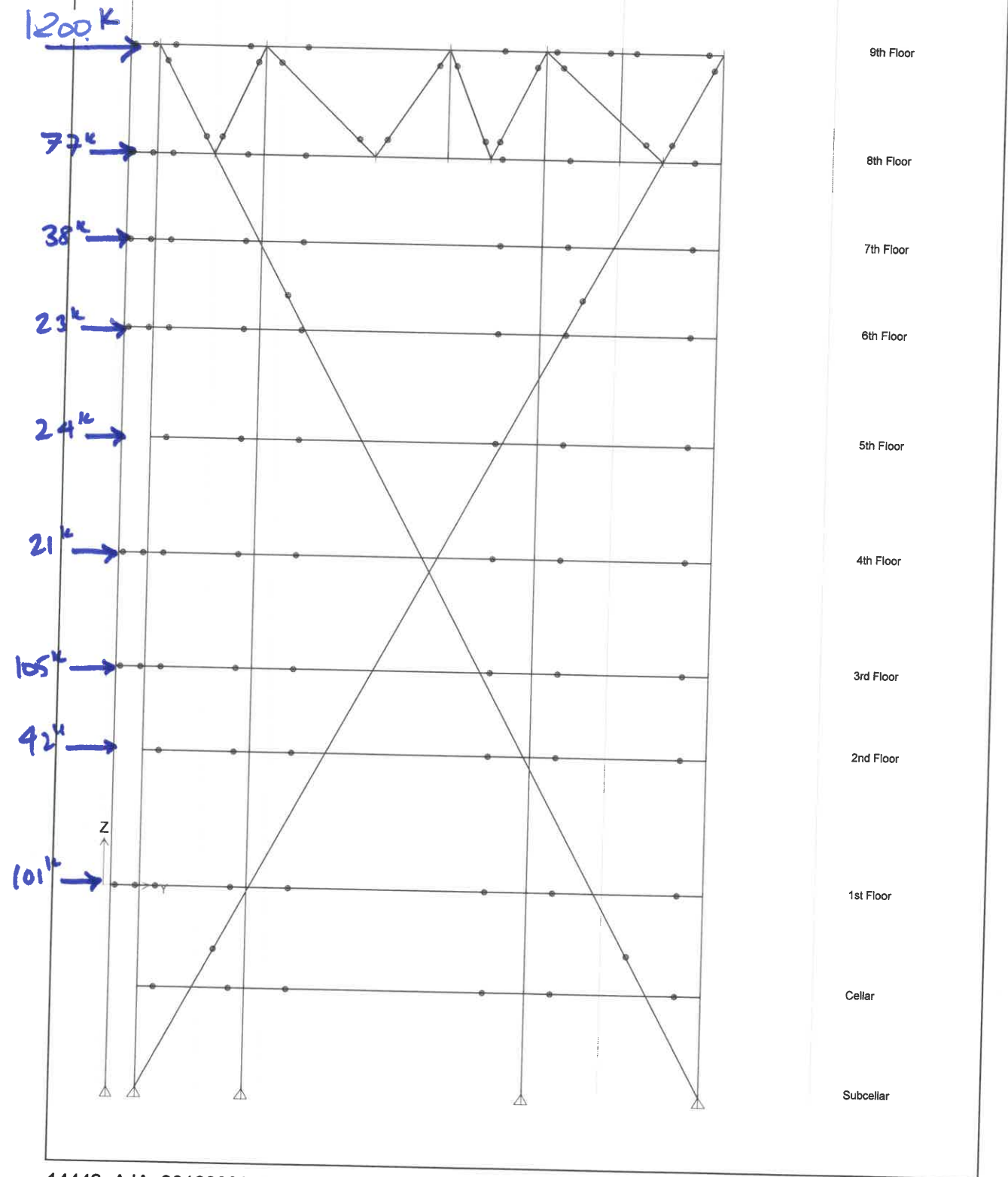
## MIDDLE FRAME



ETABS 2015 15.2.2

# LATERAL LOADS (NIS)

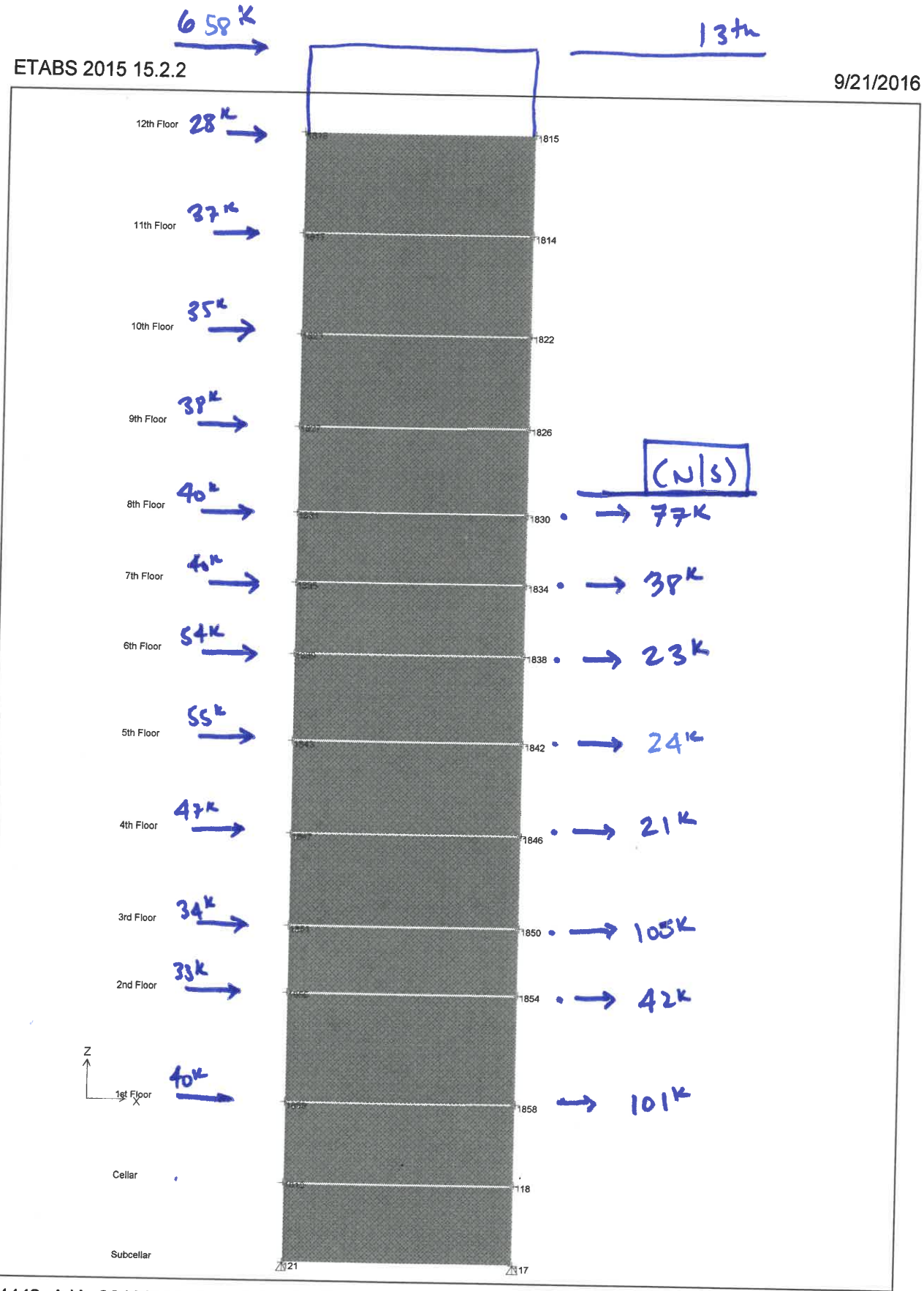
9/21/2016



14442\_AJA\_20160920\_Truss T-5.EDB Elevation View - 2

WEST "X"

# LATERAL LOADS (E/W)



14442\_AJA\_20160920\_New SW Core Elevn View - G1 @ Y=67.386 ft

NORTH CORE  
(EAST-WEST)

Project No. TRUSS T1 Sheet No. \_\_\_\_\_  
 Client \_\_\_\_\_ Date \_\_\_\_\_  
 Project \_\_\_\_\_ Subject \_\_\_\_\_ Des. By \_\_\_\_\_

|    |                  |              |              |              |              |
|----|------------------|--------------|--------------|--------------|--------------|
| 16 | 63<br>392<br>105 | -1<br>35     | 127<br>713   | 33<br>119    | 97<br>476    |
| 15 | 57<br>121        | -2<br>-80    | 213<br>987   | 30<br>116    | 137<br>690   |
| 14 | 302<br>918       | -164<br>-659 | 932<br>3154  | -134<br>-560 | 332<br>1017  |
| 13 | 1741<br>768      | 987<br>4575  | 1508<br>6085 | 1501<br>5747 | 2255<br>8790 |
| 12 | 49<br>170        | -179<br>-789 | 1918<br>4162 | 6984<br>-219 | 9<br>65      |
| 11 | -97<br>-63       | 3028<br>1581 | 1243<br>3287 | 468<br>2089  | 155<br>445   |
| 10 | 22<br>123        | -113<br>-156 | 130<br>558   | 16<br>104    | 81<br>175    |
| 9  | -33<br>21        | 4<br>121     | -74<br>-200  | 71<br>268    | 34<br>168    |
| 8  | -25<br>37        | -6<br>65     | -38<br>-56   | 43<br>180    | 24<br>152    |
| 7  | -35<br>68        | -24<br>33    | -22<br>70    | 45<br>146    | 34<br>231    |
| 6  | -31<br>55        | -35<br>-30   | 8<br>169     | 27<br>104    | 31<br>144    |
| 5  | -29<br>58        | -32<br>-20   | 5<br>155     | 25<br>112    | 28<br>140    |
| 4  | -22<br>34        | 6<br>113     | -55<br>-148  | 49<br>212    | 21<br>138    |
| 3  | -6<br>117        | -24<br>-37   | 1935<br>300  | 2<br>56      | 20<br>210    |
| 2  | 11<br>118        | -4<br>23     | 29<br>184    | 4<br>54      | 19<br>149    |
| 1  |                  |              |              | 9<br>12      | -4<br>20     |
|    |                  |              |              | 26<br>183    | 6<br>63      |
|    |                  |              |              |              | 18<br>155    |



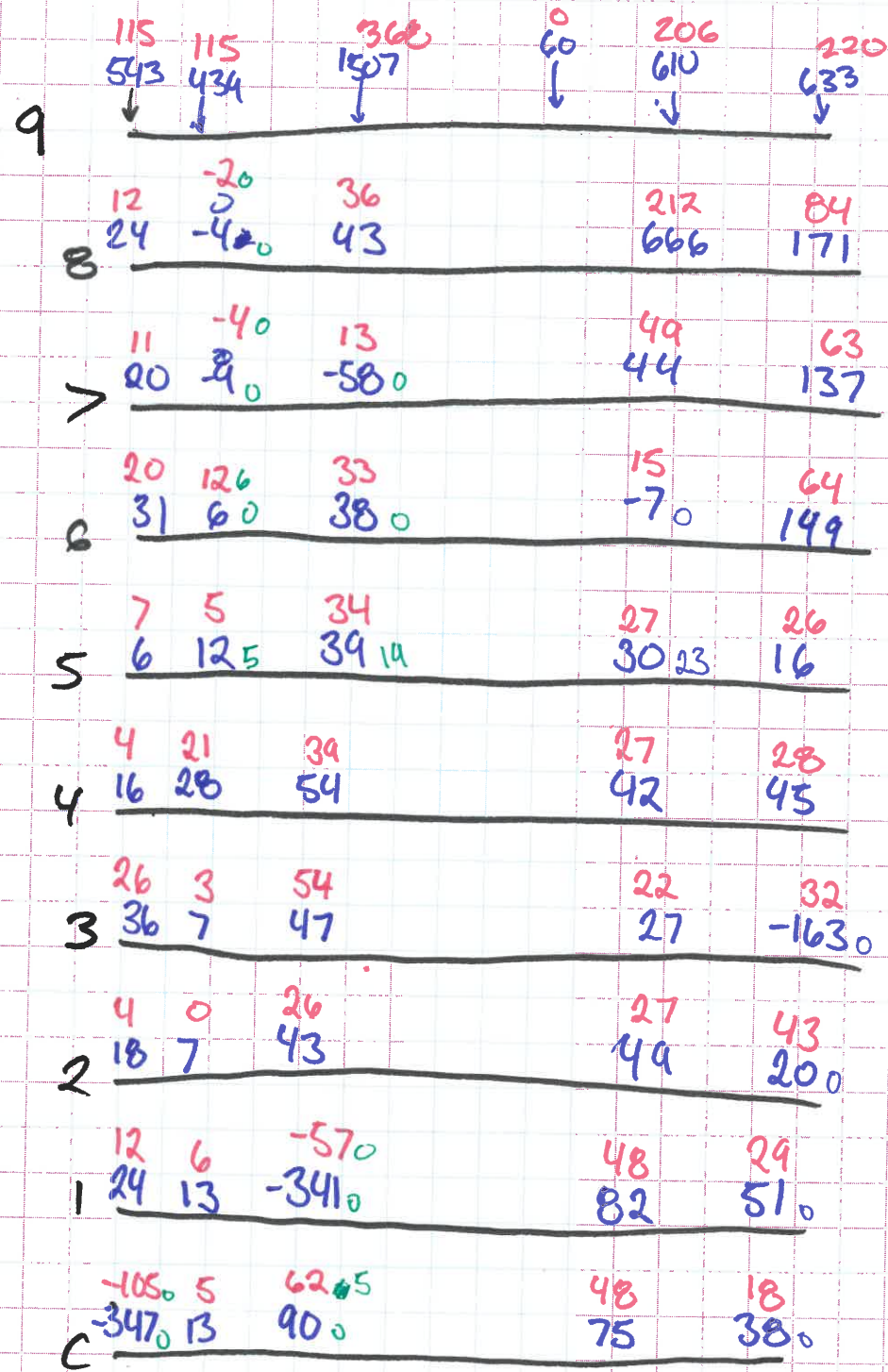
Project No. TRUSS T2 Sheet No. \_\_\_\_\_  
 Client \_\_\_\_\_ Date \_\_\_\_\_  
 Project \_\_\_\_\_ Subject \_\_\_\_\_ Des. By \_\_\_\_\_

|    |                              |                           |   |                               |
|----|------------------------------|---------------------------|---|-------------------------------|
| 16 | 14<br>73                     | 452<br>2074               |   | 39<br>235                     |
| 15 | 45<br>189                    | 21<br>96                  | X | 38<br>176                     |
| 14 | 64<br>246                    | 73<br>309                 | X | -57<br>-266                   |
| 13 | -126<br>-449                 | 12<br>7                   | X | -90<br>-408                   |
| 12 | 2838 2712<br>10588 10139     | 113<br>447                | X | 1517 1370<br>6968 6294        |
| 11 | <del>10</del> -110<br>12-383 | <del>30</del> 26<br>14    | X | <del>88</del> -100<br>-505    |
| 10 | <del>110</del> 22<br>400     | <del>80</del> 99<br>310   | X | <del>18</del> 494 394<br>1670 |
| 9  | 263 175<br>569 276           | 89<br>245                 | X | 156<br>515                    |
| 8  | 6<br>47                      | -38<br>-128               |   | 43<br>169                     |
| 7  | 8<br>54                      | 21<br>56                  |   | -11<br>0                      |
| 6  | 45<br>383                    | 16<br>57                  |   | 197 186<br>915                |
| 5  | 232<br>484                   | -365<br>-1362             |   | -21<br>46                     |
| 4  | 12<br>78                     | 11<br>-635                |   | 440 419<br>1735               |
| 3  | 37 12 0<br>122 44 0          | <del>38</del> 10<br>61 59 |   | -69<br>-250                   |
| 2  | -116<br>188                  |                           |   | -394<br>-919                  |
| 1  | 13<br>63                     |                           |   | -36<br>-142                   |
| C  | 13<br>54                     |                           |   | -3<br>-14                     |



Project No. \_\_\_\_\_ Sheet No. \_\_\_\_\_  
 Client \_\_\_\_\_ Date \_\_\_\_\_  
 Project \_\_\_\_\_ Subject \_\_\_\_\_ Des. By \_\_\_\_\_

# TRUSS T5



**Severud Associates**

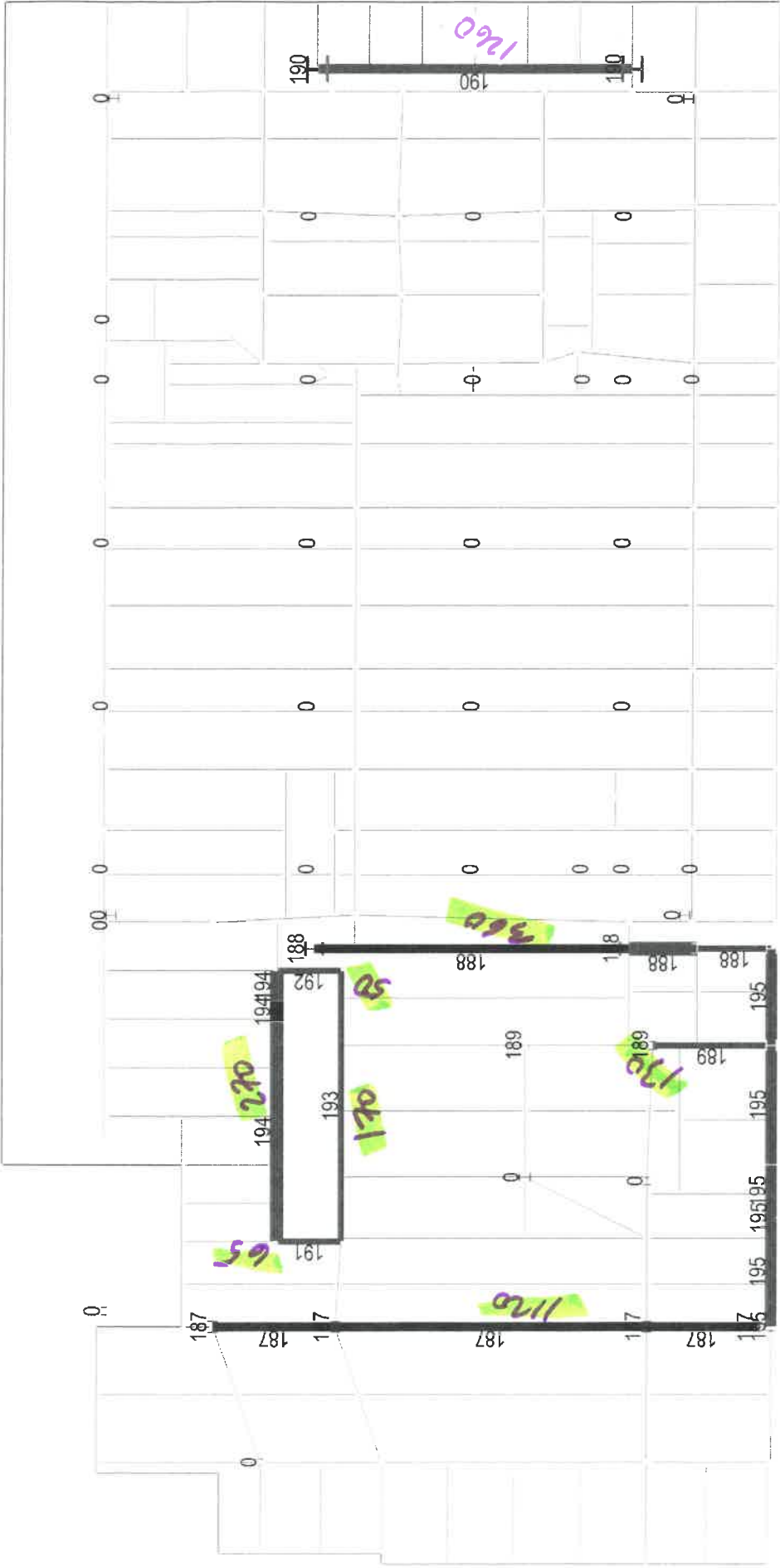
1568 Broadway

Structural Calculations

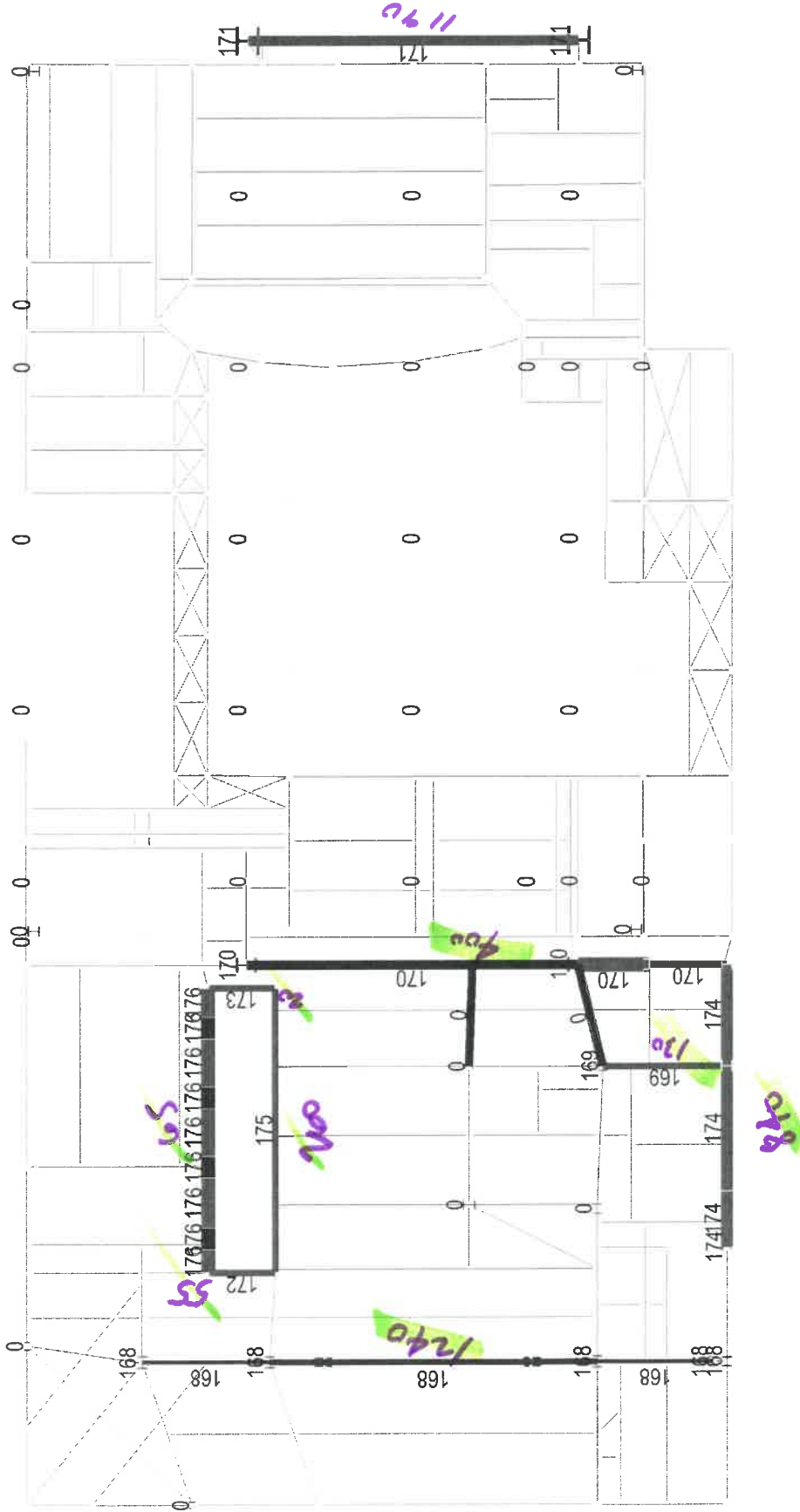
# **CHAPTER 11**

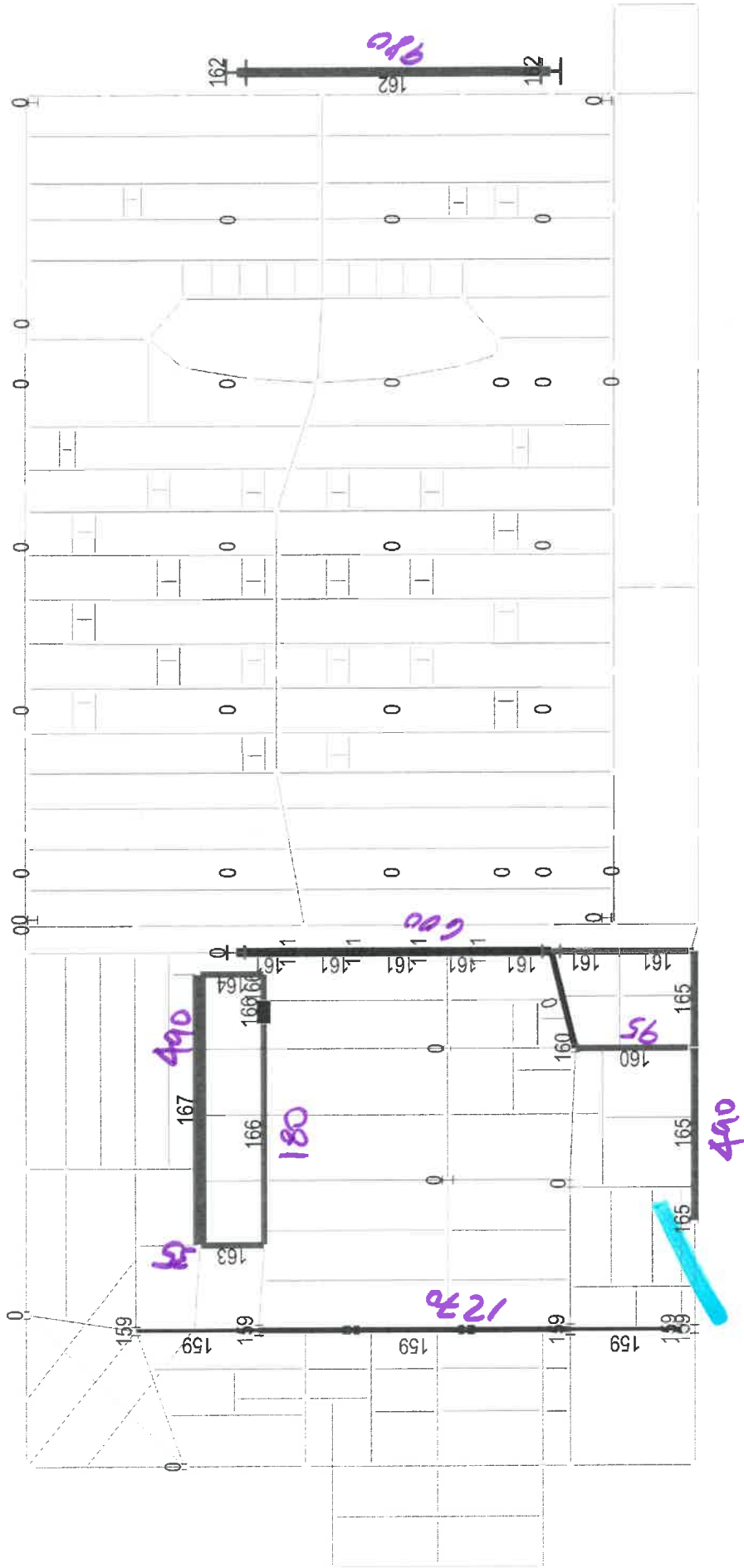
## **Rigid Diaphragm Forces**

C





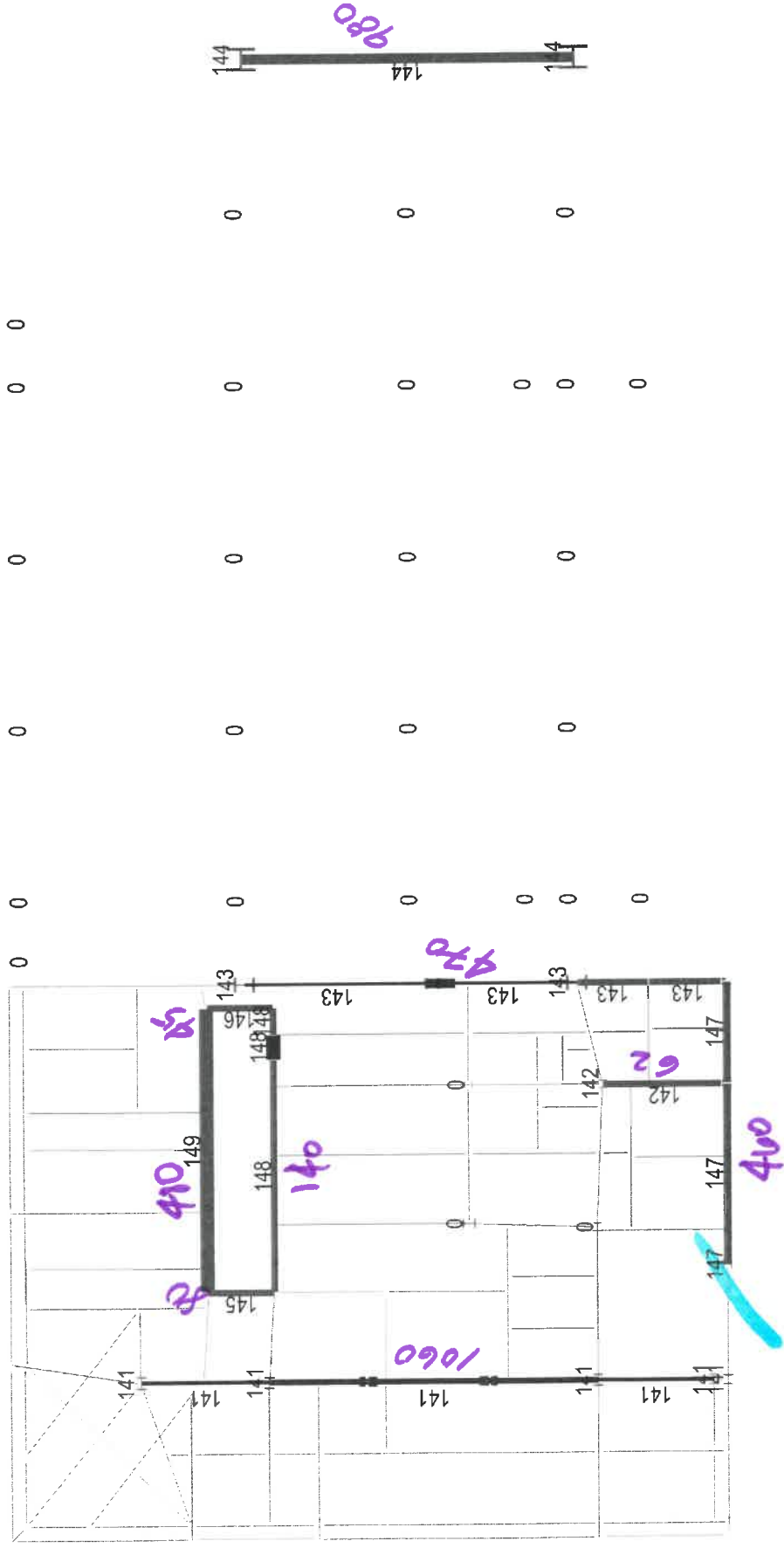




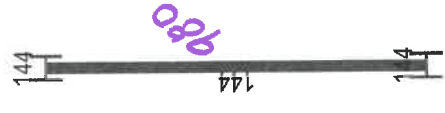


5 08/31/2016 11:33:23

RAM RAMFrameAnalysis.RFAn.1  
DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre



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|---|---|---|---|---|---|---|---|---|---|
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| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
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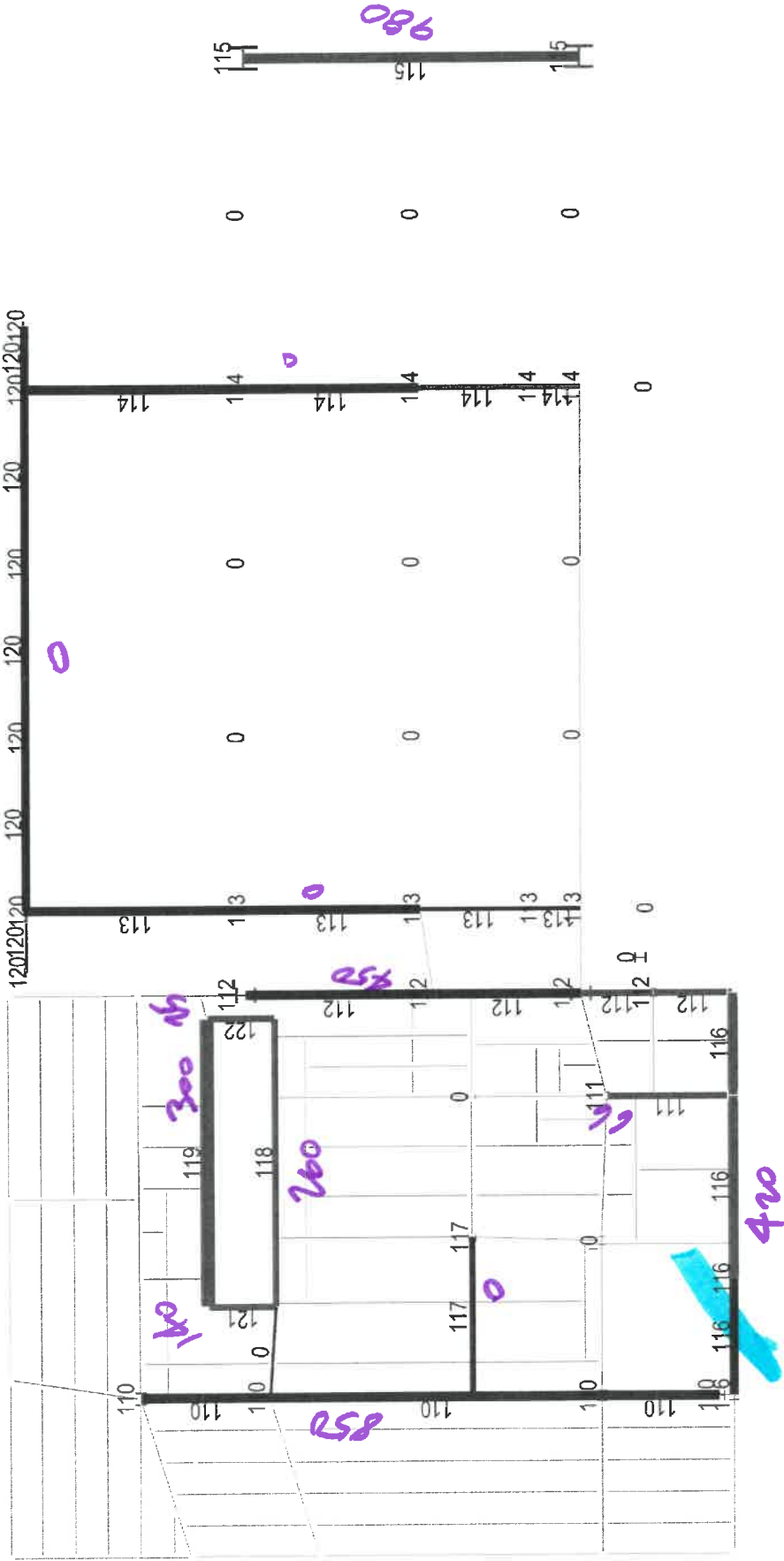








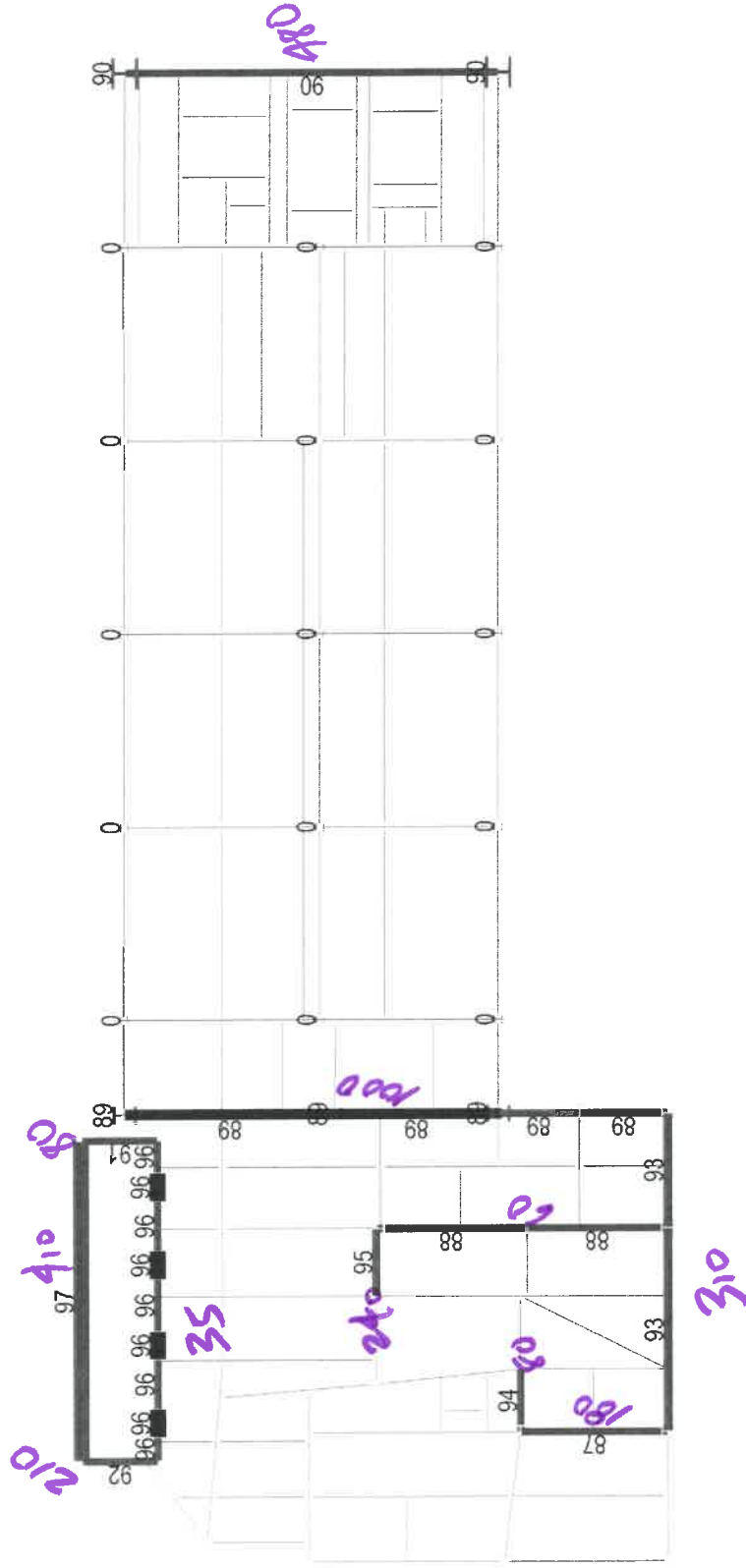
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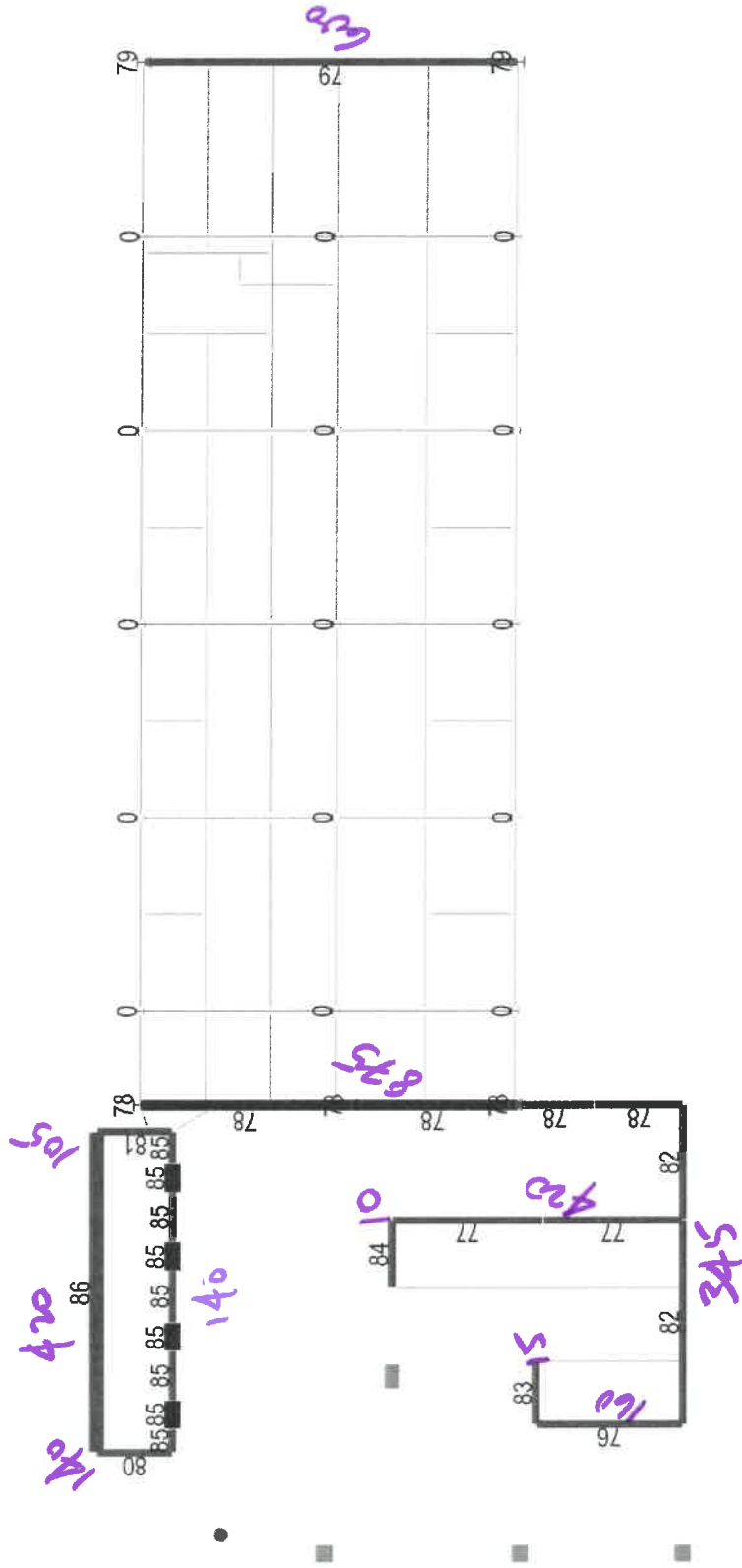


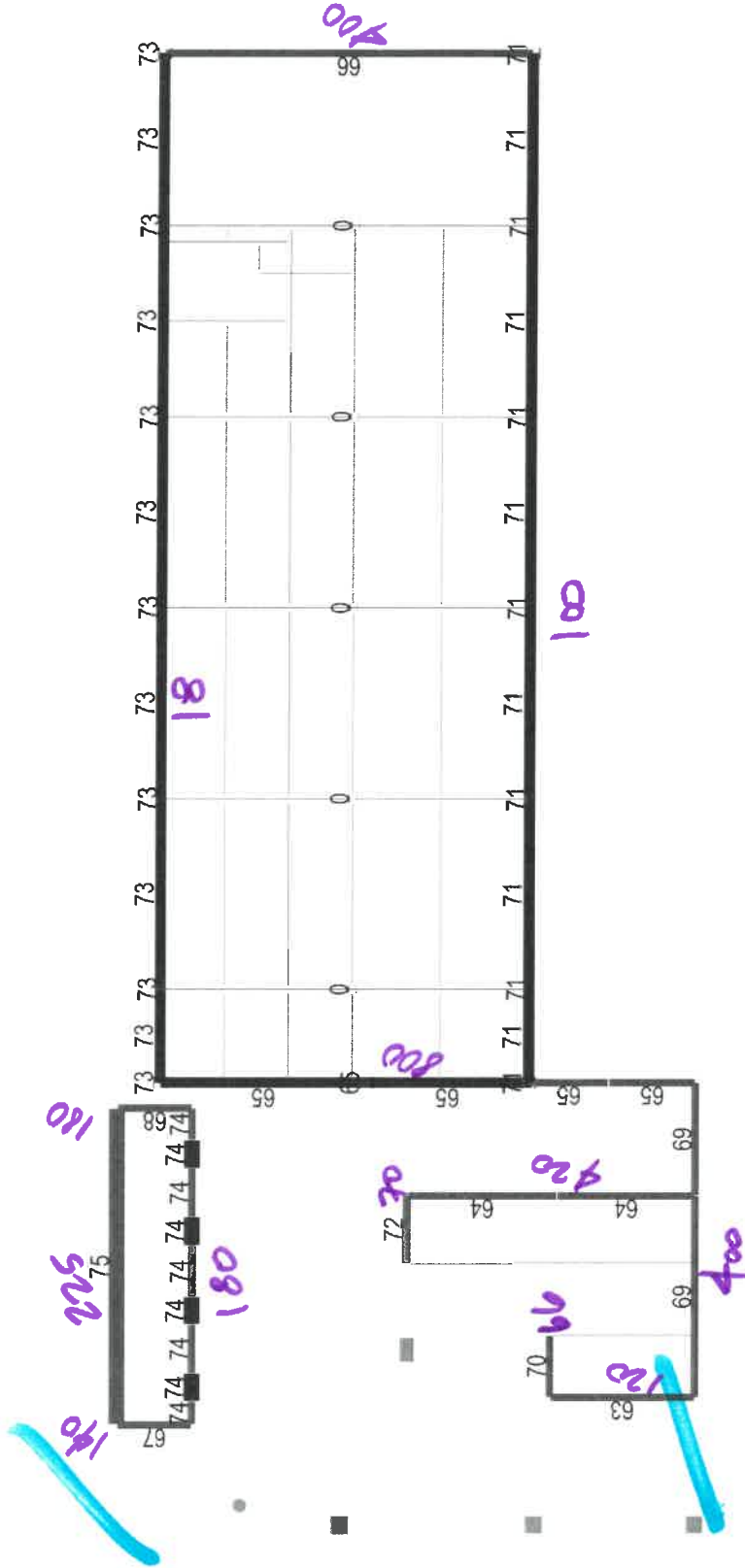
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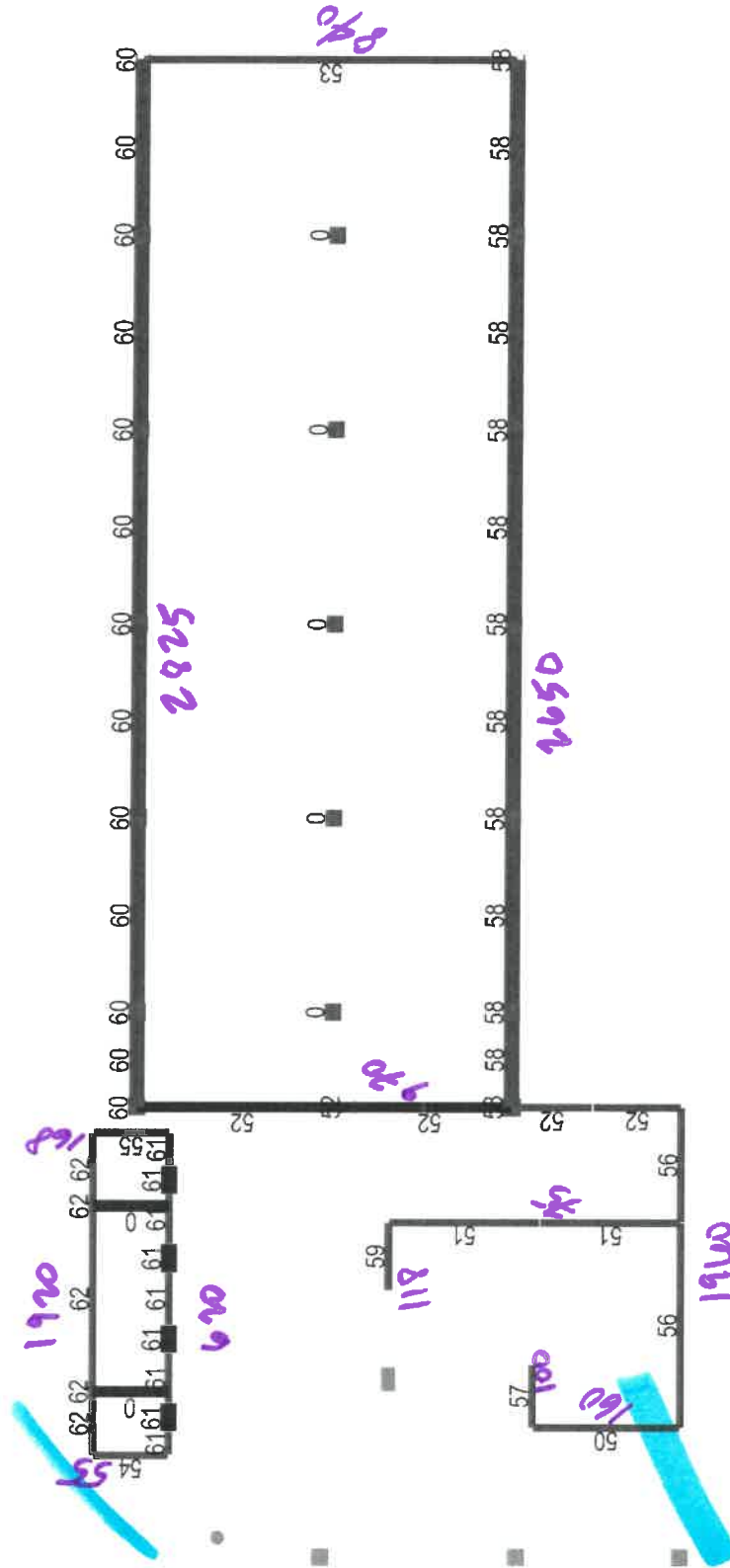
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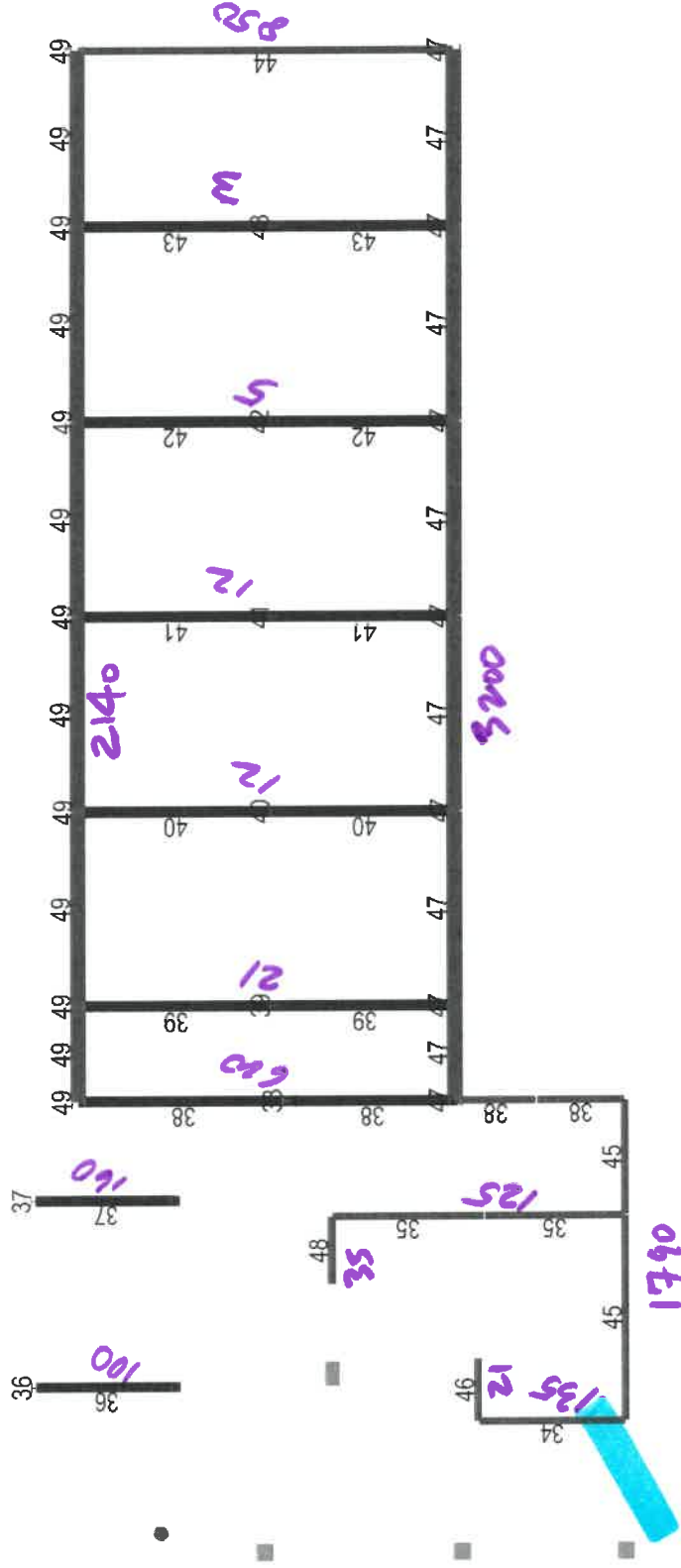


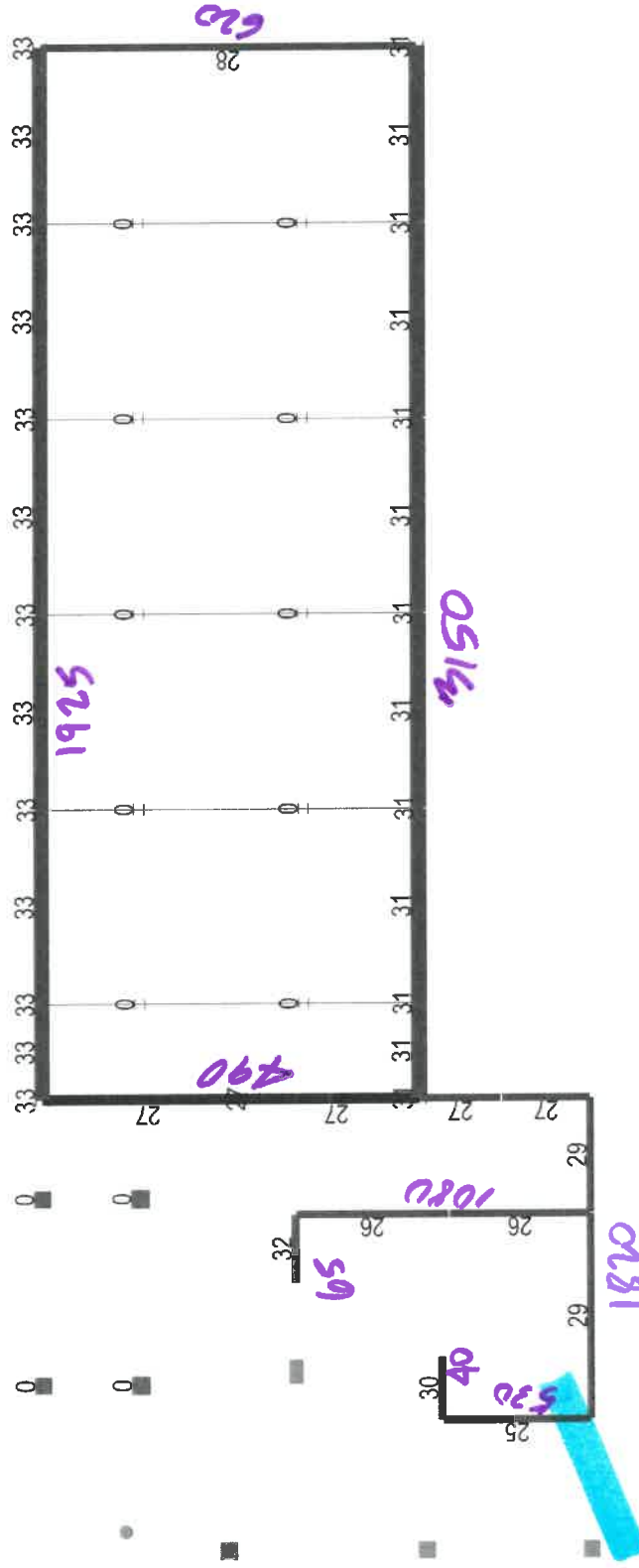


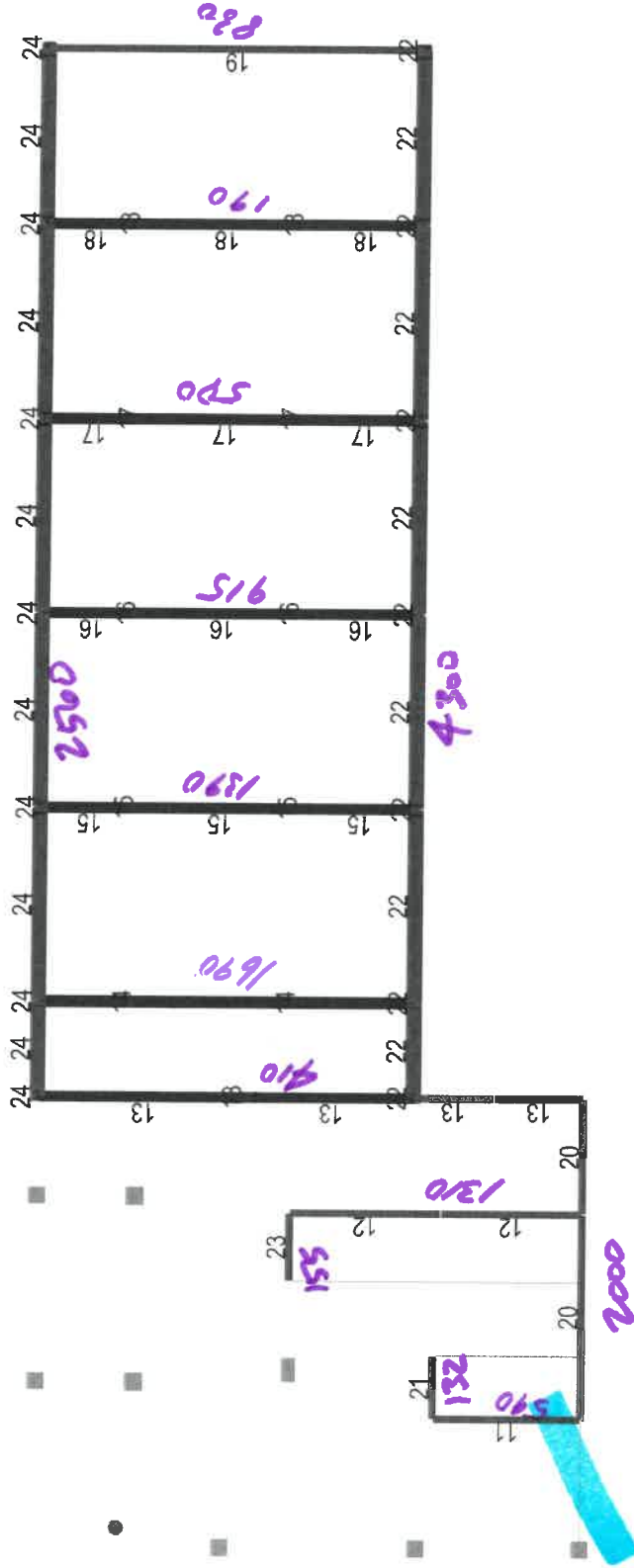


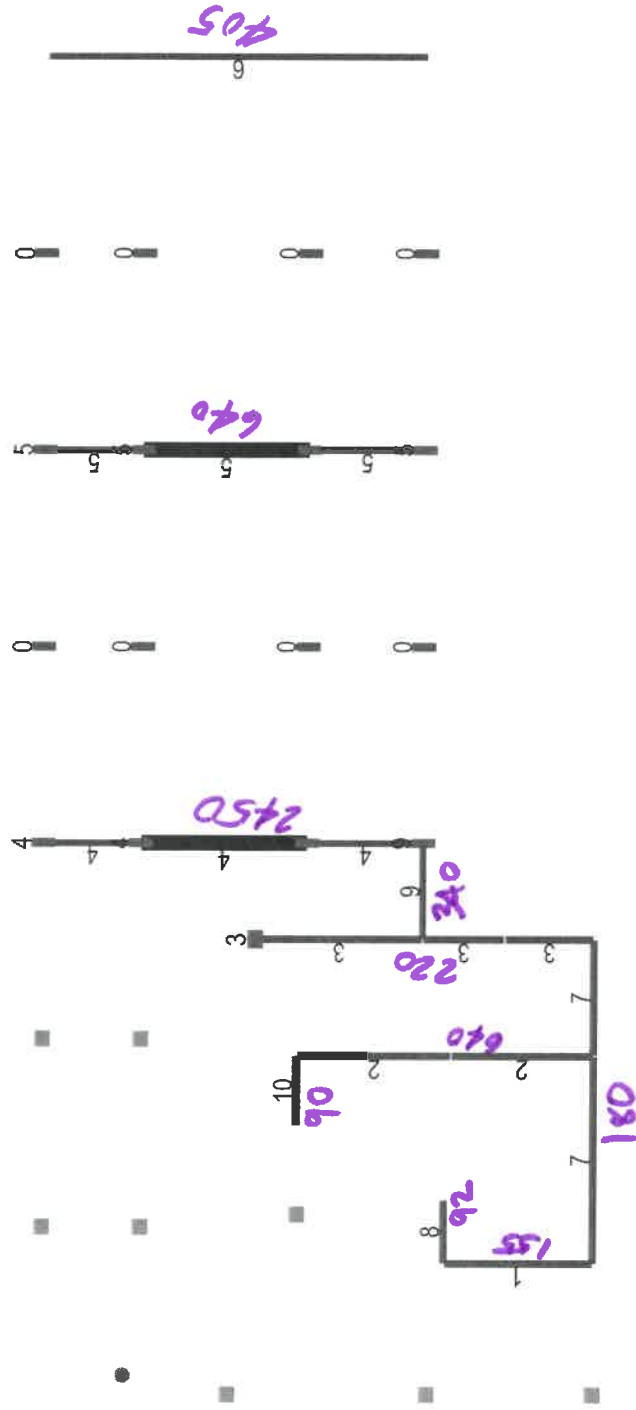














# Frame Story Shears

RAM Frame 15.03.00.000  
 DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

08/31/16 11:38:18

**CRITERIA:**

|                      |                  |                      |                                |
|----------------------|------------------|----------------------|--------------------------------|
| Rigid End Zones:     | Ignore Effects   |                      |                                |
| Member Force Output: | At Face of Joint |                      |                                |
| P-Delta:             | Yes              | Scale Factor (DL):   | 1.20 Scale Factor (LL): 0.50   |
|                      |                  | Scale Factor (Roof): | 1.00 Scale Factor (Snow): 1.00 |

Ground Level: Base

Mesh Criteria :

Max. Distance Between Nodes on Mesh Line (ft) : 6.00  
 Merge Node Tolerance (in) : 0.2000  
 Geometry Tolerance (in) : 0.0050  
 Walls Out-of-plane Stiffness Included in Analysis.  
 Sign considered for Dynamic Load Case Results.  
 Rigid Links Included at Fixed Beam-to-Wall Locations  
 Eigenvalue Analysis : Ritz Vectors (Load Dependent)

**Frame #1**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | 20.19   | 20.19    | 154.93  | 154.93   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | -10.95  | -10.95   | -156.77 | -156.77  |

**Frame #2**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | 25.32   | 25.32    | 53.33   | 53.33    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | -4.66   | -4.66    | -639.33 | -639.33  |

**Frame #3**

## Frame Story Shears



RAM Frame 15.03.00.000  
 Data Base: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | 34.30   | 34.30    | -103.35 | -103.35  |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | -7.00   | -7.00    | -219.57 | -219.57  |

### Frame #4

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | 21.30   | 21.30    | -151.18 | -151.18  |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | -0.96   | -0.96    | 2454.72 | 2454.72  |

### Frame #5

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | 23.29   | 23.29    | 23.64   | 23.64    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | -9.08   | -9.08    | 637.83  | 637.83   |

### Frame #6

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | 9.53    | 9.53     | 37.89   | 37.89    |



# Frame Story Shears

RAM Frame 15.03.00.000  
Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X                  | Change-X                  | Shear-Y                    | Change-Y                    |
|---------------|---|----------------|--------------------------|---------------------------|----------------------------|-----------------------------|
| Level         |   |                | Shear-X                  | Change-X                  | Shear-Y                    | Change-Y                    |
|               |   |                | Shear-X                  | Change-X                  | Shear-Y                    | Change-Y                    |
|               |   |                | Shear-X                  | Change-X                  | Shear-Y                    | Change-Y                    |
| F17           |   |                | Shear-X<br>kips<br>-2.51 | Change-X<br>kips<br>-2.51 | Shear-Y<br>kips<br>-404.78 | Change-Y<br>kips<br>-404.78 |

## Frame #7

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
|---------------|---|----------------|---------------------------|----------------------------|-------------------------|--------------------------|
| Level         |   |                | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
| F17           |   |                | Shear-X<br>kips<br>-42.50 | Change-X<br>kips<br>-42.50 | Shear-Y<br>kips<br>8.65 | Change-Y<br>kips<br>8.65 |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X                   | Change-X                   | Shear-Y                  | Change-Y                  |
|---------------|---|----------------|---------------------------|----------------------------|--------------------------|---------------------------|
| Level         |   |                | Shear-X                   | Change-X                   | Shear-Y                  | Change-Y                  |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                  | Change-Y                  |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                  | Change-Y                  |
| F17           |   |                | Shear-X<br>kips<br>173.71 | Change-X<br>kips<br>173.71 | Shear-Y<br>kips<br>18.82 | Change-Y<br>kips<br>18.82 |

## Frame #8

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X                  | Change-X                  | Shear-Y                 | Change-Y                 |
|---------------|---|----------------|--------------------------|---------------------------|-------------------------|--------------------------|
| Level         |   |                | Shear-X                  | Change-X                  | Shear-Y                 | Change-Y                 |
|               |   |                | Shear-X                  | Change-X                  | Shear-Y                 | Change-Y                 |
|               |   |                | Shear-X                  | Change-X                  | Shear-Y                 | Change-Y                 |
| F17           |   |                | Shear-X<br>kips<br>91.14 | Change-X<br>kips<br>91.14 | Shear-Y<br>kips<br>0.48 | Change-Y<br>kips<br>0.48 |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
|---------------|---|----------------|---------------------------|----------------------------|-------------------------|--------------------------|
| Level         |   |                | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
| F17           |   |                | Shear-X<br>kips<br>-62.44 | Change-X<br>kips<br>-62.44 | Shear-Y<br>kips<br>5.34 | Change-Y<br>kips<br>5.34 |

## Frame #9

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X                   | Change-X                   | Shear-Y                   | Change-Y                   |
|---------------|---|----------------|---------------------------|----------------------------|---------------------------|----------------------------|
| Level         |   |                | Shear-X                   | Change-X                   | Shear-Y                   | Change-Y                   |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                   | Change-Y                   |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                   | Change-Y                   |
| F17           |   |                | Shear-X<br>kips<br>337.48 | Change-X<br>kips<br>337.48 | Shear-Y<br>kips<br>-26.81 | Change-Y<br>kips<br>-26.81 |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X                   | Change-X                   | Shear-Y                  | Change-Y                  |
|---------------|---|----------------|---------------------------|----------------------------|--------------------------|---------------------------|
| Level         |   |                | Shear-X                   | Change-X                   | Shear-Y                  | Change-Y                  |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                  | Change-Y                  |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                  | Change-Y                  |
| F17           |   |                | Shear-X<br>kips<br>-97.42 | Change-X<br>kips<br>-97.42 | Shear-Y<br>kips<br>69.33 | Change-Y<br>kips<br>69.33 |



# Frame Story Shears

RAM Frame 15.03.00.000  
Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

## Frame #10

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | 89.99   | 89.99    | 0.98    | 0.98     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | 10.46   | 10.46    | 4.60    | 4.60     |

## Frame #11

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F16           |   |                | -15.58  | -15.58   | 32.68   | 32.68    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F16           |   |                | 11.06   | 11.06    | -590.20 | -590.20  |

## Frame #12

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F16           |   |                | -38.34  | -38.34   | -108.17 | -108.17  |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y  | Change-Y |
|---------------|---|----------------|---------|----------|----------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y  | Change-Y |
|               |   |                | kip     | kip      | kip      | kip      |
| F16           |   |                | 30.27   | 30.27    | -1308.39 | -1308.39 |

## Frame #13

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F16           |   |                | -28.45  | -28.45   | -410.86 | -410.86  |



# Frame Story Shears



RAM Structural System  
Bentley

RAM Frame 15.03.00.000  
DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|     |      |       |      |        |
|-----|------|-------|------|--------|
| F15 | 0.00 | 28.45 | 0.00 | 410.86 |
|-----|------|-------|------|--------|

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 11.54           | 11.54            | -342.22         | -342.22          |
| F15   | 0.00            | -11.54           | 0.00            | 342.22           |

## Frame #14

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -7.61           | -7.61            | -48.35          | -48.35           |
| F14   | 0.00            | 7.61             | 0.00            | 48.35            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 4.60            | 4.60             | 1683.51         | 1683.51          |
| F14   | 0.00            | -4.60            | 0.00            | -1683.51         |

## Frame #15

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -5.57           | -5.57            | -4.89           | -4.89            |
| F14   | 0.00            | 5.57             | 0.00            | 4.89             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 2.55            | 2.55             | 1386.30         | 1386.30          |
| F14   | 0.00            | -2.55            | 0.00            | -1386.30         |

## Frame #16

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -7.44           | -7.44            | 31.17           | 31.17            |
| F14   | 0.00            | 7.44             | 0.00            | -31.17           |

# Frame Story Shears



RAM Frame 15.03.00.000  
 Data Base: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F16           |   |                | 3.32    | 3.32     | 914.08  | 914.08   |
| F14           |   |                | 0.00    | -3.32    | 0.00    | -914.08  |

### Frame #17

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F16           |   |                | -5.94   | -5.94    | 54.46   | 54.46    |
| F14           |   |                | 0.00    | 5.94     | 0.00    | -54.46   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F16           |   |                | 2.69    | 2.69     | 577.97  | 577.97   |
| F14           |   |                | 0.00    | -2.69    | 0.00    | -577.97  |

### Frame #18

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F16           |   |                | -5.70   | -5.70    | 77.70   | 77.70    |
| F14           |   |                | 0.00    | 5.70     | 0.00    | -77.70   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F16           |   |                | 2.52    | 2.52     | 190.06  | 190.06   |
| F14           |   |                | 0.00    | -2.52    | 0.00    | -190.06  |

### Frame #19

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F16           |   |                | 0.38    | 0.38     | 386.62  | 386.62   |



RAM Structural System

# Frame Story Shears

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                  |          | -0.59                 | -0.59           | -827.82        | -827.82         |

**Frame #20**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                  |          | -2021.86              | -2021.86        | -0.61          | -0.61           |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                  |          | 1493.42               | 1493.42         | -12.12         | -12.12          |

**Frame #21**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                  |          | -131.40               | -131.40         | -4.17          | -4.17           |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                  |          | 20.21                 | 20.21           | -1.44          | -1.44           |

**Frame #22**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                  |          | 2292.13               | 2292.13         | -39.34         | -39.34          |
| F15                  |          | 0.00                  | -2292.13        | 0.00           | 39.34           |
| F12                  |          | 0.00                  | 0.00            | 0.00           | 0.00            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F16                  |          | -4292.01              | -4292.01        | 15.01          | 15.01           |



# Frame Story Shears

RAM Frame 15.03.00.000  
 DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|     |      |         |      |        |
|-----|------|---------|------|--------|
| F15 | 0.00 | 4292.01 | 0.00 | -15.01 |
| F12 | 0.00 | 0.00    | 0.00 | 0.00   |

### Frame #23

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X         | Change-X         | Shear-Y | Change-Y |
|---------------|---|----------------|-----------------|------------------|---------|----------|
| Level         |   |                | Shear-X<br>kips | Change-X<br>kips | kips    | kips     |
| F16           |   |                | -155.43         | -155.43          | -1.07   | -1.07    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X         | Change-X         | Shear-Y | Change-Y |
|---------------|---|----------------|-----------------|------------------|---------|----------|
| Level         |   |                | Shear-X<br>kips | Change-X<br>kips | kips    | kips     |
| F16           |   |                | 143.06          | 143.06           | 5.79    | 5.79     |

### Frame #24

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X         | Change-X         | Shear-Y | Change-Y |
|---------------|---|----------------|-----------------|------------------|---------|----------|
| Level         |   |                | Shear-X<br>kips | Change-X<br>kips | kips    | kips     |
| F16           |   |                | 768.05          | 768.05           | 26.54   | 26.54    |
| F12           |   |                | 0.00            | -768.05          | 0.00    | -26.54   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X         | Change-X         | Shear-Y | Change-Y |
|---------------|---|----------------|-----------------|------------------|---------|----------|
| Level         |   |                | Shear-X<br>kips | Change-X<br>kips | kips    | kips     |
| F16           |   |                | 2554.39         | 2554.39          | 203.76  | 203.76   |
| F12           |   |                | 0.00            | -2554.39         | 0.00    | -203.76  |

### Frame #25

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X         | Change-X         | Shear-Y | Change-Y |
|---------------|---|----------------|-----------------|------------------|---------|----------|
| Level         |   |                | Shear-X<br>kips | Change-X<br>kips | kips    | kips     |
| F15           |   |                | -2.05           | -2.05            | 125.51  | 125.51   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X         | Change-X         | Shear-Y | Change-Y |
|---------------|---|----------------|-----------------|------------------|---------|----------|
| Level         |   |                | Shear-X<br>kips | Change-X<br>kips | kips    | kips     |
| F15           |   |                | 3.02            | 3.02             | -529.36 | -529.36  |



# Frame Story Shears

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## Frame #26

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F15           |   |                | -7.13   | -7.13    | -66.60  | -66.60   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y  | Change-Y |
|---------------|---|----------------|---------|----------|----------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y  | Change-Y |
|               |   |                | kip     | kip      | kip      | kip      |
| F15           |   |                | 10.09   | 10.09    | -1074.99 | -1074.99 |

## Frame #27

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F15           |   |                | 0.75    | 0.75     | -490.99 | -490.99  |
| F14           |   |                | 0.00    | -0.75    | 0.00    | 490.99   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F15           |   |                | -5.20   | -5.20    | -65.06  | -65.06   |
| F14           |   |                | 0.00    | 5.20     | 0.00    | 65.06    |

## Frame #28

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F15           |   |                | 3.67    | 3.67     | 350.98  | 350.98   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F15           |   |                | -0.84   | -0.84    | -611.81 | -611.81  |

## Frame #29

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |

# Frame Story Shears



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| Level            | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|------------------|-----------------|------------------|-----------------|------------------|
| F15              | -1816.94        | -1816.94         | 3.93            | 3.93             |
| <b>Frame #30</b> |                 |                  |                 |                  |
| Load Case: W2    | Wind_IBC09_1_Y  |                  |                 |                  |
| Level            | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|                  | kips            | kips             | kips            | kips             |
| F15              | 1315.45         | 1315.45          | -18.08          | -18.08           |
| <b>Frame #31</b> |                 |                  |                 |                  |
| Load Case: W1    | Wind_IBC09_1_X  |                  |                 |                  |
| Level            | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|                  | kips            | kips             | kips            | kips             |
| F15              | -24.94          | -24.94           | -1.87           | -1.87            |
| <b>Frame #32</b> |                 |                  |                 |                  |
| Load Case: W2    | Wind_IBC09_1_Y  |                  |                 |                  |
| Level            | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|                  | kips            | kips             | kips            | kips             |
| F15              | -41.47          | -41.47           | -3.04           | -3.04            |
| <b>Frame #31</b> |                 |                  |                 |                  |
| Load Case: W1    | Wind_IBC09_1_X  |                  |                 |                  |
| Level            | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|                  | kips            | kips             | kips            | kips             |
| F15              | 1847.76         | 1847.76          | -13.33          | -13.33           |
| <b>Frame #32</b> |                 |                  |                 |                  |
| Load Case: W2    | Wind_IBC09_1_Y  |                  |                 |                  |
| Level            | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|                  | kips            | kips             | kips            | kips             |
| F15              | -3150.75        | -3150.75         | -315.93         | -315.93          |
| <b>Frame #32</b> |                 |                  |                 |                  |
| Load Case: W1    | Wind_IBC09_1_X  |                  |                 |                  |
| Level            | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|                  | kips            | kips             | kips            | kips             |
| F15              | -31.44          | -31.44           | -1.42           | -1.42            |
| <b>Frame #32</b> |                 |                  |                 |                  |
| Load Case: W2    | Wind_IBC09_1_Y  |                  |                 |                  |
| Level            | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|                  | kips            | kips             | kips            | kips             |



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|     |       |       |       |       |
|-----|-------|-------|-------|-------|
| F15 | 64.05 | 64.05 | 10.16 | 10.16 |
|-----|-------|-------|-------|-------|

## Frame #33

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| F15           |   |                | 461.27  | 461.27   | -13.38  | -13.38   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| F15           |   |                | 1925.12 | 1925.12  | -314.37 | -314.37  |

## Frame #34

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| F14           |   |                | -0.46   | -0.46    | 132.62  | 132.62   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| F14           |   |                | 1.84    | 1.84     | -125.22 | -125.22  |

## Frame #35

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| F14           |   |                | -6.08   | -6.08    | -65.42  | -65.42   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| F14           |   |                | 7.75    | 7.75     | -126.74 | -126.74  |

## Frame #36

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



# Frame Story Shears

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|     | kip   | kip   | kip   | kip   |
|-----|-------|-------|-------|-------|
| F14 | -0.61 | -0.61 | -5.86 | -5.86 |
| F13 | 0.00  | 0.61  | 0.00  | 5.86  |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F14   | 0.08           | 0.08            | 100.55         | 100.55          |
| F13   | 0.00           | -0.08           | 0.00           | -100.55         |

## Frame #37

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F14   | -0.58          | -0.58           | -25.81         | -25.81          |
| F13   | 0.00           | 0.58            | 0.00           | 25.81           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F14   | -0.23          | -0.23           | 156.36         | 156.36          |
| F13   | 0.00           | 0.23            | 0.00           | -156.36         |

## Frame #38

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F14   | -0.79          | -0.79           | -479.48        | -479.48         |
| F13   | 0.00           | 0.79            | 0.00           | 479.48          |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F14   | -0.16          | -0.16           | 620.57         | 620.57          |
| F13   | 0.00           | 0.16            | 0.00           | -620.57         |

## Frame #39

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
|-------|----------------|-----------------|----------------|-----------------|





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|     |       |       |      |      |
|-----|-------|-------|------|------|
| F14 | -0.20 | -0.20 | 0.81 | 0.81 |
|-----|-------|-------|------|------|

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F14           |   |                | 1.82    | 1.82     | 20.98   | 20.98    |

## Frame #40

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F14           |   |                | 0.03    | 0.03     | 0.10    | 0.10     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F14           |   |                | -0.03   | -0.03    | 10.80   | 10.80    |

## Frame #41

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F14           |   |                | -0.02   | -0.02    | 0.04    | 0.04     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F14           |   |                | -0.01   | -0.01    | 11.76   | 11.76    |

## Frame #42

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F14           |   |                | -0.03   | -0.03    | 0.72    | 0.72     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F14           |   |                | 0.03    | 0.03     | 5.11    | 5.11     |



# Frame Story Shears

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## Frame #43

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | -0.02   | -0.02    | 2.31    | 2.31     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | -0.01   | -0.01    | -0.60   | -0.60    |

## Frame #44

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | -4.71   | -4.71    | 357.65  | 357.65   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | 0.51    | 0.51     | 850.41  | 850.41   |

## Frame #45

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X  | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|----------|----------|---------|----------|
| Level         |   |                | Shear-X  | Change-X | Shear-Y | Change-Y |
|               |   |                | kip      | kip      | kip     | kip      |
| F14           |   |                | -1785.39 | -1785.39 | 0.22    | 0.22     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | 1130.77 | 1130.77  | 9.08    | 9.08     |

## Frame #46

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | -20.69  | -20.69   | -1.95   | -1.95    |



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| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | -16.53  | -16.53   | 2.42    | 2.42     |

## Frame #47

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | 1865.05 | 1865.05  | 33.38   | 33.38    |
| F13           |   |                | 0.00    | -1865.05 | 0.00    | -33.38   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X  | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|----------|----------|---------|----------|
| Level         |   |                | Shear-X  | Change-X | Shear-Y | Change-Y |
|               |   |                | kip      | kip      | kip     | kip      |
| F14           |   |                | -3186.43 | -3186.43 | 256.09  | 256.09   |
| F13           |   |                | 0.00     | 3186.43  | 0.00    | -256.09  |

## Frame #48

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | -33.55  | -33.55   | -1.48   | -1.48    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | 14.12   | 14.12    | 11.57   | 11.57    |

## Frame #49

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | 442.74  | 442.74   | 42.50   | 42.50    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | 2139.41 | 2139.41  | 239.93  | 239.93   |



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## Frame #50

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X                   | Change-X                   | Shear-Y                   | Change-Y                   |
|---------------|---|----------------|---------------------------|----------------------------|---------------------------|----------------------------|
| Level         |   |                | Shear-X                   | Change-X                   | Shear-Y                   | Change-Y                   |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                   | Change-Y                   |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                   | Change-Y                   |
| F13           |   |                | Shear-X<br>kips<br>-20.89 | Change-X<br>kips<br>-20.89 | Shear-Y<br>kips<br>157.27 | Change-Y<br>kips<br>157.27 |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X                 | Change-X                 | Shear-Y                   | Change-Y                   |
|---------------|---|----------------|-------------------------|--------------------------|---------------------------|----------------------------|
| Level         |   |                | Shear-X                 | Change-X                 | Shear-Y                   | Change-Y                   |
|               |   |                | Shear-X                 | Change-X                 | Shear-Y                   | Change-Y                   |
|               |   |                | Shear-X                 | Change-X                 | Shear-Y                   | Change-Y                   |
| F13           |   |                | Shear-X<br>kips<br>8.12 | Change-X<br>kips<br>8.12 | Shear-Y<br>kips<br>-95.34 | Change-Y<br>kips<br>-95.34 |

## Frame #51

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
|---------------|---|----------------|---------------------------|----------------------------|-------------------------|--------------------------|
| Level         |   |                | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                 | Change-Y                 |
| F13           |   |                | Shear-X<br>kips<br>-37.01 | Change-X<br>kips<br>-37.01 | Shear-Y<br>kips<br>5.39 | Change-Y<br>kips<br>5.39 |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X                  | Change-X                  | Shear-Y                  | Change-Y                  |
|---------------|---|----------------|--------------------------|---------------------------|--------------------------|---------------------------|
| Level         |   |                | Shear-X                  | Change-X                  | Shear-Y                  | Change-Y                  |
|               |   |                | Shear-X                  | Change-X                  | Shear-Y                  | Change-Y                  |
|               |   |                | Shear-X                  | Change-X                  | Shear-Y                  | Change-Y                  |
| F13           |   |                | Shear-X<br>kips<br>17.15 | Change-X<br>kips<br>17.15 | Shear-Y<br>kips<br>75.82 | Change-Y<br>kips<br>75.82 |

## Frame #52

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X                   | Change-X                   | Shear-Y                    | Change-Y                    |
|---------------|---|----------------|---------------------------|----------------------------|----------------------------|-----------------------------|
| Level         |   |                | Shear-X                   | Change-X                   | Shear-Y                    | Change-Y                    |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                    | Change-Y                    |
|               |   |                | Shear-X                   | Change-X                   | Shear-Y                    | Change-Y                    |
| F13           |   |                | Shear-X<br>kips<br>-28.26 | Change-X<br>kips<br>-28.26 | Shear-Y<br>kips<br>-394.11 | Change-Y<br>kips<br>-394.11 |
| F12           |   |                | Shear-X<br>kips<br>0.00   | Change-X<br>kips<br>28.26  | Shear-Y<br>kips<br>0.00    | Change-Y<br>kips<br>394.11  |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X                 | Change-X                  | Shear-Y                   | Change-Y                    |
|---------------|---|----------------|-------------------------|---------------------------|---------------------------|-----------------------------|
| Level         |   |                | Shear-X                 | Change-X                  | Shear-Y                   | Change-Y                    |
|               |   |                | Shear-X                 | Change-X                  | Shear-Y                   | Change-Y                    |
|               |   |                | Shear-X                 | Change-X                  | Shear-Y                   | Change-Y                    |
| F13           |   |                | Shear-X<br>kips<br>8.70 | Change-X<br>kips<br>8.70  | Shear-Y<br>kips<br>963.79 | Change-Y<br>kips<br>963.79  |
| F12           |   |                | Shear-X<br>kips<br>0.00 | Change-X<br>kips<br>-8.70 | Shear-Y<br>kips<br>0.00   | Change-Y<br>kips<br>-963.79 |

## Frame #53

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



RAM Structural System  
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# Frame Story Shears

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|                      |          | Shear-X<br>kips       | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|----------------------|----------|-----------------------|------------------|-----------------|------------------|
| F13                  |          | -12.84                | -12.84           | 352.30          | 352.30           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                  |                 |                  |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b>  | <b>Shear-Y</b>  | <b>Change-Y</b>  |
|                      |          | <b>kips</b>           | <b>kips</b>      | <b>kips</b>     | <b>kips</b>      |
| F13                  |          | 1.31                  | 1.31             | 836.11          | 836.11           |
| <b>Frame #54</b>     |          |                       |                  |                 |                  |
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                  |                 |                  |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b>  | <b>Shear-Y</b>  | <b>Change-Y</b>  |
|                      |          | <b>kips</b>           | <b>kips</b>      | <b>kips</b>     | <b>kips</b>      |
| F13                  |          | -25.86                | -25.86           | -44.80          | -44.80           |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                  |                 |                  |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b>  | <b>Shear-Y</b>  | <b>Change-Y</b>  |
|                      |          | <b>kips</b>           | <b>kips</b>      | <b>kips</b>     | <b>kips</b>      |
| F13                  |          | -2.17                 | -2.17            | 54.84           | 54.84            |
| <b>Frame #55</b>     |          |                       |                  |                 |                  |
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                  |                 |                  |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b>  | <b>Shear-Y</b>  | <b>Change-Y</b>  |
|                      |          | <b>kips</b>           | <b>kips</b>      | <b>kips</b>     | <b>kips</b>      |
| F13                  |          | -13.64                | -13.64           | -4.14           | -4.14            |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                  |                 |                  |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b>  | <b>Shear-Y</b>  | <b>Change-Y</b>  |
|                      |          | <b>kips</b>           | <b>kips</b>      | <b>kips</b>     | <b>kips</b>      |
| F13                  |          | -47.50                | -47.50           | 167.22          | 167.22           |
| <b>Frame #56</b>     |          |                       |                  |                 |                  |
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                  |                 |                  |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b>  | <b>Shear-Y</b>  | <b>Change-Y</b>  |
|                      |          | <b>kips</b>           | <b>kips</b>      | <b>kips</b>     | <b>kips</b>      |
| F13                  |          | -1953.43              | -1953.43         | 0.10            | 0.10             |
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                  |                 |                  |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b>  | <b>Shear-Y</b>  | <b>Change-Y</b>  |
|                      |          | <b>kips</b>           | <b>kips</b>      | <b>kips</b>     | <b>kips</b>      |

# Frame Story Shears



RAM Structural System  
Bentley

RAM Frame 15.03.00.000  
DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|     |         |         |      |      |
|-----|---------|---------|------|------|
| F13 | 1122.08 | 1122.08 | 7.32 | 7.32 |
|-----|---------|---------|------|------|

**Frame #57**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | -96.19  | -96.19   | -0.39   | -0.39    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | 20.92   | 20.92    | -0.09   | -0.09    |

**Frame #58**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | 2491.56 | 2491.56  | -38.38  | -38.38   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X  | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|----------|----------|---------|----------|
| Level         |   |                | kip      | kip      | kip     | kip      |
| F13           |   |                | -2649.00 | -2649.00 | 32.76   | 32.76    |

**Frame #59**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | -117.71 | -117.71  | -1.11   | -1.11    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | 6.58    | 6.58     | 10.49   | 10.49    |

**Frame #60**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                |         |          |         |          |



# Frame Story Shears

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Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|     | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-----|-----------------|------------------|-----------------|------------------|
| F13 | 2824.82         | 2824.82          | -31.99          | -31.99           |

| Load Case: W2 | W | Wind_IBC09_1_Y  |                  |                 |                  |
|---------------|---|-----------------|------------------|-----------------|------------------|
| Level         |   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13           |   | 1782.60         | 1782.60          | 11.45           | 11.45            |

## Frame #61

| Load Case: W1 | W | Wind_IBC09_1_X  |                  |                 |                  |
|---------------|---|-----------------|------------------|-----------------|------------------|
| Level         |   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13           |   | -620.47         | -620.47          | -4.22           | -4.22            |

| Load Case: W2 | W | Wind_IBC09_1_Y  |                  |                 |                  |
|---------------|---|-----------------|------------------|-----------------|------------------|
| Level         |   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13           |   | -178.39         | -178.39          | 32.81           | 32.81            |

## Frame #62

| Load Case: W1 | W | Wind_IBC09_1_X  |                  |                 |                  |
|---------------|---|-----------------|------------------|-----------------|------------------|
| Level         |   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13           |   | -1912.58        | -1912.58         | -4.50           | -4.50            |

| Load Case: W2 | W | Wind_IBC09_1_Y  |                  |                 |                  |
|---------------|---|-----------------|------------------|-----------------|------------------|
| Level         |   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F13           |   | -1.08           | -1.08            | 9.87            | 9.87             |

## Frame #63

| Load Case: W1 | W | Wind_IBC09_1_X  |                  |                 |                  |
|---------------|---|-----------------|------------------|-----------------|------------------|
| Level         |   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
| F12           |   | 5.64            | 5.64             | 72.75           | 72.75            |

| Load Case: W2 | W | Wind_IBC09_1_Y  |                  |                 |                  |
|---------------|---|-----------------|------------------|-----------------|------------------|
| Level         |   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|               |   |                 |                  |                 |                  |



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# Frame Story Shears

RAM Frame 15.03.00.000  
DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|     |       |       |        |        |
|-----|-------|-------|--------|--------|
| F12 | -1.07 | -1.07 | 111.77 | 111.77 |
|-----|-------|-------|--------|--------|

## Frame #64

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | 9.67    | 9.67     | -8.52   | -8.52    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | 0.64    | 0.64     | 421.23  | 421.23   |

## Frame #65

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | 8.99    | 8.99     | -103.92 | -103.92  |
| F11demo       |   |                | 0.00    | -8.99    | 0.00    | 103.92   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | 2.02    | 2.02     | 798.27  | 798.27   |
| F11demo       |   |                | 0.00    | -2.02    | 0.00    | -798.27  |

## Frame #66

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | 11.14   | 11.14    | 30.93   | 30.93    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | -1.30   | -1.30    | 399.64  | 399.64   |

## Frame #67





# Frame Story Shears

RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F12           |   |                | 1.22    | 1.22     | 11.86   | 11.86    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F12           |   |                | -2.76   | -2.76    | 137.19  | 137.19   |

## Frame #68

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F12           |   |                | 1.95    | 1.95     | -26.27  | -26.27   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F12           |   |                | -1.32   | -1.32    | 181.47  | 181.47   |

## Frame #69

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F12           |   |                | 260.84  | 260.84   | -0.13   | -0.13    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F12           |   |                | 388.33  | 388.33   | 6.37    | 6.37     |

## Frame #70

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F12           |   |                | 65.66   | 65.66    | 0.64    | 0.64     |



RAM Structural System



# Frame Story Shears

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | 5.09    | 5.09     | 1.14    | 1.14     |

## Frame #71

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | 13.79   | 13.79    | 14.54   | 14.54    |
| F11demo       |   |                | 0.00    | -13.79   | 0.00    | -14.54   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | -2.80   | -2.80    | 96.66   | 96.66    |
| F11demo       |   |                | 0.00    | 2.80     | 0.00    | -96.66   |

## Frame #72

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | 68.18   | 68.18    | -0.81   | -0.81    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | -38.52  | -38.52   | 3.48    | 3.48     |

## Frame #73

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | 17.67   | 17.67    | 0.65    | 0.65     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F12           |   |                | -10.27  | -10.27   | -2.73   | -2.73    |



# Frame Story Shears

RAM Frame 15.03.00.000  
Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

## Frame #74

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F12           |   |                | 66.58   | 66.58    | -0.13   | -0.13    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F12           |   |                | -176.05 | -176.05  | 7.21    | 7.21     |

## Frame #75

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F12           |   |                | 222.98  | 222.98   | -1.65   | -1.65    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F12           |   |                | -183.72 | -183.72  | 35.88   | 35.88    |

## Frame #76

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 0.37    | 0.37     | -52.92  | -52.92   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | -1.30   | -1.30    | 155.59  | 155.59   |

## Frame #77

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 0.18    | 0.18     | -12.56  | -12.56   |



RAM Structural System  
Bentley

# Frame Story Shears

RAM Frame 15.03.00.000  
DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

**Load Case: W2**    **W**    **Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 1.98            | 1.98             | 417.57          | 417.57           |

**Frame #78**

**Load Case: W1**    **W**    **Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -0.43           | -0.43            | 36.54           | 36.54            |
| F10   | 0.00            | 0.43             | 0.00            | -36.54           |

**Load Case: W2**    **W**    **Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -5.70           | -5.70            | 875.63          | 875.63           |
| F10   | 0.00            | 5.70             | 0.00            | -875.63          |

**Frame #79**

**Load Case: W1**    **W**    **Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -5.26           | -5.26            | 32.06           | 32.06            |

**Load Case: W2**    **W**    **Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -0.49           | -0.49            | 596.99          | 596.99           |

**Frame #80**

**Load Case: W1**    **W**    **Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.44            | 0.44             | 16.60           | 16.60            |

**Load Case: W2**    **W**    **Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -2.61           | -2.61            | 139.36          | 139.36           |



RAM Structural System



# Frame Story Shears

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

## Frame #81

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 1.05    | 1.05     | -26.25  | -26.25   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | -1.22   | -1.22    | 103.37  | 103.37   |

## Frame #82

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 345.11  | 345.11   | -0.17   | -0.17    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 32.46   | 32.46    | 5.52    | 5.52     |

## Frame #83

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | -7.00   | -7.00    | -0.04   | -0.04    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 15.24   | 15.24    | 0.89    | 0.89     |

## Frame #84

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 0.23    | 0.23     | -0.62   | -0.62    |



RAM Structural System

RAM Frame 15.03.00.000

# Frame Story Shears

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | -8.14   | -8.14    | 2.88    | 2.88     |

## Frame #85

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 50.56   | 50.56    | -0.33   | -0.33    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | -137.71 | -137.71  | 3.25    | 3.25     |

## Frame #86

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 415.11  | 415.11   | -1.73   | -1.73    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 84.05   | 84.05    | -0.40   | -0.40    |

## Frame #87

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F10           |   |                | 11.04   | 11.04    | -171.78 | -171.78  |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F10           |   |                | -10.91  | -10.91   | -2.20   | -2.20    |



RAM Structural System

# Frame Story Shears

RAM Frame 15.03.00.000  
Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

## Frame #88

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|---------------|---|----------------|-----------------|------------------|-----------------|------------------|
| Level         |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
| F10           |   |                | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|               |   |                | -3.51           | -3.51            | 41.97           | 41.97            |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|---------------|---|----------------|-----------------|------------------|-----------------|------------------|
| Level         |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
| F10           |   |                | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|               |   |                | 8.01            | 8.01             | -51.17          | -51.17           |

## Frame #89

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|---------------|---|----------------|-----------------|------------------|-----------------|------------------|
| Level         |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
| F10           |   |                | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|               |   |                | -0.38           | -0.38            | 135.53          | 135.53           |
| F9            |   |                | 0.00            | 0.38             | 0.00            | -135.53          |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|---------------|---|----------------|-----------------|------------------|-----------------|------------------|
| Level         |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
| F10           |   |                | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|               |   |                | -12.29          | -12.29           | 1019.39         | 1019.39          |
| F9            |   |                | 0.00            | 12.29            | 0.00            | -1019.39         |

## Frame #90

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|---------------|---|----------------|-----------------|------------------|-----------------|------------------|
| Level         |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
| F10           |   |                | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|               |   |                | -3.29           | -3.29            | -27.41          | -27.41           |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|---------------|---|----------------|-----------------|------------------|-----------------|------------------|
| Level         |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
|               |   |                | Shear-X         | Change-X         | Shear-Y         | Change-Y         |
| F10           |   |                | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|               |   |                | -1.07           | -1.07            | 777.81          | 777.81           |

## Frame #91

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



RAM Structural System



# Frame Story Shears

RAM Frame 15.03.00.000

DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|     | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-----|-----------------|------------------|-----------------|------------------|
| F10 | -0.61           | -0.61            | -5.87           | -5.87            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 4.64            | 4.64             | 78.68           | 78.68            |

**Frame #92**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 0.22            | 0.22             | 18.45           | 18.45            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 3.15            | 3.15             | 211.24          | 211.24           |

**Frame #93**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 310.87          | 310.87           | 0.93            | 0.93             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -70.44          | -70.44           | 94.18           | 94.18            |

**Frame #94**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 51.05           | 51.05            | 0.05            | 0.05             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
|       |                 |                  |                 |                  |





**Frame Story Shears**

RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|     |        |        |      |      |
|-----|--------|--------|------|------|
| F10 | -81.21 | -81.21 | 1.40 | 1.40 |
|-----|--------|--------|------|------|

**Frame #95**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F10           |   |                | 125.94  | 125.94   | -0.94   | -0.94    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F10           |   |                | -237.74 | -237.74  | 2.52    | 2.52     |

**Frame #96**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F10           |   |                | 18.96   | 18.96    | 0.37    | 0.37     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F10           |   |                | -31.67  | -31.67   | 29.24   | 29.24    |

**Frame #97**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F10           |   |                | 329.13  | 329.13   | -0.87   | -0.87    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F10           |   |                | 407.94  | 407.94   | 229.51  | 229.51   |

**Frame #98**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                |         |          |         |          |

# Frame Story Shears



RAM Frame 15.03.00.000  
 Data Base: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|    | kip   | kip   | kip     | kip     |
|----|-------|-------|---------|---------|
| F9 | -0.38 | -0.38 | -245.80 | -245.80 |
| F8 | 0.00  | 0.38  | 0.00    | 245.80  |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F9    | 1.16           | 1.16            | 2476.45        | 2476.45         |
| F8    | 0.00           | -1.16           | 0.00           | -2476.45        |

**Frame #99**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F9    | 1.87           | 1.87            | 31.65          | 31.65           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F9    | 8.40           | 8.40            | -733.83        | -733.83         |

**Frame #100**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F9    | -0.85          | -0.85           | 196.61         | 196.61          |
| F8    | 0.00           | 0.85            | 0.00           | -196.61         |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F9    | 5.49           | 5.49            | 738.95         | 738.95          |
| F8    | 0.00           | -5.49           | 0.00           | -738.95         |

**Frame #101**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F9    | 0.01           | 0.01            | 121.38         | 121.38          |
| F8    | 0.00           | -0.01           | 0.00           | -121.38         |



# Frame Story Shears

RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.04            | 0.04             | 85.25           | 85.25            |
| F8    | 0.00            | -0.04            | 0.00            | -85.25           |

**Frame #102**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.01            | 0.01             | -82.20          | -82.20           |
| F8    | 0.00            | -0.01            | 0.00            | 82.20            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.03            | 0.03             | -65.69          | -65.69           |
| F8    | 0.00            | -0.03            | 0.00            | 65.69            |

**Frame #103**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 3.67            | 3.67             | -21.18          | -21.18           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -0.35           | -0.35            | 979.10          | 979.10           |

**Frame #104**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 362.64          | 362.64           | 7.21            | 7.21             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
|-------|-----------------|------------------|-----------------|------------------|



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Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| F9 | 868.52 | 868.52 | -67.80 | -67.80 |
|----|--------|--------|--------|--------|

## Frame #105

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 73.71                 | 73.71           | 1.40           | 1.40            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | -280.28               | -280.28         | -39.59         | -39.59          |

## Frame #106

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 66.51                 | 66.51           | 5.45           | 5.45            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | -477.65               | -477.65         | -290.84        | -290.84         |

## Frame #107

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 225.38                | 225.38          | 0.00           | 0.00            |
| F8                   |          | 0.00                  | -225.38         | 0.00           | 0.00            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 29.69                 | 29.69           | 0.00           | 0.00            |
| F8                   |          | 0.00                  | -29.69          | 0.00           | 0.00            |

## Frame #108



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Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F9            |   |                | -1.00   | -1.00    | 0.51    | 0.51     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F9            |   |                | -3.21   | -3.21    | -358.06 | -358.06  |

## Frame #109

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F9            |   |                | -1.42   | -1.42    | 16.43   | 16.43    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F9            |   |                | -1.99   | -1.99    | -270.35 | -270.35  |

## Frame #110

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | 0.06    | 0.06     | -76.11  | -76.11   |
| F7            |   |                | 0.00    | -0.06    | 0.00    | 76.11    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | -1.02   | -1.02    | 848.96  | 848.96   |
| F7            |   |                | 0.00    | 1.02     | 0.00    | -848.96  |

## Frame #111

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | 1.92    | 1.92     | -12.16  | -12.16   |



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| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F8            |   |                | -0.52   | -0.52    | 66.05   | 66.05    |

## Frame #112

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F8            |   |                | 1.85    | 1.85     | 102.90  | 102.90   |
| F6            |   |                | 0.00    | -1.85    | 0.00    | -102.90  |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F8            |   |                | -11.55  | -11.55   | 445.76  | 445.76   |
| F6            |   |                | 0.00    | 11.55    | 0.00    | -445.76  |

## Frame #113

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F8            |   |                | 0.00    | 0.00     | 0.00    | 0.00     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F8            |   |                | 0.00    | 0.00     | 0.00    | 0.00     |

## Frame #114

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F8            |   |                | 0.00    | 0.00     | 0.00    | 0.00     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kips    | kips     | kips    | kips     |
| F8            |   |                | 0.00    | 0.00     | 0.00    | 0.00     |



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## Frame #115

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | 3.67    | 3.67     | -21.18  | -21.18   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | -0.35   | -0.35    | 979.10  | 979.10   |

## Frame #116

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | 416.91  | 416.91   | 7.37    | 7.37     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | 154.28  | 154.28   | 38.98   | 38.98    |

## Frame #117

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | 0.02    | 0.02     | -0.05   | -0.05    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | -0.08   | -0.08    | 1.39    | 1.39     |

## Frame #118

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | 206.73  | 206.73   | -0.05   | -0.05    |



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**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -256.36         | -256.36          | 14.47           | 14.47            |

**Frame #119**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 292.96          | 292.96           | -3.10           | -3.10            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 96.47           | 96.47            | 112.25          | 112.25           |

**Frame #120**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #121**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 1.05            | 1.05             | -9.32           | -9.32            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.47           | -0.47            | 138.12          | 138.12           |





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## Frame #122

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X   | Change-X  | Shear-Y   | Change-Y  |
|---------------|---|----------------|-----------|-----------|-----------|-----------|
| Level         |   |                | Shear-X   | Change-X  | Shear-Y   | Change-Y  |
|               |   |                | Shear-X   | Change-X  | Shear-Y   | Change-Y  |
|               |   |                | Shear-X   | Change-X  | Shear-Y   | Change-Y  |
| F8            |   |                | 0.21 kips | 0.21 kips | 1.65 kips | 1.65 kips |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X   | Change-X  | Shear-Y    | Change-Y   |
|---------------|---|----------------|-----------|-----------|------------|------------|
| Level         |   |                | Shear-X   | Change-X  | Shear-Y    | Change-Y   |
|               |   |                | Shear-X   | Change-X  | Shear-Y    | Change-Y   |
|               |   |                | Shear-X   | Change-X  | Shear-Y    | Change-Y   |
| F8            |   |                | 0.84 kips | 0.84 kips | 24.25 kips | 24.25 kips |

## Frame #123

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X   | Change-X   | Shear-Y     | Change-Y    |
|---------------|---|----------------|-----------|------------|-------------|-------------|
| Level         |   |                | Shear-X   | Change-X   | Shear-Y     | Change-Y    |
|               |   |                | Shear-X   | Change-X   | Shear-Y     | Change-Y    |
|               |   |                | Shear-X   | Change-X   | Shear-Y     | Change-Y    |
| F7            |   |                | 1.12 kips | 1.12 kips  | -94.11 kips | -94.11 kips |
| F6            |   |                | 0.00 kips | -1.12 kips | 0.00 kips   | 94.11 kips  |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X   | Change-X   | Shear-Y     | Change-Y     |
|---------------|---|----------------|-----------|------------|-------------|--------------|
| Level         |   |                | Shear-X   | Change-X   | Shear-Y     | Change-Y     |
|               |   |                | Shear-X   | Change-X   | Shear-Y     | Change-Y     |
|               |   |                | Shear-X   | Change-X   | Shear-Y     | Change-Y     |
| F7            |   |                | 0.66 kips | 0.66 kips  | 938.56 kips | 938.56 kips  |
| F6            |   |                | 0.00 kips | -0.66 kips | 0.00 kips   | -938.56 kips |

## Frame #124

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X   | Change-X  | Shear-Y     | Change-Y    |
|---------------|---|----------------|-----------|-----------|-------------|-------------|
| Level         |   |                | Shear-X   | Change-X  | Shear-Y     | Change-Y    |
|               |   |                | Shear-X   | Change-X  | Shear-Y     | Change-Y    |
|               |   |                | Shear-X   | Change-X  | Shear-Y     | Change-Y    |
| F7            |   |                | 4.87 kips | 4.87 kips | 134.74 kips | 134.74 kips |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X    | Change-X   | Shear-Y     | Change-Y    |
|---------------|---|----------------|------------|------------|-------------|-------------|
| Level         |   |                | Shear-X    | Change-X   | Shear-Y     | Change-Y    |
|               |   |                | Shear-X    | Change-X   | Shear-Y     | Change-Y    |
|               |   |                | Shear-X    | Change-X   | Shear-Y     | Change-Y    |
| F7            |   |                | -3.38 kips | -3.38 kips | 256.99 kips | 256.99 kips |

## Frame #125

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



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|    | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|----|-----------------|------------------|-----------------|------------------|
| F7 | 410.16          | 410.16           | 3.59            | 3.59             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 152.46          | 152.46           | 54.11           | 54.11            |

**Frame #126**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 3.15            | 3.15             | -16.53          | -16.53           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 1.82            | 1.82             | 103.66          | 103.66           |

**Frame #127**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 3.67            | 3.67             | -21.18          | -21.18           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | -0.35           | -0.35            | 979.10          | 979.10           |

**Frame #128**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F7    | 182.35          | 182.35           | -0.56           | -0.56            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
|       |                 |                  |                 |                  |



**Frame Story Shears**

RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|    |         |         |       |       |
|----|---------|---------|-------|-------|
| F7 | -211.46 | -211.46 | 12.86 | 12.86 |
|----|---------|---------|-------|-------|

**Frame #129**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F7            |   |                | 356.45  | 356.45   | -5.11   | -5.11    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F7            |   |                | 44.74   | 44.74    | 74.85   | 74.85    |

**Frame #130**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F7            |   |                | 3.07    | 3.07     | -8.11   | -8.11    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F7            |   |                | -2.41   | -2.41    | 95.11   | 95.11    |

**Frame #131**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F7            |   |                | 2.11    | 2.11     | -5.37   | -5.37    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F7            |   |                | -1.94   | -1.94    | 25.63   | 25.63    |

**Frame #132**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



# Frame Story Shears

RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|    | kip  | kip   | kip    | kip    |
|----|------|-------|--------|--------|
| F6 | 0.04 | 0.04  | -97.97 | -97.97 |
| F5 | 0.00 | -0.04 | 0.00   | 97.97  |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | -0.57          | -0.57           | 981.39         | 981.39          |
| F5    | 0.00           | 0.57            | 0.00           | -981.39         |

**Frame #133**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | 0.63           | 0.63            | 119.71         | 119.71          |
| F5    | 0.00           | -0.63           | 0.00           | -119.71         |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | -6.89          | -6.89           | 1229.11        | 1229.11         |
| F5    | 0.00           | 6.89            | 0.00           | -1229.11        |

**Frame #134**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | 3.67           | 3.67            | -21.18         | -21.18          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | -0.35          | -0.35           | 979.10         | 979.10          |

**Frame #135**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | 0.51           | 0.51            | -9.68          | -9.68           |



RAM Structural System

# Frame Story Shears

RAM Frame 15.03.00.000

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -1.50           | -1.50            | -199.57         | -199.57          |

**Frame #136**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 2.42            | 2.42             | 10.65           | 10.65            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -0.21           | -0.21            | -60.92          | -60.92           |

**Frame #137**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 1.12            | 1.12             | -19.24          | -19.24           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 1.22            | 1.22             | -128.90         | -128.90          |

**Frame #138**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 451.12          | 451.12           | 4.83            | 4.83             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -82.06          | -82.06           | -6.62           | -6.62            |



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# Frame Story Shears

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

## Frame #139

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F6            |   |                | 127.74  | 127.74   | 0.36    | 0.36     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F6            |   |                | -98.30  | -98.30   | -8.80   | -8.80    |

## Frame #140

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F6            |   |                | 432.61  | 432.61   | 1.23    | 1.23     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F6            |   |                | 168.21  | 168.21   | -68.87  | -68.87   |

## Frame #141

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F5            |   |                | 1.30    | 1.30     | -105.19 | -105.19  |
| F4            |   |                | 0.00    | -1.30    | 0.00    | 105.19   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F5            |   |                | -0.05   | -0.05    | 1054.64 | 1054.64  |
| F4            |   |                | 0.00    | 0.05     | 0.00    | -1054.64 |

## Frame #142

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



# Frame Story Shears

RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|    | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|----|-----------------|------------------|-----------------|------------------|
| F5 | 1.23            | 1.23             | -14.91          | -14.91           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.38           | -0.38            | 61.29           | 61.29            |

## Frame #143

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.49            | 3.49             | 146.47          | 146.47           |
| F4    | 0.00            | -3.49            | 0.00            | -146.47          |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -5.56           | -5.56            | 468.86          | 468.86           |
| F4    | 0.00            | 5.56             | 0.00            | -468.86          |

## Frame #144

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 3.67            | 3.67             | -21.18          | -21.18           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -0.35           | -0.35            | 979.10          | 979.10           |

## Frame #145

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 4.34            | 4.34             | 10.10           | 10.10            |



RAM Structural System

# Frame Story Shears

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**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -1.38           | -1.38            | 80.74           | 80.74            |

**Frame #146**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 2.70            | 2.70             | -27.10          | -27.10           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.56            | 0.56             | 43.11           | 43.11            |

**Frame #147**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 454.20          | 454.20           | 3.02            | 3.02             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 148.64          | 148.64           | 22.08           | 22.08            |

**Frame #148**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 131.29          | 131.29           | 0.13            | 0.13             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -137.94         | -137.94          | 5.80            | 5.80             |





# Frame Story Shears

RAM Structural System

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Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

## Frame #149

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F5            |   |                | 471.06  | 471.06   | -1.88   | -1.88    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F5            |   |                | -23.18  | -23.18   | 39.35   | 39.35    |

## Frame #150

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F4            |   |                | -0.03   | -0.03    | -91.52  | -91.52   |
| F3            |   |                | 0.00    | 0.03     | 0.00    | 91.52    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F4            |   |                | -0.47   | -0.47    | 1201.34 | 1201.34  |
| F3            |   |                | 0.00    | 0.47     | 0.00    | -1201.34 |

## Frame #151

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F4            |   |                | 1.64    | 1.64     | -24.86  | -24.86   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F4            |   |                | -0.04   | -0.04    | 81.30   | 81.30    |

## Frame #152

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



# Frame Story Shears

RAM Structural System

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DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|    | kip  | kip   | kip    | kip     |
|----|------|-------|--------|---------|
| F4 | 3.71 | 3.71  | 145.58 | 145.58  |
| F3 | 0.00 | -3.71 | 0.00   | -145.58 |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | -6.03          | -6.03           | 405.81         | 405.81          |
| F3    | 0.00           | 6.03            | 0.00           | -405.81         |

## Frame #153

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | 3.67           | 3.67            | -21.18         | -21.18          |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | -0.35          | -0.35           | 979.10         | 979.10          |

## Frame #154

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | 5.16           | 5.16            | 18.20          | 18.20           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | -1.49          | -1.49           | 50.11          | 50.11           |

## Frame #155

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | 3.49           | 3.49            | -36.84         | -36.84          |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

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| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 0.51            | 0.51             | 25.64           | 25.64            |

**Frame #156**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 137.43          | 137.43           | 0.27            | 0.27             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -149.65         | -149.65          | 3.20            | 3.20             |

**Frame #157**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 483.09          | 483.09           | -2.37           | -2.37            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -82.19          | -82.19           | 18.93           | 18.93            |

**Frame #158**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 477.96          | 477.96           | 2.25            | 2.25             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 221.88          | 221.88           | 21.12           | 21.12            |



RAM Structural System

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Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

## Frame Story Shears

### Frame #159

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | 0.31    | 0.31     | -96.11  | -96.11   |
| F2            |   |                | 0.00    | -0.31    | 0.00    | 96.11    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | 0.80    | 0.80     | 1262.49 | 1262.49  |
| F2            |   |                | 0.00    | -0.80    | 0.00    | -1262.49 |

### Frame #160

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | 2.43    | 2.43     | -27.44  | -27.44   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | 3.92    | 3.92     | 93.89   | 93.89    |

### Frame #161

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | 1.82    | 1.82     | 164.13  | 164.13   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | -1.77   | -1.77    | 595.99  | 595.99   |

### Frame #162

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



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Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

## Frame Story Shears

|    |            |            |            |            |
|----|------------|------------|------------|------------|
|    | <b>kip</b> | <b>kip</b> | <b>kip</b> | <b>kip</b> |
| F3 | 3.67       | 3.67       | -21.18     | -21.18     |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | -0.35                 | -0.35           | 979.10         | 979.10          |

**Frame #163**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | 4.40                  | 4.40            | 31.93          | 31.93           |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | -2.04                 | -2.04           | -9.31          | -9.31           |

**Frame #164**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | 3.99                  | 3.99            | -49.24         | -49.24          |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | -1.29                 | -1.29           | 12.18          | 12.18           |

**Frame #165**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |
| F3                   |          | 490.69                | 490.69          | -2.57          | -2.57           |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |



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DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

# Frame Story Shears

|    |        |        |       |       |
|----|--------|--------|-------|-------|
| F3 | 353.73 | 353.73 | 17.61 | 17.61 |
|----|--------|--------|-------|-------|

## Frame #166

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | 159.40  | 159.40   | -0.59   | -0.59    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | -171.83 | -171.83  | -0.12   | -0.12    |

## Frame #167

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | 481.62  | 481.62   | -4.14   | -4.14    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | -200.42 | -200.42  | -12.53  | -12.53   |

## Frame #168

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | 1.14    | 1.14     | -93.11  | -93.11   |
| Fground       |   |                | 0.00    | -1.14    | 0.00    | 93.11    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | -0.54   | -0.54    | 1236.95 | 1236.95  |
| Fground       |   |                | 0.00    | 0.54     | 0.00    | -1236.95 |

## Frame #169



RAM Structural System

# Frame Story Shears

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Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | 1.60    | 1.60     | 13.76   | 13.76    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | -0.10   | -0.10    | 126.92  | 126.92   |

## Frame #170

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | 5.52    | 5.52     | 288.68  | 288.68   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | -6.83   | -6.83    | 400.98  | 400.98   |

## Frame #171

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | 1.29    | 1.29     | -222.25 | -222.25  |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | -1.84   | -1.84    | 1185.00 | 1185.00  |

## Frame #172

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | 4.95    | 4.95     | -3.57   | -3.57    |



RAM Structural System

# Frame Story Shears

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Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -1.29           | -1.29            | 54.55           | 54.55            |

**Frame #173**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 5.37            | 5.37             | 3.37            | 3.37             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -1.47           | -1.47            | 17.76           | 17.76            |

**Frame #174**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 836.78          | 836.78           | 2.27            | 2.27             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 71.40           | 71.40            | 41.11           | 41.11            |

**Frame #175**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 257.76          | 257.76           | 0.68            | 0.68             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -100.24         | -100.24          | -0.03           | -0.03            |





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# Frame Story Shears



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

## Frame #176

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | 63.36   | 63.36    | 2.10    | 2.10     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | 25.19   | 25.19    | 7.07    | 7.07     |

## Frame #177

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| Fground       |   |                | 4.43    | 4.43     | -62.83  | -62.83   |
| Cellar        |   |                | 0.00    | -4.43    | 0.00    | 62.83    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| Fground       |   |                | -2.20   | -2.20    | 1146.61 | 1146.61  |
| Cellar        |   |                | 0.00    | 2.20     | 0.00    | -1146.61 |

## Frame #178

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| Fground       |   |                | 2.93    | 2.93     | 23.85   | 23.85    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| Fground       |   |                | -0.97   | -0.97    | 155.55  | 155.55   |

## Frame #180

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



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Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

# Frame Story Shears

|         |             |             |             |             |
|---------|-------------|-------------|-------------|-------------|
|         | <b>kips</b> | <b>kips</b> | <b>kips</b> | <b>kips</b> |
| Fground | 12.63       | 12.63       | 212.91      | 212.91      |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | -12.73                | -12.73          | 407.68         | 407.68          |

**Frame #181**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 21.19                 | 21.19           | -154.29        | -154.29         |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | -7.74                 | -7.74           | 1206.40        | 1206.40         |

**Frame #182**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 11.81                 | 11.81           | 6.29           | 6.29            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | -0.99                 | -0.99           | 92.69          | 92.69           |

**Frame #183**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 10.51                 | 10.51           | -18.38         | -18.38          |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



# Frame Story Shears

RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|         |       |       |       |       |
|---------|-------|-------|-------|-------|
| Fground | -3.01 | -3.01 | 55.97 | 55.97 |
|---------|-------|-------|-------|-------|

## Frame #184

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 57.92                 | 57.92           | -0.82          | -0.82           |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | -19.81                | -19.81          | 4.37           | 4.37            |

## Frame #185

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 329.43                | 329.43          | -7.04          | -7.04           |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 16.72                 | 16.72           | 18.84          | 18.84           |

## Frame #186

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 751.31                | 751.31          | -2.21          | -2.21           |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Fground              |          | 20.17                 | 20.17           | 58.01          | 58.01           |

## Frame #187

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |



RAM Frame 15.03.00.000

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

## Frame Story Shears

|        |             |             |             |             |
|--------|-------------|-------------|-------------|-------------|
|        | <b>kips</b> | <b>kips</b> | <b>kips</b> | <b>kips</b> |
| Cellar | 1.00        | 1.00        | -59.71      | -59.71      |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 0.94                  | 0.94            | 1119.57        | 1119.57         |

**Frame #188**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 5.85                  | 5.85            | 129.31         | 129.31          |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | -8.66                 | -8.66           | 354.19         | 354.19          |

**Frame #189**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 1.31                  | 1.31            | 30.62          | 30.62           |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | -0.59                 | -0.59           | 126.22         | 126.22          |

**Frame #190**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 4.84                  | 4.84            | -131.74        | -131.74         |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |



RAM Structural System

# Frame Story Shears

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

|        |      |      |         |         |
|--------|------|------|---------|---------|
| Cellar | 5.75 | 5.75 | 1259.95 | 1259.95 |
|--------|------|------|---------|---------|

## Frame #191

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 14.02                 | 14.02           | 25.71          | 25.71           |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | -2.64                 | -2.64           | 63.17          | 63.17           |

## Frame #192

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 10.19                 | 10.19           | -12.43         | -12.43          |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | -1.49                 | -1.49           | 51.26          | 51.26           |

## Frame #193

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | 164.64                | 164.64          | 0.96           | 0.96            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| Cellar               |          | -15.81                | -15.81          | 15.87          | 15.87           |

## Frame #194

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre

# Frame Story Shears

|        | kips   | kips   | kips | kips |
|--------|--------|--------|------|------|
| Cellar | 270.53 | 270.53 | 7.96 | 7.96 |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 84.21           | 84.21            | 74.45           | 74.45            |

**Frame #195**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | 739.39          | 739.39           | 7.33            | 7.33             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level  | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|--------|-----------------|------------------|-----------------|------------------|
| Cellar | -65.69          | -65.69           | 120.29          | 120.29           |

**Severud Associates**

1568 Broadway

Structural Calculations

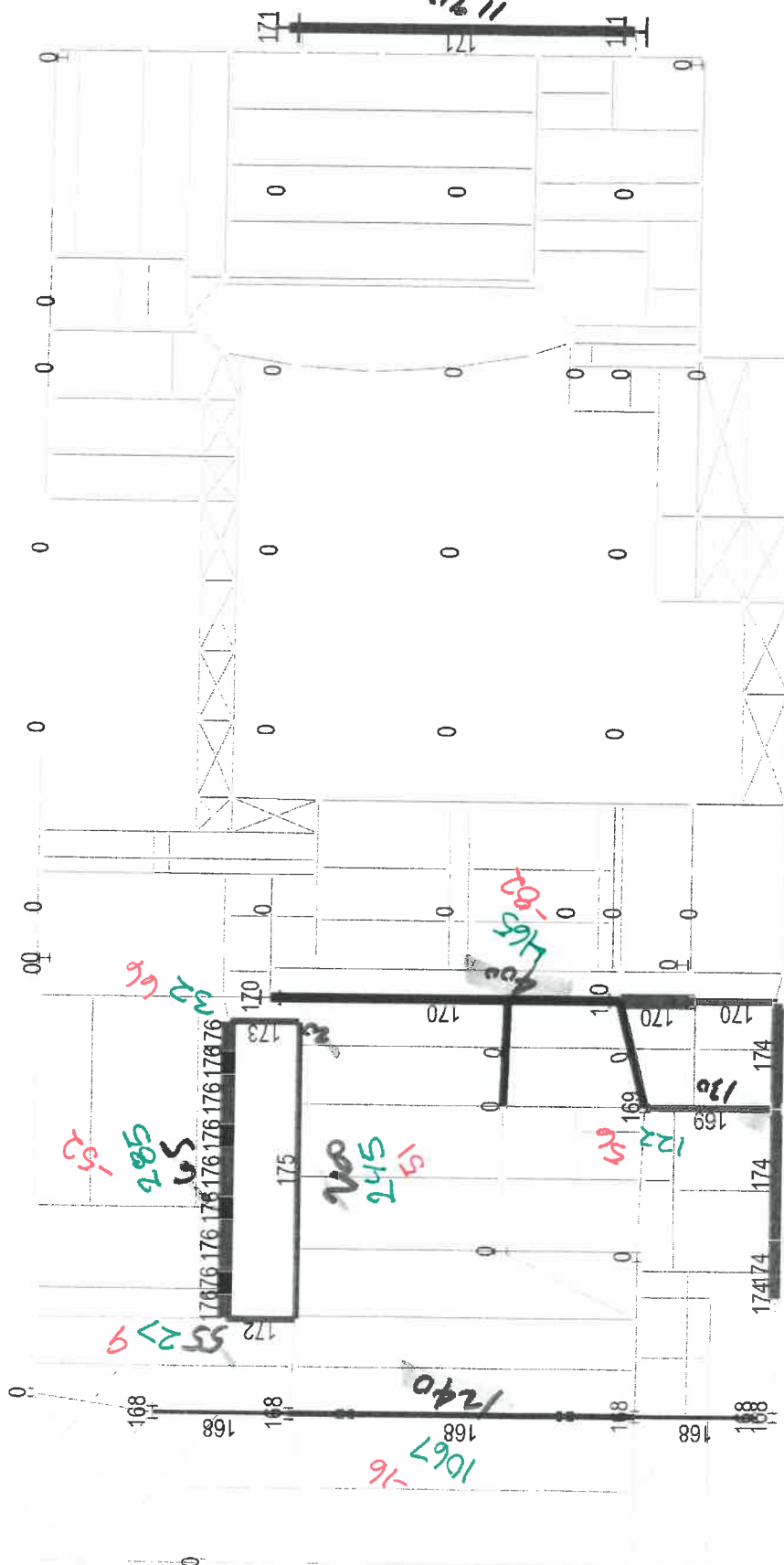
# **CHAPTER 12**

## **Semi-Rigid Diaphragm Forces**









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175

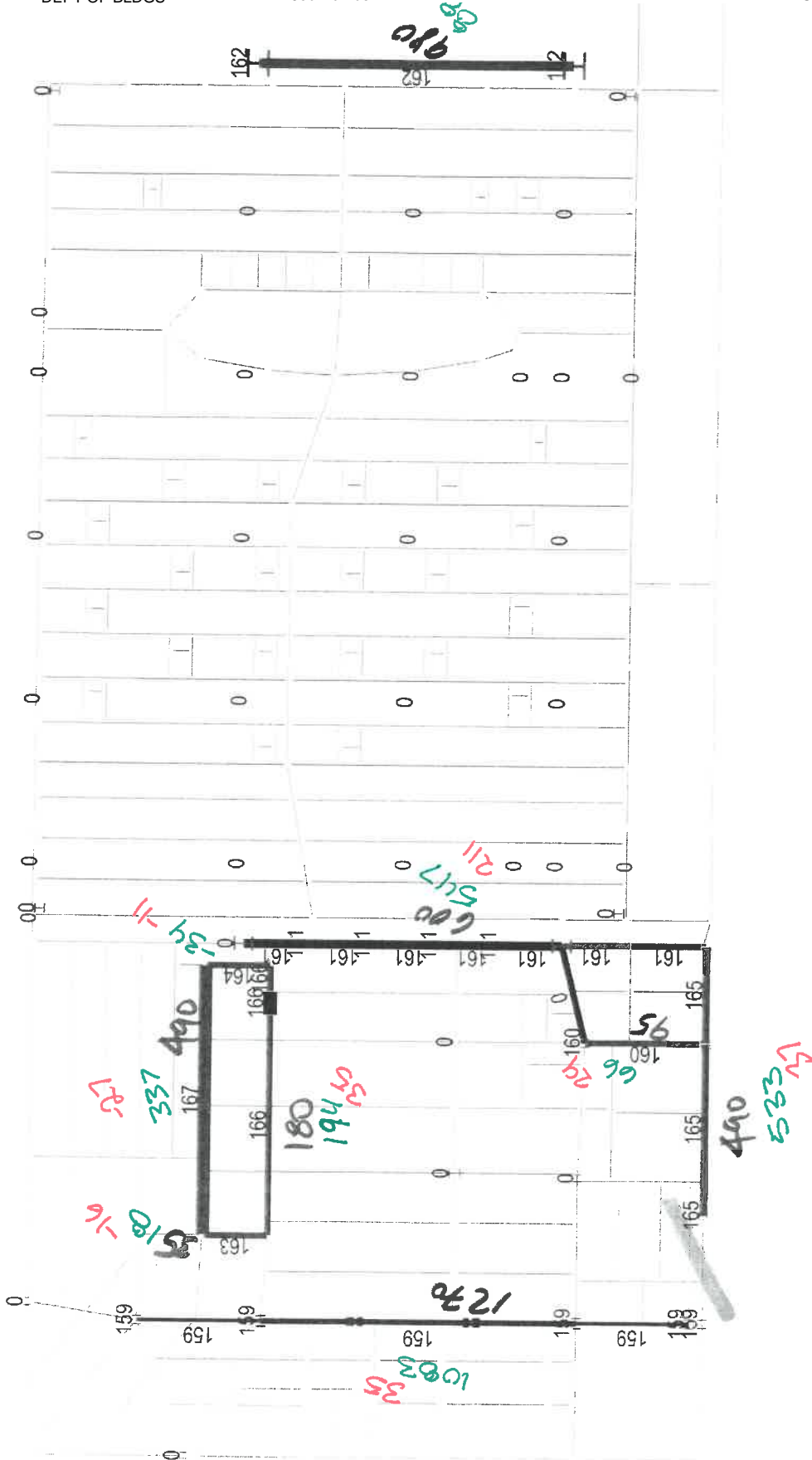
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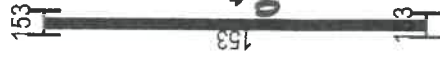
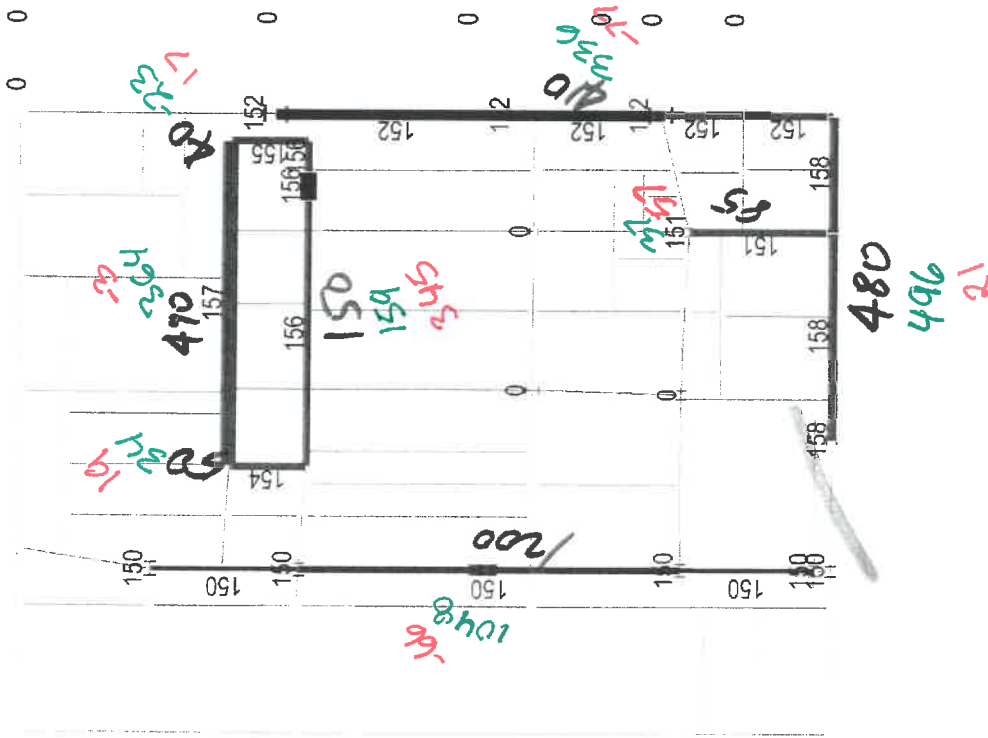
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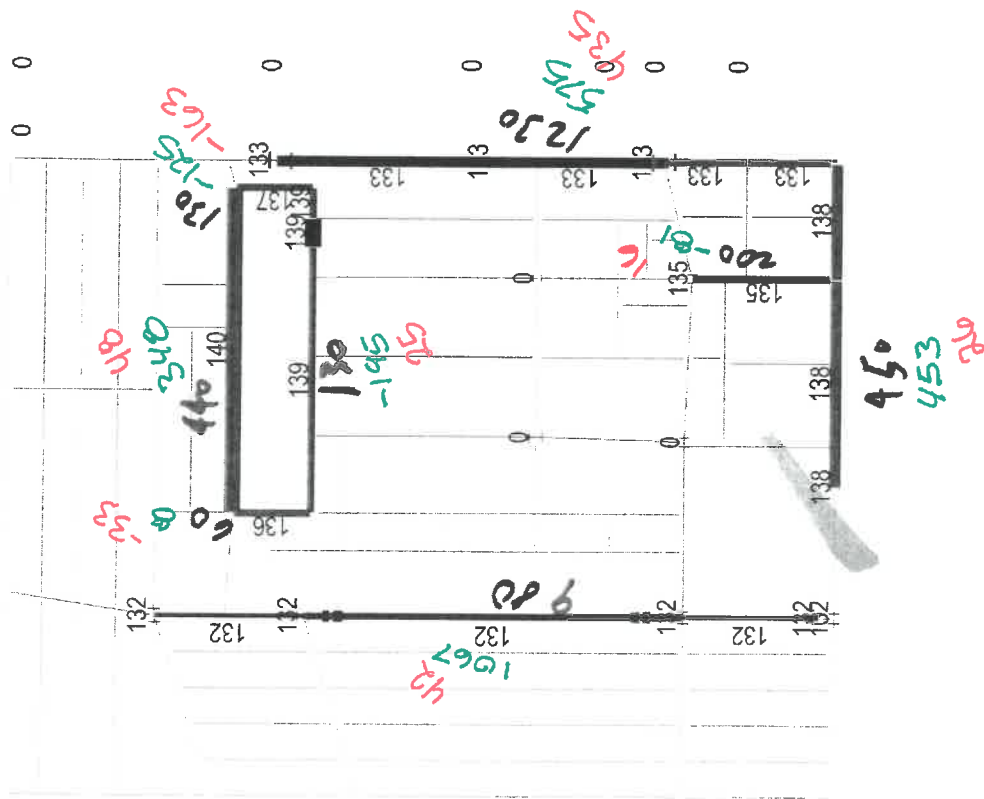
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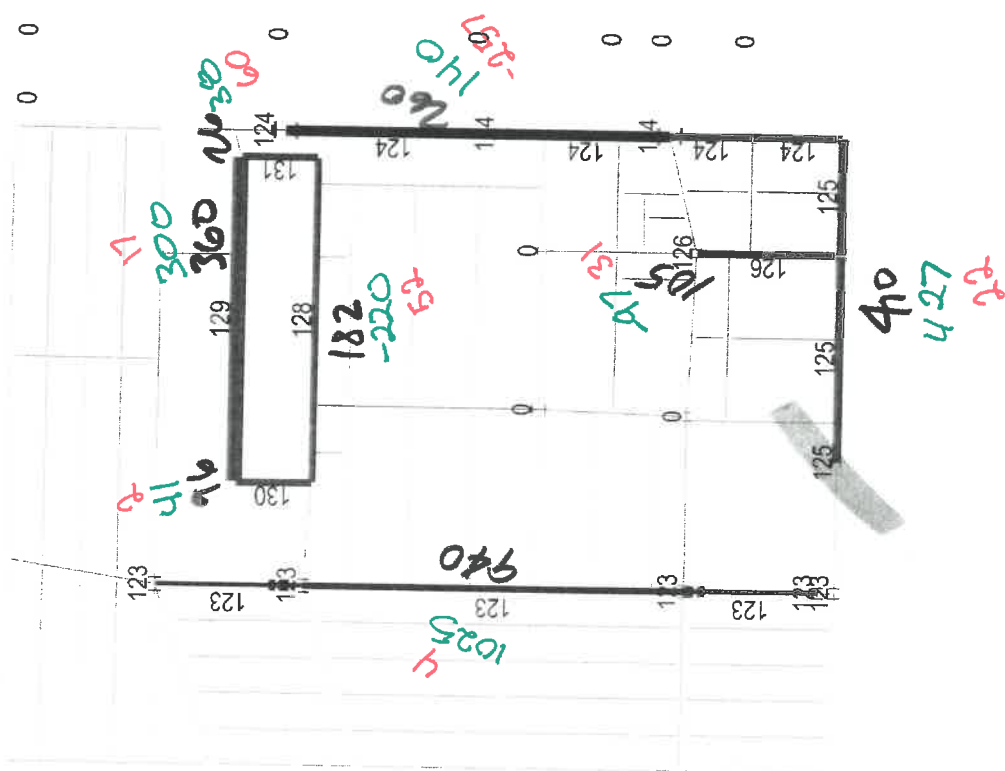




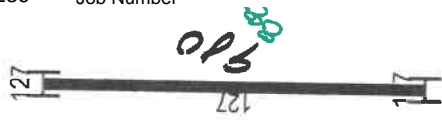


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| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |





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| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
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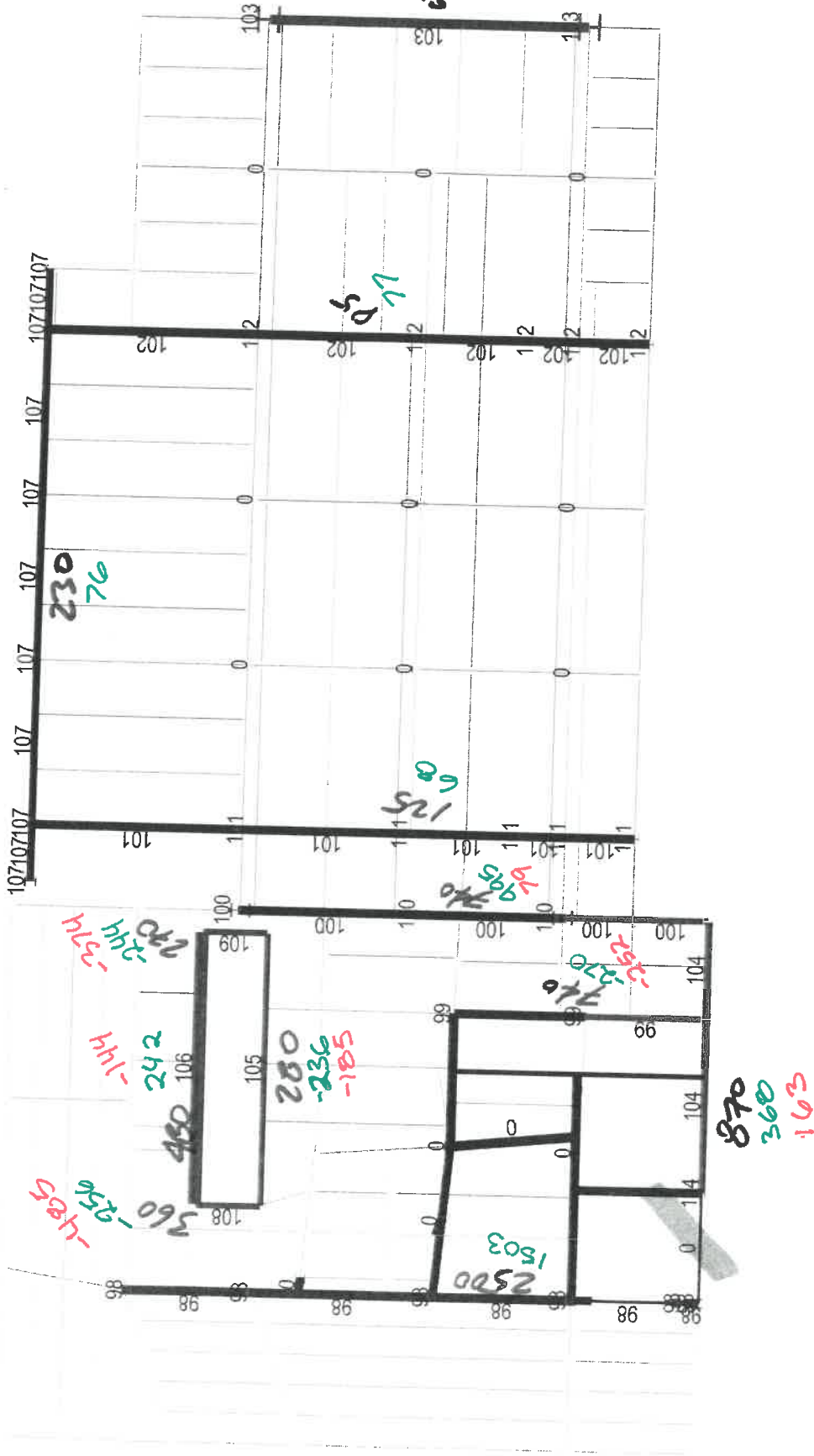
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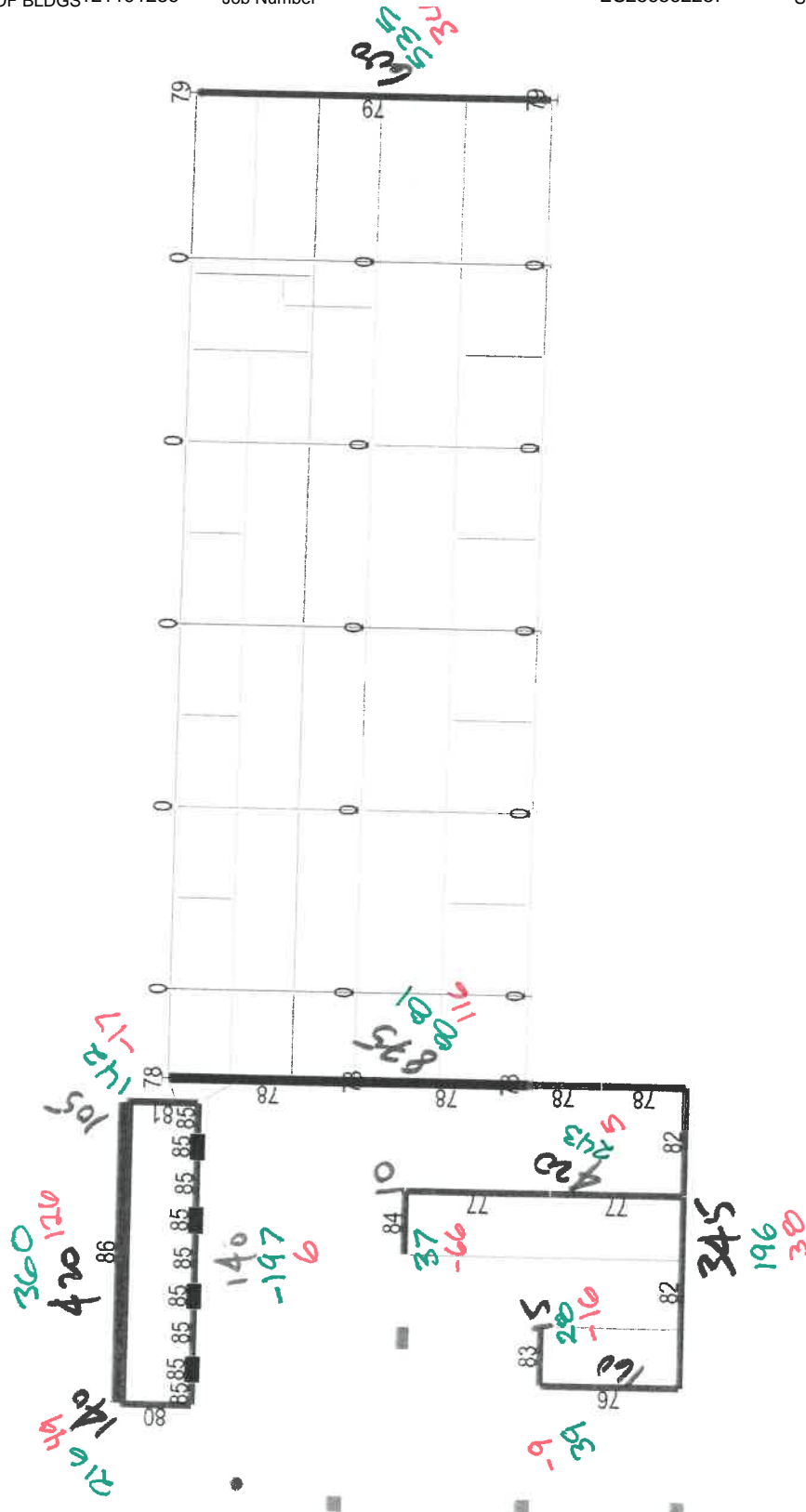


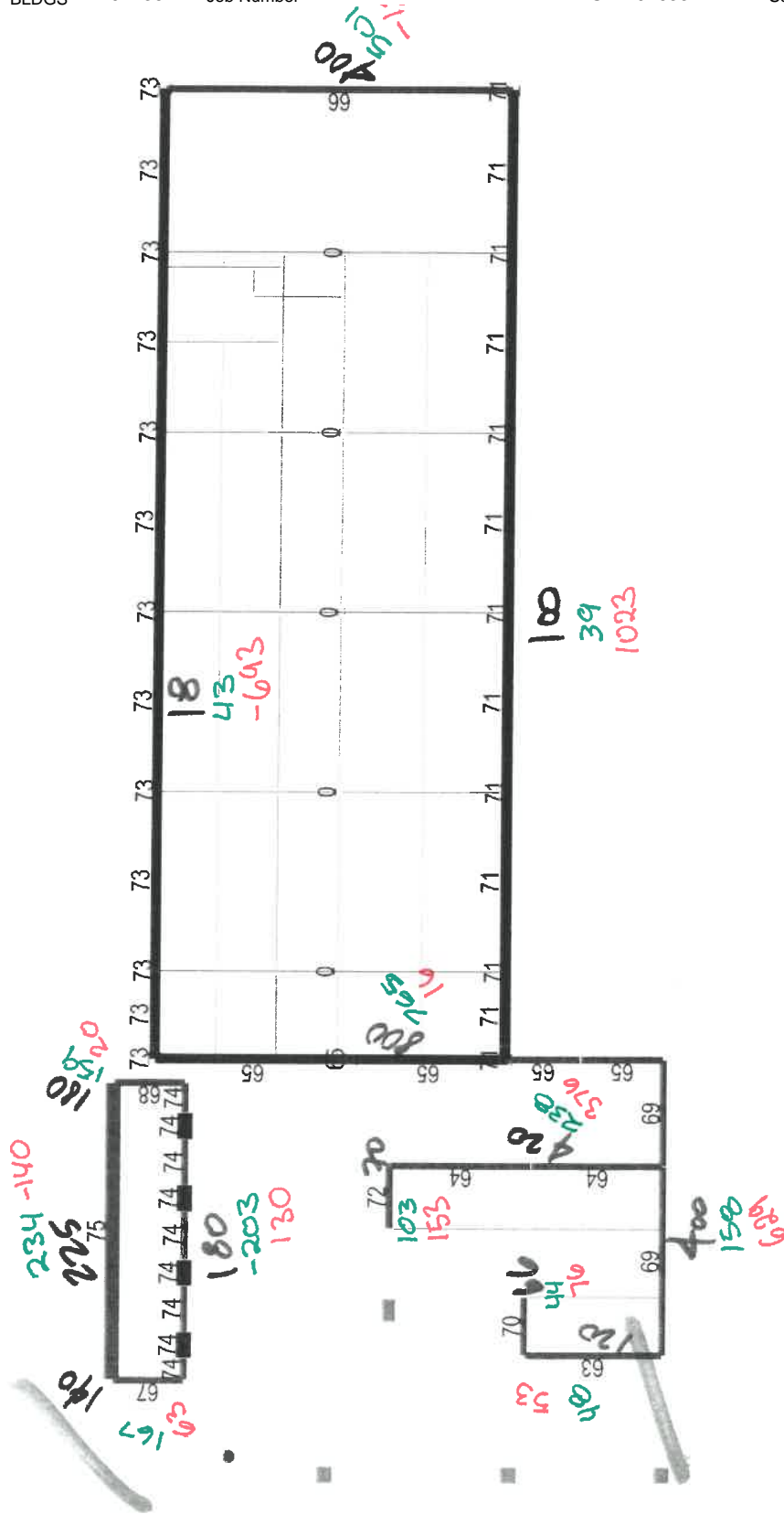


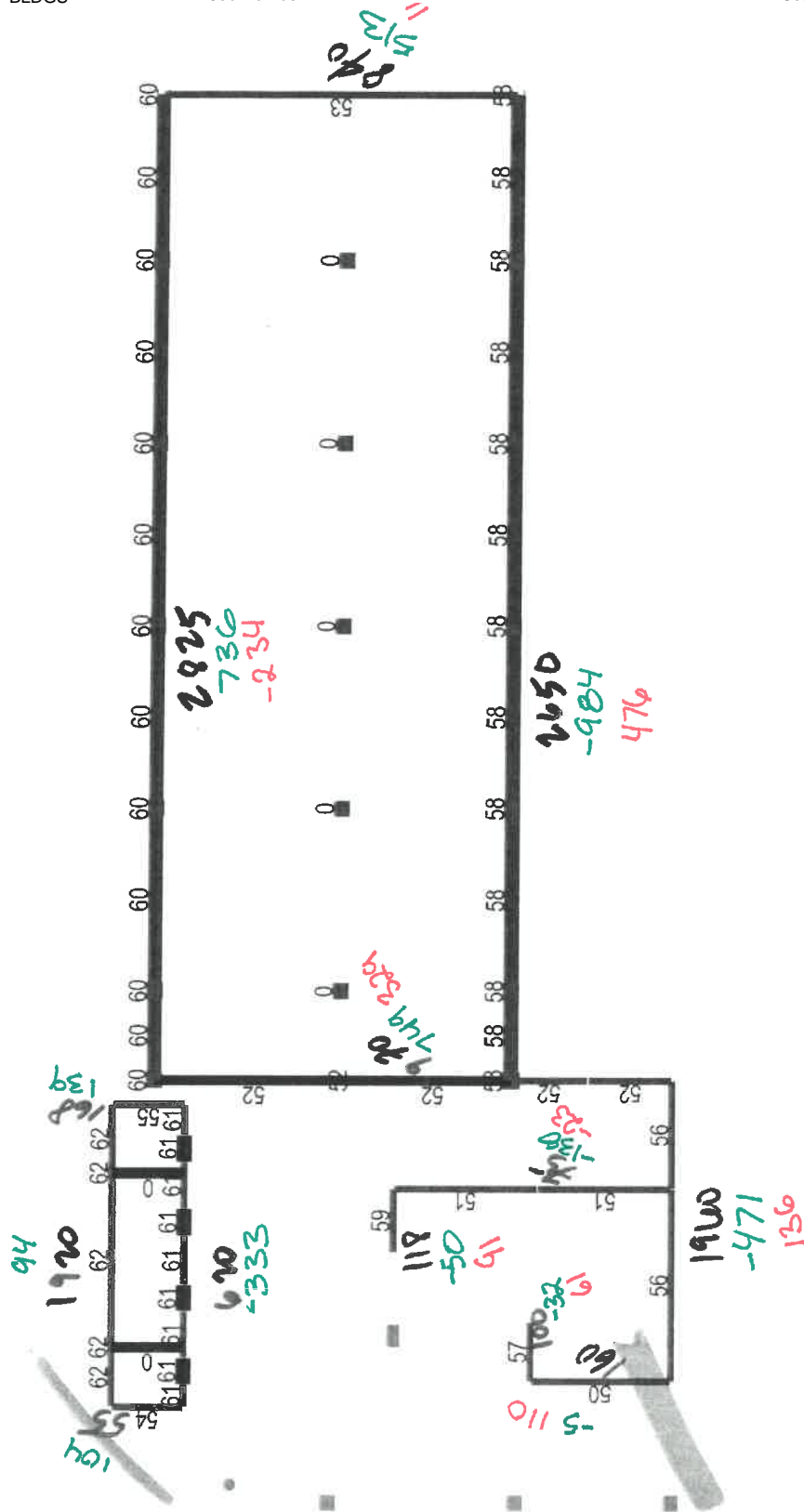
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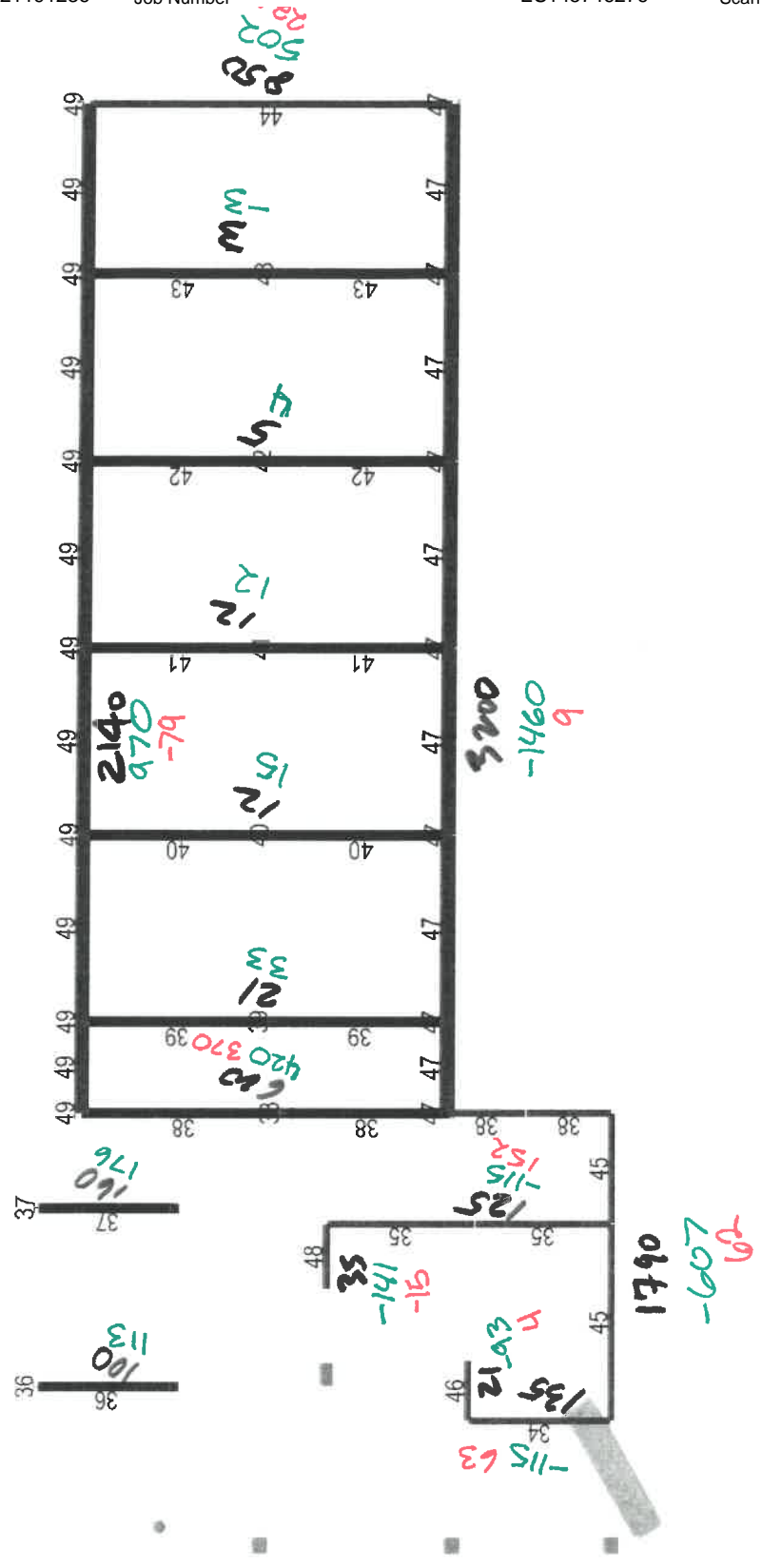
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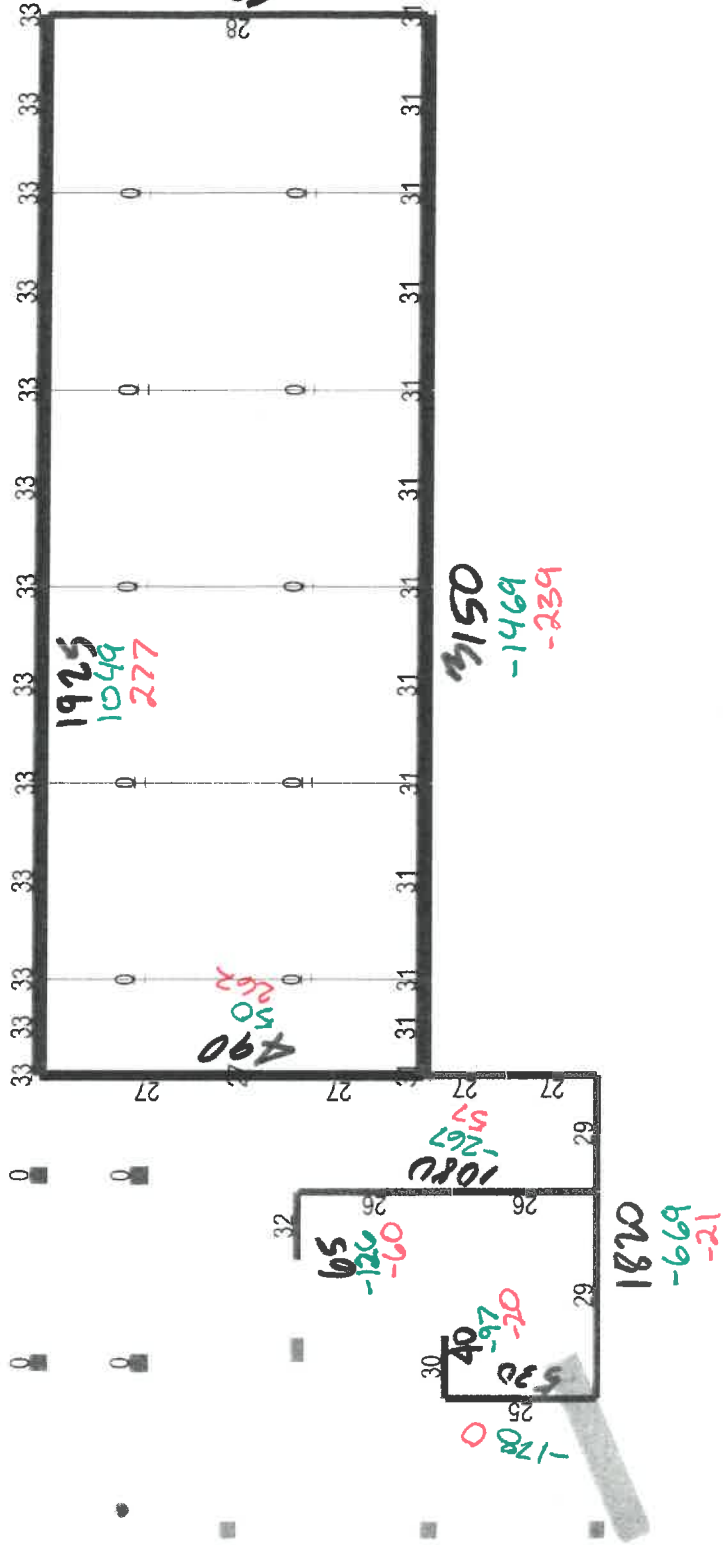


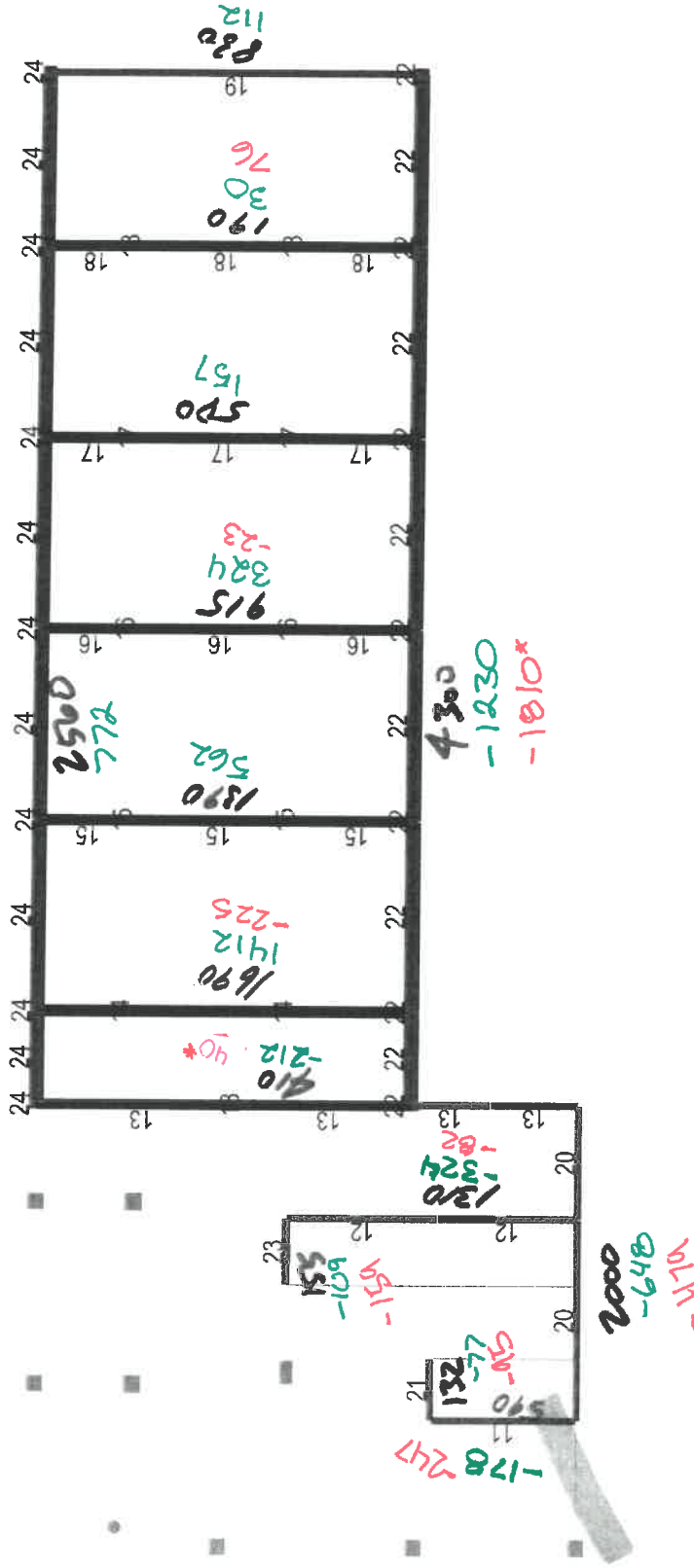






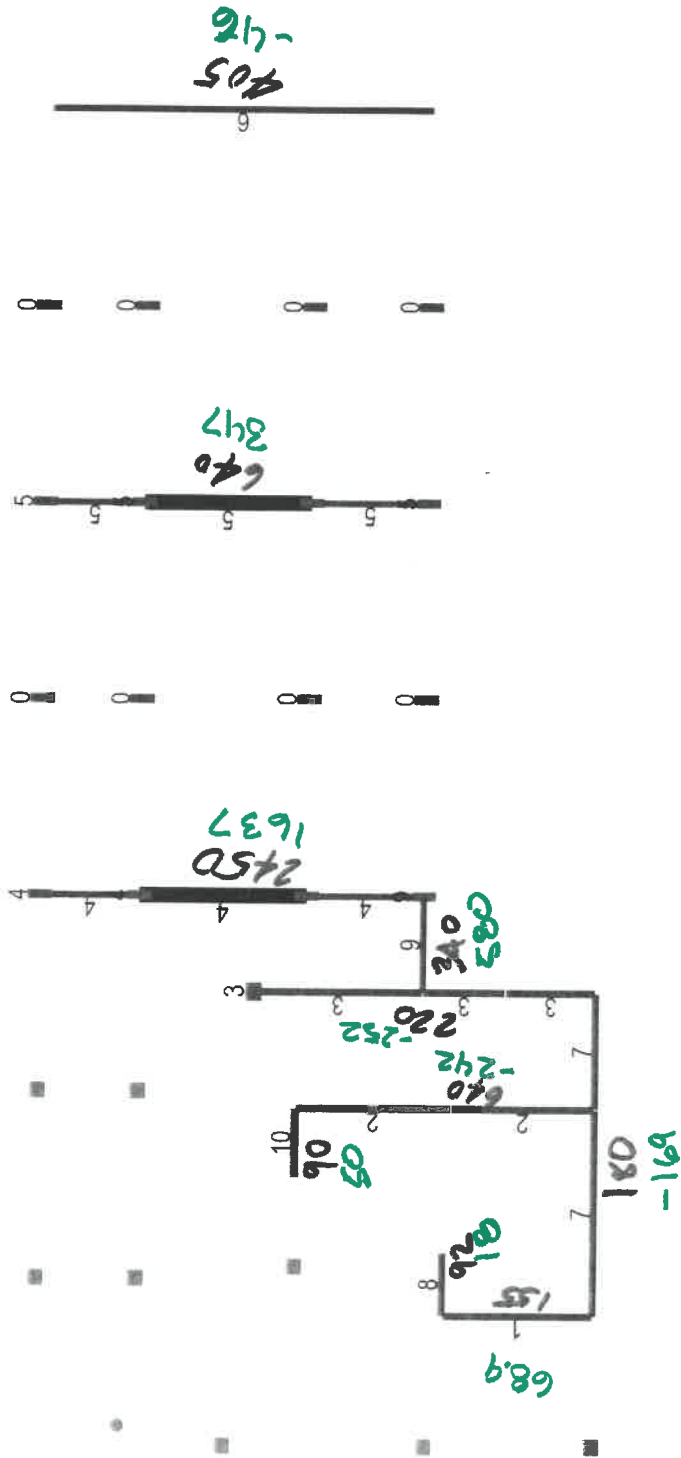






\* FRAME NOT SAME SIZE ABOVE







RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre - Copy

09/01/16 10:45:48

**CRITERIA:**

Rigid End Zones: Ignore Effects  
 Member Force Output: At Face of Joint  
 P-Delta: Yes Scale Factor (DL): 1.20 Scale Factor (LL): 0.50  
 Scale Factor (Roof): 1.00 Scale Factor (Snow): 1.00

Ground Level: Base

## Mesh Criteria :

Max. Distance Between Nodes on Mesh Line (ft) : 6.00

Merge Node Tolerance (in) : 0.2000

Geometry Tolerance (in) : 0.0050

Walls Out-of-plane Stiffness Included in Analysis.

Sign considered for Dynamic Load Case Results.

Rigid Links Included at Fixed Beam-to-Wall Locations

Eigenvalue Analysis : Ritz Vectors (Load Dependent)

**Frame #1**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F17           |   |                | 5.48    | 5.48     | 68.91   | 68.91    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F17           |   |                | -1.21   | -1.21    | 32.24   | 32.24    |

**Frame #2**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F17           |   |                | -13.12  | -13.12   | -9.85   | -9.85    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F17           |   |                | 21.01   | 21.01    | -242.04 | -242.04  |

**Frame #3**



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**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -6.13           | -6.13            | -62.86          | -62.86           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 28.27           | 28.27            | -252.40         | -252.40          |

**Frame #4**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 39.63           | 39.63            | -53.73          | -53.73           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 25.31           | 25.31            | 1637.21         | 1637.21          |

**Frame #5**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 51.54           | 51.54            | 43.13           | 43.13            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 6.27            | 6.27             | 346.78          | 346.78           |

**Frame #6**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 20.43           | 20.43            | 16.41           | 16.41            |



**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 6.95            | 6.95             | -45.78          | -45.78           |

**Frame #7**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -168.91         | -168.91          | 7.97            | 7.97             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 124.06          | 124.06           | 2.26            | 2.26             |

**Frame #8**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 15.01           | 15.01            | 4.08            | 4.08             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 17.94           | 17.94            | 2.86            | 2.86             |

**Frame #9**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | 579.90          | 579.90           | -26.73          | -26.73           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F17   | -283.55         | -283.55          | 44.01           | 44.01            |



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**Frame #10**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | 41.57   | 41.57    | 1.03    | 1.03     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F17           |   |                | 49.52   | 49.52    | 4.23    | 4.23     |

**Frame #11**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F16           |   |                | -4.14   | -4.14    | -178.23 | -178.23  |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F16           |   |                | 1.43    | 1.43     | 1.46    | 1.46     |

**Frame #12**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F16           |   |                | 4.29    | 4.29     | -22.72  | -22.72   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F16           |   |                | -2.02   | -2.02    | -323.94 | -323.94  |

**Frame #13**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F16           |   |                | -14.72  | -14.72   | 14.14   | 14.14    |



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|     |      |       |      |        |
|-----|------|-------|------|--------|
| F15 | 0.00 | 14.72 | 0.00 | -14.14 |
|-----|------|-------|------|--------|

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 3.88            | 3.88             | -212.27         | -212.27          |
| F15   | 0.00            | -3.88            | 0.00            | 212.27           |

**Frame #14**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -9.99           | -9.99            | 39.68           | 39.68            |
| F14   | 0.00            | 9.99             | 0.00            | -39.68           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -2.04           | -2.04            | 1412.45         | 1412.45          |
| F14   | 0.00            | 2.04             | 0.00            | -1412.45         |

**Frame #15**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -10.55          | -10.55           | 46.33           | 46.33            |
| F14   | 0.00            | 10.55            | 0.00            | -46.33           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -0.27           | -0.27            | 562.49          | 562.49           |
| F14   | 0.00            | 0.27             | 0.00            | -562.49          |

**Frame #16**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -14.86          | -14.86           | 32.56           | 32.56            |
| F14   | 0.00            | 14.86            | 0.00            | -32.56           |



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| <b>Load Case: W2    W    Wind_IBC09_1_Y</b> |                |                 |                |                 |  |
|---|----------------|-----------------|----------------|-----------------|--|
| <b>Level</b>                                | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|   | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F16   | -0.03          | -0.03           | 323.77         | 323.77          |  |
| F14   | 0.00           | 0.03            | 0.00           | -323.77         |  |

**Frame #17**

| <b>Load Case: W1    W    Wind_IBC09_1_X</b> |                |                 |                |                 |  |
|---|----------------|-----------------|----------------|-----------------|--|
| <b>Level</b>                                | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|   | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F16   | -12.47         | -12.47          | 13.02          | 13.02           |  |
| F14   | 0.00           | 12.47           | 0.00           | -13.02          |  |

| <b>Load Case: W2    W    Wind_IBC09_1_Y</b> |                |                 |                |                 |  |
|---|----------------|-----------------|----------------|-----------------|--|
| <b>Level</b>                                | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|   | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F16   | 0.23           | 0.23            | 157.40         | 157.40          |  |
| F14   | 0.00           | -0.23           | 0.00           | -157.40         |  |

**Frame #18**

| <b>Load Case: W1    W    Wind_IBC09_1_X</b> |                |                 |                |                 |  |
|---|----------------|-----------------|----------------|-----------------|--|
| <b>Level</b>                                | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|   | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F16   | -11.84         | -11.84          | 21.21          | 21.21           |  |
| F14   | 0.00           | 11.84           | 0.00           | -21.21          |  |

| <b>Load Case: W2    W    Wind_IBC09_1_Y</b> |                |                 |                |                 |  |
|---|----------------|-----------------|----------------|-----------------|--|
| <b>Level</b>                                | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|   | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F16   | 0.16           | 0.16            | 30.34          | 30.34           |  |
| F14   | 0.00           | -0.16           | 0.00           | -30.34          |  |

**Frame #19**

| <b>Load Case: W1    W    Wind_IBC09_1_X</b> |                |                 |                |                 |  |
|---|----------------|-----------------|----------------|-----------------|--|
| <b>Level</b>                                | <b>Shear-X</b> | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |  |
|   | <b>kip</b>     | <b>kip</b>      | <b>kip</b>     | <b>kip</b>      |  |
| F16   | 1.15           | 1.15            | 33.72          | 33.72           |  |



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| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 0.00            | 0.00             | 112.23          | 112.23           |

## Frame #20

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -648.04         | -648.04          | -5.24           | -5.24            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 384.67          | 384.67           | 0.65            | 0.65             |

## Frame #21

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -76.77          | -76.77           | -3.73           | -3.73            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 24.64           | 24.64            | 3.66            | 3.66             |

## Frame #22

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 1224.27         | 1224.27          | 4.02            | 4.02             |
| F15   | 0.00            | -1224.27         | 0.00            | -4.02            |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -1229.76        | -1229.76         | -241.96         | -241.96          |





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| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 0.00            | 1229.76          | 0.00            | 241.96           |
| F12   | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #23**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | -109.37         | -109.37          | -2.11           | -2.11            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 47.58           | 47.58            | 8.85            | 8.85             |

**Frame #24**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 345.11          | 345.11           | 7.36            | 7.36             |
| F12   | 0.00            | -345.11          | 0.00            | -7.36            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F16   | 771.54          | 771.54           | -84.40          | -84.40           |
| F12   | 0.00            | -771.54          | 0.00            | 84.40            |

**Frame #25**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | -3.98           | -3.98            | -178.22         | -178.22          |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F15   | 0.38            | 0.38             | -44.98          | -44.98           |



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**Frame #26**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F15           |   | -19.60         | -19.60   | -32.13  | -32.13   |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F15           |   | 7.88           | 7.88     | -266.89 | -266.89  |

**Frame #27**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F15           |   | -6.90          | -6.90    | 49.97   | 49.97    |
| F14           |   | 0.00           | 6.90     | 0.00    | -49.97   |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F15           |   | -4.57          | -4.57    | -13.80  | -13.80   |
| F14           |   | 0.00           | 4.57     | 0.00    | 13.80    |

**Frame #28**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F15           |   | 5.19           | 5.19     | 61.63   | 61.63    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F15           |   | -1.56          | -1.56    | 283.84  | 283.84   |

**Frame #29**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |



|     | kip     | kip     | kip  | kip  |
|-----|---------|---------|------|------|
| F15 | -668.57 | -668.57 | 1.26 | 1.26 |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F15   | 426.81         | 426.81          | -1.61          | -1.61           |

**Frame #30**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F15   | -97.21         | -97.21          | -5.82          | -5.82           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F15   | 13.15          | 13.15           | 4.76           | 4.76            |

**Frame #31**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F15   | 1173.81        | 1173.81         | -15.56         | -15.56          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F15   | -1469.19       | -1469.19        | -447.11        | -447.11         |

**Frame #32**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F15   | -125.95        | -125.95         | -0.33          | -0.33           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
|       |                |                 |                |                 |



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|     |       |       |       |       |
|-----|-------|-------|-------|-------|
| F15 | 24.93 | 24.93 | 13.91 | 13.91 |
|-----|-------|-------|-------|-------|

**Frame #33**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F15           |   | 356.26         | 356.26   | -26.53  | -26.53   |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F15           |   | 1049.52        | 1049.52  | -396.50 | -396.50  |

**Frame #34**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F14           |   | -4.87          | -4.87    | -114.84 | -114.84  |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F14           |   | 1.66           | 1.66     | -79.04  | -79.04   |

**Frame #35**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F14           |   | -22.55         | -22.55   | -59.40  | -59.40   |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F14           |   | 16.26          | 16.26    | -115.16 | -115.16  |

**Frame #36**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |



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|     | <b>kip</b> | <b>kip</b> | <b>kip</b> | <b>kip</b> |
|-----|------------|------------|------------|------------|
| F14 | -2.87      | -2.87      | -38.25     | -38.25     |
| F13 | 0.00       | 2.87       | 0.00       | 38.25      |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| <b>Level</b> | <b>Shear-X<br/>kip</b> | <b>Change-X<br/>kip</b> | <b>Shear-Y<br/>kip</b> | <b>Change-Y<br/>kip</b> |
|--------------|------------------------|-------------------------|------------------------|-------------------------|
| F14          | 0.96                   | 0.96                    | 112.91                 | 112.91                  |
| F13          | 0.00                   | -0.96                   | 0.00                   | -112.91                 |

**Frame #37****Load Case: W1 W Wind\_IBC09\_1\_X**

| <b>Level</b> | <b>Shear-X<br/>kip</b> | <b>Change-X<br/>kip</b> | <b>Shear-Y<br/>kip</b> | <b>Change-Y<br/>kip</b> |
|--------------|------------------------|-------------------------|------------------------|-------------------------|
| F14          | -2.81                  | -2.81                   | -14.87                 | -14.87                  |
| F13          | 0.00                   | 2.81                    | 0.00                   | 14.87                   |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| <b>Level</b> | <b>Shear-X<br/>kip</b> | <b>Change-X<br/>kip</b> | <b>Shear-Y<br/>kip</b> | <b>Change-Y<br/>kip</b> |
|--------------|------------------------|-------------------------|------------------------|-------------------------|
| F14          | -0.01                  | -0.01                   | 176.00                 | 176.00                  |
| F13          | 0.00                   | 0.01                    | 0.00                   | -176.00                 |

**Frame #38****Load Case: W1 W Wind\_IBC09\_1\_X**

| <b>Level</b> | <b>Shear-X<br/>kip</b> | <b>Change-X<br/>kip</b> | <b>Shear-Y<br/>kip</b> | <b>Change-Y<br/>kip</b> |
|--------------|------------------------|-------------------------|------------------------|-------------------------|
| F14          | -15.67                 | -15.67                  | 17.04                  | 17.04                   |
| F13          | 0.00                   | 15.67                   | 0.00                   | -17.04                  |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| <b>Level</b> | <b>Shear-X<br/>kip</b> | <b>Change-X<br/>kip</b> | <b>Shear-Y<br/>kip</b> | <b>Change-Y<br/>kip</b> |
|--------------|------------------------|-------------------------|------------------------|-------------------------|
| F14          | 16.75                  | 16.75                   | 419.98                 | 419.98                  |
| F13          | 0.00                   | -16.75                  | 0.00                   | -419.98                 |

**Frame #39****Load Case: W1 W Wind\_IBC09\_1\_X**

| <b>Level</b> | <b>Shear-X<br/>kip</b> | <b>Change-X<br/>kip</b> | <b>Shear-Y<br/>kip</b> | <b>Change-Y<br/>kip</b> |
|--------------|------------------------|-------------------------|------------------------|-------------------------|
|--------------|------------------------|-------------------------|------------------------|-------------------------|



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|     |       |       |      |      |
|-----|-------|-------|------|------|
| F14 | -0.72 | -0.72 | 3.70 | 3.70 |
|-----|-------|-------|------|------|

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | 2.05                  | 2.05            | 33.31          | 33.31           |

**Frame #40**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | -0.05                 | -0.05           | 1.37           | 1.37            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | 1.41                  | 1.41            | 14.55          | 14.55           |

**Frame #41**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | 0.01                  | 0.01            | 0.28           | 0.28            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | 0.63                  | 0.63            | 12.35          | 12.35           |

**Frame #42**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | -0.01                 | -0.01           | 0.29           | 0.29            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F14                  |          | 0.09                  | 0.09            | 4.27           | 4.27            |



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**Frame #43**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | -0.02   | -0.02    | 1.23    | 1.23     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | 0.00    | 0.00     | -2.95   | -2.95    |

**Frame #44**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | -13.36  | -13.36   | 95.55   | 95.55    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | 3.17    | 3.17     | 501.80  | 501.80   |

**Frame #45**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | -606.56 | -606.56  | 1.48    | 1.48     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | 431.48  | 431.48   | -4.60   | -4.60    |

**Frame #46**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F14           |   |                | -93.16  | -93.16   | -7.68   | -7.68    |



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| Load Case: W2    W    Wind_IBC09_1_Y |         |          |         |          |  |
|--------------------------------------|---------|----------|---------|----------|--|
| Level                                | Shear-X | Change-X | Shear-Y | Change-Y |  |
|                                      | kip     | kip      | kip     | kip      |  |
| F14                                  | 9.58    | 9.58     | 0.19    | 0.19     |  |

## Frame #47

| Load Case: W1    W    Wind_IBC09_1_X |         |          |         |          |  |
|--------------------------------------|---------|----------|---------|----------|--|
| Level                                | Shear-X | Change-X | Shear-Y | Change-Y |  |
|                                      | kip     | kip      | kip     | kip      |  |
| F14                                  | 1118.09 | 1118.09  | 93.07   | 93.07    |  |
| F13                                  | 0.00    | -1118.09 | 0.00    | -93.07   |  |

| Load Case: W2    W    Wind_IBC09_1_Y |          |          |         |          |  |
|--------------------------------------|----------|----------|---------|----------|--|
| Level                                | Shear-X  | Change-X | Shear-Y | Change-Y |  |
|                                      | kip      | kip      | kip     | kip      |  |
| F14                                  | -1459.96 | -1459.96 | 450.12  | 450.12   |  |
| F13                                  | 0.00     | 1459.96  | 0.00    | -450.12  |  |

## Frame #48

| Load Case: W1    W    Wind_IBC09_1_X |         |          |         |          |  |
|--------------------------------------|---------|----------|---------|----------|--|
| Level                                | Shear-X | Change-X | Shear-Y | Change-Y |  |
|                                      | kip     | kip      | kip     | kip      |  |
| F14                                  | -140.60 | -140.60  | 2.25    | 2.25     |  |

| Load Case: W2    W    Wind_IBC09_1_Y |         |          |         |          |  |
|--------------------------------------|---------|----------|---------|----------|--|
| Level                                | Shear-X | Change-X | Shear-Y | Change-Y |  |
|                                      | kip     | kip      | kip     | kip      |  |
| F14                                  | 43.65   | 43.65    | 6.42    | 6.42     |  |

## Frame #49

| Load Case: W1    W    Wind_IBC09_1_X |         |          |         |          |  |
|--------------------------------------|---------|----------|---------|----------|--|
| Level                                | Shear-X | Change-X | Shear-Y | Change-Y |  |
|                                      | kip     | kip      | kip     | kip      |  |
| F14                                  | 456.58  | 456.58   | 17.78   | 17.78    |  |

| Load Case: W2    W    Wind_IBC09_1_Y |         |          |         |          |  |
|--------------------------------------|---------|----------|---------|----------|--|
| Level                                | Shear-X | Change-X | Shear-Y | Change-Y |  |
|                                      | kip     | kip      | kip     | kip      |  |
| F14                                  | 970.37  | 970.37   | 341.95  | 341.95   |  |





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**Frame #50**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | -4.90   | -4.90    | 1.43    | 1.43     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | 1.84    | 1.84     | -5.29   | -5.29    |

**Frame #51**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | -37.57  | -37.57   | -137.56 | -137.56  |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | 25.67   | 25.67    | 69.99   | 69.99    |

**Frame #52**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | -4.10   | -4.10    | 98.93   | 98.93    |
| F12           |   |                | 0.00    | 4.10     | 0.00    | -98.93   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | -3.94   | -3.94    | 748.49  | 748.49   |
| F12           |   |                | 0.00    | 3.94     | 0.00    | -748.49  |

**Frame #53**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



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|     | kip    | kip    | kip   | kip   |
|-----|--------|--------|-------|-------|
| F13 | -36.15 | -36.15 | 94.93 | 94.93 |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F13           |   | 8.49           | 8.49     | 513.26  | 513.26   |

## Frame #54

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F13           |   | -11.92         | -11.92   | 13.13   | 13.13    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F13           |   | -4.63          | -4.63    | 104.11  | 104.11   |

## Frame #55

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F13           |   | -27.91         | -27.91   | -70.69  | -70.69   |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F13           |   | -66.77         | -66.77   | 138.85  | 138.85   |

## Frame #56

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F13           |   | -470.68        | -470.68  | 5.26    | 5.26     |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
|               |   |                |          |         |          |



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|     |        |        |      |      |
|-----|--------|--------|------|------|
| F13 | 366.65 | 366.65 | 3.37 | 3.37 |
|-----|--------|--------|------|------|

**Frame #57**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | -32.43  | -32.43   | -5.84   | -5.84    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | 12.20   | 12.20    | 2.75    | 2.75     |

**Frame #58**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | 974.10  | 974.10   | -21.36  | -21.36   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | -984.09 | -984.09  | 89.20   | 89.20    |

**Frame #59**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | -49.55  | -49.55   | 0.99    | 0.99     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F13           |   |                | 7.93    | 7.93     | 13.00   | 13.00    |

**Frame #60**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



|     | kip    | kip    | kip   | kip   |
|-----|--------|--------|-------|-------|
| F13 | 684.91 | 684.91 | 15.85 | 15.85 |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F13   | 736.09         | 736.09          | 159.79         | 159.79          |

**Frame #61**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F13   | -333.18        | -333.18         | -1.55          | -1.55           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F13   | -161.92        | -161.92         | 16.61          | 16.61           |

**Frame #62**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F13   | 4.89           | 4.89            | 11.24          | 11.24           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F13   | 94.19          | 94.19           | 33.02          | 33.02           |

**Frame #63**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F12   | 2.34           | 2.34            | 27.42          | 27.42           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
|       |                |                 |                |                 |

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F12 -0.88 -0.88 48.36 48.36

**Frame #64**

Load Case: W1 W Wind\_IBC09\_1\_X  
 Level Shear-X Change-X Shear-Y Change-Y  
 F12 kips kips kips kips  
 13.38 13.38 51.08 51.08

Load Case: W2 W Wind\_IBC09\_1\_Y  
 Level Shear-X Change-X Shear-Y Change-Y  
 F12 kips kips kips kips  
 -4.35 -4.35 237.75 237.75

**Frame #65**

Load Case: W1 W Wind\_IBC09\_1\_X  
 Level Shear-X Change-X Shear-Y Change-Y  
 F12 kips kips kips kips  
 15.74 15.74 -181.26 -181.26  
 F11demo 0.00 -15.74 0.00 181.26

Load Case: W2 W Wind\_IBC09\_1\_Y  
 Level Shear-X Change-X Shear-Y Change-Y  
 F12 kips kips kips kips  
 -4.09 -4.09 764.92 764.92  
 F11demo 0.00 4.09 0.00 -764.92

**Frame #66**

Load Case: W1 W Wind\_IBC09\_1\_X  
 Level Shear-X Change-X Shear-Y Change-Y  
 F12 kips kips kips kips  
 27.41 27.41 99.25 99.25

Load Case: W2 W Wind\_IBC09\_1\_Y  
 Level Shear-X Change-X Shear-Y Change-Y  
 F12 kips kips kips kips  
 -6.94 -6.94 501.37 501.37

**Frame #67**



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**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -0.27           | -0.27            | -3.97           | -3.97            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -3.92           | -3.92            | 166.53          | 166.53           |

**Frame #68**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -3.91           | -3.91            | -35.81          | -35.81           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -5.84           | -5.84            | 159.17          | 159.17           |

**Frame #69**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 57.50           | 57.50            | 0.30            | 0.30             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 158.21          | 158.21           | 3.29            | 3.29             |

**Frame #70**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 43.78           | 43.78            | 0.03            | 0.03             |



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**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -9.51           | -9.51            | 0.33            | 0.33             |

**Frame #71**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | 39.42           | 39.42            | 51.59           | 51.59            |
| F11demo | 0.00            | -39.42           | 0.00            | -51.59           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level   | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|---------|-----------------|------------------|-----------------|------------------|
| F12     | -19.33          | -19.33           | 80.31           | 80.31            |
| F11demo | 0.00            | 19.33            | 0.00            | -80.31           |

**Frame #72**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 103.21          | 103.21           | -2.37           | -2.37            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -52.88          | -52.88           | 4.68            | 4.68             |

**Frame #73**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 42.51           | 42.51            | 6.25            | 6.25             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -4.10           | -4.10            | -3.53           | -3.53            |



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**Frame #74**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 161.05          | 161.05           | 1.12            | 1.12             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | -202.86         | -202.86          | 1.56            | 1.56             |

**Frame #75**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 233.81          | 233.81           | -12.51          | -12.51           |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F12   | 160.56          | 160.56           | 19.83           | 19.83            |

**Frame #76**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 1.61            | 1.61             | 2.19            | 2.19             |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -1.34           | -1.34            | 38.66           | 38.66            |

**Frame #77**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.80            | 0.80             | 12.80           | 12.80            |





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| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 1.36            | 1.36             | 243.33          | 243.33           |

## Frame #78

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -7.92           | -7.92            | -60.96          | -60.96           |
| F10   | 0.00            | 7.92             | 0.00            | 60.96            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -6.40           | -6.40            | 880.61          | 880.61           |
| F10   | 0.00            | 6.40             | 0.00            | -880.61          |

## Frame #79

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -0.17           | -0.17            | 91.83           | 91.83            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -2.66           | -2.66            | 535.23          | 535.23           |

## Frame #80

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 0.64            | 0.64             | -4.97           | -4.97            |

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -3.70           | -3.70            | 215.55          | 215.55           |



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**Frame #81**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 0.98    | 0.98     | -33.78  | -33.78   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | -1.48   | -1.48    | 141.79  | 141.79   |

**Frame #82**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 196.49  | 196.49   | -0.95   | -0.95    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 121.56  | 121.56   | 5.05    | 5.05     |

**Frame #83**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 28.07   | 28.07    | 0.27    | 0.27     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | -16.54  | -16.54   | 0.27    | 0.27     |

**Frame #84**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F11           |   |                | 37.26   | 37.26    | -1.07   | -1.07    |



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**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -36.60          | -36.60           | 3.45            | 3.45             |

**Frame #85**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 168.29          | 168.29           | 0.02            | 0.02             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | -197.25         | -197.25          | 0.41            | 0.41             |

**Frame #86**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 360.34          | 360.34           | -5.09           | -5.09            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F11   | 143.26          | 143.26           | 36.83           | 36.83            |

**Frame #87**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | 21.33           | 21.33            | -32.99          | -32.99           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F10   | -24.27          | -24.27           | 75.35           | 75.35            |



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**Frame #88**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | -9.67          | -9.67    | 9.65    | 9.65     |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | 24.77          | 24.77    | -17.74  | -17.74   |

**Frame #89**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | 7.96           | 7.96     | -6.35   | -6.35    |
| F9            |   | 0.00           | -7.96    | 0.00    | 6.35     |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | 5.55           | 5.55     | 915.65  | 915.65   |
| F9            |   | 0.00           | -5.55    | 0.00    | -915.65  |

**Frame #90**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | -6.51          | -6.51    | 69.46   | 69.46    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | 16.85          | 16.85    | 603.49  | 603.49   |

**Frame #91**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |



|     |            |            |            |            |
|-----|------------|------------|------------|------------|
|     | <b>kip</b> | <b>kip</b> | <b>kip</b> | <b>kip</b> |
| F10 | 11.65      | 11.65      | -40.68     | -40.68     |

|                      |          |                       |                 |                |
|----------------------|----------|-----------------------|-----------------|----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     |
| F10                  |          | -13.64                | -13.64          | 130.41         |

**Frame #92**

|                      |          |                       |                 |                |
|----------------------|----------|-----------------------|-----------------|----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     |
| F10                  |          | 4.52                  | 4.52            | 14.50          |

|                      |          |                       |                 |                |
|----------------------|----------|-----------------------|-----------------|----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     |
| F10                  |          | 8.92                  | 8.92            | 229.26         |

**Frame #93**

|                      |          |                       |                 |                |
|----------------------|----------|-----------------------|-----------------|----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     |
| F10                  |          | 166.50                | 166.50          | 2.31           |

|                      |          |                       |                 |                |
|----------------------|----------|-----------------------|-----------------|----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     |
| F10                  |          | 205.08                | 205.08          | 51.07          |

**Frame #94**

|                      |          |                       |                 |                |
|----------------------|----------|-----------------------|-----------------|----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     |
| F10                  |          | 65.43                 | 65.43           | -2.22          |

|                      |          |                       |                 |                |
|----------------------|----------|-----------------------|-----------------|----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> |
|                      |          | <b>kip</b>            | <b>kip</b>      | <b>kip</b>     |



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|     |        |        |      |      |
|-----|--------|--------|------|------|
| F10 | -55.58 | -55.58 | 9.76 | 9.76 |
|-----|--------|--------|------|------|

**Frame #95**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | 134.01         | 134.01   | -2.59   | -2.59    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | -228.86        | -228.86  | 12.39   | 12.39    |

**Frame #96**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | 31.63          | 31.63    | -3.33   | -3.33    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | -50.88         | -50.88   | 44.02   | 44.02    |

**Frame #97**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | 386.16         | 386.16   | -5.41   | -5.41    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F10           |   | 110.80         | 110.80   | 127.10  | 127.10   |

**Frame #98**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |



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|    | <b>kips</b> | <b>kips</b> | <b>kips</b> | <b>kips</b> |
|----|-------------|-------------|-------------|-------------|
| F9 | 7.13        | 7.13        | -110.44     | -110.44     |
| F8 | 0.00        | -7.13       | 0.00        | 110.44      |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F9           | -2.08                   | -2.08                    | 1502.83                 | 1502.83                  |
| F8           | 0.00                    | 2.08                     | 0.00                    | -1502.83                 |

**Frame #99**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F9           | -1.95                   | -1.95                    | 3.12                    | 3.12                     |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F9           | 5.37                    | 5.37                     | -269.97                 | -269.97                  |

**Frame #100**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F9           | -6.86                   | -6.86                    | 34.82                   | 34.82                    |
| F8           | 0.00                    | 6.86                     | 0.00                    | -34.82                   |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F9           | -7.06                   | -7.06                    | 994.92                  | 994.92                   |
| F8           | 0.00                    | 7.06                     | 0.00                    | -994.92                  |

**Frame #101**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| <b>Level</b> | <b>Shear-X<br/>kips</b> | <b>Change-X<br/>kips</b> | <b>Shear-Y<br/>kips</b> | <b>Change-Y<br/>kips</b> |
|--------------|-------------------------|--------------------------|-------------------------|--------------------------|
| F9           | 1.95                    | 1.95                     | 21.93                   | 21.93                    |
| F8           | 0.00                    | -1.95                    | 0.00                    | -21.93                   |



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09/01/16 10:45:48**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.54            | 0.54             | 68.27           | 68.27            |
| F8    | 0.00            | -0.54            | 0.00            | -68.27           |

**Frame #102****Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.07            | 1.07             | 77.13           | 77.13            |
| F8    | 0.00            | -1.07            | 0.00            | -77.13           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -0.35           | -0.35            | -63.35          | -63.35           |
| F8    | 0.00            | 0.35             | 0.00            | 63.35            |

**Frame #103****Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 3.51            | 3.51             | -61.52          | -61.52           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -3.12           | -3.12            | 882.21          | 882.21           |

**Frame #104****Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 343.69          | 343.69           | 1.75            | 1.75             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
|-------|-----------------|------------------|-----------------|------------------|





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|    |        |        |        |        |
|----|--------|--------|--------|--------|
| F9 | 368.10 | 368.10 | -20.88 | -20.88 |
|----|--------|--------|--------|--------|

**Frame #105**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 10.47                 | 10.47           | 1.47           | 1.47            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | -236.06               | -236.06         | -47.51         | -47.51          |

**Frame #106**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 241.68                | 241.68          | 8.50           | 8.50            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 40.14                 | 40.14           | -116.33        | -116.33         |

**Frame #107**

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W1</b> | <b>W</b> | <b>Wind_IBC09_1_X</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | 76.04                 | 76.04           | -0.20          | -0.20           |
| F8                   |          | 0.00                  | -76.04          | 0.00           | 0.20            |

|                      |          |                       |                 |                |                 |
|----------------------|----------|-----------------------|-----------------|----------------|-----------------|
| <b>Load Case: W2</b> | <b>W</b> | <b>Wind_IBC09_1_Y</b> |                 |                |                 |
| <b>Level</b>         |          | <b>Shear-X</b>        | <b>Change-X</b> | <b>Shear-Y</b> | <b>Change-Y</b> |
|                      |          | <b>kips</b>           | <b>kips</b>     | <b>kips</b>    | <b>kips</b>     |
| F9                   |          | -7.34                 | -7.34           | 0.37           | 0.37            |
| F8                   |          | 0.00                  | 7.34            | 0.00           | -0.37           |

**Frame #108**



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**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -1.83           | -1.83            | 42.45           | 42.45            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | -1.41           | -1.41            | -256.25         | -256.25          |

**Frame #109**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 1.90            | 1.90             | -4.59           | -4.59            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F9    | 0.81            | 0.81             | -243.93         | -243.93          |

**Frame #110**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -1.08           | -1.08            | -89.11          | -89.11           |
| F7    | 0.00            | 1.08             | 0.00            | 89.11            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 1.42            | 1.42             | 1021.11         | 1021.11          |
| F7    | 0.00            | -1.42            | 0.00            | -1021.11         |

**Frame #111**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 1.10            | 1.10             | 2.59            | 2.59             |



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**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 1.39            | 1.39             | -127.81         | -127.81          |

**Frame #112**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 13.46           | 13.46            | 163.79          | 163.79           |
| F6    | 0.00            | -13.46           | 0.00            | -163.79          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.88           | -0.88            | 396.82          | 396.82           |
| F6    | 0.00            | 0.88             | 0.00            | -396.82          |

**Frame #113**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #114**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |



**Frame #115**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F8            |   | 3.51           | 3.51     | -61.52  | -61.52   |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F8            |   | -3.12          | -3.12    | 882.21  | 882.21   |

**Frame #116**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F8            |   | 405.26         | 405.26   | 5.11    | 5.11     |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F8            |   | 288.69         | 288.69   | 0.45    | 0.45     |

**Frame #117**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F8            |   | 0.69           | 0.69     | -0.54   | -0.54    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F8            |   | -0.78          | -0.78    | 3.22    | 3.22     |

**Frame #118**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kip            | kip      | kip     | kip      |
| F8            |   | 128.79         | 128.79   | -0.41   | -0.41    |



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DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre - Copy

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -272.04         | -272.04          | 6.01            | 6.01             |

**Frame #119**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 283.35          | 283.35           | -1.53           | -1.53            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 14.89           | 14.89            | 19.81           | 19.81            |

**Frame #120**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | 0.00            | 0.00             | 0.00            | 0.00             |

**Frame #121**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.16           | -0.16            | -1.71           | -1.71            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F8    | -0.82           | -0.82            | 39.07           | 39.07            |



**Frame Story Shears**

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**Frame #122**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | 0.50    | 0.50     | 5.37    | 5.37     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F8            |   |                | -0.04   | -0.04    | -21.81  | -21.81   |

**Frame #123**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F7            |   |                | 5.79    | 5.79     | -89.22  | -89.22   |
| F6            |   |                | 0.00    | -5.79    | 0.00    | 89.22    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F7            |   |                | -5.28   | -5.28    | 1025.24 | 1025.24  |
| F6            |   |                | 0.00    | 5.28     | 0.00    | -1025.24 |

**Frame #124**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F7            |   |                | 3.08    | 3.08     | 167.46  | 167.46   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| F7            |   |                | 7.46    | 7.46     | 139.64  | 139.64   |

**Frame #125**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                |         |          |         |          |



**FRAME STORY SHEARS**

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|    | kip    | kip    | kip  | kip  |
|----|--------|--------|------|------|
| F7 | 426.53 | 426.53 | 3.09 | 3.09 |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F7    | 265.38         | 265.38          | 3.43           | 3.43            |

**Frame #126**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F7    | 1.48           | 1.48            | 3.89           | 3.89            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F7    | 5.29           | 5.29            | -97.21         | -97.21          |

**Frame #127**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F7    | 3.51           | 3.51            | -61.52         | -61.52          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F7    | -3.12          | -3.12           | 882.21         | 882.21          |

**Frame #128**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F7    | 134.83         | 134.83          | -1.05          | -1.05           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
|       |                |                 |                |                 |



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|    |         |         |       |       |
|----|---------|---------|-------|-------|
| F7 | -220.22 | -220.22 | 16.56 | 16.56 |
|----|---------|---------|-------|-------|

**Frame #129**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F7            |   |                | 299.78  | 299.78   | -0.51   | -0.51    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F7            |   |                | -16.92  | -16.92   | 23.69   | 23.69    |

**Frame #130**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F7            |   |                | 1.14    | 1.14     | -0.67   | -0.67    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F7            |   |                | -2.82   | -2.82    | 40.53   | 40.53    |

**Frame #131**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F7            |   |                | 1.73    | 1.73     | 0.89    | 0.89     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F7            |   |                | -6.37   | -6.37    | 37.99   | 37.99    |

**Frame #132**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |





**FRAME STORY SHEARS**

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|    | kip   | kip   | kip    | kip    |
|----|-------|-------|--------|--------|
| F6 | -0.61 | -0.61 | -91.24 | -91.24 |
| F5 | 0.00  | 0.61  | 0.00   | 91.24  |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | 0.77           | 0.77            | 1067.07        | 1067.07         |
| F5    | 0.00           | -0.77           | 0.00           | -1067.07        |

**Frame #133**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | -0.76          | -0.76           | 165.79         | 165.79          |
| F5    | 0.00           | 0.76            | 0.00           | -165.79         |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | -11.72         | -11.72          | 574.58         | 574.58          |
| F5    | 0.00           | 11.72           | 0.00           | -574.58         |

**Frame #134**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | 3.51           | 3.51            | -61.52         | -61.52          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | -3.12          | -3.12           | 882.21         | 882.21          |

**Frame #135**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F6    | -1.28          | -1.28           | 1.21           | 1.21            |



**FRAME STORY SHEETS**

RAM Structural System

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**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -1.04           | -1.04            | -80.66          | -80.66           |

**Frame #136**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.95            | 0.95             | 7.75            | 7.75             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | -1.07           | -1.07            | 7.15            | 7.15             |

**Frame #137**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.67            | 0.67             | -5.20           | -5.20            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 0.14            | 0.14             | -124.80         | -124.80          |

**Frame #138**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 453.27          | 453.27           | 3.55            | 3.55             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F6    | 253.45          | 253.45           | -6.62           | -6.62            |



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**Frame #139**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F6            |   |                | 129.18  | 129.18   | 0.15    | 0.15     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F6            |   |                | -194.90 | -194.90  | -10.72  | -10.72   |

**Frame #140**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F6            |   |                | 347.64  | 347.64   | 1.26    | 1.26     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F6            |   |                | -12.74  | -12.74   | -14.54  | -14.54   |

**Frame #141**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F5            |   |                | 0.82    | 0.82     | -91.70  | -91.70   |
| F4            |   |                | 0.00    | -0.82    | 0.00    | 91.70    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F5            |   |                | 0.34    | 0.34     | 1114.12 | 1114.12  |
| F4            |   |                | 0.00    | -0.34    | 0.00    | -1114.12 |

**Frame #142**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



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|    | kip   | kip   | kip  | kip  |
|----|-------|-------|------|------|
| F5 | -0.68 | -0.68 | 1.33 | 1.33 |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F5    | 1.70           | 1.70            | -20.32         | -20.32          |

**Frame #143**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F5    | -0.92          | -0.92           | 159.93         | 159.93          |
| F4    | 0.00           | 0.92            | 0.00           | -159.93         |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F5    | 8.01           | 8.01            | 413.00         | 413.00          |
| F4    | 0.00           | -8.01           | 0.00           | -413.00         |

**Frame #144**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F5    | 3.51           | 3.51            | -61.52         | -61.52          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F5    | -3.12          | -3.12           | 882.21         | 882.21          |

**Frame #145**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F5    | 2.78           | 2.78            | 15.45          | 15.45           |



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**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -1.68           | -1.68            | -5.82           | -5.82            |

**Frame #146**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 1.58            | 1.58             | -9.79           | -9.79            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 0.10            | 0.10             | -40.48          | -40.48           |

**Frame #147**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 475.25          | 475.25           | 2.97            | 2.97             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 253.90          | 253.90           | -0.76           | -0.76            |

**Frame #148**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | 141.16          | 141.16           | 1.63            | 1.63             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F5    | -186.36         | -186.36          | -1.76           | -1.76            |



**Frame #149**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F5            |   | 366.56         | 366.56   | 2.57    | 2.57     |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F5            |   | -48.61         | -48.61   | -8.02   | -8.02    |

**Frame #150**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F4            |   | 2.30           | 2.30     | -53.75  | -53.75   |
| F3            |   | 0.00           | -2.30    | 0.00    | 53.75    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F4            |   | -1.46          | -1.46    | 1048.29 | 1048.29  |
| F3            |   | 0.00           | 1.46     | 0.00    | -1048.29 |

**Frame #151**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F4            |   | 1.15           | 1.15     | -2.60   | -2.60    |

| Load Case: W2 | W | Wind_IBC09_1_Y |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |
|               |   | kips           | kips     | kips    | kips     |
| F4            |   | -1.83          | -1.83    | 36.96   | 36.96    |

**Frame #152**

| Load Case: W1 | W | Wind_IBC09_1_X |          |         |          |
|---------------|---|----------------|----------|---------|----------|
| Level         |   | Shear-X        | Change-X | Shear-Y | Change-Y |



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|    | kip  | kip   | kip    | kip     |
|----|------|-------|--------|---------|
| F4 | 6.54 | 6.54  | 158.42 | 158.42  |
| F3 | 0.00 | -6.54 | 0.00   | -158.42 |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | -14.08         | -14.08          | 336.08         | 336.08          |
| F3    | 0.00           | 14.08           | 0.00           | -336.08         |

**Frame #153**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | 3.51           | 3.51            | -61.52         | -61.52          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | -3.12          | -3.12           | 882.21         | 882.21          |

**Frame #154**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | 2.33           | 2.33            | 6.08           | 6.08            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | -0.68          | -0.68           | 34.31          | 34.31           |

**Frame #155**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F4    | 2.56           | 2.56            | -22.71         | -22.71          |



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**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 1.49            | 1.49             | 4.65            | 4.65             |

**Frame #156**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 158.85          | 158.85           | -1.07           | -1.07            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -156.14         | -156.14          | 6.39            | 6.39             |

**Frame #157**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 363.82          | 363.82           | -2.72           | -2.72            |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | -55.43          | -55.43           | 9.00            | 9.00             |

**Frame #158**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 496.36          | 496.36           | 2.61            | 2.61             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F4    | 260.00          | 260.00           | 5.93            | 5.93             |





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## Frame #159

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F3            |   |                | -2.82   | -2.82    | -51.05  | -51.05   |
| F2            |   |                | 0.00    | 2.82     | 0.00    | 51.05    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F3            |   |                | 2.32    | 2.32     | 1082.62 | 1082.62  |
| F2            |   |                | 0.00    | -2.32    | 0.00    | -1082.62 |

## Frame #160

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F3            |   |                | 4.20    | 4.20     | -1.96   | -1.96    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F3            |   |                | 4.77    | 4.77     | 65.53   | 65.53    |

## Frame #161

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F3            |   |                | 1.39    | 1.39     | 163.16  | 163.16   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
| F3            |   |                | 2.69    | 2.69     | 547.33  | 547.33   |

## Frame #162

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



|    | kip  | kip  | kip    | kip    |
|----|------|------|--------|--------|
| F3 | 3.51 | 3.51 | -61.52 | -61.52 |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F3    | -3.12          | -3.12           | 882.21         | 882.21          |

**Frame #163**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F3    | 0.59           | 0.59            | 18.39          | 18.39           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F3    | -0.22          | -0.22           | 1.47           | 1.47            |

**Frame #164**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F3    | 2.16           | 2.16            | -33.99         | -33.99          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F3    | -0.44          | -0.44           | -11.97         | -11.97          |

**Frame #165**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
| F3    | 532.53         | 532.53          | -0.10          | -0.10           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
|       |                |                 |                |                 |



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|    |        |        |      |      |
|----|--------|--------|------|------|
| F3 | 324.54 | 324.54 | 6.45 | 6.45 |
|----|--------|--------|------|------|

**Frame #166**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | 194.26  | 194.26   | -0.64   | -0.64    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | -155.45 | -155.45  | -1.20   | -1.20    |

**Frame #167**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | 336.76  | 336.76   | -1.78   | -1.78    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F3            |   |                | -155.51 | -155.51  | -7.53   | -7.53    |

**Frame #168**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | 2.22    | 2.22     | -45.89  | -45.89   |
| Fground       |   |                | 0.00    | -2.22    | 0.00    | 45.89    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| F2            |   |                | -0.23   | -0.23    | 1067.09 | 1067.09  |
| Fground       |   |                | 0.00    | 0.23     | 0.00    | -1067.09 |

**Frame #169**



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**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -0.31           | -0.31            | 6.60            | 6.60             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 2.24            | 2.24             | 121.54          | 121.54           |

**Frame #170**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -0.50           | -0.50            | 140.33          | 140.33           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -0.30           | -0.30            | 464.53          | 464.53           |

**Frame #171**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 7.16            | 7.16             | -82.54          | -82.54           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 2.76            | 2.76             | 958.69          | 958.69           |

**Frame #172**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 2.54            | 2.54             | 9.69            | 9.69             |



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**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -1.00           | -1.00            | 26.54           | 26.54            |

**Frame #173**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 3.45            | 3.45             | -15.19          | -15.19           |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -1.90           | -1.90            | 31.56           | 31.56            |

**Frame #174**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 567.10          | 567.10           | 3.37            | 3.37             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 323.29          | 323.29           | 7.70            | 7.70             |

**Frame #175**

**Load Case: W1    W    Wind\_IBC09\_1\_X**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | 245.18          | 245.18           | 0.14            | 0.14             |

**Load Case: W2    W    Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kips | Change-X<br>kips | Shear-Y<br>kips | Change-Y<br>kips |
|-------|-----------------|------------------|-----------------|------------------|
| F2    | -160.99         | -160.99          | -0.44           | -0.44            |



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**Frame #176**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| F2            |   |                | 285.45  | 285.45   | -0.70   | -0.70    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| F2            |   |                | -138.60 | -138.60  | 1.23    | 1.23     |

**Frame #177**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| Fground       |   |                | 7.61    | 7.61     | -21.01  | -21.01   |
| Cellar        |   |                | 0.00    | -7.61    | 0.00    | 21.01    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| Fground       |   |                | -5.78   | -5.78    | 1014.03 | 1014.03  |
| Cellar        |   |                | 0.00    | 5.78     | 0.00    | -1014.03 |

**Frame #178**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| Fground       |   |                | 1.91    | 1.91     | 15.61   | 15.61    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kips    | kips     | kips    | kips     |
| Fground       |   |                | 0.59    | 0.59     | 157.93  | 157.93   |

**Frame #180**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |



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|         | kip   | kip   | kip    | kip    |
|---------|-------|-------|--------|--------|
| Fground | 11.45 | 11.45 | 130.47 | 130.47 |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level   | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|---------|----------------|-----------------|----------------|-----------------|
| Fground | -6.00          | -6.00           | 439.55         | 439.55          |

**Frame #181**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level   | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|---------|----------------|-----------------|----------------|-----------------|
| Fground | 14.93          | 14.93           | -95.67         | -95.67          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level   | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|---------|----------------|-----------------|----------------|-----------------|
| Fground | -7.10          | -7.10           | 994.96         | 994.96          |

**Frame #182**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level   | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|---------|----------------|-----------------|----------------|-----------------|
| Fground | 6.33           | 6.33            | 4.69           | 4.69            |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level   | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|---------|----------------|-----------------|----------------|-----------------|
| Fground | -1.25          | -1.25           | 70.97          | 70.97           |

**Frame #183**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level   | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|---------|----------------|-----------------|----------------|-----------------|
| Fground | 6.37           | 6.37            | -14.20         | -14.20          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
|       |                |                 |                |                 |



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Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre - Copy

|         |       |       |       |       |
|---------|-------|-------|-------|-------|
| Fground | -2.51 | -2.51 | 53.17 | 53.17 |
|---------|-------|-------|-------|-------|

**Frame #184**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| Fground       |   |                | 135.53  | 135.53   | 0.17    | 0.17     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| Fground       |   |                | -77.36  | -77.36   | 3.13    | 3.13     |

**Frame #185**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| Fground       |   |                | 365.02  | 365.02   | 0.16    | 0.16     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| Fground       |   |                | -141.18 | -141.18  | 14.44   | 14.44    |

**Frame #186**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| Fground       |   |                | 608.98  | 608.98   | 3.26    | 3.26     |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |
|               |   |                | kip     | kip      | kip     | kip      |
| Fground       |   |                | 268.33  | 268.33   | 12.88   | 12.88    |

**Frame #187**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | Shear-X | Change-X | Shear-Y | Change-Y |





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|        | kip   | kip   | kip    | kip    |
|--------|-------|-------|--------|--------|
| Cellar | -0.54 | -0.54 | -17.12 | -17.12 |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level  | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|--------|----------------|-----------------|----------------|-----------------|
| Cellar | 2.97           | 2.97            | 985.28         | 985.28          |

**Frame #188**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level  | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|--------|----------------|-----------------|----------------|-----------------|
| Cellar | 11.57          | 11.57           | 121.11         | 121.11          |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level  | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|--------|----------------|-----------------|----------------|-----------------|
| Cellar | -12.23         | -12.23          | 405.75         | 405.75          |

**Frame #189**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level  | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|--------|----------------|-----------------|----------------|-----------------|
| Cellar | 1.46           | 1.46            | 16.02          | 16.02           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level  | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|--------|----------------|-----------------|----------------|-----------------|
| Cellar | -0.17          | -0.17           | 128.82         | 128.82          |

**Frame #190**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level  | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|--------|----------------|-----------------|----------------|-----------------|
| Cellar | 23.77          | 23.77           | -100.48        | -100.48         |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|-------|----------------|-----------------|----------------|-----------------|
|       |                |                 |                |                 |



RAM Structural System

RAM Frame 15.03.00.000



DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre - Copy

|        |        |        |         |         |
|--------|--------|--------|---------|---------|
| Cellar | -10.89 | -10.89 | 1030.38 | 1030.38 |
|--------|--------|--------|---------|---------|

**Frame #191**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| Cellar        |   |                | 17.29   | 17.29    | 21.32   | 21.32    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| Cellar        |   |                | -6.11   | -6.11    | 53.20   | 53.20    |

**Frame #192**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| Cellar        |   |                | 12.84   | 12.84    | -18.88  | -18.88   |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| Cellar        |   |                | -3.62   | -3.62    | 43.67   | 43.67    |

**Frame #193**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| Cellar        |   |                | 145.72  | 145.72   | -0.04   | -0.04    |

| Load Case: W2 | W | Wind_IBC09_1_Y | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                | kip     | kip      | kip     | kip      |
| Cellar        |   |                | -74.77  | -74.77   | 14.19   | 14.19    |

**Frame #194**

| Load Case: W1 | W | Wind_IBC09_1_X | Shear-X | Change-X | Shear-Y | Change-Y |
|---------------|---|----------------|---------|----------|---------|----------|
| Level         |   |                |         |          |         |          |



RAM Structural System RAM Frame 15.03.00.000

Bentley DataBase: 14442\_lap\_snh\_dl\_160831\_Lateral Framing\_No Theatre - Copy

|        | kip    | kip    | kip   | kip   |
|--------|--------|--------|-------|-------|
| Cellar | 350.20 | 350.20 | -2.22 | -2.22 |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level  | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|--------|----------------|-----------------|----------------|-----------------|
| Cellar | -116.74        | -116.74         | 65.91          | 65.91           |

**Frame #195**

**Load Case: W1 W Wind\_IBC09\_1\_X**

| Level  | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|--------|----------------|-----------------|----------------|-----------------|
| Cellar | 637.30         | 637.30          | -0.42          | -0.42           |

**Load Case: W2 W Wind\_IBC09\_1\_Y**

| Level  | Shear-X<br>kip | Change-X<br>kip | Shear-Y<br>kip | Change-Y<br>kip |
|--------|----------------|-----------------|----------------|-----------------|
| Cellar | 249.05         | 249.05          | 115.21         | 115.21          |

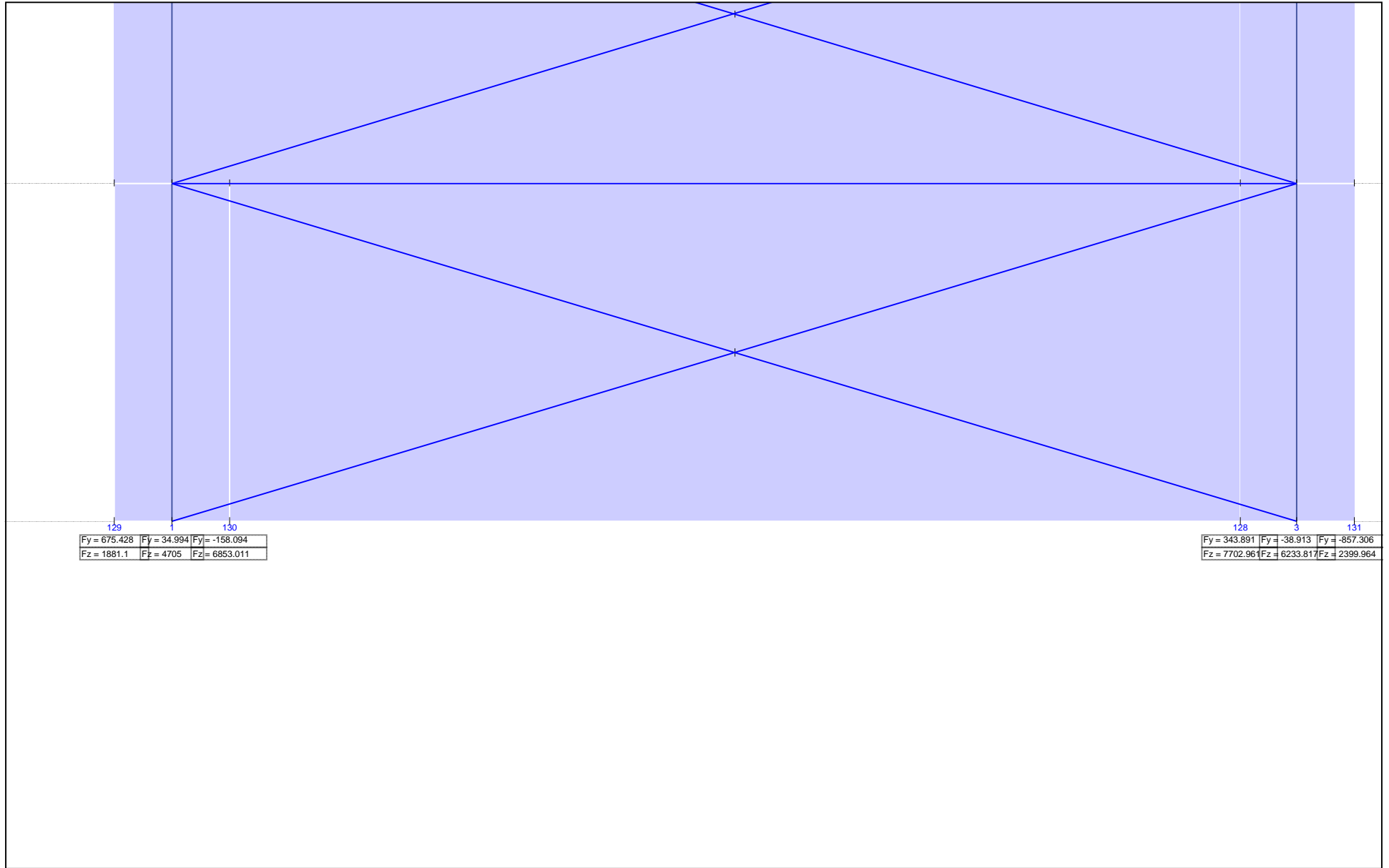
**Severud Associates**

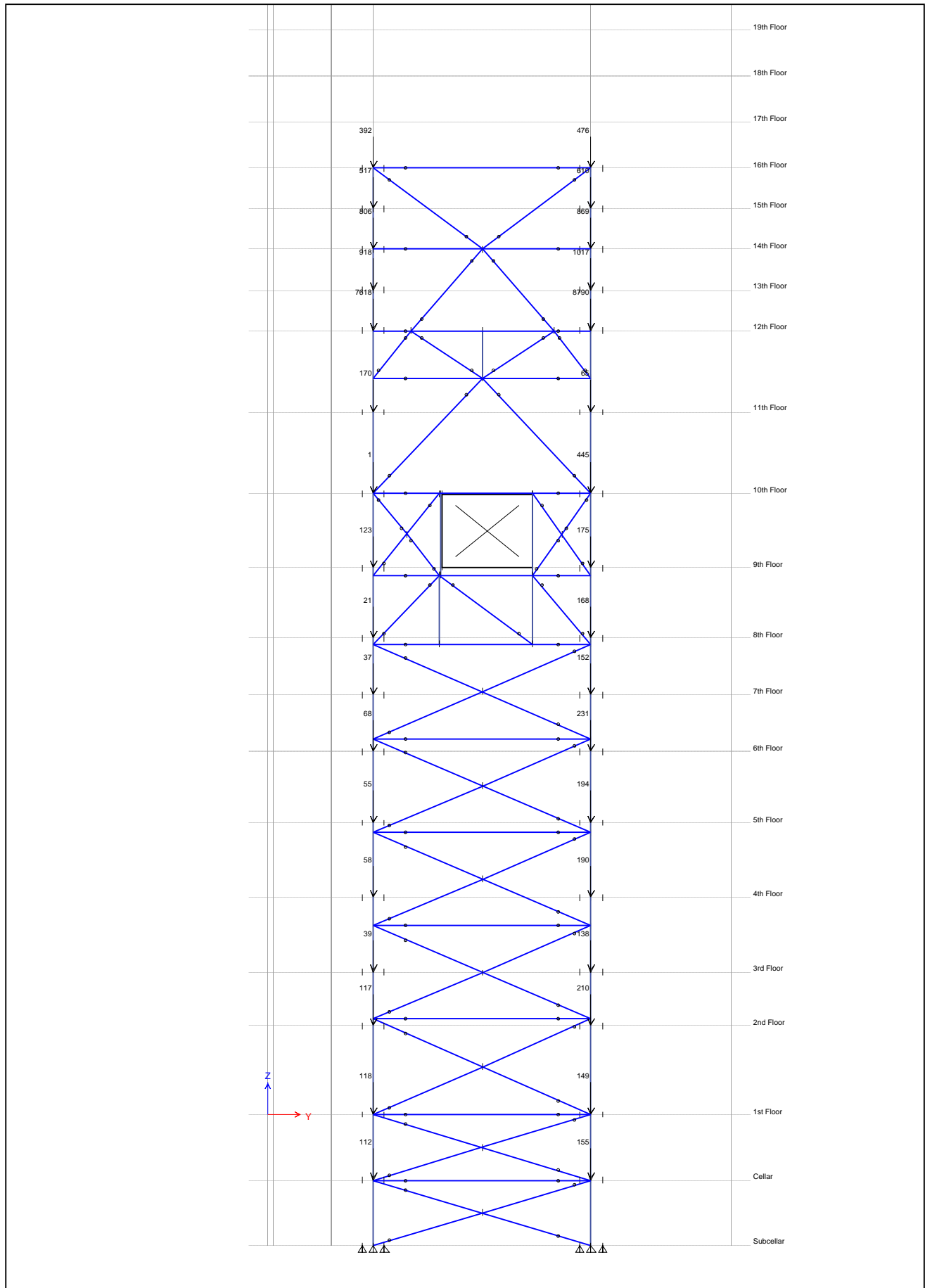
1568 Broadway

Structural Calculations

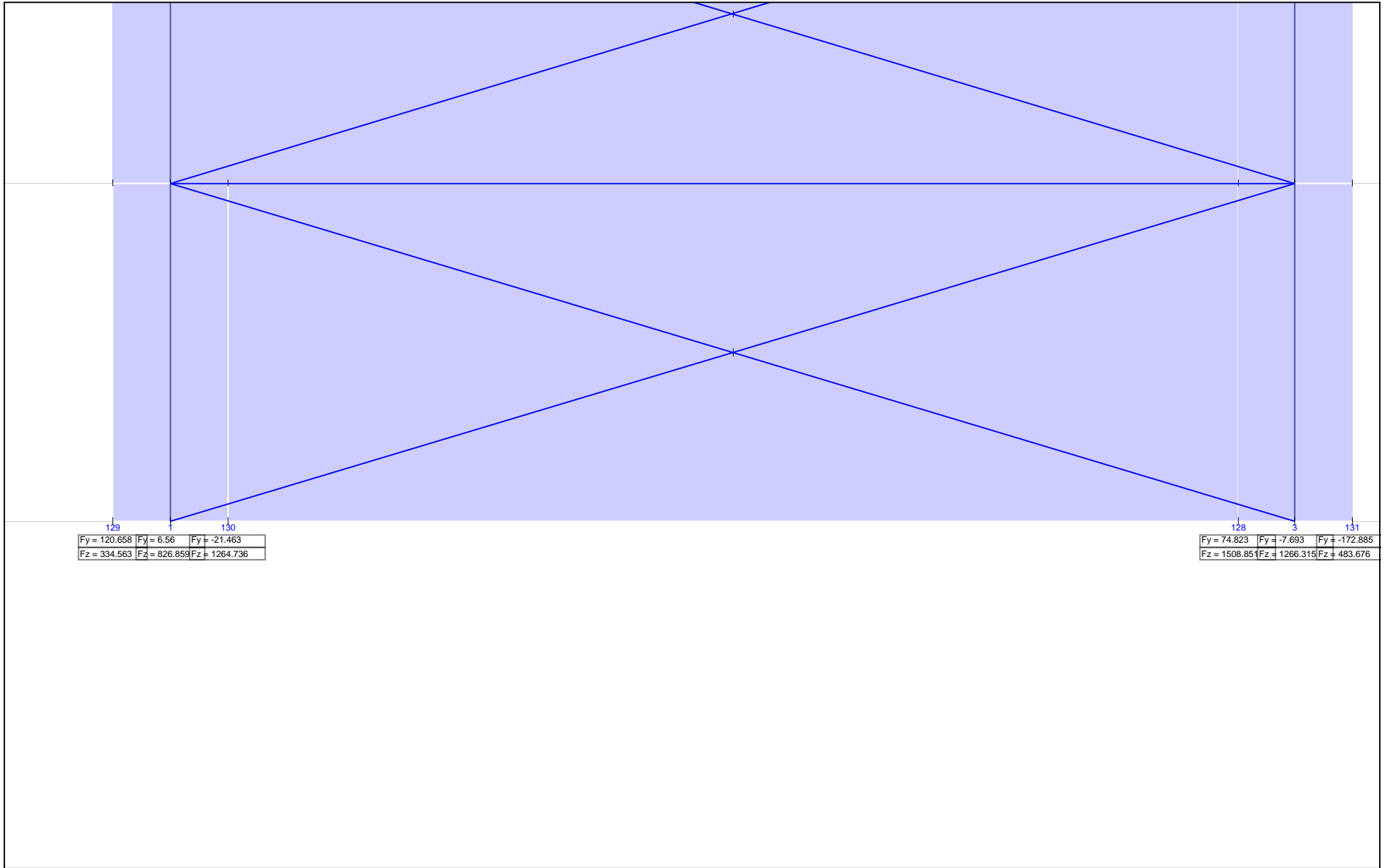
# **CHAPTER 13**

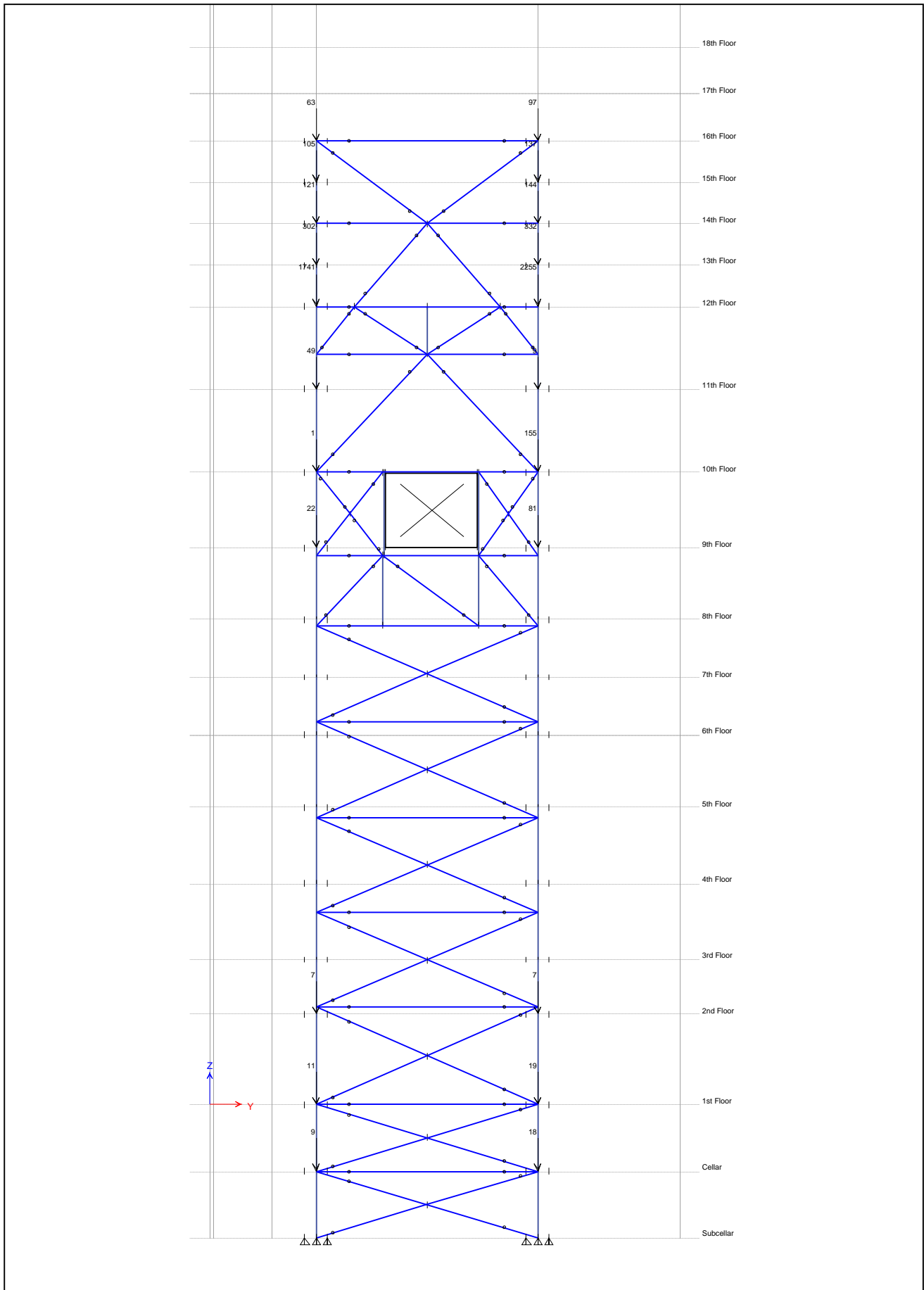
## **ETABS Frames**





14442\_AJA\_20160920\_Truss T-1.Elevation View - 9 Joint Loads (Dead)





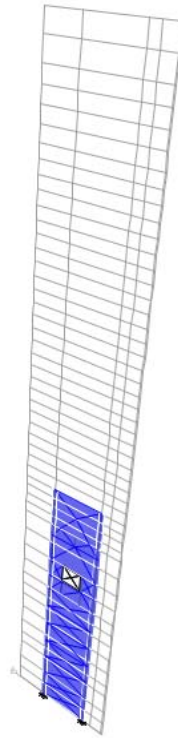
14442\_AJA\_20160920\_Truss T-1.Elevation View - 9 Joint Loads (Live)



# ETABS<sup>®</sup> 2016

Integrated Building Design Software

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## Project Report

Model File: backup, Revision 0  
10/10/2016

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# 1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

## 1.1 Story Data

Table 1.1 - Story Data

| Name           | Height in | Elevation in | Master Story | Similar To | Splice Story |
|----------------|-----------|--------------|--------------|------------|--------------|
| 48th Screening | 180       | 6435.9996    | No           | None       | No           |
| 47th Main Roof | 195.9996  | 6255.9996    | No           | None       | No           |
| 46th Floor     | 140.0004  | 6060         | No           | None       | No           |
| 45th Floor     | 139.9992  | 5919.9996    | No           | None       | No           |
| 44th Floor     | 140.0004  | 5780.0004    | No           | None       | No           |
| 43rd Floor     | 140.0004  | 5640         | No           | None       | No           |
| 42nd Floor     | 117.9996  | 5499.9996    | No           | None       | No           |
| 41st Floor     | 116.0004  | 5382         | No           | None       | No           |
| 40th Floor     | 120       | 5265.9996    | No           | None       | No           |
| 39th Floor     | 117.9996  | 5145.9996    | No           | None       | No           |
| 38th Floor     | 117.9996  | 5028         | No           | None       | No           |
| 37th Floor     | 118.0008  | 4910.0004    | No           | None       | No           |
| 36th Floor     | 117.9996  | 4791.9996    | No           | None       | No           |
| 35th Floor     | 117.9996  | 4674         | No           | None       | No           |
| 34th Floor     | 118.0008  | 4556.0004    | No           | None       | No           |
| 33rd Floor     | 117.9996  | 4437.9996    | No           | None       | No           |
| 32nd Floor     | 117.9996  | 4320         | No           | None       | No           |
| 31st Floor     | 118.0008  | 4202.0004    | No           | None       | No           |
| 30th Floor     | 117.9996  | 4083.9996    | No           | None       | No           |
| 29th Floor     | 117.9996  | 3966         | No           | None       | No           |
| 28th Floor     | 118.0008  | 3848.0004    | No           | None       | No           |
| 27th Floor     | 117.9996  | 3729.9996    | No           | None       | No           |
| 26th Floor     | 117.9996  | 3612         | No           | None       | No           |
| 25th Floor     | 118.0008  | 3494.0004    | No           | None       | No           |
| 24th Floor     | 117.9996  | 3375.9996    | No           | None       | No           |
| 23rd Floor     | 117.9996  | 3258         | No           | None       | No           |
| 22nd Floor     | 118.0008  | 3140.0004    | No           | None       | No           |
| 21st Floor     | 117.9996  | 3021.9996    | No           | None       | No           |
| 20th Floor     | 117.9996  | 2904         | No           | None       | No           |
| 19th Floor     | 118.0008  | 2786.0004    | No           | None       | No           |
| 18th Floor     | 117.9996  | 2667.9996    | No           | None       | No           |
| 17th Floor     | 117.96    | 2550         | No           | None       | No           |
| 16th Floor     | 104.52    | 2432.04      | No           | None       | No           |
| 15th Floor     | 104.52    | 2327.52      | No           | None       | No           |
| 14th Floor     | 104.52    | 2223         | No           | None       | No           |
| 13th Floor     | 104.484   | 2118.48      | No           | None       | No           |
| 12th Floor     | 208.992   | 2013.996     | No           | None       | No           |
| 11th Floor     | 209.004   | 1805.004     | No           | None       | No           |
| 10th Floor     | 192       | 1596         | No           | None       | No           |

Table 1.1 - Story Data (continued)

| Name           | Height in | Elevation in | Master Story | Similar To | Splice Story |
|----------------|-----------|--------------|--------------|------------|--------------|
| 9th Floor      | 180       | 1404         | No           | None       | No           |
| 8th Floor      | 145.752   | 1224         | No           | None       | No           |
| 7th Floor      | 145.752   | 1078.248     | No           | None       | No           |
| 6th Floor      | 182.496   | 932.496      | No           | None       | No           |
| 5th Floor      | 192.504   | 750          | No           | None       | No           |
| 4th Floor      | 191.748   | 557.496      | No           | None       | No           |
| 3rd Floor      | 138       | 365.748      | No           | None       | No           |
| 2nd Floor      | 227.748   | 227.748      | No           | None       | No           |
| 1st Floor      | 168       | 0            | No           | None       | No           |
| Cellar         | 168       | -168         | No           | None       | No           |
| Subcellar      | 0         | -336         | No           | None       | No           |
| 48th Screening | 180       | 6435.9996    | No           | None       | No           |
| 47th Main Roof | 195.9996  | 6255.9996    | No           | None       | No           |
| 46th Floor     | 140.0004  | 6060         | No           | None       | No           |
| 45th Floor     | 139.9992  | 5919.9996    | No           | None       | No           |
| 44th Floor     | 140.0004  | 5780.0004    | No           | None       | No           |
| 43rd Floor     | 140.0004  | 5640         | No           | None       | No           |
| 42nd Floor     | 117.9996  | 5499.9996    | No           | None       | No           |
| 41st Floor     | 116.0004  | 5382         | No           | None       | No           |
| 40th Floor     | 120       | 5265.9996    | No           | None       | No           |
| 39th Floor     | 117.9996  | 5145.9996    | No           | None       | No           |
| 38th Floor     | 117.9996  | 5028         | No           | None       | No           |
| 37th Floor     | 118.0008  | 4910.0004    | No           | None       | No           |
| 36th Floor     | 117.9996  | 4791.9996    | No           | None       | No           |
| 35th Floor     | 117.9996  | 4674         | No           | None       | No           |
| 34th Floor     | 118.0008  | 4556.0004    | No           | None       | No           |
| 33rd Floor     | 117.9996  | 4437.9996    | No           | None       | No           |
| 32nd Floor     | 117.9996  | 4320         | No           | None       | No           |
| 31st Floor     | 118.0008  | 4202.0004    | No           | None       | No           |
| 30th Floor     | 117.9996  | 4083.9996    | No           | None       | No           |
| 29th Floor     | 117.9996  | 3966         | No           | None       | No           |
| 28th Floor     | 118.0008  | 3848.0004    | No           | None       | No           |
| 27th Floor     | 117.9996  | 3729.9996    | No           | None       | No           |
| 26th Floor     | 117.9996  | 3612         | No           | None       | No           |
| 25th Floor     | 118.0008  | 3494.0004    | No           | None       | No           |
| 24th Floor     | 117.9996  | 3375.9996    | No           | None       | No           |
| 23rd Floor     | 117.9996  | 3258         | No           | None       | No           |
| 22nd Floor     | 118.0008  | 3140.0004    | No           | None       | No           |
| 21st Floor     | 117.9996  | 3021.9996    | No           | None       | No           |
| 20th Floor     | 117.9996  | 2904         | No           | None       | No           |
| 19th Floor     | 118.0008  | 2786.0004    | No           | None       | No           |
| 18th Floor     | 117.9996  | 2667.9996    | No           | None       | No           |
| 17th Floor     | 117.96    | 2550         | No           | None       | No           |
| 16th Floor     | 104.52    | 2432.04      | No           | None       | No           |
| 15th Floor     | 104.52    | 2327.52      | No           | None       | No           |

**Table 1.1 - Story Data (continued)**

| Name       | Height in | Elevation in | Master Story | Similar To | Splice Story |
|------------|-----------|--------------|--------------|------------|--------------|
| 14th Floor | 104.52    | 2223         | No           | None       | No           |
| 13th Floor | 104.484   | 2118.48      | No           | None       | No           |
| 12th Floor | 208.992   | 2013.996     | No           | None       | No           |
| 11th Floor | 209.004   | 1805.004     | No           | None       | No           |
| 10th Floor | 192       | 1596         | No           | None       | No           |
| 9th Floor  | 180       | 1404         | No           | None       | No           |
| 8th Floor  | 145.752   | 1224         | No           | None       | No           |
| 7th Floor  | 145.752   | 1078.248     | No           | None       | No           |
| 6th Floor  | 182.496   | 932.496      | No           | None       | No           |
| 5th Floor  | 192.504   | 750          | No           | None       | No           |
| 4th Floor  | 191.748   | 557.496      | No           | None       | No           |
| 3rd Floor  | 138       | 365.748      | No           | None       | No           |
| 2nd Floor  | 227.748   | 227.748      | No           | None       | No           |
| 1st Floor  | 168       | 0            | No           | None       | No           |
| Cellar     | 168       | -168         | No           | None       | No           |
| Subcellar  | 0         | -336         | No           | None       | No           |

**1.2 Grid Data**

**Table 1.2 - Grid Systems**

| Name | Type      | Story Range | X Origin ft | Y Origin ft | Rotation deg | Bubble Size in | Color    |
|------|-----------|-------------|-------------|-------------|--------------|----------------|----------|
| G1   | Cartesian | Default     | 0           | 0           | 0            | 60             | ffa0a0a0 |

**Table 1.3 - Grid Lines**

| Grid System | Grid Direction | Grid ID | Visible | Bubble Location | Ordinate ft |
|-------------|----------------|---------|---------|-----------------|-------------|
| G1          | X              | 1       | Yes     | End             | 0           |
| G1          | X              | 2       | Yes     | End             | 21.583      |
| G1          | X              | 3       | Yes     | End             | 77.333      |
| G1          | X              | 4       | Yes     | End             | 89.083      |
| G1          | X              | 5       | Yes     | End             | 113         |
| G1          | X              | 6       | Yes     | End             | 137.083     |
| G1          | X              | 7       | Yes     | End             | 161         |
| G1          | X              | 8       | Yes     | End             | 185.125     |
| G1          | X              | 9       | Yes     | End             | 206.75      |
| G1          | Y              | A       | Yes     | Start           | 0           |
| G1          | Y              | SW1     | Yes     | Start           | 1           |
| G1          | Y              | B       | Yes     | Start           | 13.333      |
| G1          | Y              | SC1     | Yes     | Start           | 22.5        |
| G1          | Y              | D-SC2   | Yes     | Start           | 69.104      |
| G1          | Y              | E       | Yes     | Start           | 98.917      |

1.3 Point Coordinates

Table 1.4 - Joint Coordinates Data

| Label | X in | Y in     | $\Delta Z$ Below in |
|-------|------|----------|---------------------|
| 1     | 2481 | 270      | 0                   |
| 2     | 2481 | 829.248  | 0                   |
| 14    | 2481 | 549.624  | 84                  |
| 15    | 2481 | 270      | 120.7               |
| 34    | 2481 | 829.248  | 120.7               |
| 35    | 2481 | 549.624  | 105.224             |
| 36    | 2481 | 270      | 72.449              |
| 37    | 2481 | 829.248  | 72.449              |
| 38    | 2481 | 549.624  | 0.7005              |
| 39    | 2481 | 270      | 24.9492             |
| 40    | 2481 | 829.248  | 24.9492             |
| 41    | 2481 | 549.624  | 144.9511            |
| 42    | 2481 | 270      | 113.1622            |
| 43    | 2481 | 829.248  | 113.1622            |
| 44    | 2481 | 549.624  | 87.4277             |
| 45    | 2481 | 270      | 14.8                |
| 46    | 2481 | 829.248  | 14.8                |
| 47    | 2481 | 549.624  | 136.8571            |
| 48    | 2481 | 270      | 17.824              |
| 49    | 2481 | 829.248  | 17.824              |
| 50    | 2481 | 439      | 14.8                |
| 51    | 2481 | 679      | 14.8                |
| 52    | 2481 | 439      | 17.824              |
| 53    | 2481 | 679      | 17.824              |
| 58    | 2481 | 270      | 120.844             |
| 59    | 2481 | 829.248  | 120.844             |
| 60    | 2481 | 549.624  | 120.844             |
| 69    | 2481 | 298.5    | 0                   |
| 70    | 2481 | 241.5    | 0                   |
| 71    | 2481 | 857.748  | 0                   |
| 72    | 2481 | 800.748  | 0                   |
| 18    | 2481 | 549.624  | 0                   |
| 22    | 2481 | 365.7969 | 0                   |
| 23    | 2481 | 733.4511 | 0                   |
| 24    | 2481 | 439      | 0                   |
| 25    | 2481 | 679      | 0                   |
| 27    | 2481 | 354.5    | 104.912             |
| 28    | 2481 | 754.124  | 104.912             |
| 277   | 2481 | 442      | 17.824              |
| 278   | 2481 | 442      | 0                   |
| 290   | 2481 | 677      | 189.7668            |
| 291   | 2481 | 677      | 1.1958              |
| 292   | 2481 | 446      | 189.7668            |

**Table 1.4 - Joint Coordinates Data (continued)**

| Label | X in | Y in | $\Delta Z$ Below in |
|-------|------|------|---------------------|
| 293   | 2481 | 446  | 1.1958              |

**1.4 Line Connectivity**

**Table 1.5 - Column Connectivity Data**

| Column | I-End Point | J-End Point | I-End Story |
|--------|-------------|-------------|-------------|
| C1     | 1           | 1           | Below       |
| C2     | 2           | 2           | Below       |
| C5     | 50          | 52          | Below       |
| C13    | 51          | 53          | Below       |
| C46    | 1           | 1           | Same        |
| C11    | 60          | 18          | Same        |
| C12    | 53          | 25          | Below       |
| C14    | 277         | 278         | Below       |

**Table 1.6 - Beam Connectivity Data**

| Beam | I-End Point | J-End Point | Curve Type |
|------|-------------|-------------|------------|
| B3   | 2           | 1           | None       |
| B9   | 14          | 2           | None       |
| B10  | 15          | 34          | None       |
| B11  | 36          | 37          | None       |
| B12  | 39          | 40          | None       |
| B13  | 42          | 43          | None       |
| B14  | 45          | 46          | None       |
| B15  | 48          | 49          | None       |
| B17  | 58          | 59          | None       |
| B83  | 1           | 14          | None       |
| B84  | 1           | 2           | None       |

**Table 1.7 - Brace Connectivity Data**

| Brace | I-End Point | J-End Point | I-End Story |
|-------|-------------|-------------|-------------|
| D21   | 2           | 15          | Same        |
| D22   | 35          | 34          | Below       |
| D23   | 1           | 35          | Below       |
| D24   | 34          | 36          | Below       |
| D25   | 38          | 37          | Below       |
| D26   | 15          | 38          | Same        |
| D27   | 37          | 39          | Below       |
| D28   | 41          | 40          | Same        |
| D29   | 36          | 41          | Below       |
| D30   | 40          | 42          | Same        |
| D31   | 44          | 43          | Below       |



**Table 1.7 - Brace Connectivity Data (continued)**

| Brace | I-End Point | J-End Point | I-End Story |
|-------|-------------|-------------|-------------|
| D32   | 39          | 44          | Below       |
| D33   | 43          | 45          | Below       |
| D34   | 47          | 46          | Same        |
| D35   | 42          | 47          | Below       |
| D36   | 46          | 53          | Below       |
| D37   | 51          | 52          | Below       |
| D38   | 45          | 52          | Below       |
| D47   | 18          | 1           | Same        |
| D48   | 18          | 2           | Same        |
| D49   | 58          | 22          | Same        |
| D133  | 22          | 18          | Same        |
| D134  | 23          | 18          | Same        |
| D135  | 59          | 23          | Same        |
| D136  | 60          | 23          | Same        |
| D137  | 60          | 22          | Same        |
| D138  | 49          | 25          | Below       |
| D140  | 48          | 24          | Below       |
| D141  | 1           | 60          | Same        |
| D142  | 2           | 60          | Same        |
| D143  | 27          | 1           | Same        |
| D144  | 52          | 27          | Below       |
| D145  | 53          | 28          | Below       |
| D146  | 28          | 2           | Same        |

**1.5 Area Connectivity**

**Table 1.8 - Wall Connectivity Data**

| Label | Number of Edges | Edge Number | Point 1 | Point 2 | Curve Type | Point 1 Story | Point 2 Story |
|-------|-----------------|-------------|---------|---------|------------|---------------|---------------|
| W2    | 4               | 1           | 70      | 69      | None       | Below         | Below         |
|       |                 | 2           | 69      | 69      | None       | Below         | Same          |
|       |                 | 3           | 69      | 70      | None       | Same          | Same          |
|       |                 | 4           | 70      | 70      | None       | Same          | Below         |
| W1    | 4               | 1           | 72      | 71      | None       | Below         | Below         |
|       |                 | 2           | 71      | 71      | None       | Below         | Same          |
|       |                 | 3           | 71      | 72      | None       | Same          | Same          |
|       |                 | 4           | 72      | 72      | None       | Same          | Below         |
| W21   | 4               | 1           | 69      | 72      | None       | Below         | Below         |
|       |                 | 2           | 72      | 72      | None       | Below         | Same          |
|       |                 | 3           | 72      | 69      | None       | Same          | Same          |
|       |                 | 4           | 69      | 69      | None       | Same          | Below         |

**Table 1.9 - Null Shell Connectivity Data**

| Label | Number of Edges | Edge Number | Point 1 | Point 2 | Curve Type | Point 1 Story | Point 2 Story |
|-------|-----------------|-------------|---------|---------|------------|---------------|---------------|
| A2    | 4               | 1           | 290     | 292     | None       | Same          | Same          |
|       |                 | 2           | 292     | 293     | None       | Same          | Same          |
|       |                 | 3           | 293     | 291     | None       | Same          | Same          |
|       |                 | 4           | 291     | 290     | None       | Same          | Same          |

**1.6 Mass**

**Table 1.10 - Mass Source**

| Name   | Include Elements | Include Added Mass | Include Loads | Include Lateral | Include Vertical | Lump at Stories | IsDefault |
|--------|------------------|--------------------|---------------|-----------------|------------------|-----------------|-----------|
| MsSrc1 | Yes              | Yes                | No            | Yes             | No               | Yes             | Yes       |

**Table 1.11 - Mass Summary by Story**

| Story          | UX<br>lb-s <sup>2</sup> /ft | UY<br>lb-s <sup>2</sup> /ft | UZ<br>lb-s <sup>2</sup> /ft |
|----------------|-----------------------------|-----------------------------|-----------------------------|
| 48th Screening | 0                           | 0                           | 0                           |
| 47th Main Roof | 0                           | 0                           | 0                           |
| 46th Floor     | 0                           | 0                           | 0                           |
| 45th Floor     | 0                           | 0                           | 0                           |
| 44th Floor     | 0                           | 0                           | 0                           |
| 43rd Floor     | 0                           | 0                           | 0                           |
| 42nd Floor     | 0                           | 0                           | 0                           |
| 41st Floor     | 0                           | 0                           | 0                           |
| 40th Floor     | 0                           | 0                           | 0                           |
| 39th Floor     | 0                           | 0                           | 0                           |
| 38th Floor     | 0                           | 0                           | 0                           |
| 37th Floor     | 0                           | 0                           | 0                           |
| 36th Floor     | 0                           | 0                           | 0                           |
| 35th Floor     | 0                           | 0                           | 0                           |
| 34th Floor     | 0                           | 0                           | 0                           |
| 33rd Floor     | 0                           | 0                           | 0                           |
| 32nd Floor     | 0                           | 0                           | 0                           |
| 31st Floor     | 0                           | 0                           | 0                           |
| 30th Floor     | 0                           | 0                           | 0                           |
| 29th Floor     | 0                           | 0                           | 0                           |
| 28th Floor     | 0                           | 0                           | 0                           |
| 27th Floor     | 0                           | 0                           | 0                           |
| 26th Floor     | 0                           | 0                           | 0                           |
| 25th Floor     | 0                           | 0                           | 0                           |
| 24th Floor     | 0                           | 0                           | 0                           |
| 23rd Floor     | 0                           | 0                           | 0                           |
| 22nd Floor     | 0                           | 0                           | 0                           |
| 21st Floor     | 0                           | 0                           | 0                           |
| 20th Floor     | 0                           | 0                           | 0                           |

**Table 1.11 - Mass Summary by Story (continued)**

| Story      | UX<br>lb-s <sup>2</sup> /ft | UY<br>lb-s <sup>2</sup> /ft | UZ<br>lb-s <sup>2</sup> /ft |
|------------|-----------------------------|-----------------------------|-----------------------------|
| 19th Floor | 0                           | 0                           | 0                           |
| 18th Floor | 0                           | 0                           | 0                           |
| 17th Floor | 0                           | 0                           | 0                           |
| 16th Floor | 3737.78                     | 3737.78                     | 0                           |
| 15th Floor | 3928.01                     | 3928.01                     | 0                           |
| 14th Floor | 4508.26                     | 4508.26                     | 0                           |
| 13th Floor | 3927.34                     | 3927.34                     | 0                           |
| 12th Floor | 9906.48                     | 9906.48                     | 0                           |
| 11th Floor | 9660.52                     | 9660.52                     | 0                           |
| 10th Floor | 9413.27                     | 9413.27                     | 0                           |
| 9th Floor  | 9198.46                     | 9198.46                     | 0                           |
| 8th Floor  | 8798.75                     | 8798.75                     | 0                           |
| 7th Floor  | 7678.59                     | 7678.59                     | 0                           |
| 6th Floor  | 8748.36                     | 8748.36                     | 0                           |
| 5th Floor  | 9986.31                     | 9986.31                     | 0                           |
| 4th Floor  | 10171.97                    | 10171.97                    | 0                           |
| 3rd Floor  | 8740.33                     | 8740.33                     | 0                           |
| 2nd Floor  | 9745.52                     | 9745.52                     | 0                           |
| 1st Floor  | 10535.94                    | 10535.94                    | 0                           |
| Cellar     | 8970.92                     | 8970.92                     | 0                           |
| Subcellar  | 4440.75                     | 4440.75                     | 0                           |

**1.7 Groups**

**Table 1.12 - Group Definitions**

| Name | Color  |
|------|--------|
| All  | Yellow |

## 2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

### 2.1 Materials

**Table 2.1 - Material Properties - Summary**

| Name     | Type     | E<br>lb/in <sup>2</sup> | v   | Unit<br>Weight<br>lb/ft <sup>3</sup> | Design Strengths  |
|----------|----------|-------------------------|-----|--------------------------------------|---|
| 6000Psi  | Concrete | 4415201                 | 0.2 | 150                                  | Fc=6000 lb/in <sup>2</sup>                                |
| 8,000Psi | Concrete | 5098235                 | 0.2 | 150                                  | Fc=8000 lb/in <sup>2</sup>                                |
| A36      | Steel    | 29000000                | 0.3 | 490                                  | Fy=36000 lb/in <sup>2</sup> , Fu=58000 lb/in <sup>2</sup> |
| A615Gr60 | Rebar    | 29000000                | 0.3 | 490                                  | Fy=60000 lb/in <sup>2</sup> , Fu=90000 lb/in <sup>2</sup> |
| A992Fy50 | Steel    | 29000000                | 0.3 | 490                                  | Fy=50000 lb/in <sup>2</sup> , Fu=65000 lb/in <sup>2</sup> |

### 2.2 Frame Sections

**Table 2.2 - Frame Sections - Summary**

| Name    | Material | Shape               |
|---------|----------|---------------------|
| SC3&4   | A36      | Steel I/Wide Flange |
| W10X100 | A992Fy50 | Steel I/Wide Flange |
| W10X45  | A992Fy50 | Steel I/Wide Flange |
| W10X68  | A992Fy50 | Steel I/Wide Flange |
| W14X145 | A992Fy50 | Steel I/Wide Flange |
| W14X233 | A992Fy50 | Steel I/Wide Flange |
| W14X342 | A992Fy50 | Steel I/Wide Flange |
| W14X426 | A992Fy50 | Steel I/Wide Flange |
| W14X61  | A992Fy50 | Steel I/Wide Flange |

### 2.3 Shell Sections

**Table 2.3 - Shell Sections - Summary**

| Name        | Design Type | Element Type | Material | Total Thickness in |
|-------------|-------------|--------------|----------|--------------------|
| 12"SW       | Wall        | Shell-Thin   | 4000Psi  | 12                 |
| 18"SW       | Wall        | Shell-Thin   | 4000Psi  | 18                 |
| 48x57-SC3&4 | Wall        | Shell-Thin   | 4000Psi  | 48                 |

### 2.4 Reinforcement Sizes

**Table 2.4 - Reinforcing Bar Sizes**

| Name | Diameter in | Area in <sup>2</sup> |
|------|-------------|----------------------|
| #4   | 0.5         | 0.2                  |
| #6   | 0.75        | 0.44                 |
| #9   | 1.128       | 1                    |

## 2.5 Tendon Sections

**Table 2.5 - Tendon Section Properties**

| Name    | Material  | StrandArea<br>in <sup>2</sup> | Color |
|---------|-----------|-------------------------------|-------|
| Tendon1 | A416Gr270 | 0.153                         | Red   |

### 3 Assignments

This chapter provides a listing of the assignments applied to the model.

#### 3.1 Joint Assignments

**Table 3.1 - Joint Assignments - Summary**

| Story      | Label | Unique Name | Diaphragm | Restraints |
|------------|-------|-------------|-----------|------------|
| 16th Floor | 1     | 109         | From Area |            |
| 16th Floor | 2     | 108         | From Area |            |
| 16th Floor | 69    | 1962        | From Area |            |
| 16th Floor | 70    | 1963        | From Area |            |
| 16th Floor | 71    | 1966        | From Area |            |
| 16th Floor | 72    | 1967        | From Area |            |
| 15th Floor | 1     | 5           | From Area |            |
| 15th Floor | 2     | 107         | From Area |            |
| 15th Floor | 69    | 1961        | From Area |            |
| 15th Floor | 70    | 1949        | From Area |            |
| 15th Floor | 71    | 1965        | From Area |            |
| 15th Floor | 72    | 1964        | From Area |            |
| 14th Floor | 1     | 1648        | From Area |            |
| 14th Floor | 2     | 104         | From Area |            |
| 14th Floor | 69    | 1969        | From Area |            |
| 14th Floor | 70    | 1968        | From Area |            |
| 14th Floor | 71    | 1971        | From Area |            |
| 14th Floor | 72    | 1970        | From Area |            |
| 14th Floor | 18    | 125         | From Area |            |
| 13th Floor | 1     | 6           | From Area |            |
| 13th Floor | 2     | 103         | From Area |            |
| 13th Floor | 69    | 1973        | From Area |            |
| 13th Floor | 70    | 1972        | From Area |            |
| 13th Floor | 71    | 1986        | From Area |            |
| 13th Floor | 72    | 1985        | From Area |            |
| 12th Floor | 1     | 101         | From Area |            |
| 12th Floor | 2     | 100         | From Area |            |
| 12th Floor | 58    | 114         | From Area |            |
| 12th Floor | 59    | 115         | From Area |            |
| 12th Floor | 60    | 116         | From Area |            |
| 12th Floor | 69    | 185         | From Area |            |
| 12th Floor | 70    | 183         | From Area |            |
| 12th Floor | 71    | 184         | From Area |            |
| 12th Floor | 72    | 186         | From Area |            |
| 12th Floor | 18    | 119         | From Area |            |
| 12th Floor | 22    | 123         | From Area |            |
| 12th Floor | 23    | 124         | From Area |            |
| 11th Floor | 1     | 98          | From Area |            |
| 11th Floor | 2     | 99          | From Area |            |
| 11th Floor | 69    | 181         | From Area |            |
| 11th Floor | 70    | 179         | From Area |            |

**Table 3.1 - Joint Assignments - Summary (continued)**

| Story      | Label | Unique Name | Diaphragm | Restraints |
|------------|-------|-------------|-----------|------------|
| 11th Floor | 71    | 180         | From Area |            |
| 11th Floor | 72    | 182         | From Area |            |
| 10th Floor | 1     | 45          | From Area |            |
| 10th Floor | 2     | 46          | From Area |            |
| 10th Floor | 69    | 177         | From Area |            |
| 10th Floor | 70    | 175         | From Area |            |
| 10th Floor | 71    | 176         | From Area |            |
| 10th Floor | 72    | 178         | From Area |            |
| 10th Floor | 24    | 112         | From Area |            |
| 10th Floor | 25    | 113         | From Area |            |
| 10th Floor | 27    | 70          | From Area |            |
| 10th Floor | 28    | 110         | From Area |            |
| 10th Floor | 278   | 1870        | From Area |            |
| 10th Floor | 290   | 1989        | From Area |            |
| 10th Floor | 291   | 1990        | From Area |            |
| 10th Floor | 292   | 1991        | From Area |            |
| 10th Floor | 293   | 1992        | From Area |            |
| 9th Floor  | 1     | 41          | From Area |            |
| 9th Floor  | 2     | 42          | From Area |            |
| 9th Floor  | 48    | 92          | From Area |            |
| 9th Floor  | 49    | 93          | From Area |            |
| 9th Floor  | 52    | 96          | From Area |            |
| 9th Floor  | 53    | 97          | From Area |            |
| 9th Floor  | 69    | 173         | From Area |            |
| 9th Floor  | 70    | 171         | From Area |            |
| 9th Floor  | 71    | 172         | From Area |            |
| 9th Floor  | 72    | 174         | From Area |            |
| 9th Floor  | 277   | 1869        | From Area |            |
| 8th Floor  | 1     | 37          | From Area |            |
| 8th Floor  | 2     | 38          | From Area |            |
| 8th Floor  | 45    | 89          | From Area |            |
| 8th Floor  | 46    | 90          | From Area |            |
| 8th Floor  | 47    | 91          | From Area |            |
| 8th Floor  | 50    | 94          | From Area |            |
| 8th Floor  | 51    | 95          | From Area |            |
| 8th Floor  | 69    | 169         | From Area |            |
| 8th Floor  | 70    | 167         | From Area |            |
| 8th Floor  | 71    | 168         | From Area |            |
| 8th Floor  | 72    | 170         | From Area |            |
| 7th Floor  | 1     | 33          | From Area |            |
| 7th Floor  | 2     | 34          | From Area |            |
| 7th Floor  | 42    | 86          | From Area |            |
| 7th Floor  | 43    | 87          | From Area |            |
| 7th Floor  | 69    | 165         | From Area |            |
| 7th Floor  | 70    | 163         | From Area |            |

**Table 3.1 - Joint Assignments - Summary (continued)**

| Story     | Label | Unique Name | Diaphragm | Restraints |
|-----------|-------|-------------|-----------|------------|
| 7th Floor | 71    | 164         | From Area |            |
| 7th Floor | 72    | 166         | From Area |            |
| 6th Floor | 1     | 29          | From Area |            |
| 6th Floor | 2     | 30          | From Area |            |
| 6th Floor | 44    | 88          | From Area |            |
| 6th Floor | 69    | 161         | From Area |            |
| 6th Floor | 70    | 159         | From Area |            |
| 6th Floor | 71    | 160         | From Area |            |
| 6th Floor | 72    | 162         | From Area |            |
| 5th Floor | 1     | 25          | From Area |            |
| 5th Floor | 2     | 26          | From Area |            |
| 5th Floor | 39    | 83          | From Area |            |
| 5th Floor | 40    | 84          | From Area |            |
| 5th Floor | 41    | 85          | From Area |            |
| 5th Floor | 69    | 157         | From Area |            |
| 5th Floor | 70    | 155         | From Area |            |
| 5th Floor | 71    | 156         | From Area |            |
| 5th Floor | 72    | 158         | From Area |            |
| 4th Floor | 1     | 21          | From Area |            |
| 4th Floor | 2     | 22          | From Area |            |
| 4th Floor | 36    | 80          | From Area |            |
| 4th Floor | 37    | 81          | From Area |            |
| 4th Floor | 69    | 153         | From Area |            |
| 4th Floor | 70    | 151         | From Area |            |
| 4th Floor | 71    | 152         | From Area |            |
| 4th Floor | 72    | 154         | From Area |            |
| 3rd Floor | 1     | 17          | From Area |            |
| 3rd Floor | 2     | 18          | From Area |            |
| 3rd Floor | 15    | 52          | From Area |            |
| 3rd Floor | 34    | 53          | From Area |            |
| 3rd Floor | 38    | 82          | From Area |            |
| 3rd Floor | 69    | 149         | From Area |            |
| 3rd Floor | 70    | 147         | From Area |            |
| 3rd Floor | 71    | 148         | From Area |            |
| 3rd Floor | 72    | 150         | From Area |            |
| 2nd Floor | 1     | 13          | From Area |            |
| 2nd Floor | 2     | 14          | From Area |            |
| 2nd Floor | 35    | 79          | From Area |            |
| 2nd Floor | 69    | 145         | From Area |            |
| 2nd Floor | 70    | 143         | From Area |            |
| 2nd Floor | 71    | 144         | From Area |            |
| 2nd Floor | 72    | 146         | From Area |            |
| 1st Floor | 1     | 9           | From Area |            |
| 1st Floor | 2     | 10          | From Area |            |
| 1st Floor | 14    | 51          | From Area |            |



**Table 3.1 - Joint Assignments - Summary (continued)**

| Story     | Label | Unique Name | Diaphragm | Restraints |
|-----------|-------|-------------|-----------|------------|
| 1st Floor | 69    | 141         | From Area |            |
| 1st Floor | 70    | 139         | From Area |            |
| 1st Floor | 71    | 140         | From Area |            |
| 1st Floor | 72    | 142         | From Area |            |
| Cellar    | 1     | 2           | From Area |            |
| Cellar    | 2     | 4           | From Area |            |
| Cellar    | 14    | 1948        | From Area |            |
| Cellar    | 69    | 122         | From Area |            |
| Cellar    | 70    | 126         | From Area |            |
| Cellar    | 71    | 127         | From Area |            |
| Cellar    | 72    | 132         | From Area |            |
| Subcellar | 1     | 1           | From Area | UX; UY; UZ |
| Subcellar | 2     | 3           | From Area | UX; UY; UZ |
| Subcellar | 69    | 130         | From Area | UX; UY; UZ |
| Subcellar | 70    | 129         | From Area | UX; UY; UZ |
| Subcellar | 71    | 131         | From Area | UX; UY; UZ |
| Subcellar | 72    | 128         | From Area | UX; UY; UZ |

**3.2 Frame Assignments**

**Table 3.2 - Frame Assignments - Summary**

| Story      | Label | Unique Name | Design Type | Length in | Analysis Section | Design Section | Axis Angle deg | Max Station Spacing in | Min Number Stations | Releases |
|------------|-------|-------------|-------------|-----------|------------------|----------------|----------------|------------------------|---------------------|----------|
| 16th Floor | C2    | 120         | Column      | 104.52    | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 16th Floor | C46   | 121         | Column      | 418.044   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 15th Floor | C2    | 119         | Column      | 104.52    | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 14th Floor | C2    | 116         | Column      | 104.52    | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 13th Floor | C2    | 115         | Column      | 104.484   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 12th Floor | C1    | 113         | Column      | 208.992   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 12th Floor | C2    | 112         | Column      | 208.992   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 12th Floor | C11   | 106         | Column      | 120.844   | W14X61           | W14X61         |                |                        | 3                   | No       |
| 11th Floor | C1    | 110         | Column      | 209.004   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 11th Floor | C2    | 111         | Column      | 209.004   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 10th Floor | C1    | 41          | Column      | 192       | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 10th Floor | C2    | 42          | Column      | 192       | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 10th Floor | C12   | 81          | Column      | 209.824   | W10X45           | W10X45         |                |                        | 3                   | No       |
| 10th Floor | C14   | 105         | Column      | 209.824   | W10X45           | W10X45         |                |                        | 3                   | No       |
| 9th Floor  | C1    | 37          | Column      | 180       | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 9th Floor  | C2    | 38          | Column      | 180       | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 9th Floor  | C5    | 46          | Column      | 176.976   | W10X45           | W10X45         |                |                        | 3                   | No       |
| 9th Floor  | C13   | 48          | Column      | 176.976   | W10X45           | W10X45         |                |                        | 3                   | No       |
| 8th Floor  | C1    | 33          | Column      | 145.752   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 8th Floor  | C2    | 34          | Column      | 145.752   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 7th Floor  | C1    | 29          | Column      | 145.752   | SC3&4            | SC3&4          |                |                        | 3                   | No       |

Table 3.2 - Frame Assignments - Summary (continued)

| Story      | Label | Unique Name | Design Type | Length in | Analysis Section | Design Section | Axis Angle deg | Max Station Spacing in | Min Number Stations | Releases |
|------------|-------|-------------|-------------|-----------|------------------|----------------|----------------|------------------------|---------------------|----------|
| 7th Floor  | C2    | 30          | Column      | 145.752   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 6th Floor  | C1    | 25          | Column      | 182.496   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 6th Floor  | C2    | 26          | Column      | 182.496   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 5th Floor  | C1    | 21          | Column      | 192.504   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 5th Floor  | C2    | 22          | Column      | 192.504   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 4th Floor  | C1    | 17          | Column      | 191.748   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 4th Floor  | C2    | 18          | Column      | 191.748   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 3rd Floor  | C1    | 13          | Column      | 138       | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 3rd Floor  | C2    | 14          | Column      | 138       | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 2nd Floor  | C1    | 9           | Column      | 227.748   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 2nd Floor  | C2    | 10          | Column      | 227.748   | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 1st Floor  | C1    | 5           | Column      | 168       | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 1st Floor  | C2    | 6           | Column      | 168       | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| Cellar     | C1    | 1           | Column      | 168       | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| Cellar     | C2    | 2           | Column      | 168       | SC3&4            | SC3&4          |                |                        | 3                   | No       |
| 16th Floor | B84   | 705         | Beam        | 559.248   | W14X145          | W14X145        |                | 24                     |                     | Yes      |
| 14th Floor | B84   | 133         | Beam        | 559.248   | W14X145          | W14X145        | 90             | 24                     |                     | Yes      |
| 12th Floor | B17   | 128         | Beam        | 559.248   | W14X426          | W14X426        | 90             | 24                     |                     | Yes      |
| 12th Floor | B84   | 131         | Beam        | 559.248   | W14X426          | W14X426        | 90             | 24                     |                     | Yes      |
| 10th Floor | B84   | 122         | Beam        | 559.248   | W10X45           | W10X45         | 90             | 24                     |                     | Yes      |
| 9th Floor  | B15   | 104         | Beam        | 559.248   | W10X45           | W10X45         | 90             | 24                     |                     | Yes      |
| 8th Floor  | B14   | 100         | Beam        | 559.248   | W10X68           | W10X68         | 90             | 24                     |                     | Yes      |
| 7th Floor  | B13   | 96          | Beam        | 559.248   | W10X45           | W10X45         | 90             | 24                     |                     | Yes      |
| 5th Floor  | B12   | 92          | Beam        | 559.248   | W10X45           | W10X45         | 90             | 24                     |                     | Yes      |
| 4th Floor  | B11   | 88          | Beam        | 559.248   | W10X45           | W10X45         | 90             | 24                     |                     | Yes      |
| 3rd Floor  | B10   | 84          | Beam        | 559.248   | W10X45           | W10X45         | 90             | 24                     |                     | Yes      |
| 1st Floor  | B3    | 82          | Beam        | 583.9369  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 1st Floor  | B9    | 83          | Beam        | 291.9685  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 1st Floor  | B83   | 701         | Beam        | 291.9685  | W10X45           | W10X45         |                |                        | 3                   | Yes      |
| 1st Floor  | B84   | 1334        | Beam        | 559.248   | W10X45           | W10X45         |                | 24                     |                     | Yes      |
| Cellar     | B3    | 702         | Beam        | 583.9369  | W10X45           | W10X45         |                |                        | 3                   | Yes      |
| Cellar     | B9    | 703         | Beam        | 291.9685  | W10X45           | W10X45         |                |                        | 3                   | Yes      |
| Cellar     | B83   | 704         | Beam        | 291.9685  | W10X45           | W10X45         |                |                        | 3                   | Yes      |
| Cellar     | B84   | 1335        | Beam        | 559.248   | W10X45           | W10X45         |                | 24                     |                     | Yes      |
| 16th Floor | D47   | 141         | Brace       | 349.1236  | W14X233          | W14X233        | 90             |                        | 3                   | Yes      |
| 16th Floor | D48   | 142         | Brace       | 349.1236  | W14X233          | W14X233        | 90             |                        | 3                   | Yes      |
| 14th Floor | D133  | 136         | Brace       | 278.3434  | W14X233          | W14X233        | 90             |                        | 3                   | Yes      |
| 14th Floor | D134  | 137         | Brace       | 278.3434  | W14X233          | W14X233        | 90             |                        | 3                   | Yes      |
| 12th Floor | D49   | 135         | Brace       | 154.2087  | W14X342          | W14X342        | 90             |                        | 3                   | Yes      |
| 12th Floor | D135  | 138         | Brace       | 154.2087  | W14X342          | W14X342        | 90             |                        | 3                   | Yes      |
| 12th Floor | D136  | 139         | Brace       | 219.9902  | W14X342          | W14X342        | 90             |                        | 3                   | Yes      |
| 12th Floor | D137  | 140         | Brace       | 219.9902  | W14X342          | W14X342        | 90             |                        | 3                   | Yes      |
| 12th Floor | D141  | 129         | Brace       | 408.0305  | W14X342          | W14X342        | 90             |                        | 3                   | Yes      |
| 12th Floor | D142  | 130         | Brace       | 408.0305  | W14X342          | W14X342        | 90             |                        | 3                   | Yes      |

**Table 3.2 - Frame Assignments - Summary (continued)**

| Story      | Label | Unique Name | Design Type | Length in | Analysis Section | Design Section | Axis Angle deg | Max Station Spacing in | Min Number Stations | Releases |
|------------|-------|-------------|-------------|-----------|------------------|----------------|----------------|------------------------|---------------------|----------|
| 10th Floor | D138  | 125         | Brace       | 258.0709  | W10X68           | W10X68         | 90             |                        | 3                   | Yes      |
| 10th Floor | D140  | 127         | Brace       | 269.42    | W10X68           | W10X68         | 90             |                        | 3                   | Yes      |
| 10th Floor | D143  | 126         | Brace       | 134.71    | W10X68           | W10X68         |                |                        | 3                   | Yes      |
| 10th Floor | D144  | 1298        | Brace       | 134.71    | W10X68           | W10X68         |                |                        | 3                   | Yes      |
| 10th Floor | D145  | 1301        | Brace       | 129.0354  | W10X68           | W10X68         |                |                        | 3                   | Yes      |
| 10th Floor | D146  | 1326        | Brace       | 129.0354  | W10X68           | W10X68         |                |                        | 3                   | Yes      |
| 9th Floor  | D36   | 107         | Brace       | 232.1529  | W10X100          | W10X100        | 90             |                        | 3                   | Yes      |
| 9th Floor  | D37   | 108         | Brace       | 298.1954  | W10X68           | W10X68         | 90             |                        | 3                   | Yes      |
| 9th Floor  | D38   | 109         | Brace       | 244.707   | W10X100          | W10X100        | 90             |                        | 3                   | Yes      |
| 8th Floor  | D33   | 101         | Brace       | 610.2049  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 8th Floor  | D34   | 102         | Brace       | 305.1025  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 8th Floor  | D35   | 103         | Brace       | 305.1025  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 7th Floor  | D30   | 97          | Brace       | 608.5845  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 7th Floor  | D31   | 98          | Brace       | 304.2923  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 6th Floor  | D32   | 99          | Brace       | 304.2923  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 5th Floor  | D27   | 93          | Brace       | 608.5722  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 5th Floor  | D28   | 94          | Brace       | 304.2861  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 5th Floor  | D29   | 95          | Brace       | 304.2861  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 4th Floor  | D24   | 89          | Brace       | 608.5703  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 4th Floor  | D25   | 90          | Brace       | 304.2852  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 3rd Floor  | D21   | 85          | Brace       | 610.5791  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 3rd Floor  | D22   | 86          | Brace       | 305.2896  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 3rd Floor  | D26   | 91          | Brace       | 304.2852  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |
| 2nd Floor  | D23   | 87          | Brace       | 305.2896  | W10X45           | W10X45         | 90             |                        | 3                   | Yes      |

**3.3 Shell Assignments**

**Table 3.3 - Shell Assignments - Summary**

| Story      | Label | Unique Name | Section     | Pier |
|------------|-------|-------------|-------------|------|
| 16th Floor | W2    | 899         | 48x57-SC3&4 | T1   |
| 16th Floor | W1    | 900         | 48x57-SC3&4 | T1   |
| 16th Floor | W21   | 908         | 12"SW       | T1   |
| 15th Floor | W2    | 901         | 48x57-SC3&4 | T1   |
| 15th Floor | W1    | 902         | 48x57-SC3&4 | T1   |
| 15th Floor | W21   | 909         | 12"SW       | T1   |
| 14th Floor | W2    | 903         | 48x57-SC3&4 | T1   |
| 14th Floor | W1    | 904         | 48x57-SC3&4 | T1   |
| 14th Floor | W21   | 910         | 12"SW       | T1   |
| 13th Floor | W2    | 905         | 48x57-SC3&4 | T1   |
| 13th Floor | W1    | 906         | 48x57-SC3&4 | T1   |
| 13th Floor | W21   | 911         | 12"SW       | T1   |
| 12th Floor | W2    | 27          | 48x57-SC3&4 | T1   |
| 12th Floor | W1    | 28          | 48x57-SC3&4 | T1   |

**Table 3.3 - Shell Assignments - Summary (continued)**

| Story      | Label | Unique Name | Section     | Pier |
|------------|-------|-------------|-------------|------|
| 12th Floor | W21   | 912         | 12"SW       | T1   |
| 11th Floor | W2    | 25          | 48x57-SC3&4 | T1   |
| 11th Floor | W1    | 26          | 48x57-SC3&4 | T1   |
| 11th Floor | W21   | 913         | 12"SW       | T1   |
| 10th Floor | W2    | 23          | 48x57-SC3&4 | T1   |
| 10th Floor | W1    | 24          | 48x57-SC3&4 | T1   |
| 10th Floor | W21   | 914         | 12"SW       | T1   |
| 9th Floor  | W2    | 21          | 48x57-SC3&4 | T1   |
| 9th Floor  | W1    | 22          | 48x57-SC3&4 | T1   |
| 9th Floor  | W21   | 915         | 18"SW       | T1   |
| 8th Floor  | W2    | 19          | 48x57-SC3&4 | T1   |
| 8th Floor  | W1    | 20          | 48x57-SC3&4 | T1   |
| 8th Floor  | W21   | 916         | 18"SW       | T1   |
| 7th Floor  | W2    | 17          | 48x57-SC3&4 | T1   |
| 7th Floor  | W1    | 18          | 48x57-SC3&4 | T1   |
| 7th Floor  | W21   | 917         | 18"SW       | T1   |
| 6th Floor  | W2    | 15          | 48x57-SC3&4 | T1   |
| 6th Floor  | W1    | 16          | 48x57-SC3&4 | T1   |
| 6th Floor  | W21   | 918         | 18"SW       | T1   |
| 5th Floor  | W2    | 13          | 48x57-SC3&4 | T1   |
| 5th Floor  | W1    | 14          | 48x57-SC3&4 | T1   |
| 5th Floor  | W21   | 919         | 18"SW       | T1   |
| 4th Floor  | W2    | 11          | 48x57-SC3&4 | T1   |
| 4th Floor  | W1    | 12          | 48x57-SC3&4 | T1   |
| 4th Floor  | W21   | 920         | 18"SW       | T1   |
| 3rd Floor  | W2    | 9           | 48x57-SC3&4 | T1   |
| 3rd Floor  | W1    | 10          | 48x57-SC3&4 | T1   |
| 3rd Floor  | W21   | 921         | 18"SW       | T1   |
| 2nd Floor  | W2    | 7           | 48x57-SC3&4 | T1   |
| 2nd Floor  | W1    | 8           | 48x57-SC3&4 | T1   |
| 2nd Floor  | W21   | 922         | 18"SW       | T1   |
| 1st Floor  | W2    | 5           | 48x57-SC3&4 | T1   |
| 1st Floor  | W1    | 6           | 48x57-SC3&4 | T1   |
| 1st Floor  | W21   | 923         | 18"SW       | T1   |
| Cellar     | W2    | 2           | 48x57-SC3&4 | T1   |
| Cellar     | W1    | 1           | 48x57-SC3&4 | T1   |
| Cellar     | W21   | 907         | 18"SW       | T1   |

## 4 Loads

This chapter provides loading information as applied to the model.

### 4.1 Load Patterns

Table 4.1 - Load Patterns

| Name | Type | Self Weight Multiplier | Auto Load |
|------|------|------------------------|-----------|
| Dead | Dead | 1                      |           |
| Live | Live | 0                      |           |
| Wind | Wind | 0                      | None      |

### 4.2 Applied Loads

#### 4.2.1 Point Loads

Table 4.2 - Joint Loads - Force

| Story      | Label | Unique Name | Load Pattern | FX kip | FY kip | FZ kip | MX kip-ft | MY kip-ft | MZ kip-ft | XDim in | YDim in |
|------------|-------|-------------|--------------|--------|--------|--------|-----------|-----------|-----------|---------|---------|
| 16th Floor | 1     | 109         | Dead         | 0      | 0      | -392   | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 2     | 108         | Dead         | 0      | 0      | -476   | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 1     | 5           | Dead         | 0      | 0      | -517   | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 2     | 107         | Dead         | 0      | 0      | -610   | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 1     | 1648        | Dead         | 0      | 0      | -806   | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 2     | 104         | Dead         | 0      | 0      | -869   | 0         | 0         | 0         | 0       | 0       |
| 13th Floor | 1     | 6           | Dead         | 0      | 0      | -918   | 0         | 0         | 0         | 0       | 0       |
| 13th Floor | 2     | 103         | Dead         | 0      | 0      | -1017  | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 1     | 101         | Dead         | 0      | 0      | -7618  | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 2     | 100         | Dead         | 0      | 0      | -8790  | 0         | 0         | 0         | 0       | 0       |
| 11th Floor | 1     | 98          | Dead         | 0      | 0      | -170   | 0         | 0         | 0         | 0       | 0       |
| 11th Floor | 2     | 99          | Dead         | 0      | 0      | -65    | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 1     | 45          | Dead         | 0      | 0      | -1     | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 2     | 46          | Dead         | 0      | 0      | -445   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 1     | 41          | Dead         | 0      | 0      | -123   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 2     | 42          | Dead         | 0      | 0      | -175   | 0         | 0         | 0         | 0       | 0       |
| 8th Floor  | 1     | 37          | Dead         | 0      | 0      | -21    | 0         | 0         | 0         | 0       | 0       |
| 8th Floor  | 2     | 38          | Dead         | 0      | 0      | -168   | 0         | 0         | 0         | 0       | 0       |
| 7th Floor  | 1     | 33          | Dead         | 0      | 0      | -37    | 0         | 0         | 0         | 0       | 0       |
| 7th Floor  | 2     | 34          | Dead         | 0      | 0      | -152   | 0         | 0         | 0         | 0       | 0       |
| 6th Floor  | 1     | 29          | Dead         | 0      | 0      | -68    | 0         | 0         | 0         | 0       | 0       |
| 6th Floor  | 2     | 30          | Dead         | 0      | 0      | -231   | 0         | 0         | 0         | 0       | 0       |
| 5th Floor  | 1     | 25          | Dead         | 0      | 0      | -55    | 0         | 0         | 0         | 0       | 0       |
| 5th Floor  | 2     | 26          | Dead         | 0      | 0      | -194   | 0         | 0         | 0         | 0       | 0       |
| 4th Floor  | 1     | 21          | Dead         | 0      | 0      | -58    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor  | 2     | 22          | Dead         | 0      | 0      | -190   | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor  | 1     | 17          | Dead         | 0      | 0      | -39    | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor  | 2     | 18          | Dead         | 0      | 0      | -138   | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor  | 1     | 13          | Dead         | 0      | 0      | -117   | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor  | 2     | 14          | Dead         | 0      | 0      | -210   | 0         | 0         | 0         | 0       | 0       |

Table 4.2 - Joint Loads - Force (continued)

| Story      | Label | Unique Name | Load Pattern | FX kip | FY kip | FZ kip | MX kip-ft | MY kip-ft | MZ kip-ft | XDim in | YDim in |
|------------|-------|-------------|--------------|--------|--------|--------|-----------|-----------|-----------|---------|---------|
| 1st Floor  | 1     | 9           | Dead         | 0      | 0      | -118   | 0         | 0         | 0         | 0       | 0       |
| 1st Floor  | 2     | 10          | Dead         | 0      | 0      | -149   | 0         | 0         | 0         | 0       | 0       |
| Cellar     | 1     | 2           | Dead         | 0      | 0      | -112   | 0         | 0         | 0         | 0       | 0       |
| Cellar     | 2     | 4           | Dead         | 0      | 0      | -155   | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 1     | 109         | Live         | 0      | 0      | -63    | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 2     | 108         | Live         | 0      | 0      | -97    | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 1     | 5           | Live         | 0      | 0      | -105   | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 2     | 107         | Live         | 0      | 0      | -137   | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 69    | 1961        | Live         | 0      | 0      | 0      | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 1     | 1648        | Live         | 0      | 0      | -121   | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 2     | 104         | Live         | 0      | 0      | -144   | 0         | 0         | 0         | 0       | 0       |
| 13th Floor | 1     | 6           | Live         | 0      | 0      | -302   | 0         | 0         | 0         | 0       | 0       |
| 13th Floor | 2     | 103         | Live         | 0      | 0      | -332   | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 1     | 101         | Live         | 0      | 0      | -1741  | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 2     | 100         | Live         | 0      | 0      | -2255  | 0         | 0         | 0         | 0       | 0       |
| 11th Floor | 1     | 98          | Live         | 0      | 0      | -49    | 0         | 0         | 0         | 0       | 0       |
| 11th Floor | 2     | 99          | Live         | 0      | 0      | -9     | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 1     | 45          | Live         | 0      | 0      | -1     | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 2     | 46          | Live         | 0      | 0      | -155   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 1     | 41          | Live         | 0      | 0      | -22    | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 2     | 42          | Live         | 0      | 0      | -81    | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor  | 1     | 13          | Live         | 0      | 0      | -7     | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor  | 2     | 14          | Live         | 0      | 0      | -7     | 0         | 0         | 0         | 0       | 0       |
| 1st Floor  | 1     | 9           | Live         | 0      | 0      | -11    | 0         | 0         | 0         | 0       | 0       |
| 1st Floor  | 2     | 10          | Live         | 0      | 0      | -19    | 0         | 0         | 0         | 0       | 0       |
| Cellar     | 1     | 2           | Live         | 0      | 0      | -9     | 0         | 0         | 0         | 0       | 0       |
| Cellar     | 2     | 4           | Live         | 0      | 0      | -18    | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 1     | 109         | Wind         | 0      | 295    | 0      | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 2     | 108         | Wind         | 0      | 295    | 0      | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 1     | 5           | Wind         | 0      | 14     | 0      | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 2     | 107         | Wind         | 0      | 14     | 0      | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 1     | 1648        | Wind         | 0      | 15     | 0      | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 2     | 104         | Wind         | 0      | 15     | 0      | 0         | 0         | 0         | 0       | 0       |
| 13th Floor | 1     | 6           | Wind         | 0      | 12.5   | 0      | 0         | 0         | 0         | 0       | 0       |
| 13th Floor | 2     | 103         | Wind         | 0      | 12.5   | 0      | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 1     | 101         | Wind         | 0      | 22     | 0      | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 2     | 100         | Wind         | 0      | 22     | 0      | 0         | 0         | 0         | 0       | 0       |
| 11th Floor | 1     | 98          | Wind         | 0      | 27.5   | 0      | 0         | 0         | 0         | 0       | 0       |
| 11th Floor | 2     | 99          | Wind         | 0      | 27.5   | 0      | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 1     | 45          | Wind         | 0      | 26     | 0      | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 2     | 46          | Wind         | 0      | 26     | 0      | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 1     | 41          | Wind         | 0      | 236.5  | 0      | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 2     | 42          | Wind         | 0      | 236.5  | 0      | 0         | 0         | 0         | 0       | 0       |

4.3 Load Cases

Table 4.3 - Load Cases - Summary

| Name | Type          |
|------|---------------|
| Dead | Linear Static |
| Live | Linear Static |
| Wind | Linear Static |

4.4 Load Combinations

Table 4.4 - Load Combinations

| Name       | Load Case/Combo | Mode | Scale Factor | Type       | Auto |
|------------|-----------------|------|--------------|------------|------|
| Wind+Modal | Wind            |      | 1            | Linear Add | No   |
| Wind+Modal | Modal           | 1    | 1            |            | No   |
| wind 1     | Wind            |      | 1            | Linear Add | No   |
| wind -1    | Wind            |      | -1           | Linear Add | No   |
| UDStIS7    | Dead            |      | 1.4          | Linear Add | No   |
| UDStIS8    | Dead            |      | 1.2          | Linear Add | No   |
| UDStIS8    | Live            |      | 1.6          |            | No   |
| UDStIS9    | Dead            |      | 1.2          | Linear Add | No   |
| UDStIS9    | Live            |      | 1            |            | No   |
| UDStIS9    | Wind            |      | 1            |            | No   |
| UDStIS10   | Dead            |      | 1.2          | Linear Add | No   |
| UDStIS10   | Live            |      | 1            |            | No   |
| UDStIS10   | Wind            |      | -1           |            | No   |
| UDStIS11   | Dead            |      | 0.9          | Linear Add | No   |
| UDStIS11   | Wind            |      | 1            |            | No   |
| UDStIS12   | Dead            |      | 0.9          | Linear Add | No   |
| UDStIS12   | Wind            |      | -1           |            | No   |
| UDStID3    | Dead            |      | 1            | Linear Add | No   |
| UDStID4    | Dead            |      | 1            | Linear Add | No   |
| UDStID4    | Live            |      | 1            |            | No   |
| DWal1      | Dead            |      | 1.4          | Linear Add | Yes  |
| DWal2      | Dead            |      | 1.2          | Linear Add | Yes  |
| DWal2      | Live            |      | 1.6          |            | No   |
| DWal3      | Dead            |      | 1.2          | Linear Add | Yes  |
| DWal3      | Live            |      | 1            |            | No   |
| DWal3      | Wind            |      | 1            |            | No   |
| DWal4      | Dead            |      | 1.2          | Linear Add | Yes  |
| DWal4      | Live            |      | 1            |            | No   |
| DWal4      | Wind            |      | -1           |            | No   |
| DWal5      | Dead            |      | 0.9          | Linear Add | Yes  |
| DWal5      | Wind            |      | 1            |            | No   |
| DWal6      | Dead            |      | 0.9          | Linear Add | Yes  |
| DWal6      | Wind            |      | -1           |            | No   |

## 5 Analysis Results

This chapter provides analysis results.

### 5.1 Structure Results

Table 5.1 - Base Reactions

| Load Case/Combo | FX kip | FY kip | FZ kip    | MX kip-ft  | MY kip-ft  | MZ kip-ft   | X ft | Y ft | Z ft |
|-----------------|--------|--------|-----------|------------|------------|-------------|------|------|------|
| Dead            | 0      | 0      | 29775.854 | 1430528    | -6156158   | -0.0001     | 0    | 0    | -28  |
| Live            | 0      | 0      | 5685      | 279561.916 | -1175374   | -3.977E-05  | 0    | 0    | -28  |
| Wind            | 0      | -1297  | 0         | 249207.767 | -9.908E-07 | -268155     | 0    | 0    | -28  |
| Wind+Modal      | 0      | -1297  | 0         | 249207.767 | -9.908E-07 | -268155     | 0    | 0    | -28  |
| wind 1          | 0      | -1297  | 0         | 249207.767 | -9.908E-07 | -268155     | 0    | 0    | -28  |
| wind -1         | 0      | 1297   | 0         | -249208    | 9.908E-07  | 268154.7509 | 0    | 0    | -28  |
| UDStIS7         | 0      | 0      | 41686.195 | 2002739    | -8618621   | -0.0002     | 0    | 0    | -28  |
| UDStIS8         | 0      | 0      | 44827.024 | 2163933    | -9267987   | -0.0002     | 0    | 0    | -28  |
| UDStIS9         | 0      | -1297  | 41416.024 | 2245403    | -8562763   | -268155     | 0    | 0    | -28  |
| UDStIS10        | 0      | 1297   | 41416.024 | 1746988    | -8562763   | 268154.7507 | 0    | 0    | -28  |
| UDStIS11        | 0      | -1297  | 26798.268 | 1536683    | -5540542   | -268155     | 0    | 0    | -28  |
| UDStIS12        | 0      | 1297   | 26798.268 | 1038267    | -5540542   | 268154.7507 | 0    | 0    | -28  |
| UDStID3         | 0      | 0      | 29775.854 | 1430528    | -6156158   | -0.0001     | 0    | 0    | -28  |
| UDStID4         | 0      | 0      | 35460.854 | 1710090    | -7331532   | -0.0002     | 0    | 0    | -28  |
| DWal1           | 0      | 0      | 41686.195 | 2002739    | -8618621   | -0.0002     | 0    | 0    | -28  |
| DWal2           | 0      | 0      | 44827.024 | 2163933    | -9267987   | -0.0002     | 0    | 0    | -28  |
| DWal3           | 0      | -1297  | 41416.024 | 2245403    | -8562763   | -268155     | 0    | 0    | -28  |
| DWal4           | 0      | 1297   | 41416.024 | 1746988    | -8562763   | 268154.7507 | 0    | 0    | -28  |
| DWal5           | 0      | -1297  | 26798.268 | 1536683    | -5540542   | -268155     | 0    | 0    | -28  |
| DWal6           | 0      | 1297   | 26798.268 | 1038267    | -5540542   | 268154.7507 | 0    | 0    | -28  |

### 5.2 Story Results

Table 5.2 - Story Drifts

| Story      | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft   | Z ft   |
|------------|-----------------|-----------|----------|-------|--------|--------|--------|
| 16th Floor | Dead            | Y         | 0.0003   | 70    | 206.75 | 20.125 | 202.67 |
| 16th Floor | Live            | Y         | 0.000101 | 70    | 206.75 | 20.125 | 202.67 |
| 16th Floor | Wind            | Y         | 0.00071  | 71    | 206.75 | 71.479 | 202.67 |
| 16th Floor | Wind+Modal      | Y         | 0.00071  | 71    | 206.75 | 71.479 | 202.67 |
| 16th Floor | wind 1          | Y         | 0.00071  | 71    | 206.75 | 71.479 | 202.67 |
| 16th Floor | wind -1         | Y         | 0.00071  | 71    | 206.75 | 71.479 | 202.67 |
| 16th Floor | UDStIS7         | Y         | 0.00042  | 70    | 206.75 | 20.125 | 202.67 |
| 16th Floor | UDStIS8         | Y         | 0.000522 | 70    | 206.75 | 20.125 | 202.67 |
| 16th Floor | UDStIS9         | Y         | 0.001166 | 70    | 206.75 | 20.125 | 202.67 |
| 16th Floor | UDStIS10        | Y         | 0.000318 | 71    | 206.75 | 71.479 | 202.67 |
| 16th Floor | UDStIS11        | Y         | 0.000975 | 70    | 206.75 | 20.125 | 202.67 |
| 16th Floor | UDStIS12        | Y         | 0.000482 | 71    | 206.75 | 71.479 | 202.67 |
| 16th Floor | UDStID3         | Y         | 0.0003   | 70    | 206.75 | 20.125 | 202.67 |
| 16th Floor | UDStID4         | Y         | 0.000401 | 70    | 206.75 | 20.125 | 202.67 |
| 16th Floor | DWal1           | Y         | 0.00042  | 70    | 206.75 | 20.125 | 202.67 |



Table 5.2 - Story Drifts (continued)

| Story      | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft   | Z ft   |
|------------|-----------------|-----------|----------|-------|--------|--------|--------|
| 16th Floor | DWal2           | Y         | 0.000522 | 70    | 206.75 | 20.125 | 202.67 |
| 16th Floor | DWal3           | Y         | 0.001166 | 70    | 206.75 | 20.125 | 202.67 |
| 16th Floor | DWal4           | Y         | 0.000318 | 71    | 206.75 | 71.479 | 202.67 |
| 16th Floor | DWal5           | Y         | 0.000975 | 70    | 206.75 | 20.125 | 202.67 |
| 16th Floor | DWal6           | Y         | 0.000482 | 71    | 206.75 | 71.479 | 202.67 |
| 15th Floor | Dead            | Y         | 0.000297 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | Live            | Y         | 0.000101 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | Wind            | Y         | 0.000701 | 69    | 206.75 | 24.875 | 193.96 |
| 15th Floor | Wind+Modal      | Y         | 0.000701 | 69    | 206.75 | 24.875 | 193.96 |
| 15th Floor | wind 1          | Y         | 0.000701 | 69    | 206.75 | 24.875 | 193.96 |
| 15th Floor | wind -1         | Y         | 0.000701 | 69    | 206.75 | 24.875 | 193.96 |
| 15th Floor | UDStIS7         | Y         | 0.000415 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | UDStIS8         | Y         | 0.000518 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | UDStIS9         | Y         | 0.001155 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | UDStIS10        | Y         | 0.000321 | 71    | 206.75 | 71.479 | 193.96 |
| 15th Floor | UDStIS11        | Y         | 0.000965 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | UDStIS12        | Y         | 0.000479 | 71    | 206.75 | 71.479 | 193.96 |
| 15th Floor | UDStID3         | Y         | 0.000297 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | UDStID4         | Y         | 0.000398 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | DWal1           | Y         | 0.000415 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | DWal2           | Y         | 0.000518 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | DWal3           | Y         | 0.001155 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | DWal4           | Y         | 0.000321 | 71    | 206.75 | 71.479 | 193.96 |
| 15th Floor | DWal5           | Y         | 0.000965 | 70    | 206.75 | 20.125 | 193.96 |
| 15th Floor | DWal6           | Y         | 0.000479 | 71    | 206.75 | 71.479 | 193.96 |
| 14th Floor | Dead            | Y         | 0.000311 | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | Live            | Y         | 0.000103 | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | Wind            | Y         | 0.0007   | 70    | 206.75 | 20.125 | 185.25 |
| 14th Floor | Wind+Modal      | Y         | 0.0007   | 70    | 206.75 | 20.125 | 185.25 |
| 14th Floor | wind 1          | Y         | 0.0007   | 70    | 206.75 | 20.125 | 185.25 |
| 14th Floor | wind -1         | Y         | 0.0007   | 70    | 206.75 | 20.125 | 185.25 |
| 14th Floor | UDStIS7         | Y         | 0.000436 | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | UDStIS8         | Y         | 0.000538 | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | UDStIS9         | Y         | 0.001177 | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | UDStIS10        | Y         | 0.000339 | 72    | 206.75 | 66.729 | 185.25 |
| 14th Floor | UDStIS11        | Y         | 0.00098  | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | UDStIS12        | Y         | 0.000491 | 72    | 206.75 | 66.729 | 185.25 |
| 14th Floor | UDStID3         | Y         | 0.000311 | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | UDStID4         | Y         | 0.000414 | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | DWal1           | Y         | 0.000436 | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | DWal2           | Y         | 0.000538 | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | DWal3           | Y         | 0.001177 | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | DWal4           | Y         | 0.000339 | 72    | 206.75 | 66.729 | 185.25 |
| 14th Floor | DWal5           | Y         | 0.00098  | 69    | 206.75 | 24.875 | 185.25 |
| 14th Floor | DWal6           | Y         | 0.000491 | 72    | 206.75 | 66.729 | 185.25 |

Table 5.2 - Story Drifts (continued)

| Story      | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft   | Z ft    |
|------------|-----------------|-----------|----------|-------|--------|--------|---------|
| 13th Floor | Dead            | Y         | 0.00031  | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | Live            | Y         | 0.000104 | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | Wind            | Y         | 0.000695 | 69    | 206.75 | 24.875 | 176.54  |
| 13th Floor | Wind+Modal      | Y         | 0.000695 | 69    | 206.75 | 24.875 | 176.54  |
| 13th Floor | wind 1          | Y         | 0.000695 | 69    | 206.75 | 24.875 | 176.54  |
| 13th Floor | wind -1         | Y         | 0.000695 | 69    | 206.75 | 24.875 | 176.54  |
| 13th Floor | UDStIS7         | Y         | 0.000435 | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | UDStIS8         | Y         | 0.000539 | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | UDStIS9         | Y         | 0.001171 | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | UDStIS10        | Y         | 0.000324 | 69    | 206.75 | 24.875 | 176.54  |
| 13th Floor | UDStIS11        | Y         | 0.000973 | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | UDStIS12        | Y         | 0.000479 | 69    | 206.75 | 24.875 | 176.54  |
| 13th Floor | UDStID3         | Y         | 0.00031  | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | UDStID4         | Y         | 0.000415 | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | DWal1           | Y         | 0.000435 | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | DWal2           | Y         | 0.000539 | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | DWal3           | Y         | 0.001171 | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | DWal4           | Y         | 0.000324 | 69    | 206.75 | 24.875 | 176.54  |
| 13th Floor | DWal5           | Y         | 0.000973 | 72    | 206.75 | 66.729 | 176.54  |
| 13th Floor | DWal6           | Y         | 0.000479 | 69    | 206.75 | 24.875 | 176.54  |
| 12th Floor | Dead            | Y         | 0.000274 | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | Live            | Y         | 9.2E-05  | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | Wind            | Y         | 0.000685 | 72    | 206.75 | 66.729 | 167.833 |
| 12th Floor | Wind+Modal      | Y         | 0.000685 | 72    | 206.75 | 66.729 | 167.833 |
| 12th Floor | wind 1          | Y         | 0.000685 | 72    | 206.75 | 66.729 | 167.833 |
| 12th Floor | wind -1         | Y         | 0.000685 | 72    | 206.75 | 66.729 | 167.833 |
| 12th Floor | UDStIS7         | Y         | 0.000383 | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | UDStIS8         | Y         | 0.000475 | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | UDStIS9         | Y         | 0.001103 | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | UDStIS10        | Y         | 0.000297 | 71    | 206.75 | 71.479 | 167.833 |
| 12th Floor | UDStIS11        | Y         | 0.000929 | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | UDStIS12        | Y         | 0.000459 | 71    | 206.75 | 71.479 | 167.833 |
| 12th Floor | UDStID3         | Y         | 0.000274 | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | UDStID4         | Y         | 0.000365 | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | DWal1           | Y         | 0.000383 | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | DWal2           | Y         | 0.000475 | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | DWal3           | Y         | 0.001103 | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | DWal4           | Y         | 0.000297 | 71    | 206.75 | 71.479 | 167.833 |
| 12th Floor | DWal5           | Y         | 0.000929 | 70    | 206.75 | 20.125 | 167.833 |
| 12th Floor | DWal6           | Y         | 0.000459 | 71    | 206.75 | 71.479 | 167.833 |
| 11th Floor | Dead            | Y         | 0.000302 | 70    | 206.75 | 20.125 | 150.417 |
| 11th Floor | Live            | Y         | 9.6E-05  | 70    | 206.75 | 20.125 | 150.417 |
| 11th Floor | Wind            | Y         | 0.000675 | 69    | 206.75 | 24.875 | 150.417 |
| 11th Floor | Wind+Modal      | Y         | 0.000675 | 69    | 206.75 | 24.875 | 150.417 |
| 11th Floor | wind 1          | Y         | 0.000675 | 69    | 206.75 | 24.875 | 150.417 |

Table 5.2 - Story Drifts (continued)

| Story      | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft    |
|------------|-----------------|-----------|----------|-------|--------|---------|---------|
| 11th Floor | wind -1         | Y         | 0.000675 | 69    | 206.75 | 24.875  | 150.417 |
| 11th Floor | UDStIS7         | Y         | 0.000423 | 70    | 206.75 | 20.125  | 150.417 |
| 11th Floor | UDStIS8         | Y         | 0.000516 | 70    | 206.75 | 20.125  | 150.417 |
| 11th Floor | UDStIS9         | Y         | 0.001133 | 70    | 206.75 | 20.125  | 150.417 |
| 11th Floor | UDStIS10        | Y         | 0.000375 | 71    | 206.75 | 71.479  | 150.417 |
| 11th Floor | UDStIS11        | Y         | 0.000947 | 70    | 206.75 | 20.125  | 150.417 |
| 11th Floor | UDStIS12        | Y         | 0.000502 | 71    | 206.75 | 71.479  | 150.417 |
| 11th Floor | UDStID3         | Y         | 0.000302 | 70    | 206.75 | 20.125  | 150.417 |
| 11th Floor | UDStID4         | Y         | 0.000398 | 70    | 206.75 | 20.125  | 150.417 |
| 11th Floor | DWal1           | Y         | 0.000423 | 70    | 206.75 | 20.125  | 150.417 |
| 11th Floor | DWal2           | Y         | 0.000516 | 70    | 206.75 | 20.125  | 150.417 |
| 11th Floor | DWal3           | Y         | 0.001133 | 70    | 206.75 | 20.125  | 150.417 |
| 11th Floor | DWal4           | Y         | 0.000375 | 71    | 206.75 | 71.479  | 150.417 |
| 11th Floor | DWal5           | Y         | 0.000947 | 70    | 206.75 | 20.125  | 150.417 |
| 11th Floor | DWal6           | Y         | 0.000502 | 71    | 206.75 | 71.479  | 150.417 |
| 10th Floor | Dead            | Y         | 0.000327 | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | Live            | Y         | 9.9E-05  | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | Wind            | Y         | 0.000682 | 278   | 206.75 | 36.8333 | 133     |
| 10th Floor | Wind+Modal      | Y         | 0.000682 | 278   | 206.75 | 36.8333 | 133     |
| 10th Floor | wind 1          | Y         | 0.000682 | 278   | 206.75 | 36.8333 | 133     |
| 10th Floor | wind -1         | Y         | 0.000682 | 278   | 206.75 | 36.8333 | 133     |
| 10th Floor | UDStIS7         | Y         | 0.000458 | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | UDStIS8         | Y         | 0.000551 | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | UDStIS9         | Y         | 0.001168 | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | UDStIS10        | Y         | 0.000433 | 278   | 206.75 | 36.8333 | 133     |
| 10th Floor | UDStIS11        | Y         | 0.000971 | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | UDStIS12        | Y         | 0.000541 | 278   | 206.75 | 36.8333 | 133     |
| 10th Floor | UDStID3         | Y         | 0.000327 | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | UDStID4         | Y         | 0.000426 | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | DWal1           | Y         | 0.000458 | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | DWal2           | Y         | 0.000551 | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | DWal3           | Y         | 0.001168 | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | DWal4           | Y         | 0.000433 | 278   | 206.75 | 36.8333 | 133     |
| 10th Floor | DWal5           | Y         | 0.000971 | 25    | 206.75 | 56.5833 | 133     |
| 10th Floor | DWal6           | Y         | 0.000541 | 278   | 206.75 | 36.8333 | 133     |
| 9th Floor  | Dead            | Y         | 0.000229 | 71    | 206.75 | 71.479  | 117     |
| 9th Floor  | Live            | Y         | 7.2E-05  | 71    | 206.75 | 71.479  | 117     |
| 9th Floor  | Wind            | Y         | 0.000641 | 70    | 206.75 | 20.125  | 117     |
| 9th Floor  | Wind+Modal      | Y         | 0.000641 | 70    | 206.75 | 20.125  | 117     |
| 9th Floor  | wind 1          | Y         | 0.000641 | 70    | 206.75 | 20.125  | 117     |
| 9th Floor  | wind -1         | Y         | 0.000641 | 70    | 206.75 | 20.125  | 117     |
| 9th Floor  | UDStIS7         | Y         | 0.000321 | 71    | 206.75 | 71.479  | 117     |
| 9th Floor  | UDStIS8         | Y         | 0.000391 | 71    | 206.75 | 71.479  | 117     |
| 9th Floor  | UDStIS9         | Y         | 0.000989 | 71    | 206.75 | 71.479  | 117     |
| 9th Floor  | UDStIS10        | Y         | 0.000344 | 70    | 206.75 | 20.125  | 117     |

Table 5.2 - Story Drifts (continued)

| Story     | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft   | Z ft   |
|-----------|-----------------|-----------|----------|-------|--------|--------|--------|
| 9th Floor | UDStIS11        | Y         | 0.000847 | 71    | 206.75 | 71.479 | 117    |
| 9th Floor | UDStIS12        | Y         | 0.000467 | 70    | 206.75 | 20.125 | 117    |
| 9th Floor | UDStID3         | Y         | 0.000229 | 71    | 206.75 | 71.479 | 117    |
| 9th Floor | UDStID4         | Y         | 0.000302 | 71    | 206.75 | 71.479 | 117    |
| 9th Floor | DWal1           | Y         | 0.000321 | 71    | 206.75 | 71.479 | 117    |
| 9th Floor | DWal2           | Y         | 0.000391 | 71    | 206.75 | 71.479 | 117    |
| 9th Floor | DWal3           | Y         | 0.000989 | 71    | 206.75 | 71.479 | 117    |
| 9th Floor | DWal4           | Y         | 0.000344 | 70    | 206.75 | 20.125 | 117    |
| 9th Floor | DWal5           | Y         | 0.000847 | 71    | 206.75 | 71.479 | 117    |
| 9th Floor | DWal6           | Y         | 0.000467 | 70    | 206.75 | 20.125 | 117    |
| 8th Floor | Dead            | Y         | 0.000212 | 70    | 206.75 | 20.125 | 102    |
| 8th Floor | Live            | Y         | 6.5E-05  | 70    | 206.75 | 20.125 | 102    |
| 8th Floor | Wind            | Y         | 0.000613 | 72    | 206.75 | 66.729 | 102    |
| 8th Floor | Wind+Modal      | Y         | 0.000613 | 72    | 206.75 | 66.729 | 102    |
| 8th Floor | wind 1          | Y         | 0.000613 | 72    | 206.75 | 66.729 | 102    |
| 8th Floor | wind -1         | Y         | 0.000613 | 72    | 206.75 | 66.729 | 102    |
| 8th Floor | UDStIS7         | Y         | 0.000296 | 70    | 206.75 | 20.125 | 102    |
| 8th Floor | UDStIS8         | Y         | 0.000358 | 70    | 206.75 | 20.125 | 102    |
| 8th Floor | UDStIS9         | Y         | 0.00093  | 69    | 206.75 | 24.875 | 102    |
| 8th Floor | UDStIS10        | Y         | 0.000338 | 72    | 206.75 | 66.729 | 102    |
| 8th Floor | UDStIS11        | Y         | 0.000802 | 69    | 206.75 | 24.875 | 102    |
| 8th Floor | UDStIS12        | Y         | 0.000451 | 72    | 206.75 | 66.729 | 102    |
| 8th Floor | UDStID3         | Y         | 0.000212 | 70    | 206.75 | 20.125 | 102    |
| 8th Floor | UDStID4         | Y         | 0.000276 | 70    | 206.75 | 20.125 | 102    |
| 8th Floor | DWal1           | Y         | 0.000296 | 70    | 206.75 | 20.125 | 102    |
| 8th Floor | DWal2           | Y         | 0.000358 | 70    | 206.75 | 20.125 | 102    |
| 8th Floor | DWal3           | Y         | 0.00093  | 69    | 206.75 | 24.875 | 102    |
| 8th Floor | DWal4           | Y         | 0.000338 | 72    | 206.75 | 66.729 | 102    |
| 8th Floor | DWal5           | Y         | 0.000802 | 69    | 206.75 | 24.875 | 102    |
| 8th Floor | DWal6           | Y         | 0.000451 | 72    | 206.75 | 66.729 | 102    |
| 7th Floor | Dead            | Y         | 0.000184 | 70    | 206.75 | 20.125 | 89.854 |
| 7th Floor | Live            | Y         | 5.6E-05  | 70    | 206.75 | 20.125 | 89.854 |
| 7th Floor | Wind            | Y         | 0.000582 | 72    | 206.75 | 66.729 | 89.854 |
| 7th Floor | Wind+Modal      | Y         | 0.000582 | 72    | 206.75 | 66.729 | 89.854 |
| 7th Floor | wind 1          | Y         | 0.000582 | 72    | 206.75 | 66.729 | 89.854 |
| 7th Floor | wind -1         | Y         | 0.000582 | 72    | 206.75 | 66.729 | 89.854 |
| 7th Floor | UDStIS7         | Y         | 0.000257 | 70    | 206.75 | 20.125 | 89.854 |
| 7th Floor | UDStIS8         | Y         | 0.00031  | 70    | 206.75 | 20.125 | 89.854 |
| 7th Floor | UDStIS9         | Y         | 0.000857 | 69    | 206.75 | 24.875 | 89.854 |
| 7th Floor | UDStIS10        | Y         | 0.000315 | 71    | 206.75 | 71.479 | 89.854 |
| 7th Floor | UDStIS11        | Y         | 0.000746 | 69    | 206.75 | 24.875 | 89.854 |
| 7th Floor | UDStIS12        | Y         | 0.000423 | 72    | 206.75 | 66.729 | 89.854 |
| 7th Floor | UDStID3         | Y         | 0.000184 | 70    | 206.75 | 20.125 | 89.854 |
| 7th Floor | UDStID4         | Y         | 0.00024  | 70    | 206.75 | 20.125 | 89.854 |
| 7th Floor | DWal1           | Y         | 0.000257 | 70    | 206.75 | 20.125 | 89.854 |

Table 5.2 - Story Drifts (continued)

| Story     | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft   | Z ft   |
|-----------|-----------------|-----------|----------|-------|--------|--------|--------|
| 7th Floor | DWal2           | Y         | 0.00031  | 70    | 206.75 | 20.125 | 89.854 |
| 7th Floor | DWal3           | Y         | 0.000857 | 69    | 206.75 | 24.875 | 89.854 |
| 7th Floor | DWal4           | Y         | 0.000315 | 71    | 206.75 | 71.479 | 89.854 |
| 7th Floor | DWal5           | Y         | 0.000746 | 69    | 206.75 | 24.875 | 89.854 |
| 7th Floor | DWal6           | Y         | 0.000423 | 72    | 206.75 | 66.729 | 89.854 |
| 6th Floor | Dead            | Y         | 0.000161 | 70    | 206.75 | 20.125 | 77.708 |
| 6th Floor | Live            | Y         | 4.9E-05  | 71    | 206.75 | 71.479 | 77.708 |
| 6th Floor | Wind            | Y         | 0.00054  | 69    | 206.75 | 24.875 | 77.708 |
| 6th Floor | Wind+Modal      | Y         | 0.00054  | 69    | 206.75 | 24.875 | 77.708 |
| 6th Floor | wind 1          | Y         | 0.00054  | 69    | 206.75 | 24.875 | 77.708 |
| 6th Floor | wind -1         | Y         | 0.00054  | 69    | 206.75 | 24.875 | 77.708 |
| 6th Floor | UDStIS7         | Y         | 0.000226 | 70    | 206.75 | 20.125 | 77.708 |
| 6th Floor | UDStIS8         | Y         | 0.000271 | 72    | 206.75 | 66.729 | 77.708 |
| 6th Floor | UDStIS9         | Y         | 0.000782 | 72    | 206.75 | 66.729 | 77.708 |
| 6th Floor | UDStIS10        | Y         | 0.000299 | 69    | 206.75 | 24.875 | 77.708 |
| 6th Floor | UDStIS11        | Y         | 0.000685 | 69    | 206.75 | 24.875 | 77.708 |
| 6th Floor | UDStIS12        | Y         | 0.000396 | 72    | 206.75 | 66.729 | 77.708 |
| 6th Floor | UDStID3         | Y         | 0.000161 | 70    | 206.75 | 20.125 | 77.708 |
| 6th Floor | UDStID4         | Y         | 0.00021  | 72    | 206.75 | 66.729 | 77.708 |
| 6th Floor | DWal1           | Y         | 0.000226 | 70    | 206.75 | 20.125 | 77.708 |
| 6th Floor | DWal2           | Y         | 0.000271 | 72    | 206.75 | 66.729 | 77.708 |
| 6th Floor | DWal3           | Y         | 0.000782 | 72    | 206.75 | 66.729 | 77.708 |
| 6th Floor | DWal4           | Y         | 0.000299 | 69    | 206.75 | 24.875 | 77.708 |
| 6th Floor | DWal5           | Y         | 0.000685 | 69    | 206.75 | 24.875 | 77.708 |
| 6th Floor | DWal6           | Y         | 0.000396 | 72    | 206.75 | 66.729 | 77.708 |
| 5th Floor | Dead            | Y         | 0.000139 | 70    | 206.75 | 20.125 | 62.5   |
| 5th Floor | Live            | Y         | 4.1E-05  | 72    | 206.75 | 66.729 | 62.5   |
| 5th Floor | Wind            | Y         | 0.000486 | 69    | 206.75 | 24.875 | 62.5   |
| 5th Floor | Wind+Modal      | Y         | 0.000486 | 69    | 206.75 | 24.875 | 62.5   |
| 5th Floor | wind 1          | Y         | 0.000486 | 69    | 206.75 | 24.875 | 62.5   |
| 5th Floor | wind -1         | Y         | 0.000486 | 69    | 206.75 | 24.875 | 62.5   |
| 5th Floor | UDStIS7         | Y         | 0.000195 | 70    | 206.75 | 20.125 | 62.5   |
| 5th Floor | UDStIS8         | Y         | 0.000232 | 70    | 206.75 | 20.125 | 62.5   |
| 5th Floor | UDStIS9         | Y         | 0.000693 | 69    | 206.75 | 24.875 | 62.5   |
| 5th Floor | UDStIS10        | Y         | 0.00028  | 72    | 206.75 | 66.729 | 62.5   |
| 5th Floor | UDStIS11        | Y         | 0.000611 | 69    | 206.75 | 24.875 | 62.5   |
| 5th Floor | UDStIS12        | Y         | 0.000362 | 72    | 206.75 | 66.729 | 62.5   |
| 5th Floor | UDStID3         | Y         | 0.000139 | 70    | 206.75 | 20.125 | 62.5   |
| 5th Floor | UDStID4         | Y         | 0.00018  | 70    | 206.75 | 20.125 | 62.5   |
| 5th Floor | DWal1           | Y         | 0.000195 | 70    | 206.75 | 20.125 | 62.5   |
| 5th Floor | DWal2           | Y         | 0.000232 | 70    | 206.75 | 20.125 | 62.5   |
| 5th Floor | DWal3           | Y         | 0.000693 | 69    | 206.75 | 24.875 | 62.5   |
| 5th Floor | DWal4           | Y         | 0.00028  | 72    | 206.75 | 66.729 | 62.5   |
| 5th Floor | DWal5           | Y         | 0.000611 | 69    | 206.75 | 24.875 | 62.5   |
| 5th Floor | DWal6           | Y         | 0.000362 | 72    | 206.75 | 66.729 | 62.5   |

Table 5.2 - Story Drifts (continued)

| Story     | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft   | Z ft   |
|-----------|-----------------|-----------|----------|-------|--------|--------|--------|
| 4th Floor | Dead            | Y         | 0.000115 | 70    | 206.75 | 20.125 | 46.458 |
| 4th Floor | Live            | Y         | 3.3E-05  | 71    | 206.75 | 71.479 | 46.458 |
| 4th Floor | Wind            | Y         | 0.000422 | 72    | 206.75 | 66.729 | 46.458 |
| 4th Floor | Wind+Modal      | Y         | 0.000422 | 72    | 206.75 | 66.729 | 46.458 |
| 4th Floor | wind 1          | Y         | 0.000422 | 72    | 206.75 | 66.729 | 46.458 |
| 4th Floor | wind -1         | Y         | 0.000422 | 72    | 206.75 | 66.729 | 46.458 |
| 4th Floor | UDStIS7         | Y         | 0.000161 | 70    | 206.75 | 20.125 | 46.458 |
| 4th Floor | UDStIS8         | Y         | 0.000191 | 70    | 206.75 | 20.125 | 46.458 |
| 4th Floor | UDStIS9         | Y         | 0.000593 | 69    | 206.75 | 24.875 | 46.458 |
| 4th Floor | UDStIS10        | Y         | 0.000255 | 72    | 206.75 | 66.729 | 46.458 |
| 4th Floor | UDStIS11        | Y         | 0.000525 | 69    | 206.75 | 24.875 | 46.458 |
| 4th Floor | UDStIS12        | Y         | 0.000321 | 72    | 206.75 | 66.729 | 46.458 |
| 4th Floor | UDStID3         | Y         | 0.000115 | 70    | 206.75 | 20.125 | 46.458 |
| 4th Floor | UDStID4         | Y         | 0.000148 | 70    | 206.75 | 20.125 | 46.458 |
| 4th Floor | DWal1           | Y         | 0.000161 | 70    | 206.75 | 20.125 | 46.458 |
| 4th Floor | DWal2           | Y         | 0.000191 | 70    | 206.75 | 20.125 | 46.458 |
| 4th Floor | DWal3           | Y         | 0.000593 | 69    | 206.75 | 24.875 | 46.458 |
| 4th Floor | DWal4           | Y         | 0.000255 | 72    | 206.75 | 66.729 | 46.458 |
| 4th Floor | DWal5           | Y         | 0.000525 | 69    | 206.75 | 24.875 | 46.458 |
| 4th Floor | DWal6           | Y         | 0.000321 | 72    | 206.75 | 66.729 | 46.458 |
| 3rd Floor | Dead            | Y         | 9.7E-05  | 70    | 206.75 | 20.125 | 30.479 |
| 3rd Floor | Live            | Y         | 2.7E-05  | 70    | 206.75 | 20.125 | 30.479 |
| 3rd Floor | Wind            | Y         | 0.000359 | 72    | 206.75 | 66.729 | 30.479 |
| 3rd Floor | Wind+Modal      | Y         | 0.000359 | 72    | 206.75 | 66.729 | 30.479 |
| 3rd Floor | wind 1          | Y         | 0.000359 | 72    | 206.75 | 66.729 | 30.479 |
| 3rd Floor | wind -1         | Y         | 0.000359 | 72    | 206.75 | 66.729 | 30.479 |
| 3rd Floor | UDStIS7         | Y         | 0.000135 | 70    | 206.75 | 20.125 | 30.479 |
| 3rd Floor | UDStIS8         | Y         | 0.000159 | 70    | 206.75 | 20.125 | 30.479 |
| 3rd Floor | UDStIS9         | Y         | 0.000501 | 70    | 206.75 | 20.125 | 30.479 |
| 3rd Floor | UDStIS10        | Y         | 0.000231 | 71    | 206.75 | 71.479 | 30.479 |
| 3rd Floor | UDStIS11        | Y         | 0.000445 | 69    | 206.75 | 24.875 | 30.479 |
| 3rd Floor | UDStIS12        | Y         | 0.000282 | 71    | 206.75 | 71.479 | 30.479 |
| 3rd Floor | UDStID3         | Y         | 9.7E-05  | 70    | 206.75 | 20.125 | 30.479 |
| 3rd Floor | UDStID4         | Y         | 0.000124 | 70    | 206.75 | 20.125 | 30.479 |
| 3rd Floor | DWal1           | Y         | 0.000135 | 70    | 206.75 | 20.125 | 30.479 |
| 3rd Floor | DWal2           | Y         | 0.000159 | 70    | 206.75 | 20.125 | 30.479 |
| 3rd Floor | DWal3           | Y         | 0.000501 | 70    | 206.75 | 20.125 | 30.479 |
| 3rd Floor | DWal4           | Y         | 0.000231 | 71    | 206.75 | 71.479 | 30.479 |
| 3rd Floor | DWal5           | Y         | 0.000445 | 69    | 206.75 | 24.875 | 30.479 |
| 3rd Floor | DWal6           | Y         | 0.000282 | 71    | 206.75 | 71.479 | 30.479 |
| 2nd Floor | Dead            | Y         | 7.2E-05  | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | Live            | Y         | 2E-05    | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | Wind            | Y         | 0.000281 | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | Wind+Modal      | Y         | 0.000281 | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | wind 1          | Y         | 0.000281 | 69    | 206.75 | 24.875 | 18.979 |

Table 5.2 - Story Drifts (continued)

| Story     | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft   | Z ft   |
|-----------|-----------------|-----------|----------|-------|--------|--------|--------|
| 2nd Floor | wind -1         | Y         | 0.000281 | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | UDStIS7         | Y         | 0.0001   | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | UDStIS8         | Y         | 0.000118 | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | UDStIS9         | Y         | 0.000387 | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | UDStIS10        | Y         | 0.000194 | 72    | 206.75 | 66.729 | 18.979 |
| 2nd Floor | UDStIS11        | Y         | 0.000346 | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | UDStIS12        | Y         | 0.000229 | 72    | 206.75 | 66.729 | 18.979 |
| 2nd Floor | UDStID3         | Y         | 7.2E-05  | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | UDStID4         | Y         | 9.1E-05  | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | DWal1           | Y         | 0.0001   | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | DWal2           | Y         | 0.000118 | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | DWal3           | Y         | 0.000387 | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | DWal4           | Y         | 0.000194 | 72    | 206.75 | 66.729 | 18.979 |
| 2nd Floor | DWal5           | Y         | 0.000346 | 69    | 206.75 | 24.875 | 18.979 |
| 2nd Floor | DWal6           | Y         | 0.000229 | 72    | 206.75 | 66.729 | 18.979 |
| 1st Floor | Dead            | Y         | 7.4E-05  | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | Live            | Y         | 1.8E-05  | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | Wind            | Y         | 0.000194 | 69    | 206.75 | 24.875 | 0      |
| 1st Floor | Wind+Modal      | Y         | 0.000194 | 69    | 206.75 | 24.875 | 0      |
| 1st Floor | wind 1          | Y         | 0.000194 | 69    | 206.75 | 24.875 | 0      |
| 1st Floor | wind -1         | Y         | 0.000194 | 69    | 206.75 | 24.875 | 0      |
| 1st Floor | UDStIS7         | Y         | 0.000103 | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | UDStIS8         | Y         | 0.000117 | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | UDStIS9         | Y         | 0.000301 | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | UDStIS10        | Y         | 0.000191 | 69    | 206.75 | 24.875 | 0      |
| 1st Floor | UDStIS11        | Y         | 0.000261 | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | UDStIS12        | Y         | 0.000194 | 69    | 206.75 | 24.875 | 0      |
| 1st Floor | UDStID3         | Y         | 7.4E-05  | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | UDStID4         | Y         | 9.2E-05  | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | DWal1           | Y         | 0.000103 | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | DWal2           | Y         | 0.000117 | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | DWal3           | Y         | 0.000301 | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | DWal4           | Y         | 0.000191 | 69    | 206.75 | 24.875 | 0      |
| 1st Floor | DWal5           | Y         | 0.000261 | 72    | 206.75 | 66.729 | 0      |
| 1st Floor | DWal6           | Y         | 0.000194 | 69    | 206.75 | 24.875 | 0      |
| Cellar    | Dead            | Y         | 9.7E-05  | 71    | 206.75 | 71.479 | -14    |
| Cellar    | Live            | Y         | 2E-05    | 71    | 206.75 | 71.479 | -14    |
| Cellar    | Wind            | Y         | 0.000108 | 70    | 206.75 | 20.125 | -14    |
| Cellar    | Wind+Modal      | Y         | 0.000108 | 70    | 206.75 | 20.125 | -14    |
| Cellar    | wind 1          | Y         | 0.000108 | 70    | 206.75 | 20.125 | -14    |
| Cellar    | wind -1         | Y         | 0.000108 | 70    | 206.75 | 20.125 | -14    |
| Cellar    | UDStIS7         | Y         | 0.000136 | 71    | 206.75 | 71.479 | -14    |
| Cellar    | UDStIS8         | Y         | 0.000148 | 71    | 206.75 | 71.479 | -14    |
| Cellar    | UDStIS9         | Y         | 0.000244 | 71    | 206.75 | 71.479 | -14    |
| Cellar    | UDStIS10        | Y         | 0.0002   | 70    | 206.75 | 20.125 | -14    |

Table 5.2 - Story Drifts (continued)

| Story  | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft   | Z ft |
|--------|-----------------|-----------|----------|-------|--------|--------|------|
| Cellar | UDStIS11        | Y         | 0.000195 | 71    | 206.75 | 71.479 | -14  |
| Cellar | UDStIS12        | Y         | 0.000168 | 70    | 206.75 | 20.125 | -14  |
| Cellar | UDStID3         | Y         | 9.7E-05  | 71    | 206.75 | 71.479 | -14  |
| Cellar | UDStID4         | Y         | 0.000117 | 71    | 206.75 | 71.479 | -14  |
| Cellar | DWal1           | Y         | 0.000136 | 71    | 206.75 | 71.479 | -14  |
| Cellar | DWal2           | Y         | 0.000148 | 71    | 206.75 | 71.479 | -14  |
| Cellar | DWal3           | Y         | 0.000244 | 71    | 206.75 | 71.479 | -14  |
| Cellar | DWal4           | Y         | 0.0002   | 70    | 206.75 | 20.125 | -14  |
| Cellar | DWal5           | Y         | 0.000195 | 71    | 206.75 | 71.479 | -14  |
| Cellar | DWal6           | Y         | 0.000168 | 70    | 206.75 | 20.125 | -14  |

Table 5.3 - Story Forces

| Story      | Load Case/Combo | Location | P kip    | VX kip | VY kip   | T kip-ft    | MX kip-ft  | MY kip-ft   |
|------------|-----------------|----------|----------|--------|----------|-------------|------------|-------------|
| 16th Floor | Dead            | Top      | 874.19   | 0      | 0        | 2.297E-06   | 41997.0322 | -180739     |
| 16th Floor | Dead            | Bottom   | 479.326  | 0      | 7.38     | 1525.7537   | 36281.8571 | -99100.5676 |
| 16th Floor | Live            | Top      | 160      | 0      | 0        | 4.298E-06   | 8120.588   | -33080      |
| 16th Floor | Live            | Bottom   | 64.678   | 0      | 2.04     | 421.8615    | 5879.1629  | -13372.1612 |
| 16th Floor | Wind            | Top      | 0        | 0      | -590     | -121982     | 6.191E-07  | 0           |
| 16th Floor | Wind            | Bottom   | 119.075  | 0      | -534.112 | -110428     | 8302.0399  | -24618.7752 |
| 16th Floor | Wind+Modal      | Top      | 0        | 0      | -590     | -121982     | 6.191E-07  | 0           |
| 16th Floor | Wind+Modal      | Bottom   | 119.075  | 0      | -534.112 | -110428     | 8302.0399  | -24618.7752 |
| 16th Floor | wind 1          | Top      | 0        | 0      | -590     | -121982     | 6.191E-07  | 0           |
| 16th Floor | wind 1          | Bottom   | 119.075  | 0      | -534.112 | -110428     | 8302.0399  | -24618.7752 |
| 16th Floor | wind -1         | Top      | 0        | 0      | 590      | 121982.4999 | -6.191E-07 | 0           |
| 16th Floor | wind -1         | Bottom   | -119.075 | 0      | 534.112  | 110427.6366 | -8302.0399 | 24618.7752  |
| 16th Floor | UDStIS7         | Top      | 1223.866 | 0      | 0        | 3.216E-06   | 58795.8451 | -253034     |
| 16th Floor | UDStIS7         | Bottom   | 671.056  | 0      | 10.332   | 2136.0552   | 50794.6    | -138741     |
| 16th Floor | UDStIS8         | Top      | 1305.028 | 0      | 0        | 9.634E-06   | 63389.3795 | -269815     |
| 16th Floor | UDStIS8         | Bottom   | 678.675  | 0      | 12.12    | 2505.8828   | 52944.8892 | -140316     |
| 16th Floor | UDStIS9         | Top      | 1209.028 | 0      | -590     | -121982     | 58517.0267 | -249967     |
| 16th Floor | UDStIS9         | Bottom   | 758.944  | 0      | -523.216 | -108175     | 57719.4314 | -156912     |
| 16th Floor | UDStIS10        | Top      | 1209.028 | 0      | 590      | 121982.4999 | 58517.0267 | -249967     |
| 16th Floor | UDStIS10        | Bottom   | 520.794  | 0      | 545.008  | 112680.4025 | 41115.3516 | -107674     |
| 16th Floor | UDStIS11        | Top      | 786.771  | 0      | -590     | -121982     | 37797.329  | -162665     |
| 16th Floor | UDStIS11        | Bottom   | 550.468  | 0      | -527.47  | -109054     | 40955.7113 | -113809     |
| 16th Floor | UDStIS12        | Top      | 786.771  | 0      | 590      | 121982.4999 | 37797.329  | -162665     |
| 16th Floor | UDStIS12        | Bottom   | 312.318  | 0      | 540.754  | 111800.8149 | 24351.6315 | -64571.7356 |
| 16th Floor | UDStID3         | Top      | 874.19   | 0      | 0        | 2.297E-06   | 41997.0322 | -180739     |
| 16th Floor | UDStID3         | Bottom   | 479.326  | 0      | 7.38     | 1525.7537   | 36281.8571 | -99100.5676 |
| 16th Floor | UDStID4         | Top      | 1034.19  | 0      | 0        | 6.595E-06   | 50117.6202 | -213819     |
| 16th Floor | UDStID4         | Bottom   | 544.004  | 0      | 9.42     | 1947.6152   | 42161.0201 | -112473     |
| 16th Floor | DWal1           | Top      | 1223.866 | 0      | 0        | 3.216E-06   | 58795.8451 | -253034     |
| 16th Floor | DWal1           | Bottom   | 671.056  | 0      | 10.332   | 2136.0552   | 50794.6    | -138741     |
| 16th Floor | DWal2           | Top      | 1305.028 | 0      | 0        | 9.634E-06   | 63389.3795 | -269815     |



Table 5.3 - Story Forces (continued)

| Story      | Load Case/Combo | Location | P kip    | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft   |
|------------|-----------------|----------|----------|--------|----------|-------------|-------------|-------------|
| 16th Floor | DWal2           | Bottom   | 678.675  | 0      | 12.12    | 2505.8828   | 52944.8892  | -140316     |
| 16th Floor | DWal3           | Top      | 1209.028 | 0      | -590     | -121982     | 58517.0267  | -249967     |
| 16th Floor | DWal3           | Bottom   | 758.944  | 0      | -523.216 | -108175     | 57719.4314  | -156912     |
| 16th Floor | DWal4           | Top      | 1209.028 | 0      | 590      | 121982.4999 | 58517.0267  | -249967     |
| 16th Floor | DWal4           | Bottom   | 520.794  | 0      | 545.008  | 112680.4025 | 41115.3516  | -107674     |
| 16th Floor | DWal5           | Top      | 786.771  | 0      | -590     | -121982     | 37797.329   | -162665     |
| 16th Floor | DWal5           | Bottom   | 550.468  | 0      | -527.47  | -109054     | 40955.7113  | -113809     |
| 16th Floor | DWal6           | Top      | 786.771  | 0      | 590      | 121982.4999 | 37797.329   | -162665     |
| 16th Floor | DWal6           | Bottom   | 312.318  | 0      | 540.754  | 111800.8149 | 24351.6315  | -64571.7356 |
| 15th Floor | Dead            | Top      | 1606.326 | 0      | 7.38     | 1525.7537   | 90067.7971  | -332108     |
| 15th Floor | Dead            | Bottom   | 1732.706 | 0      | 7.38     | 1525.7537   | 96305.8079  | -358237     |
| 15th Floor | Live            | Top      | 306.678  | 0      | 2.04     | 421.8615    | 17708.9109  | -63405.6612 |
| 15th Floor | Live            | Bottom   | 306.678  | 0      | 2.04     | 421.8615    | 17691.1387  | -63405.6612 |
| 15th Floor | Wind            | Top      | 119.075  | 0      | -562.112 | -116217     | 8302.0399   | -24618.7752 |
| 15th Floor | Wind            | Bottom   | 119.075  | 0      | -562.112 | -116217     | 13198.0346  | -24618.7752 |
| 15th Floor | Wind+Modal      | Top      | 119.075  | 0      | -562.112 | -116217     | 8302.0399   | -24618.7752 |
| 15th Floor | Wind+Modal      | Bottom   | 119.075  | 0      | -562.112 | -116217     | 13198.0346  | -24618.7752 |
| 15th Floor | wind 1          | Top      | 119.075  | 0      | -562.112 | -116217     | 8302.0399   | -24618.7752 |
| 15th Floor | wind 1          | Bottom   | 119.075  | 0      | -562.112 | -116217     | 13198.0346  | -24618.7752 |
| 15th Floor | wind -1         | Top      | -119.075 | 0      | 562.112  | 116216.6366 | -8302.0399  | 24618.7752  |
| 15th Floor | wind -1         | Bottom   | -119.075 | 0      | 562.112  | 116216.6366 | -13198.0346 | 24618.7752  |
| 15th Floor | UDStIS7         | Top      | 2248.856 | 0      | 10.332   | 2136.0552   | 126094.916  | -464951     |
| 15th Floor | UDStIS7         | Bottom   | 2425.788 | 0      | 10.332   | 2136.0552   | 134828.131  | -501532     |
| 15th Floor | UDStIS8         | Top      | 2418.275 | 0      | 12.12    | 2505.8828   | 136415.614  | -499978     |
| 15th Floor | UDStIS8         | Bottom   | 2569.931 | 0      | 12.12    | 2505.8828   | 143872.7914 | -531333     |
| 15th Floor | UDStIS9         | Top      | 2353.344 | 0      | -551.216 | -113964     | 134092.3074 | -486554     |
| 15th Floor | UDStIS9         | Bottom   | 2505     | 0      | -551.216 | -113964     | 146456.1427 | -517909     |
| 15th Floor | UDStIS10        | Top      | 2115.194 | 0      | 573.008  | 118469.4025 | 117488.2276 | -437316     |
| 15th Floor | UDStIS10        | Bottom   | 2266.85  | 0      | 573.008  | 118469.4025 | 120060.0736 | -468671     |
| 15th Floor | UDStIS11        | Top      | 1564.768 | 0      | -555.47  | -114843     | 89363.0573  | -323516     |
| 15th Floor | UDStIS11        | Bottom   | 1678.51  | 0      | -555.47  | -114843     | 99873.2617  | -347032     |
| 15th Floor | UDStIS12        | Top      | 1326.618 | 0      | 568.754  | 117589.8149 | 72758.9775  | -274278     |
| 15th Floor | UDStIS12        | Bottom   | 1440.36  | 0      | 568.754  | 117589.8149 | 73477.1925  | -297794     |
| 15th Floor | UDStID3         | Top      | 1606.326 | 0      | 7.38     | 1525.7537   | 90067.7971  | -332108     |
| 15th Floor | UDStID3         | Bottom   | 1732.706 | 0      | 7.38     | 1525.7537   | 96305.8079  | -358237     |
| 15th Floor | UDStID4         | Top      | 1913.004 | 0      | 9.42     | 1947.6152   | 107776.7081 | -395513     |
| 15th Floor | UDStID4         | Bottom   | 2039.384 | 0      | 9.42     | 1947.6152   | 113996.9466 | -421643     |
| 15th Floor | DWal1           | Top      | 2248.856 | 0      | 10.332   | 2136.0552   | 126094.916  | -464951     |
| 15th Floor | DWal1           | Bottom   | 2425.788 | 0      | 10.332   | 2136.0552   | 134828.131  | -501532     |
| 15th Floor | DWal2           | Top      | 2418.275 | 0      | 12.12    | 2505.8828   | 136415.614  | -499978     |
| 15th Floor | DWal2           | Bottom   | 2569.931 | 0      | 12.12    | 2505.8828   | 143872.7914 | -531333     |
| 15th Floor | DWal3           | Top      | 2353.344 | 0      | -551.216 | -113964     | 134092.3074 | -486554     |
| 15th Floor | DWal3           | Bottom   | 2505     | 0      | -551.216 | -113964     | 146456.1427 | -517909     |
| 15th Floor | DWal4           | Top      | 2115.194 | 0      | 573.008  | 118469.4025 | 117488.2276 | -437316     |
| 15th Floor | DWal4           | Bottom   | 2266.85  | 0      | 573.008  | 118469.4025 | 120060.0736 | -468671     |

Table 5.3 - Story Forces (continued)

| Story      | Load Case/Combo | Location | P kip    | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft   |
|------------|-----------------|----------|----------|--------|----------|-------------|-------------|-------------|
| 15th Floor | DWal5           | Top      | 1564.768 | 0      | -555.47  | -114843     | 89363.0573  | -323516     |
| 15th Floor | DWal5           | Bottom   | 1678.51  | 0      | -555.47  | -114843     | 99873.2617  | -347032     |
| 15th Floor | DWal6           | Top      | 1326.618 | 0      | 568.754  | 117589.8149 | 72758.9775  | -274278     |
| 15th Floor | DWal6           | Bottom   | 1440.36  | 0      | 568.754  | 117589.8149 | 73477.1925  | -297794     |
| 14th Floor | Dead            | Top      | 3438.659 | 0      | 11.815   | 2442.7295   | 175903.4495 | -710943     |
| 14th Floor | Dead            | Bottom   | 3457.173 | 0      | 13.496   | 2790.2988   | 177147.6888 | -714771     |
| 14th Floor | Live            | Top      | 575.537  | 0      | 2.942    | 608.2228    | 30541.3816  | -118992     |
| 14th Floor | Live            | Bottom   | 549.759  | 0      | 3.882    | 802.6087    | 29326.8857  | -113663     |
| 14th Floor | Wind            | Top      | 118.855  | 0      | -645.495 | -133456     | 13187.9477  | -24573.2429 |
| 14th Floor | Wind            | Bottom   | 118.96   | 0      | -586.7   | -121300     | 18302.9248  | -24595.0021 |
| 14th Floor | Wind+Modal      | Top      | 118.855  | 0      | -645.495 | -133456     | 13187.9477  | -24573.2429 |
| 14th Floor | Wind+Modal      | Bottom   | 118.96   | 0      | -586.7   | -121300     | 18302.9248  | -24595.0021 |
| 14th Floor | wind 1          | Top      | 118.855  | 0      | -645.495 | -133456     | 13187.9477  | -24573.2429 |
| 14th Floor | wind 1          | Bottom   | 118.96   | 0      | -586.7   | -121300     | 18302.9248  | -24595.0021 |
| 14th Floor | wind -1         | Top      | -118.855 | 0      | 645.495  | 133456.0626 | -13187.9477 | 24573.2429  |
| 14th Floor | wind -1         | Bottom   | -118.96  | 0      | 586.7    | 121300.2183 | -18302.9248 | 24595.0021  |
| 14th Floor | UDStIS7         | Top      | 4814.123 | 0      | 16.541   | 3419.8212   | 246264.8293 | -995320     |
| 14th Floor | UDStIS7         | Bottom   | 4840.042 | 0      | 18.894   | 3906.4183   | 248006.7644 | -1000679    |
| 14th Floor | UDStIS8         | Top      | 5047.251 | 0      | 18.885   | 3904.4319   | 259950.35   | -1043519    |
| 14th Floor | UDStIS8         | Bottom   | 5028.223 | 0      | 22.406   | 4632.5325   | 259500.2438 | -1039585    |
| 14th Floor | UDStIS9         | Top      | 4820.784 | 0      | -628.375 | -129917     | 254813.4687 | -996697     |
| 14th Floor | UDStIS9         | Bottom   | 4817.327 | 0      | -566.623 | -117149     | 260207.0371 | -995982     |
| 14th Floor | UDStIS10        | Top      | 4583.074 | 0      | 662.615  | 136995.5608 | 228437.5734 | -947551     |
| 14th Floor | UDStIS10        | Bottom   | 4579.407 | 0      | 606.777  | 125451.1856 | 223601.1876 | -946792     |
| 14th Floor | UDStIS11        | Top      | 3213.648 | 0      | -634.861 | -131258     | 171501.0522 | -664422     |
| 14th Floor | UDStIS11        | Bottom   | 3230.416 | 0      | -574.554 | -118789     | 177735.8447 | -667888     |
| 14th Floor | UDStIS12        | Top      | 2975.939 | 0      | 656.128  | 135654.5192 | 145125.1569 | -615275     |
| 14th Floor | UDStIS12        | Bottom   | 2992.496 | 0      | 598.846  | 123811.4872 | 141129.9952 | -618698     |
| 14th Floor | UDStID3         | Top      | 3438.659 | 0      | 11.815   | 2442.7295   | 175903.4495 | -710943     |
| 14th Floor | UDStID3         | Bottom   | 3457.173 | 0      | 13.496   | 2790.2988   | 177147.6888 | -714771     |
| 14th Floor | UDStID4         | Top      | 4014.197 | 0      | 14.757   | 3050.9523   | 206444.8311 | -829935     |
| 14th Floor | UDStID4         | Bottom   | 4006.932 | 0      | 17.378   | 3592.9075   | 206474.5746 | -828433     |
| 14th Floor | DWal1           | Top      | 4814.123 | 0      | 16.541   | 3419.8212   | 246264.8293 | -995320     |
| 14th Floor | DWal1           | Bottom   | 4840.042 | 0      | 18.894   | 3906.4183   | 248006.7644 | -1000679    |
| 14th Floor | DWal2           | Top      | 5047.251 | 0      | 18.885   | 3904.4319   | 259950.35   | -1043519    |
| 14th Floor | DWal2           | Bottom   | 5028.223 | 0      | 22.406   | 4632.5325   | 259500.2438 | -1039585    |
| 14th Floor | DWal3           | Top      | 4820.784 | 0      | -628.375 | -129917     | 254813.4687 | -996697     |
| 14th Floor | DWal3           | Bottom   | 4817.327 | 0      | -566.623 | -117149     | 260207.0371 | -995982     |
| 14th Floor | DWal4           | Top      | 4583.074 | 0      | 662.615  | 136995.5608 | 228437.5734 | -947551     |
| 14th Floor | DWal4           | Bottom   | 4579.407 | 0      | 606.777  | 125451.1856 | 223601.1876 | -946792     |
| 14th Floor | DWal5           | Top      | 3213.648 | 0      | -634.861 | -131258     | 171501.0522 | -664422     |
| 14th Floor | DWal5           | Bottom   | 3230.416 | 0      | -574.554 | -118789     | 177735.8447 | -667888     |
| 14th Floor | DWal6           | Top      | 2975.939 | 0      | 656.128  | 135654.5192 | 145125.1569 | -615275     |
| 14th Floor | DWal6           | Bottom   | 2992.496 | 0      | 598.846  | 123811.4872 | 141129.9952 | -618698     |
| 13th Floor | Dead            | Top      | 5392.173 | 0      | 13.496   | 2790.2988   | 268081.4568 | -1114832    |

Table 5.3 - Story Forces (continued)

| Story      | Load Case/Combo | Location | P kip     | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft   |
|------------|-----------------|----------|-----------|--------|----------|-------------|-------------|-------------|
| 13th Floor | Dead            | Bottom   | 5518.51   | 0      | 13.496   | 2790.2988   | 274264.0644 | -1140952    |
| 13th Floor | Live            | Top      | 1183.759  | 0      | 3.882    | 802.6087    | 59064.4137  | -244742     |
| 13th Floor | Live            | Bottom   | 1183.759  | 0      | 3.882    | 802.6087    | 59030.6129  | -244742     |
| 13th Floor | Wind            | Top      | 118.96    | 0      | -611.7   | -126469     | 18302.9248  | -24595.0021 |
| 13th Floor | Wind            | Bottom   | 118.96    | 0      | -611.7   | -126469     | 23628.9964  | -24595.0021 |
| 13th Floor | Wind+Modal      | Top      | 118.96    | 0      | -611.7   | -126469     | 18302.9248  | -24595.0021 |
| 13th Floor | Wind+Modal      | Bottom   | 118.96    | 0      | -611.7   | -126469     | 23628.9964  | -24595.0021 |
| 13th Floor | wind 1          | Top      | 118.96    | 0      | -611.7   | -126469     | 18302.9248  | -24595.0021 |
| 13th Floor | wind 1          | Bottom   | 118.96    | 0      | -611.7   | -126469     | 23628.9964  | -24595.0021 |
| 13th Floor | wind -1         | Top      | -118.96   | 0      | 611.7    | 126468.9683 | -18302.9248 | 24595.0021  |
| 13th Floor | wind -1         | Bottom   | -118.96   | 0      | 611.7    | 126468.9683 | -23628.9964 | 24595.0021  |
| 13th Floor | UDStIS7         | Top      | 7549.042  | 0      | 18.894   | 3906.4183   | 375314.0396 | -1560765    |
| 13th Floor | UDStIS7         | Bottom   | 7725.914  | 0      | 18.894   | 3906.4183   | 383969.6902 | -1597333    |
| 13th Floor | UDStIS8         | Top      | 8364.623  | 0      | 22.406   | 4632.5325   | 416200.8102 | -1729386    |
| 13th Floor | UDStIS8         | Bottom   | 8516.226  | 0      | 22.406   | 4632.5325   | 423565.858  | -1760730    |
| 13th Floor | UDStIS9         | Top      | 7773.327  | 0      | -591.623 | -122318     | 399065.0867 | -1607135    |
| 13th Floor | UDStIS9         | Bottom   | 7924.931  | 0      | -591.623 | -122318     | 411776.4866 | -1638479    |
| 13th Floor | UDStIS10        | Top      | 7535.407  | 0      | 631.777  | 130619.9356 | 362459.2372 | -1557945    |
| 13th Floor | UDStIS10        | Bottom   | 7687.011  | 0      | 631.777  | 130619.9356 | 364518.4939 | -1589289    |
| 13th Floor | UDStIS11        | Top      | 4971.916  | 0      | -599.554 | -123958     | 259576.2359 | -1027944    |
| 13th Floor | UDStIS11        | Bottom   | 5085.619  | 0      | -599.554 | -123958     | 270466.6543 | -1051452    |
| 13th Floor | UDStIS12        | Top      | 4733.996  | 0      | 623.846  | 128980.2372 | 222970.3864 | -978754     |
| 13th Floor | UDStIS12        | Bottom   | 4847.699  | 0      | 623.846  | 128980.2372 | 223208.6616 | -1002262    |
| 13th Floor | UDStID3         | Top      | 5392.173  | 0      | 13.496   | 2790.2988   | 268081.4568 | -1114832    |
| 13th Floor | UDStID3         | Bottom   | 5518.51   | 0      | 13.496   | 2790.2988   | 274264.0644 | -1140952    |
| 13th Floor | UDStID4         | Top      | 6575.932  | 0      | 17.378   | 3592.9075   | 327145.8706 | -1359574    |
| 13th Floor | UDStID4         | Bottom   | 6702.269  | 0      | 17.378   | 3592.9075   | 333294.6774 | -1385694    |
| 13th Floor | DWal1           | Top      | 7549.042  | 0      | 18.894   | 3906.4183   | 375314.0396 | -1560765    |
| 13th Floor | DWal1           | Bottom   | 7725.914  | 0      | 18.894   | 3906.4183   | 383969.6902 | -1597333    |
| 13th Floor | DWal2           | Top      | 8364.623  | 0      | 22.406   | 4632.5325   | 416200.8102 | -1729386    |
| 13th Floor | DWal2           | Bottom   | 8516.226  | 0      | 22.406   | 4632.5325   | 423565.858  | -1760730    |
| 13th Floor | DWal3           | Top      | 7773.327  | 0      | -591.623 | -122318     | 399065.0867 | -1607135    |
| 13th Floor | DWal3           | Bottom   | 7924.931  | 0      | -591.623 | -122318     | 411776.4866 | -1638479    |
| 13th Floor | DWal4           | Top      | 7535.407  | 0      | 631.777  | 130619.9356 | 362459.2372 | -1557945    |
| 13th Floor | DWal4           | Bottom   | 7687.011  | 0      | 631.777  | 130619.9356 | 364518.4939 | -1589289    |
| 13th Floor | DWal5           | Top      | 4971.916  | 0      | -599.554 | -123958     | 259576.2359 | -1027944    |
| 13th Floor | DWal5           | Bottom   | 5085.619  | 0      | -599.554 | -123958     | 270466.6543 | -1051452    |
| 13th Floor | DWal6           | Top      | 4733.996  | 0      | 623.846  | 128980.2372 | 222970.3864 | -978754     |
| 13th Floor | DWal6           | Bottom   | 4847.699  | 0      | 623.846  | 128980.2372 | 223208.6616 | -1002262    |
| 12th Floor | Dead            | Top      | 22661.841 | 0      | 0        | 3.042E-05   | 1073160     | -4685336    |
| 12th Floor | Dead            | Bottom   | 22743.962 | 0      | 12.683   | 2622.158    | 1076829     | -4702314    |
| 12th Floor | Live            | Top      | 5297      | 0      | 0        | 9.786E-06   | 257363.36   | -1095155    |
| 12th Floor | Live            | Bottom   | 5238.602  | 0      | 5.336    | 1103.2044   | 254649.3982 | -1083081    |
| 12th Floor | Wind            | Top      | 0         | 0      | -717     | -148240     | 22025.571   | 2.057E-06   |
| 12th Floor | Wind            | Bottom   | 0.844     | 0      | -624.078 | -129028     | 33868.9467  | -174.5801   |

Table 5.3 - Story Forces (continued)

| Story      | Load Case/Combo | Location | P kip     | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft  |
|------------|-----------------|----------|-----------|--------|----------|-------------|-------------|------------|
| 12th Floor | Wind+Modal      | Top      | 0         | 0      | -717     | -148240     | 22025.571   | 2.061E-06  |
| 12th Floor | Wind+Modal      | Bottom   | 0.844     | 0      | -624.078 | -129028     | 33868.9467  | -174.5801  |
| 12th Floor | wind 1          | Top      | 0         | 0      | -717     | -148240     | 22025.571   | 2.057E-06  |
| 12th Floor | wind 1          | Bottom   | 0.844     | 0      | -624.078 | -129028     | 33868.9467  | -174.5801  |
| 12th Floor | wind -1         | Top      | 0         | 0      | 717      | 148239.7499 | -22025.571  | -2.057E-06 |
| 12th Floor | wind -1         | Bottom   | -0.844    | 0      | 624.078  | 129028.1957 | -33868.9467 | 174.5801   |
| 12th Floor | UDStIS7         | Top      | 31726.578 | 0      | 0        | 4.259E-05   | 1502425     | -6559470   |
| 12th Floor | UDStIS7         | Bottom   | 31841.546 | 0      | 17.756   | 3671.0212   | 1507560     | -6583240   |
| 12th Floor | UDStIS8         | Top      | 35669.409 | 0      | 0        | 0.0001      | 1699574     | -7374650   |
| 12th Floor | UDStIS8         | Bottom   | 35674.516 | 0      | 23.757   | 4911.7167   | 1699633     | -7375706   |
| 12th Floor | UDStIS9         | Top      | 32491.209 | 0      | -717     | -148240     | 1567182     | -6717558   |
| 12th Floor | UDStIS9         | Bottom   | 32532.2   | 0      | -603.523 | -124778     | 1580713     | -6726032   |
| 12th Floor | UDStIS10        | Top      | 32491.209 | 0      | 717      | 148239.75   | 1523130     | -6717558   |
| 12th Floor | UDStIS10        | Bottom   | 32530.511 | 0      | 644.634  | 133277.9897 | 1512975     | -6725683   |
| 12th Floor | UDStIS11        | Top      | 20395.657 | 0      | -717     | -148240     | 987870.013  | -4216802   |
| 12th Floor | UDStIS11        | Bottom   | 20470.41  | 0      | -612.664 | -126668     | 1003015     | -4232257   |
| 12th Floor | UDStIS12        | Top      | 20395.657 | 0      | 717      | 148239.7499 | 943818.871  | -4216802   |
| 12th Floor | UDStIS12        | Bottom   | 20468.721 | 0      | 635.493  | 131388.1379 | 935276.7958 | -4231908   |
| 12th Floor | UDStID3         | Top      | 22661.841 | 0      | 0        | 3.042E-05   | 1073160     | -4685336   |
| 12th Floor | UDStID3         | Bottom   | 22743.962 | 0      | 12.683   | 2622.158    | 1076829     | -4702314   |
| 12th Floor | UDStID4         | Top      | 27958.841 | 0      | 0        | 4.021E-05   | 1330524     | -5780490   |
| 12th Floor | UDStID4         | Bottom   | 27982.563 | 0      | 18.019   | 3725.3624   | 1331478     | -5785395   |
| 12th Floor | DWal1           | Top      | 31726.578 | 0      | 0        | 4.259E-05   | 1502425     | -6559470   |
| 12th Floor | DWal1           | Bottom   | 31841.546 | 0      | 17.756   | 3671.0212   | 1507560     | -6583240   |
| 12th Floor | DWal2           | Top      | 35669.409 | 0      | 0        | 0.0001      | 1699574     | -7374650   |
| 12th Floor | DWal2           | Bottom   | 35674.516 | 0      | 23.757   | 4911.7167   | 1699633     | -7375706   |
| 12th Floor | DWal3           | Top      | 32491.209 | 0      | -717     | -148240     | 1567182     | -6717558   |
| 12th Floor | DWal3           | Bottom   | 32532.2   | 0      | -603.523 | -124778     | 1580713     | -6726032   |
| 12th Floor | DWal4           | Top      | 32491.209 | 0      | 717      | 148239.75   | 1523130     | -6717558   |
| 12th Floor | DWal4           | Bottom   | 32530.511 | 0      | 644.634  | 133277.9897 | 1512975     | -6725683   |
| 12th Floor | DWal5           | Top      | 20395.657 | 0      | -717     | -148240     | 987870.013  | -4216802   |
| 12th Floor | DWal5           | Bottom   | 20470.41  | 0      | -612.664 | -126668     | 1003015     | -4232257   |
| 12th Floor | DWal6           | Top      | 20395.657 | 0      | 717      | 148239.7499 | 943818.871  | -4216802   |
| 12th Floor | DWal6           | Bottom   | 20468.721 | 0      | 635.493  | 131388.1379 | 935276.7958 | -4231908   |
| 11th Floor | Dead            | Top      | 22978.962 | 0      | 12.683   | 2622.158    | 1085145     | -4750900   |
| 11th Floor | Dead            | Bottom   | 23275.772 | 0      | 12.683   | 2622.158    | 1098519     | -4812266   |
| 11th Floor | Live            | Top      | 5296.602  | 0      | 5.336    | 1103.2044   | 256373.8342 | -1095072   |
| 11th Floor | Live            | Bottom   | 5296.602  | 0      | 5.336    | 1103.2044   | 256280.8983 | -1095072   |
| 11th Floor | Wind            | Top      | 0.844     | 0      | -679.078 | -140399     | 33868.9467  | -174.5801  |
| 11th Floor | Wind            | Bottom   | 0.844     | 0      | -679.078 | -140399     | 45696.454   | -174.5801  |
| 11th Floor | Wind+Modal      | Top      | 0.844     | 0      | -679.078 | -140399     | 33868.9467  | -174.5801  |
| 11th Floor | Wind+Modal      | Bottom   | 0.844     | 0      | -679.078 | -140399     | 45696.454   | -174.5801  |
| 11th Floor | wind 1          | Top      | 0.844     | 0      | -679.078 | -140399     | 33868.9467  | -174.5801  |
| 11th Floor | wind 1          | Bottom   | 0.844     | 0      | -679.078 | -140399     | 45696.454   | -174.5801  |
| 11th Floor | wind -1         | Top      | -0.844    | 0      | 679.078  | 140399.4457 | -33868.9467 | 174.5801   |

**Table 5.3 - Story Forces (continued)**

| Story      | Load Case/Combo | Location | P kip     | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft  |
|------------|-----------------|----------|-----------|--------|----------|-------------|-------------|------------|
| 11th Floor | wind -1         | Bottom   | -0.844    | 0      | 679.078  | 140399.4457 | -45696.454  | 174.5801   |
| 11th Floor | UDStIS7         | Top      | 32170.546 | 0      | 17.756   | 3671.0212   | 1519204     | -6651260   |
| 11th Floor | UDStIS7         | Bottom   | 32586.081 | 0      | 17.756   | 3671.0212   | 1537927     | -6737172   |
| 11th Floor | UDStIS8         | Top      | 36049.316 | 0      | 23.757   | 4911.7167   | 1712373     | -7453196   |
| 11th Floor | UDStIS8         | Bottom   | 36405.489 | 0      | 23.757   | 4911.7167   | 1728272     | -7526835   |
| 11th Floor | UDStIS9         | Top      | 32872.2   | 0      | -658.523 | -136150     | 1592417     | -6796327   |
| 11th Floor | UDStIS9         | Bottom   | 33228.373 | 0      | -658.523 | -136150     | 1620200     | -6869966   |
| 11th Floor | UDStIS10        | Top      | 32870.511 | 0      | 699.634  | 144649.2397 | 1524679     | -6795978   |
| 11th Floor | UDStIS10        | Bottom   | 33226.684 | 0      | 699.634  | 144649.2397 | 1528807     | -6869617   |
| 11th Floor | UDStIS11        | Top      | 20681.91  | 0      | -667.664 | -138040     | 1010500     | -4275985   |
| 11th Floor | UDStIS11        | Bottom   | 20949.039 | 0      | -667.664 | -138040     | 1034364     | -4331214   |
| 11th Floor | UDStIS12        | Top      | 20680.221 | 0      | 690.493  | 142759.3879 | 942761.8798 | -4275636   |
| 11th Floor | UDStIS12        | Bottom   | 20947.351 | 0      | 690.493  | 142759.3879 | 942970.6356 | -4330865   |
| 11th Floor | UDStID3         | Top      | 22978.962 | 0      | 12.683   | 2622.158    | 1085145     | -4750900   |
| 11th Floor | UDStID3         | Bottom   | 23275.772 | 0      | 12.683   | 2622.158    | 1098519     | -4812266   |
| 11th Floor | UDStID4         | Top      | 28275.563 | 0      | 18.019   | 3725.3624   | 1341519     | -5845973   |
| 11th Floor | UDStID4         | Bottom   | 28572.374 | 0      | 18.019   | 3725.3624   | 1354800     | -5907338   |
| 11th Floor | DWal1           | Top      | 32170.546 | 0      | 17.756   | 3671.0212   | 1519204     | -6651260   |
| 11th Floor | DWal1           | Bottom   | 32586.081 | 0      | 17.756   | 3671.0212   | 1537927     | -6737172   |
| 11th Floor | DWal2           | Top      | 36049.316 | 0      | 23.757   | 4911.7167   | 1712373     | -7453196   |
| 11th Floor | DWal2           | Bottom   | 36405.489 | 0      | 23.757   | 4911.7167   | 1728272     | -7526835   |
| 11th Floor | DWal3           | Top      | 32872.2   | 0      | -658.523 | -136150     | 1592417     | -6796327   |
| 11th Floor | DWal3           | Bottom   | 33228.373 | 0      | -658.523 | -136150     | 1620200     | -6869966   |
| 11th Floor | DWal4           | Top      | 32870.511 | 0      | 699.634  | 144649.2397 | 1524679     | -6795978   |
| 11th Floor | DWal4           | Bottom   | 33226.684 | 0      | 699.634  | 144649.2397 | 1528807     | -6869617   |
| 11th Floor | DWal5           | Top      | 20681.91  | 0      | -667.664 | -138040     | 1010500     | -4275985   |
| 11th Floor | DWal5           | Bottom   | 20949.039 | 0      | -667.664 | -138040     | 1034364     | -4331214   |
| 11th Floor | DWal6           | Top      | 20680.221 | 0      | 690.493  | 142759.3879 | 942761.8798 | -4275636   |
| 11th Floor | DWal6           | Bottom   | 20947.351 | 0      | 690.493  | 142759.3879 | 942970.6356 | -4330865   |
| 10th Floor | Dead            | Top      | 24003.616 | 0      | 0        | 4.551E-05   | 1142516     | -4962748   |
| 10th Floor | Dead            | Bottom   | 24040.405 | 0      | 5.099    | 1054.2574   | 1143422     | -4970354   |
| 10th Floor | Live            | Top      | 5511      | 0      | 0        | 1.48E-05    | 269821.416  | -1139399   |
| 10th Floor | Live            | Bottom   | 5454.293  | 0      | 2.091    | 432.3895    | 266985.441  | -1127675   |
| 10th Floor | Wind            | Top      | 0         | 0      | -824     | -170362     | 47958.767   | -2.794E-06 |
| 10th Floor | Wind            | Bottom   | -4.401    | 0      | -806.975 | -166842     | 60516.9329  | 909.9391   |
| 10th Floor | Wind+Modal      | Top      | 0         | 0      | -824     | -170362     | 47958.767   | -2.785E-06 |
| 10th Floor | Wind+Modal      | Bottom   | -4.401    | 0      | -806.975 | -166842     | 60516.9329  | 909.9391   |
| 10th Floor | wind 1          | Top      | 0         | 0      | -824     | -170362     | 47958.767   | -2.794E-06 |
| 10th Floor | wind 1          | Bottom   | -4.401    | 0      | -806.975 | -166842     | 60516.9329  | 909.9391   |
| 10th Floor | wind -1         | Top      | 0         | 0      | 824      | 170361.9999 | -47958.767  | 2.794E-06  |
| 10th Floor | wind -1         | Bottom   | 4.401     | 0      | 806.975  | 166842.0397 | -60516.9329 | -909.9391  |
| 10th Floor | UDStIS7         | Top      | 33605.062 | 0      | 0        | 0.0001      | 1599522     | -6947847   |
| 10th Floor | UDStIS7         | Bottom   | 33656.567 | 0      | 7.139    | 1475.9603   | 1600791     | -6958495   |
| 10th Floor | UDStIS8         | Top      | 37621.939 | 0      | 0        | 0.0001      | 1802733     | -7778336   |
| 10th Floor | UDStIS8         | Bottom   | 37575.354 | 0      | 9.465    | 1956.9321   | 1799284     | -7768704   |

Table 5.3 - Story Forces (continued)

| Story      | Load Case/Combo | Location | P kip     | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft |
|------------|-----------------|----------|-----------|--------|-----------|-------------|-------------|-----------|
| 10th Floor | UDStIS9         | Top      | 34315.339 | 0      | -824      | -170362     | 1688799     | -7094696  |
| 10th Floor | UDStIS9         | Bottom   | 34298.377 | 0      | -798.764  | -165145     | 1699609     | -7091189  |
| 10th Floor | UDStIS10        | Top      | 34315.339 | 0      | 824       | 170361.9999 | 1592882     | -7094696  |
| 10th Floor | UDStIS10        | Bottom   | 34307.18  | 0      | 815.185   | 168539.5381 | 1578575     | -7093009  |
| 10th Floor | UDStIS11        | Top      | 21603.254 | 0      | -824      | -170362     | 1076223     | -4466473  |
| 10th Floor | UDStIS11        | Bottom   | 21631.963 | 0      | -802.386  | -165893     | 1089597     | -4472408  |
| 10th Floor | UDStIS12        | Top      | 21603.254 | 0      | 824       | 170361.9999 | 980305.488  | -4466473  |
| 10th Floor | UDStIS12        | Bottom   | 21640.766 | 0      | 811.564   | 167790.8713 | 968563.2872 | -4474228  |
| 10th Floor | UDStID3         | Top      | 24003.616 | 0      | 0         | 4.551E-05   | 1142516     | -4962748  |
| 10th Floor | UDStID3         | Bottom   | 24040.405 | 0      | 5.099     | 1054.2574   | 1143422     | -4970354  |
| 10th Floor | UDStID4         | Top      | 29514.616 | 0      | 0         | 0.0001      | 1412337     | -6102147  |
| 10th Floor | UDStID4         | Bottom   | 29494.697 | 0      | 7.191     | 1486.6469   | 1410408     | -6098029  |
| 10th Floor | DWal1           | Top      | 33605.062 | 0      | 0         | 0.0001      | 1599522     | -6947847  |
| 10th Floor | DWal1           | Bottom   | 33656.567 | 0      | 7.139     | 1475.9603   | 1600791     | -6958495  |
| 10th Floor | DWal2           | Top      | 37621.939 | 0      | 0         | 0.0001      | 1802733     | -7778336  |
| 10th Floor | DWal2           | Bottom   | 37575.354 | 0      | 9.465     | 1956.9321   | 1799284     | -7768704  |
| 10th Floor | DWal3           | Top      | 34315.339 | 0      | -824      | -170362     | 1688799     | -7094696  |
| 10th Floor | DWal3           | Bottom   | 34298.377 | 0      | -798.764  | -165145     | 1699609     | -7091189  |
| 10th Floor | DWal4           | Top      | 34315.339 | 0      | 824       | 170361.9999 | 1592882     | -7094696  |
| 10th Floor | DWal4           | Bottom   | 34307.18  | 0      | 815.185   | 168539.5381 | 1578575     | -7093009  |
| 10th Floor | DWal5           | Top      | 21603.254 | 0      | -824      | -170362     | 1076223     | -4466473  |
| 10th Floor | DWal5           | Bottom   | 21631.963 | 0      | -802.386  | -165893     | 1089597     | -4472408  |
| 10th Floor | DWal6           | Top      | 21603.254 | 0      | 824       | 170361.9999 | 980305.488  | -4466473  |
| 10th Floor | DWal6           | Bottom   | 21640.766 | 0      | 811.564   | 167790.8713 | 968563.2872 | -4474228  |
| 9th Floor  | Dead            | Top      | 24338.405 | 0      | 5.099     | 1054.2574   | 1158283     | -5031965  |
| 9th Floor  | Dead            | Bottom   | 24778.136 | 0      | 14.049    | 2904.6358   | 1178673     | -5122880  |
| 9th Floor  | Live            | Top      | 5557.293  | 0      | 2.091     | 432.3895    | 273077.865  | -1148970  |
| 9th Floor  | Live            | Bottom   | 5587.304  | 0      | 4.837     | 999.9654    | 274520.0231 | -1155175  |
| 9th Floor  | Wind            | Top      | -4.401    | 0      | -1279.975 | -264635     | 60516.9329  | 909.9391  |
| 9th Floor  | Wind            | Bottom   | -2.108    | 0      | -1268.466 | -262255     | 79971.8952  | 435.7908  |
| 9th Floor  | Wind+Modal      | Top      | -4.401    | 0      | -1279.975 | -264635     | 60516.9329  | 909.9391  |
| 9th Floor  | Wind+Modal      | Bottom   | -2.108    | 0      | -1268.466 | -262255     | 79971.8952  | 435.7908  |
| 9th Floor  | wind 1          | Top      | -4.401    | 0      | -1279.975 | -264635     | 60516.9329  | 909.9391  |
| 9th Floor  | wind 1          | Bottom   | -2.108    | 0      | -1268.466 | -262255     | 79971.8952  | 435.7908  |
| 9th Floor  | wind -1         | Top      | 4.401     | 0      | 1279.975  | 264634.7897 | -60516.9329 | -909.9391 |
| 9th Floor  | wind -1         | Bottom   | 2.108     | 0      | 1268.466  | 262255.3318 | -79971.8952 | -435.7908 |
| 9th Floor  | UDStIS7         | Top      | 34073.767 | 0      | 7.139     | 1475.9603   | 1621596     | -7044751  |
| 9th Floor  | UDStIS7         | Bottom   | 34689.39  | 0      | 19.669    | 4066.4901   | 1650142     | -7172031  |
| 9th Floor  | UDStIS8         | Top      | 38097.754 | 0      | 9.465     | 1956.932    | 1826864     | -7876711  |
| 9th Floor  | UDStIS8         | Bottom   | 38673.45  | 0      | 24.597    | 5085.5075   | 1853639     | -7995736  |
| 9th Floor  | UDStIS9         | Top      | 34758.977 | 0      | -1271.764 | -262937     | 1723535     | -7186419  |
| 9th Floor  | UDStIS9         | Bottom   | 35318.959 | 0      | -1246.771 | -257770     | 1768899     | -7302195  |
| 9th Floor  | UDStIS10        | Top      | 34767.78  | 0      | 1288.185  | 266332.288  | 1602501     | -7188238  |
| 9th Floor  | UDStIS10        | Bottom   | 35323.175 | 0      | 1290.161  | 266740.8601 | 1608956     | -7303066  |
| 9th Floor  | UDStIS11        | Top      | 21900.163 | 0      | -1275.386 | -263686     | 1102972     | -4527859  |



**Table 5.3 - Story Forces (continued)**

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft |
|-----------|-----------------|----------|-----------|--------|-----------|-------------|-------------|-----------|
| 9th Floor | UDStIS11        | Bottom   | 22298.214 | 0      | -1255.822 | -259641     | 1140777     | -4610156  |
| 9th Floor | UDStIS12        | Top      | 21908.966 | 0      | 1284.564  | 265583.6213 | 981937.9172 | -4529679  |
| 9th Floor | UDStIS12        | Bottom   | 22302.43  | 0      | 1281.11   | 264869.504  | 980833.6459 | -4611027  |
| 9th Floor | UDStID3         | Top      | 24338.405 | 0      | 5.099     | 1054.2574   | 1158283     | -5031965  |
| 9th Floor | UDStID3         | Bottom   | 24778.136 | 0      | 14.049    | 2904.6358   | 1178673     | -5122880  |
| 9th Floor | UDStID4         | Top      | 29895.697 | 0      | 7.191     | 1486.6469   | 1431361     | -6180935  |
| 9th Floor | UDStID4         | Bottom   | 30365.44  | 0      | 18.886    | 3904.6012   | 1453193     | -6278055  |
| 9th Floor | DWal1           | Top      | 34073.767 | 0      | 7.139     | 1475.9603   | 1621596     | -7044751  |
| 9th Floor | DWal1           | Bottom   | 34689.39  | 0      | 19.669    | 4066.4901   | 1650142     | -7172031  |
| 9th Floor | DWal2           | Top      | 38097.754 | 0      | 9.465     | 1956.932    | 1826864     | -7876711  |
| 9th Floor | DWal2           | Bottom   | 38673.45  | 0      | 24.597    | 5085.5075   | 1853639     | -7995736  |
| 9th Floor | DWal3           | Top      | 34758.977 | 0      | -1271.764 | -262937     | 1723535     | -7186419  |
| 9th Floor | DWal3           | Bottom   | 35318.959 | 0      | -1246.771 | -257770     | 1768899     | -7302195  |
| 9th Floor | DWal4           | Top      | 34767.78  | 0      | 1288.185  | 266332.288  | 1602501     | -7188238  |
| 9th Floor | DWal4           | Bottom   | 35323.175 | 0      | 1290.161  | 266740.8601 | 1608956     | -7303066  |
| 9th Floor | DWal5           | Top      | 21900.163 | 0      | -1275.386 | -263686     | 1102972     | -4527859  |
| 9th Floor | DWal5           | Bottom   | 22298.214 | 0      | -1255.822 | -259641     | 1140777     | -4610156  |
| 9th Floor | DWal6           | Top      | 21908.966 | 0      | 1284.564  | 265583.6213 | 981937.9172 | -4529679  |
| 9th Floor | DWal6           | Bottom   | 22302.43  | 0      | 1281.11   | 264869.504  | 980833.6459 | -4611027  |
| 8th Floor | Dead            | Top      | 24967.136 | 0      | 14.049    | 2904.6359   | 1190755     | -5161955  |
| 8th Floor | Dead            | Bottom   | 25333.235 | 0      | 0.042     | 8.6073      | 1208056     | -5237646  |
| 8th Floor | Live            | Top      | 5587.304  | 0      | 4.837     | 999.9654    | 274520.0231 | -1155175  |
| 8th Floor | Live            | Bottom   | 5613.939  | 0      | -0.002    | -0.3785     | 275911.0535 | -1160682  |
| 8th Floor | Wind            | Top      | -2.108    | 0      | -1268.466 | -262255     | 79971.8952  | 435.7908  |
| 8th Floor | Wind            | Bottom   | 0.014     | 0      | -1283.059 | -265272     | 96341.417   | -2.9005   |
| 8th Floor | Wind+Modal      | Top      | -2.108    | 0      | -1268.466 | -262255     | 79971.8952  | 435.7908  |
| 8th Floor | Wind+Modal      | Bottom   | 0.014     | 0      | -1283.059 | -265272     | 96341.417   | -2.9005   |
| 8th Floor | wind 1          | Top      | -2.108    | 0      | -1268.466 | -262255     | 79971.8952  | 435.7908  |
| 8th Floor | wind 1          | Bottom   | 0.014     | 0      | -1283.059 | -265272     | 96341.417   | -2.9005   |
| 8th Floor | wind -1         | Top      | 2.108     | 0      | 1268.466  | 262255.3314 | -79971.8952 | -435.7908 |
| 8th Floor | wind -1         | Bottom   | -0.014    | 0      | 1283.059  | 265272.3594 | -96341.417  | 2.9005    |
| 8th Floor | UDStIS7         | Top      | 34953.99  | 0      | 19.669    | 4066.4902   | 1667057     | -7226737  |
| 8th Floor | UDStIS7         | Bottom   | 35466.529 | 0      | 0.058     | 12.0502     | 1691278     | -7332705  |
| 8th Floor | UDStIS8         | Top      | 38900.25  | 0      | 24.597    | 5085.5077   | 1868138     | -8042627  |
| 8th Floor | UDStIS8         | Bottom   | 39382.185 | 0      | 0.047     | 9.7232      | 1891125     | -8142267  |
| 8th Floor | UDStIS9         | Top      | 35545.759 | 0      | -1246.771 | -257770     | 1783398     | -7349086  |
| 8th Floor | UDStIS9         | Bottom   | 36013.836 | 0      | -1283.01  | -265262     | 1821920     | -7445861  |
| 8th Floor | UDStIS10        | Top      | 35549.975 | 0      | 1290.161  | 266740.8598 | 1623454     | -7349957  |
| 8th Floor | UDStIS10        | Bottom   | 36013.808 | 0      | 1283.107  | 265282.3096 | 1629237     | -7445855  |
| 8th Floor | UDStIS11        | Top      | 22468.314 | 0      | -1255.822 | -259641     | 1151651     | -4645324  |
| 8th Floor | UDStIS11        | Bottom   | 22799.926 | 0      | -1283.021 | -265265     | 1183592     | -4713885  |
| 8th Floor | UDStIS12        | Top      | 22472.53  | 0      | 1281.11   | 264869.5036 | 991707.4207 | -4646196  |
| 8th Floor | UDStIS12        | Bottom   | 22799.898 | 0      | 1283.096  | 265280.1059 | 990908.8841 | -4713879  |
| 8th Floor | UDStID3         | Top      | 24967.136 | 0      | 14.049    | 2904.6359   | 1190755     | -5161955  |
| 8th Floor | UDStID3         | Bottom   | 25333.235 | 0      | 0.042     | 8.6073      | 1208056     | -5237646  |

**Table 5.3 - Story Forces (continued)**

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft |
|-----------|-----------------|----------|-----------|--------|-----------|-------------|-------------|-----------|
| 8th Floor | UDStID4         | Top      | 30554.44  | 0      | 18.886    | 3904.6013   | 1465275     | -6317130  |
| 8th Floor | UDStID4         | Bottom   | 30947.175 | 0      | 0.04      | 8.2288      | 1483967     | -6398328  |
| 8th Floor | DWal1           | Top      | 34953.99  | 0      | 19.669    | 4066.4902   | 1667057     | -7226737  |
| 8th Floor | DWal1           | Bottom   | 35466.529 | 0      | 0.058     | 12.0502     | 1691278     | -7332705  |
| 8th Floor | DWal2           | Top      | 38900.25  | 0      | 24.597    | 5085.5077   | 1868138     | -8042627  |
| 8th Floor | DWal2           | Bottom   | 39382.185 | 0      | 0.047     | 9.7232      | 1891125     | -8142267  |
| 8th Floor | DWal3           | Top      | 35545.759 | 0      | -1246.771 | -257770     | 1783398     | -7349086  |
| 8th Floor | DWal3           | Bottom   | 36013.836 | 0      | -1283.01  | -265262     | 1821920     | -7445861  |
| 8th Floor | DWal4           | Top      | 35549.975 | 0      | 1290.161  | 266740.8598 | 1623454     | -7349957  |
| 8th Floor | DWal4           | Bottom   | 36013.808 | 0      | 1283.107  | 265282.3096 | 1629237     | -7445855  |
| 8th Floor | DWal5           | Top      | 22468.314 | 0      | -1255.822 | -259641     | 1151651     | -4645324  |
| 8th Floor | DWal5           | Bottom   | 22799.926 | 0      | -1283.021 | -265265     | 1183592     | -4713885  |
| 8th Floor | DWal6           | Top      | 22472.53  | 0      | 1281.11   | 264869.5036 | 991707.4207 | -4646196  |
| 8th Floor | DWal6           | Bottom   | 22799.898 | 0      | 1283.096  | 265280.1059 | 990908.8841 | -4713879  |
| 7th Floor | Dead            | Top      | 25522.235 | 0      | 0.042     | 8.6073      | 1219392     | -5276722  |
| 7th Floor | Dead            | Bottom   | 25775.34  | 0      | 0.016     | 3.3397      | 1230985     | -5329051  |
| 7th Floor | Live            | Top      | 5613.939  | 0      | -0.002    | -0.3785     | 275911.0535 | -1160682  |
| 7th Floor | Live            | Bottom   | 5614.167  | 0      | -0.013    | -2.6457     | 275921.3797 | -1160729  |
| 7th Floor | Wind            | Top      | 0.014     | 0      | -1283.059 | -265272     | 96341.417   | -2.9005   |
| 7th Floor | Wind            | Bottom   | -0.001    | 0      | -1284.263 | -265521     | 112197.1918 | 0.2155    |
| 7th Floor | Wind+Modal      | Top      | 0.014     | 0      | -1283.059 | -265272     | 96341.417   | -2.9005   |
| 7th Floor | Wind+Modal      | Bottom   | -0.001    | 0      | -1284.263 | -265521     | 112197.1918 | 0.2155    |
| 7th Floor | wind 1          | Top      | 0.014     | 0      | -1283.059 | -265272     | 96341.417   | -2.9005   |
| 7th Floor | wind 1          | Bottom   | -0.001    | 0      | -1284.263 | -265521     | 112197.1918 | 0.2155    |
| 7th Floor | wind -1         | Top      | -0.014    | 0      | 1283.059  | 265272.3594 | -96341.417  | 2.9005    |
| 7th Floor | wind -1         | Bottom   | 0.001     | 0      | 1284.263  | 265521.4757 | -112197     | -0.2155   |
| 7th Floor | UDStIS7         | Top      | 35731.129 | 0      | 0.058     | 12.0502     | 1707149     | -7387411  |
| 7th Floor | UDStIS7         | Bottom   | 36085.475 | 0      | 0.023     | 4.6755      | 1723379     | -7460672  |
| 7th Floor | UDStIS8         | Top      | 39608.985 | 0      | 0.047     | 9.7232      | 1904728     | -8189158  |
| 7th Floor | UDStIS8         | Bottom   | 39913.074 | 0      | -0.001    | -0.2256     | 1918656     | -8252028  |
| 7th Floor | UDStIS9         | Top      | 36240.636 | 0      | -1283.01  | -265262     | 1835523     | -7492751  |
| 7th Floor | UDStIS9         | Bottom   | 36544.573 | 0      | -1284.257 | -265520     | 1865301     | -7555590  |
| 7th Floor | UDStIS10        | Top      | 36240.608 | 0      | 1283.107  | 265282.3096 | 1642840     | -7492746  |
| 7th Floor | UDStIS10        | Bottom   | 36544.575 | 0      | 1284.27   | 265522.8376 | 1640906     | -7555591  |
| 7th Floor | UDStIS11        | Top      | 22970.026 | 0      | -1283.021 | -265265     | 1193794     | -4749053  |
| 7th Floor | UDStIS11        | Bottom   | 23197.805 | 0      | -1284.249 | -265518     | 1220084     | -4796146  |
| 7th Floor | UDStIS12        | Top      | 22969.998 | 0      | 1283.096  | 265280.1059 | 1001112     | -4749047  |
| 7th Floor | UDStIS12        | Bottom   | 23197.807 | 0      | 1284.278  | 265524.4814 | 995689.3563 | -4796147  |
| 7th Floor | UDStID3         | Top      | 25522.235 | 0      | 0.042     | 8.6073      | 1219392     | -5276722  |
| 7th Floor | UDStID3         | Bottom   | 25775.34  | 0      | 0.016     | 3.3397      | 1230985     | -5329051  |
| 7th Floor | UDStID4         | Top      | 31136.175 | 0      | 0.04      | 8.2288      | 1495303     | -6437404  |
| 7th Floor | UDStID4         | Bottom   | 31389.506 | 0      | 0.003     | 0.6939      | 1506906     | -6489780  |
| 7th Floor | DWal1           | Top      | 35731.129 | 0      | 0.058     | 12.0502     | 1707149     | -7387411  |
| 7th Floor | DWal1           | Bottom   | 36085.475 | 0      | 0.023     | 4.6755      | 1723379     | -7460672  |
| 7th Floor | DWal2           | Top      | 39608.985 | 0      | 0.047     | 9.7232      | 1904728     | -8189158  |



Table 5.3 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft |
|-----------|-----------------|----------|-----------|--------|-----------|-------------|-------------|-----------|
| 7th Floor | DWal2           | Bottom   | 39913.074 | 0      | -0.001    | -0.2256     | 1918656     | -8252028  |
| 7th Floor | DWal3           | Top      | 36240.636 | 0      | -1283.01  | -265262     | 1835523     | -7492751  |
| 7th Floor | DWal3           | Bottom   | 36544.573 | 0      | -1284.257 | -265520     | 1865301     | -7555590  |
| 7th Floor | DWal4           | Top      | 36240.608 | 0      | 1283.107  | 265282.3096 | 1642840     | -7492746  |
| 7th Floor | DWal4           | Bottom   | 36544.575 | 0      | 1284.27   | 265522.8376 | 1640906     | -7555591  |
| 7th Floor | DWal5           | Top      | 22970.026 | 0      | -1283.021 | -265265     | 1193794     | -4749053  |
| 7th Floor | DWal5           | Bottom   | 23197.805 | 0      | -1284.249 | -265518     | 1220084     | -4796146  |
| 7th Floor | DWal6           | Top      | 22969.998 | 0      | 1283.096  | 265280.1059 | 1001112     | -4749047  |
| 7th Floor | DWal6           | Bottom   | 23197.807 | 0      | 1284.278  | 265524.4814 | 995689.3563 | -4796147  |
| 6th Floor | Dead            | Top      | 26074.34  | 0      | 0.016     | 3.3397      | 1248478     | -5390870  |
| 6th Floor | Dead            | Bottom   | 26381.244 | 0      | 0.016     | 3.3397      | 1262535     | -5454322  |
| 6th Floor | Live            | Top      | 5614.167  | 0      | -0.013    | -2.6457     | 275921.3797 | -1160729  |
| 6th Floor | Live            | Bottom   | 5614.167  | 0      | -0.013    | -2.6457     | 275921.5743 | -1160729  |
| 6th Floor | Wind            | Top      | -0.001    | 0      | -1284.263 | -265521     | 112197.1918 | 0.2155    |
| 6th Floor | Wind            | Bottom   | -0.001    | 0      | -1284.263 | -265521     | 131728.2709 | 0.2155    |
| 6th Floor | Wind+Modal      | Top      | -0.001    | 0      | -1284.263 | -265521     | 112197.1918 | 0.2155    |
| 6th Floor | Wind+Modal      | Bottom   | -0.001    | 0      | -1284.263 | -265521     | 131728.2709 | 0.2155    |
| 6th Floor | wind 1          | Top      | -0.001    | 0      | -1284.263 | -265521     | 112197.1918 | 0.2155    |
| 6th Floor | wind 1          | Bottom   | -0.001    | 0      | -1284.263 | -265521     | 131728.2709 | 0.2155    |
| 6th Floor | wind -1         | Top      | 0.001     | 0      | 1284.263  | 265521.4758 | -112197     | -0.2155   |
| 6th Floor | wind -1         | Bottom   | 0.001     | 0      | 1284.263  | 265521.4758 | -131728     | -0.2155   |
| 6th Floor | UDStIS7         | Top      | 36504.075 | 0      | 0.023     | 4.6755      | 1747869     | -7547218  |
| 6th Floor | UDStIS7         | Bottom   | 36933.742 | 0      | 0.023     | 4.6755      | 1767549     | -7636051  |
| 6th Floor | UDStIS8         | Top      | 40271.874 | 0      | -0.001    | -0.2256     | 1939648     | -8326210  |
| 6th Floor | UDStIS8         | Bottom   | 40640.16  | 0      | -0.001    | -0.2256     | 1956516     | -8402353  |
| 6th Floor | UDStIS9         | Top      | 36903.373 | 0      | -1284.257 | -265520     | 1886292     | -7629772  |
| 6th Floor | UDStIS9         | Bottom   | 37271.659 | 0      | -1284.257 | -265520     | 1922691     | -7705915  |
| 6th Floor | UDStIS10        | Top      | 36903.375 | 0      | 1284.27   | 265522.8376 | 1661898     | -7629773  |
| 6th Floor | UDStIS10        | Bottom   | 37271.661 | 0      | 1284.27   | 265522.8376 | 1659235     | -7705916  |
| 6th Floor | UDStIS11        | Top      | 23466.905 | 0      | -1284.249 | -265518     | 1235827     | -4851783  |
| 6th Floor | UDStIS11        | Bottom   | 23743.119 | 0      | -1284.249 | -265518     | 1268009     | -4908890  |
| 6th Floor | UDStIS12        | Top      | 23466.907 | 0      | 1284.278  | 265524.4815 | 1011433     | -4851783  |
| 6th Floor | UDStIS12        | Bottom   | 23743.121 | 0      | 1284.278  | 265524.4815 | 1004553     | -4908890  |
| 6th Floor | UDStID3         | Top      | 26074.34  | 0      | 0.016     | 3.3397      | 1248478     | -5390870  |
| 6th Floor | UDStID3         | Bottom   | 26381.244 | 0      | 0.016     | 3.3397      | 1262535     | -5454322  |
| 6th Floor | UDStID4         | Top      | 31688.506 | 0      | 0.003     | 0.6939      | 1524399     | -6551599  |
| 6th Floor | UDStID4         | Bottom   | 31995.411 | 0      | 0.003     | 0.6939      | 1538456     | -6615051  |
| 6th Floor | DWal1           | Top      | 36504.075 | 0      | 0.023     | 4.6755      | 1747869     | -7547218  |
| 6th Floor | DWal1           | Bottom   | 36933.742 | 0      | 0.023     | 4.6755      | 1767549     | -7636051  |
| 6th Floor | DWal2           | Top      | 40271.874 | 0      | -0.001    | -0.2256     | 1939648     | -8326210  |
| 6th Floor | DWal2           | Bottom   | 40640.16  | 0      | -0.001    | -0.2256     | 1956516     | -8402353  |
| 6th Floor | DWal3           | Top      | 36903.373 | 0      | -1284.257 | -265520     | 1886292     | -7629772  |
| 6th Floor | DWal3           | Bottom   | 37271.659 | 0      | -1284.257 | -265520     | 1922691     | -7705915  |
| 6th Floor | DWal4           | Top      | 36903.375 | 0      | 1284.27   | 265522.8376 | 1661898     | -7629773  |
| 6th Floor | DWal4           | Bottom   | 37271.661 | 0      | 1284.27   | 265522.8376 | 1659235     | -7705916  |

Table 5.3 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft |
|-----------|-----------------|----------|-----------|--------|-----------|-------------|-------------|-----------|
| 6th Floor | DWal5           | Top      | 23466.905 | 0      | -1284.249 | -265518     | 1235827     | -4851783  |
| 6th Floor | DWal5           | Bottom   | 23743.119 | 0      | -1284.249 | -265518     | 1268009     | -4908890  |
| 6th Floor | DWal6           | Top      | 23466.907 | 0      | 1284.278  | 265524.4815 | 1011433     | -4851783  |
| 6th Floor | DWal6           | Bottom   | 23743.121 | 0      | 1284.278  | 265524.4815 | 1004553     | -4908890  |
| 5th Floor | Dead            | Top      | 26630.244 | 0      | 0.016     | 3.3397      | 1277178     | -5505803  |
| 5th Floor | Dead            | Bottom   | 26960.099 | 0      | 0.031     | 6.3061      | 1292286     | -5574000  |
| 5th Floor | Live            | Top      | 5614.167  | 0      | -0.013    | -2.6457     | 275921.5743 | -1160729  |
| 5th Floor | Live            | Bottom   | 5614.109  | 0      | -0.005    | -1.0074     | 275918.8532 | -1160717  |
| 5th Floor | Wind            | Top      | -0.001    | 0      | -1284.263 | -265521     | 131728.2709 | 0.2155    |
| 5th Floor | Wind            | Bottom   | -0.001    | 0      | -1283.611 | -265387     | 152582.5815 | 0.2269    |
| 5th Floor | Wind+Modal      | Top      | -0.001    | 0      | -1284.263 | -265521     | 131728.2709 | 0.2155    |
| 5th Floor | Wind+Modal      | Bottom   | -0.001    | 0      | -1283.611 | -265387     | 152582.5815 | 0.2269    |
| 5th Floor | wind 1          | Top      | -0.001    | 0      | -1284.263 | -265521     | 131728.2709 | 0.2155    |
| 5th Floor | wind 1          | Bottom   | -0.001    | 0      | -1283.611 | -265387     | 152582.5815 | 0.2269    |
| 5th Floor | wind -1         | Top      | 0.001     | 0      | 1284.263  | 265521.4756 | -131728     | -0.2155   |
| 5th Floor | wind -1         | Bottom   | 0.001     | 0      | 1283.611  | 265386.5399 | -152583     | -0.2269   |
| 5th Floor | UDStIS7         | Top      | 37282.342 | 0      | 0.023     | 4.6755      | 1788050     | -7708124  |
| 5th Floor | UDStIS7         | Bottom   | 37744.138 | 0      | 0.043     | 8.8286      | 1809201     | -7803601  |
| 5th Floor | UDStIS8         | Top      | 40938.96  | 0      | -0.001    | -0.2256     | 1974089     | -8464130  |
| 5th Floor | UDStIS8         | Bottom   | 41334.693 | 0      | 0.029     | 5.9556      | 1992214     | -8545948  |
| 5th Floor | UDStIS9         | Top      | 37570.459 | 0      | -1284.257 | -265520     | 1940264     | -7767692  |
| 5th Floor | UDStIS9         | Bottom   | 37966.227 | 0      | -1283.579 | -265380     | 1979245     | -7849517  |
| 5th Floor | UDStIS10        | Top      | 37570.461 | 0      | 1284.27   | 265522.8375 | 1676807     | -7767693  |
| 5th Floor | UDStIS10        | Bottom   | 37966.229 | 0      | 1283.643  | 265393.0999 | 1674080     | -7849518  |
| 5th Floor | UDStIS11        | Top      | 23967.219 | 0      | -1284.249 | -265518     | 1281189     | -4955222  |
| 5th Floor | UDStIS11        | Bottom   | 24264.088 | 0      | -1283.583 | -265381     | 1315640     | -5016600  |
| 5th Floor | UDStIS12        | Top      | 23967.221 | 0      | 1284.278  | 265524.4813 | 1017732     | -4955223  |
| 5th Floor | UDStIS12        | Bottom   | 24264.09  | 0      | 1283.638  | 265392.2154 | 1010475     | -5016601  |
| 5th Floor | UDStID3         | Top      | 26630.244 | 0      | 0.016     | 3.3397      | 1277178     | -5505803  |
| 5th Floor | UDStID3         | Bottom   | 26960.099 | 0      | 0.031     | 6.3061      | 1292286     | -5574000  |
| 5th Floor | UDStID4         | Top      | 32244.411 | 0      | 0.003     | 0.6939      | 1553100     | -6666532  |
| 5th Floor | UDStID4         | Bottom   | 32574.208 | 0      | 0.026     | 5.2988      | 1568205     | -6734717  |
| 5th Floor | DWal1           | Top      | 37282.342 | 0      | 0.023     | 4.6755      | 1788050     | -7708124  |
| 5th Floor | DWal1           | Bottom   | 37744.138 | 0      | 0.043     | 8.8286      | 1809201     | -7803601  |
| 5th Floor | DWal2           | Top      | 40938.96  | 0      | -0.001    | -0.2256     | 1974089     | -8464130  |
| 5th Floor | DWal2           | Bottom   | 41334.693 | 0      | 0.029     | 5.9556      | 1992214     | -8545948  |
| 5th Floor | DWal3           | Top      | 37570.459 | 0      | -1284.257 | -265520     | 1940264     | -7767692  |
| 5th Floor | DWal3           | Bottom   | 37966.227 | 0      | -1283.579 | -265380     | 1979245     | -7849517  |
| 5th Floor | DWal4           | Top      | 37570.461 | 0      | 1284.27   | 265522.8375 | 1676807     | -7767693  |
| 5th Floor | DWal4           | Bottom   | 37966.229 | 0      | 1283.643  | 265393.0999 | 1674080     | -7849518  |
| 5th Floor | DWal5           | Top      | 23967.219 | 0      | -1284.249 | -265518     | 1281189     | -4955222  |
| 5th Floor | DWal5           | Bottom   | 24264.088 | 0      | -1283.583 | -265381     | 1315640     | -5016600  |
| 5th Floor | DWal6           | Top      | 23967.221 | 0      | 1284.278  | 265524.4813 | 1017732     | -4955223  |
| 5th Floor | DWal6           | Bottom   | 24264.09  | 0      | 1283.638  | 265392.2154 | 1010475     | -5016601  |
| 4th Floor | Dead            | Top      | 27208.099 | 0      | 0.031     | 6.3061      | 1306721     | -5625274  |

Table 5.3 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft |
|-----------|-----------------|----------|-----------|--------|-----------|-------------|-------------|-----------|
| 4th Floor | Dead            | Bottom   | 27537.552 | 0      | 0.192     | 39.7963     | 1321809     | -5693389  |
| 4th Floor | Live            | Top      | 5614.109  | 0      | -0.005    | -1.0074     | 275918.8532 | -1160717  |
| 4th Floor | Live            | Bottom   | 5614.149  | 0      | 0.018     | 3.7251      | 275920.6778 | -1160725  |
| 4th Floor | Wind            | Top      | -0.001    | 0      | -1283.611 | -265387     | 152582.5815 | 0.2269    |
| 4th Floor | Wind            | Bottom   | 0.175     | 0      | -1282.927 | -265245     | 173369.2877 | -36.1635  |
| 4th Floor | Wind+Modal      | Top      | -0.001    | 0      | -1283.611 | -265387     | 152582.5815 | 0.2269    |
| 4th Floor | Wind+Modal      | Bottom   | 0.175     | 0      | -1282.927 | -265245     | 173369.2877 | -36.1635  |
| 4th Floor | wind 1          | Top      | -0.001    | 0      | -1283.611 | -265387     | 152582.5815 | 0.2269    |
| 4th Floor | wind 1          | Bottom   | 0.175     | 0      | -1282.927 | -265245     | 173369.2877 | -36.1635  |
| 4th Floor | wind -1         | Top      | 0.001     | 0      | 1283.611  | 265386.5399 | -152583     | -0.2269   |
| 4th Floor | wind -1         | Bottom   | -0.175    | 0      | 1282.927  | 265245.1822 | -173369     | 36.1635   |
| 4th Floor | UDStIS7         | Top      | 38091.338 | 0      | 0.043     | 8.8286      | 1829410     | -7875384  |
| 4th Floor | UDStIS7         | Bottom   | 38552.573 | 0      | 0.269     | 55.7148     | 1850532     | -7970745  |
| 4th Floor | UDStIS8         | Top      | 41632.293 | 0      | 0.029     | 5.9556      | 2009535     | -8607477  |
| 4th Floor | UDStIS8         | Bottom   | 42027.702 | 0      | 0.26      | 53.7157     | 2027644     | -8689227  |
| 4th Floor | UDStIS9         | Top      | 38263.827 | 0      | -1283.579 | -265380     | 1996567     | -7911046  |
| 4th Floor | UDStIS9         | Bottom   | 38659.387 | 0      | -1282.678 | -265194     | 2035461     | -7992828  |
| 4th Floor | UDStIS10        | Top      | 38263.829 | 0      | 1283.643  | 265393.0999 | 1691402     | -7911047  |
| 4th Floor | UDStIS10        | Bottom   | 38659.037 | 0      | 1283.176  | 265296.6628 | 1688722     | -7992756  |
| 4th Floor | UDStIS11        | Top      | 24487.288 | 0      | -1283.583 | -265381     | 1328632     | -5062747  |
| 4th Floor | UDStIS11        | Bottom   | 24783.972 | 0      | -1282.754 | -265209     | 1362997     | -5124086  |
| 4th Floor | UDStIS12        | Top      | 24487.29  | 0      | 1283.638  | 265392.2154 | 1023466     | -5062747  |
| 4th Floor | UDStIS12        | Bottom   | 24783.622 | 0      | 1283.1    | 265280.9988 | 1016259     | -5124014  |
| 4th Floor | UDStID3         | Top      | 27208.099 | 0      | 0.031     | 6.3061      | 1306721     | -5625274  |
| 4th Floor | UDStID3         | Bottom   | 27537.552 | 0      | 0.192     | 39.7963     | 1321809     | -5693389  |
| 4th Floor | UDStID4         | Top      | 32822.208 | 0      | 0.026     | 5.2988      | 1582640     | -6785991  |
| 4th Floor | UDStID4         | Bottom   | 33151.702 | 0      | 0.211     | 43.5214     | 1597729     | -6854114  |
| 4th Floor | DWal1           | Top      | 38091.338 | 0      | 0.043     | 8.8286      | 1829410     | -7875384  |
| 4th Floor | DWal1           | Bottom   | 38552.573 | 0      | 0.269     | 55.7148     | 1850532     | -7970745  |
| 4th Floor | DWal2           | Top      | 41632.293 | 0      | 0.029     | 5.9556      | 2009535     | -8607477  |
| 4th Floor | DWal2           | Bottom   | 42027.702 | 0      | 0.26      | 53.7157     | 2027644     | -8689227  |
| 4th Floor | DWal3           | Top      | 38263.827 | 0      | -1283.579 | -265380     | 1996567     | -7911046  |
| 4th Floor | DWal3           | Bottom   | 38659.387 | 0      | -1282.678 | -265194     | 2035461     | -7992828  |
| 4th Floor | DWal4           | Top      | 38263.829 | 0      | 1283.643  | 265393.0999 | 1691402     | -7911047  |
| 4th Floor | DWal4           | Bottom   | 38659.037 | 0      | 1283.176  | 265296.6628 | 1688722     | -7992756  |
| 4th Floor | DWal5           | Top      | 24487.288 | 0      | -1283.583 | -265381     | 1328632     | -5062747  |
| 4th Floor | DWal5           | Bottom   | 24783.972 | 0      | -1282.754 | -265209     | 1362997     | -5124086  |
| 4th Floor | DWal6           | Top      | 24487.29  | 0      | 1283.638  | 265392.2154 | 1023466     | -5062747  |
| 4th Floor | DWal6           | Bottom   | 24783.622 | 0      | 1283.1    | 265280.9988 | 1016259     | -5124014  |
| 3rd Floor | Dead            | Top      | 27714.552 | 0      | 0.192     | 39.7963     | 1332223     | -5729984  |
| 3rd Floor | Dead            | Bottom   | 27953.534 | 0      | 0.12      | 24.783      | 1343170     | -5779393  |
| 3rd Floor | Live            | Top      | 5614.149  | 0      | 0.018     | 3.7251      | 275920.6778 | -1160725  |
| 3rd Floor | Live            | Bottom   | 5614.194  | 0      | -0.004    | -0.7602     | 275922.6782 | -1160735  |
| 3rd Floor | Wind            | Top      | 0.175     | 0      | -1282.927 | -265245     | 173369.2877 | -36.1635  |
| 3rd Floor | Wind            | Bottom   | 0.171     | 0      | -1283.728 | -265411     | 188400.151  | -35.2577  |

**Table 5.3 - Story Forces (continued)**

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft |
|-----------|-----------------|----------|-----------|--------|-----------|-------------|-------------|-----------|
| 3rd Floor | Wind+Modal      | Top      | 0.175     | 0      | -1282.927 | -265245     | 173369.2877 | -36.1635  |
| 3rd Floor | Wind+Modal      | Bottom   | 0.171     | 0      | -1283.728 | -265411     | 188400.151  | -35.2577  |
| 3rd Floor | wind 1          | Top      | 0.175     | 0      | -1282.927 | -265245     | 173369.2877 | -36.1635  |
| 3rd Floor | wind 1          | Bottom   | 0.171     | 0      | -1283.728 | -265411     | 188400.151  | -35.2577  |
| 3rd Floor | wind -1         | Top      | -0.175    | 0      | 1282.927  | 265245.1822 | -173369     | 36.1635   |
| 3rd Floor | wind -1         | Bottom   | -0.171    | 0      | 1283.728  | 265410.7804 | -188400     | 35.2577   |
| 3rd Floor | UDStIS7         | Top      | 38800.373 | 0      | 0.269     | 55.7148     | 1865112     | -8021977  |
| 3rd Floor | UDStIS7         | Bottom   | 39134.948 | 0      | 0.168     | 34.6962     | 1880437     | -8091151  |
| 3rd Floor | UDStIS8         | Top      | 42240.102 | 0      | 0.26      | 53.7157     | 2040140     | -8733141  |
| 3rd Floor | UDStIS8         | Bottom   | 42526.952 | 0      | 0.138     | 28.5233     | 2053280     | -8792447  |
| 3rd Floor | UDStIS9         | Top      | 38871.787 | 0      | -1282.678 | -265194     | 2047957     | -8036742  |
| 3rd Floor | UDStIS9         | Bottom   | 39158.606 | 0      | -1283.588 | -265382     | 2076126     | -8096042  |
| 3rd Floor | UDStIS10        | Top      | 38871.437 | 0      | 1283.176  | 265296.6628 | 1701219     | -8036670  |
| 3rd Floor | UDStIS10        | Bottom   | 39158.265 | 0      | 1283.868  | 265439.7598 | 1699326     | -8095971  |
| 3rd Floor | UDStIS11        | Top      | 24943.272 | 0      | -1282.754 | -265209     | 1372370     | -5157021  |
| 3rd Floor | UDStIS11        | Bottom   | 25158.351 | 0      | -1283.62  | -265388     | 1397253     | -5201489  |
| 3rd Floor | UDStIS12        | Top      | 24942.922 | 0      | 1283.1    | 265280.9988 | 1025631     | -5156949  |
| 3rd Floor | UDStIS12        | Bottom   | 25158.01  | 0      | 1283.836  | 265433.0851 | 1020452     | -5201419  |
| 3rd Floor | UDStID3         | Top      | 27714.552 | 0      | 0.192     | 39.7963     | 1332223     | -5729984  |
| 3rd Floor | UDStID3         | Bottom   | 27953.534 | 0      | 0.12      | 24.783      | 1343170     | -5779393  |
| 3rd Floor | UDStID4         | Top      | 33328.702 | 0      | 0.211     | 43.5214     | 1608143     | -6890709  |
| 3rd Floor | UDStID4         | Bottom   | 33567.728 | 0      | 0.116     | 24.0228     | 1619092     | -6940128  |
| 3rd Floor | DWal1           | Top      | 38800.373 | 0      | 0.269     | 55.7148     | 1865112     | -8021977  |
| 3rd Floor | DWal1           | Bottom   | 39134.948 | 0      | 0.168     | 34.6962     | 1880437     | -8091151  |
| 3rd Floor | DWal2           | Top      | 42240.102 | 0      | 0.26      | 53.7157     | 2040140     | -8733141  |
| 3rd Floor | DWal2           | Bottom   | 42526.952 | 0      | 0.138     | 28.5233     | 2053280     | -8792447  |
| 3rd Floor | DWal3           | Top      | 38871.787 | 0      | -1282.678 | -265194     | 2047957     | -8036742  |
| 3rd Floor | DWal3           | Bottom   | 39158.606 | 0      | -1283.588 | -265382     | 2076126     | -8096042  |
| 3rd Floor | DWal4           | Top      | 38871.437 | 0      | 1283.176  | 265296.6628 | 1701219     | -8036670  |
| 3rd Floor | DWal4           | Bottom   | 39158.265 | 0      | 1283.868  | 265439.7598 | 1699326     | -8095971  |
| 3rd Floor | DWal5           | Top      | 24943.272 | 0      | -1282.754 | -265209     | 1372370     | -5157021  |
| 3rd Floor | DWal5           | Bottom   | 25158.351 | 0      | -1283.62  | -265388     | 1397253     | -5201489  |
| 3rd Floor | DWal6           | Top      | 24942.922 | 0      | 1283.1    | 265280.9988 | 1025631     | -5156949  |
| 3rd Floor | DWal6           | Bottom   | 25158.01  | 0      | 1283.836  | 265433.0851 | 1020452     | -5201419  |
| 2nd Floor | Dead            | Top      | 28280.534 | 0      | 0.12      | 24.7826     | 1360314     | -5847000  |
| 2nd Floor | Dead            | Bottom   | 28664.208 | 0      | -0.999    | -206.5401   | 1377879     | -5926325  |
| 2nd Floor | Live            | Top      | 5628.194  | 0      | -0.004    | -0.7602     | 276563.9062 | -1163629  |
| 2nd Floor | Live            | Bottom   | 5628.098  | 0      | -0.225    | -46.5521    | 276561.8594 | -1163609  |
| 2nd Floor | Wind            | Top      | 0.171     | 0      | -1283.728 | -265411     | 188400.151  | -35.2577  |
| 2nd Floor | Wind            | Bottom   | -2.824    | 0      | -1290.558 | -266823     | 212696.6217 | 583.8487  |
| 2nd Floor | Wind+Modal      | Top      | 0.171     | 0      | -1283.728 | -265411     | 188400.151  | -35.2577  |
| 2nd Floor | Wind+Modal      | Bottom   | -2.824    | 0      | -1290.558 | -266823     | 212696.6217 | 583.8487  |
| 2nd Floor | wind 1          | Top      | 0.171     | 0      | -1283.728 | -265411     | 188400.151  | -35.2577  |
| 2nd Floor | wind 1          | Bottom   | -2.824    | 0      | -1290.558 | -266823     | 212696.6217 | 583.8487  |
| 2nd Floor | wind -1         | Top      | -0.171    | 0      | 1283.728  | 265410.7813 | -188400     | 35.2577   |

Table 5.3 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft  |
|-----------|-----------------|----------|-----------|--------|-----------|-------------|-------------|------------|
| 2nd Floor | wind -1         | Bottom   | 2.824     | 0      | 1290.558  | 266822.7759 | -212697     | -583.8487  |
| 2nd Floor | UDStIS7         | Top      | 39592.748 | 0      | 0.168     | 34.6957     | 1904439     | -8185801   |
| 2nd Floor | UDStIS7         | Bottom   | 40129.891 | 0      | -1.399    | -289.1561   | 1929031     | -8296855   |
| 2nd Floor | UDStIS8         | Top      | 42941.752 | 0      | 0.138     | 28.5228     | 2074879     | -8878207   |
| 2nd Floor | UDStIS8         | Bottom   | 43402.007 | 0      | -1.559    | -322.3314   | 2095954     | -8973365   |
| 2nd Floor | UDStIS9         | Top      | 39565.006 | 0      | -1283.588 | -265382     | 2097341     | -8180065   |
| 2nd Floor | UDStIS9         | Bottom   | 40022.324 | 0      | -1291.982 | -267117     | 2142713     | -8274616   |
| 2nd Floor | UDStIS10        | Top      | 39564.665 | 0      | 1283.868  | 265439.7603 | 1720540     | -8179994   |
| 2nd Floor | UDStIS10        | Bottom   | 40027.972 | 0      | 1289.134  | 266528.3757 | 1717320     | -8275783   |
| 2nd Floor | UDStIS11        | Top      | 25452.651 | 0      | -1283.62  | -265388     | 1412683     | -5262336   |
| 2nd Floor | UDStIS11        | Bottom   | 25794.963 | 0      | -1291.457 | -267009     | 1452788     | -5333109   |
| 2nd Floor | UDStIS12        | Top      | 25452.31  | 0      | 1283.836  | 265433.0857 | 1035882     | -5262265   |
| 2nd Floor | UDStIS12        | Bottom   | 25800.611 | 0      | 1289.658  | 266636.8898 | 1027394     | -5334276   |
| 2nd Floor | UDStID3         | Top      | 28280.534 | 0      | 0.12      | 24.7826     | 1360314     | -5847000   |
| 2nd Floor | UDStID3         | Bottom   | 28664.208 | 0      | -0.999    | -206.5401   | 1377879     | -5926325   |
| 2nd Floor | UDStID4         | Top      | 33908.728 | 0      | 0.116     | 24.0224     | 1636878     | -7010630   |
| 2nd Floor | UDStID4         | Bottom   | 34292.306 | 0      | -1.224    | -253.0921   | 1654441     | -7089934   |
| 2nd Floor | DWal1           | Top      | 39592.748 | 0      | 0.168     | 34.6957     | 1904439     | -8185801   |
| 2nd Floor | DWal1           | Bottom   | 40129.891 | 0      | -1.399    | -289.1561   | 1929031     | -8296855   |
| 2nd Floor | DWal2           | Top      | 42941.752 | 0      | 0.138     | 28.5228     | 2074879     | -8878207   |
| 2nd Floor | DWal2           | Bottom   | 43402.007 | 0      | -1.559    | -322.3314   | 2095954     | -8973365   |
| 2nd Floor | DWal3           | Top      | 39565.006 | 0      | -1283.588 | -265382     | 2097341     | -8180065   |
| 2nd Floor | DWal3           | Bottom   | 40022.324 | 0      | -1291.982 | -267117     | 2142713     | -8274616   |
| 2nd Floor | DWal4           | Top      | 39564.665 | 0      | 1283.868  | 265439.7603 | 1720540     | -8179994   |
| 2nd Floor | DWal4           | Bottom   | 40027.972 | 0      | 1289.134  | 266528.3757 | 1717320     | -8275783   |
| 2nd Floor | DWal5           | Top      | 25452.651 | 0      | -1283.62  | -265388     | 1412683     | -5262336   |
| 2nd Floor | DWal5           | Bottom   | 25794.963 | 0      | -1291.457 | -267009     | 1452788     | -5333109   |
| 2nd Floor | DWal6           | Top      | 25452.31  | 0      | 1283.836  | 265433.0857 | 1035882     | -5262265   |
| 2nd Floor | DWal6           | Bottom   | 25800.611 | 0      | 1289.658  | 266636.8898 | 1027394     | -5334276   |
| 1st Floor | Dead            | Top      | 28933.52  | 0      | 0         | -0.0002     | 1390945     | -5982005   |
| 1st Floor | Dead            | Bottom   | 29220.147 | 0      | 0         | -0.0001     | 1404073     | -6041265   |
| 1st Floor | Live            | Top      | 5658      | 0      | 0         | -3.938E-05  | 278115.544  | -1169791   |
| 1st Floor | Live            | Bottom   | 5658      | 0      | 0         | -4.382E-05  | 278115.544  | -1169791   |
| 1st Floor | Wind            | Top      | 0         | 0      | -1297     | -268155     | 212891.7669 | -1.003E-06 |
| 1st Floor | Wind            | Bottom   | 0         | 0      | -1297     | -268155     | 231049.767  | -1.012E-06 |
| 1st Floor | Wind+Modal      | Top      | 0         | 0      | -1297     | -268155     | 212891.7669 | -9.801E-07 |
| 1st Floor | Wind+Modal      | Bottom   | 0         | 0      | -1297     | -268155     | 231049.767  | -1E-06     |
| 1st Floor | wind 1          | Top      | 0         | 0      | -1297     | -268155     | 212891.7669 | -1.003E-06 |
| 1st Floor | wind 1          | Bottom   | 0         | 0      | -1297     | -268155     | 231049.767  | -1.012E-06 |
| 1st Floor | wind -1         | Top      | 0         | 0      | 1297      | 268154.7509 | -212892     | 1.003E-06  |
| 1st Floor | wind -1         | Bottom   | 0         | 0      | 1297      | 268154.7509 | -231050     | 1.012E-06  |
| 1st Floor | UDStIS7         | Top      | 40506.928 | 0      | 0         | -0.0002     | 1947323     | -8374807   |
| 1st Floor | UDStIS7         | Bottom   | 40908.205 | 0      | 0         | -0.0002     | 1965703     | -8457771   |
| 1st Floor | UDStIS8         | Top      | 43773.024 | 0      | 0         | -0.0003     | 2114119     | -9050073   |
| 1st Floor | UDStIS8         | Bottom   | 44116.976 | 0      | 0         | -0.0002     | 2129873     | -9121185   |

Table 5.3 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip | T kip-ft    | MX kip-ft  | MY kip-ft  |
|-----------|-----------------|----------|-----------|--------|--------|-------------|------------|------------|
| 1st Floor | UDStIS9         | Top      | 40378.224 | 0      | -1297  | -268155     | 2160142    | -8348198   |
| 1st Floor | UDStIS9         | Bottom   | 40722.176 | 0      | -1297  | -268155     | 2194053    | -8419310   |
| 1st Floor | UDStIS10        | Top      | 40378.224 | 0      | 1297   | 268154.7506 | 1734358    | -8348198   |
| 1st Floor | UDStIS10        | Bottom   | 40722.176 | 0      | 1297   | 268154.7507 | 1731954    | -8419310   |
| 1st Floor | UDStIS11        | Top      | 26040.168 | 0      | -1297  | -268155     | 1464743    | -5383805   |
| 1st Floor | UDStIS11        | Bottom   | 26298.132 | 0      | -1297  | -268155     | 1494716    | -5437139   |
| 1st Floor | UDStIS12        | Top      | 26040.168 | 0      | 1297   | 268154.7507 | 1038959    | -5383805   |
| 1st Floor | UDStIS12        | Bottom   | 26298.132 | 0      | 1297   | 268154.7507 | 1032616    | -5437139   |
| 1st Floor | UDStID3         | Top      | 28933.52  | 0      | 0      | -0.0002     | 1390945    | -5982005   |
| 1st Floor | UDStID3         | Bottom   | 29220.147 | 0      | 0      | -0.0001     | 1404073    | -6041265   |
| 1st Floor | UDStID4         | Top      | 34591.52  | 0      | 0      | -0.0002     | 1669061    | -7151797   |
| 1st Floor | UDStID4         | Bottom   | 34878.147 | 0      | 0      | -0.0002     | 1682189    | -7211057   |
| 1st Floor | DWal1           | Top      | 40506.928 | 0      | 0      | -0.0002     | 1947323    | -8374807   |
| 1st Floor | DWal1           | Bottom   | 40908.205 | 0      | 0      | -0.0002     | 1965703    | -8457771   |
| 1st Floor | DWal2           | Top      | 43773.024 | 0      | 0      | -0.0003     | 2114119    | -9050073   |
| 1st Floor | DWal2           | Bottom   | 44116.976 | 0      | 0      | -0.0002     | 2129873    | -9121185   |
| 1st Floor | DWal3           | Top      | 40378.224 | 0      | -1297  | -268155     | 2160142    | -8348198   |
| 1st Floor | DWal3           | Bottom   | 40722.176 | 0      | -1297  | -268155     | 2194053    | -8419310   |
| 1st Floor | DWal4           | Top      | 40378.224 | 0      | 1297   | 268154.7506 | 1734358    | -8348198   |
| 1st Floor | DWal4           | Bottom   | 40722.176 | 0      | 1297   | 268154.7507 | 1731954    | -8419310   |
| 1st Floor | DWal5           | Top      | 26040.168 | 0      | -1297  | -268155     | 1464743    | -5383805   |
| 1st Floor | DWal5           | Bottom   | 26298.132 | 0      | -1297  | -268155     | 1494716    | -5437139   |
| 1st Floor | DWal6           | Top      | 26040.168 | 0      | 1297   | 268154.7507 | 1038959    | -5383805   |
| 1st Floor | DWal6           | Bottom   | 26298.132 | 0      | 1297   | 268154.7507 | 1032616    | -5437139   |
| Cellar    | Dead            | Top      | 29489.075 | 0      | 0      | -0.0001     | 1417393    | -6096866   |
| Cellar    | Dead            | Bottom   | 29775.854 | 0      | 0      | -0.0001     | 1430528    | -6156158   |
| Cellar    | Live            | Top      | 5685      | 0      | 0      | -4.136E-05  | 279561.916 | -1175374   |
| Cellar    | Live            | Bottom   | 5685      | 0      | 0      | -3.977E-05  | 279561.916 | -1175374   |
| Cellar    | Wind            | Top      | 0         | 0      | -1297  | -268155     | 231049.767 | -9.894E-07 |
| Cellar    | Wind            | Bottom   | 0         | 0      | -1297  | -268155     | 249207.767 | -9.909E-07 |
| Cellar    | Wind+Modal      | Top      | 0         | 0      | -1297  | -268155     | 231049.767 | -9.78E-07  |
| Cellar    | Wind+Modal      | Bottom   | 0         | 0      | -1297  | -268155     | 249207.767 | -9.909E-07 |
| Cellar    | wind 1          | Top      | 0         | 0      | -1297  | -268155     | 231049.767 | -9.894E-07 |
| Cellar    | wind 1          | Bottom   | 0         | 0      | -1297  | -268155     | 249207.767 | -9.909E-07 |
| Cellar    | wind -1         | Top      | 0         | 0      | 1297   | 268154.7509 | -231050    | 9.894E-07  |
| Cellar    | wind -1         | Bottom   | 0         | 0      | 1297   | 268154.7509 | -249208    | 9.909E-07  |
| Cellar    | UDStIS7         | Top      | 41284.705 | 0      | 0      | -0.0002     | 1984350    | -8535613   |
| Cellar    | UDStIS7         | Bottom   | 41686.195 | 0      | 0      | -0.0002     | 2002739    | -8618621   |
| Cellar    | UDStIS8         | Top      | 44482.89  | 0      | 0      | -0.0002     | 2148170    | -9196837   |
| Cellar    | UDStIS8         | Bottom   | 44827.024 | 0      | 0      | -0.0002     | 2163933    | -9267987   |
| Cellar    | UDStIS9         | Top      | 41071.89  | 0      | -1297  | -268155     | 2211483    | -8491613   |
| Cellar    | UDStIS9         | Bottom   | 41416.024 | 0      | -1297  | -268155     | 2245403    | -8562763   |
| Cellar    | UDStIS10        | Top      | 41071.89  | 0      | 1297   | 268154.7507 | 1749384    | -8491613   |
| Cellar    | UDStIS10        | Bottom   | 41416.024 | 0      | 1297   | 268154.7507 | 1746988    | -8562763   |
| Cellar    | UDStIS11        | Top      | 26540.167 | 0      | -1297  | -268155     | 1506703    | -5487180   |



**Table 5.3 - Story Forces (continued)**

| Story  | Load Case/Combo | Location | P kip     | VX kip | VY kip | T kip-ft    | MX kip-ft | MY kip-ft |
|--------|-----------------|----------|-----------|--------|--------|-------------|-----------|-----------|
| Cellar | UDStIS11        | Bottom   | 26798.268 | 0      | -1297  | -268155     | 1536683   | -5540542  |
| Cellar | UDStIS12        | Top      | 26540.167 | 0      | 1297   | 268154.7507 | 1044604   | -5487180  |
| Cellar | UDStIS12        | Bottom   | 26798.268 | 0      | 1297   | 268154.7507 | 1038267   | -5540542  |
| Cellar | UDStID3         | Top      | 29489.075 | 0      | 0      | -0.0001     | 1417393   | -6096866  |
| Cellar | UDStID3         | Bottom   | 29775.854 | 0      | 0      | -0.0001     | 1430528   | -6156158  |
| Cellar | UDStID4         | Top      | 35174.075 | 0      | 0      | -0.0002     | 1696955   | -7272240  |
| Cellar | UDStID4         | Bottom   | 35460.854 | 0      | 0      | -0.0002     | 1710090   | -7331532  |
| Cellar | DWal1           | Top      | 41284.705 | 0      | 0      | -0.0002     | 1984350   | -8535613  |
| Cellar | DWal1           | Bottom   | 41686.195 | 0      | 0      | -0.0002     | 2002739   | -8618621  |
| Cellar | DWal2           | Top      | 44482.89  | 0      | 0      | -0.0002     | 2148170   | -9196837  |
| Cellar | DWal2           | Bottom   | 44827.024 | 0      | 0      | -0.0002     | 2163933   | -9267987  |
| Cellar | DWal3           | Top      | 41071.89  | 0      | -1297  | -268155     | 2211483   | -8491613  |
| Cellar | DWal3           | Bottom   | 41416.024 | 0      | -1297  | -268155     | 2245403   | -8562763  |
| Cellar | DWal4           | Top      | 41071.89  | 0      | 1297   | 268154.7507 | 1749384   | -8491613  |
| Cellar | DWal4           | Bottom   | 41416.024 | 0      | 1297   | 268154.7507 | 1746988   | -8562763  |
| Cellar | DWal5           | Top      | 26540.167 | 0      | -1297  | -268155     | 1506703   | -5487180  |
| Cellar | DWal5           | Bottom   | 26798.268 | 0      | -1297  | -268155     | 1536683   | -5540542  |
| Cellar | DWal6           | Top      | 26540.167 | 0      | 1297   | 268154.7507 | 1044604   | -5487180  |
| Cellar | DWal6           | Bottom   | 26798.268 | 0      | 1297   | 268154.7507 | 1038267   | -5540542  |

**5.3 Point Results**

**Table 5.4 - Joint Reactions**

| Story     | Joint Label | Unique Name | Load Case/Combo | FX kip | FY kip  | FZ kip    | MX kip-ft | MY kip-ft | MZ kip-ft |
|-----------|-------------|-------------|-----------------|--------|---------|-----------|-----------|-----------|-----------|
| Subcellar | 1           | 1           | Dead            | 0      | 34.994  | 4705      | 0         | 0         | 0         |
| Subcellar | 1           | 1           | Live            | 0      | 6.56    | 826.859   | 0         | 0         | 0         |
| Subcellar | 1           | 1           | Wind            | 0      | -31.027 | -2844.529 | 0         | 0         | 0         |
| Subcellar | 1           | 1           | Wind+Modal      | 0      | -31.027 | -2844.529 | 0         | 0         | 0         |
| Subcellar | 1           | 1           | wind 1          | 0      | -31.027 | -2844.529 | 0         | 0         | 0         |
| Subcellar | 1           | 1           | wind -1         | 0      | 31.027  | 2844.529  | 0         | 0         | 0         |
| Subcellar | 1           | 1           | UDStIS7         | 0      | 48.992  | 6587      | 0         | 0         | 0         |
| Subcellar | 1           | 1           | UDStIS8         | 0      | 52.489  | 6968.975  | 0         | 0         | 0         |
| Subcellar | 1           | 1           | UDStIS9         | 0      | 17.526  | 3628.331  | 0         | 0         | 0         |
| Subcellar | 1           | 1           | UDStIS10        | 0      | 79.58   | 9317.388  | 0         | 0         | 0         |
| Subcellar | 1           | 1           | UDStIS11        | 0      | 0.468   | 1389.971  | 0         | 0         | 0         |
| Subcellar | 1           | 1           | UDStIS12        | 0      | 62.521  | 7079.029  | 0         | 0         | 0         |
| Subcellar | 1           | 1           | UDStID3         | 0      | 34.994  | 4705      | 0         | 0         | 0         |
| Subcellar | 1           | 1           | UDStID4         | 0      | 41.554  | 5531.859  | 0         | 0         | 0         |
| Subcellar | 1           | 1           | DWal1           | 0      | 48.992  | 6587      | 0         | 0         | 0         |
| Subcellar | 1           | 1           | DWal2           | 0      | 52.489  | 6968.975  | 0         | 0         | 0         |
| Subcellar | 1           | 1           | DWal3           | 0      | 17.526  | 3628.331  | 0         | 0         | 0         |
| Subcellar | 1           | 1           | DWal4           | 0      | 79.58   | 9317.388  | 0         | 0         | 0         |
| Subcellar | 1           | 1           | DWal5           | 0      | 0.468   | 1389.971  | 0         | 0         | 0         |
| Subcellar | 1           | 1           | DWal6           | 0      | 62.521  | 7079.029  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | Dead            | 0      | -38.913 | 6233.817  | 0         | 0         | 0         |

Table 5.4 - Joint Reactions (continued)

| Story     | Joint Label | Unique Name | Load Case/Combo | FX kip | FY kip   | FZ kip    | MX kip-ft | MY kip-ft | MZ kip-ft |
|-----------|-------------|-------------|-----------------|--------|----------|-----------|-----------|-----------|-----------|
| Subcellar | 2           | 3           | Live            | 0      | -7.693   | 1266.315  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | Wind            | 0      | -31.03   | 2844.599  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | Wind+Modal      | 0      | -31.03   | 2844.599  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | wind 1          | 0      | -31.03   | 2844.599  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | wind -1         | 0      | 31.03    | -2844.599 | 0         | 0         | 0         |
| Subcellar | 2           | 3           | UDStIS7         | 0      | -54.478  | 8727.344  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | UDStIS8         | 0      | -59.004  | 9506.684  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | UDStIS9         | 0      | -85.418  | 11591.494 | 0         | 0         | 0         |
| Subcellar | 2           | 3           | UDStIS10        | 0      | -23.358  | 5902.296  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | UDStIS11        | 0      | -66.051  | 8455.034  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | UDStIS12        | 0      | -3.992   | 2765.837  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | UDStID3         | 0      | -38.913  | 6233.817  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | UDStID4         | 0      | -46.606  | 7500.132  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | DWal1           | 0      | -54.478  | 8727.344  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | DWal2           | 0      | -59.004  | 9506.684  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | DWal3           | 0      | -85.418  | 11591.494 | 0         | 0         | 0         |
| Subcellar | 2           | 3           | DWal4           | 0      | -23.358  | 5902.296  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | DWal5           | 0      | -66.051  | 8455.034  | 0         | 0         | 0         |
| Subcellar | 2           | 3           | DWal6           | 0      | -3.992   | 2765.837  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | Dead            | 0      | -158.094 | 6853.011  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | Live            | 0      | -21.463  | 1264.736  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | Wind            | 0      | -201.633 | -1310.871 | 0         | 0         | 0         |
| Subcellar | 69          | 130         | Wind+Modal      | 0      | -201.633 | -1310.871 | 0         | 0         | 0         |
| Subcellar | 69          | 130         | wind 1          | 0      | -201.633 | -1310.871 | 0         | 0         | 0         |
| Subcellar | 69          | 130         | wind -1         | 0      | 201.633  | 1310.871  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | UDStIS7         | 0      | -221.331 | 9594.216  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | UDStIS8         | 0      | -224.054 | 10247.192 | 0         | 0         | 0         |
| Subcellar | 69          | 130         | UDStIS9         | 0      | -412.808 | 8177.479  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | UDStIS10        | 0      | -9.543   | 10799.221 | 0         | 0         | 0         |
| Subcellar | 69          | 130         | UDStIS11        | 0      | -343.917 | 4856.839  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | UDStIS12        | 0      | 59.349   | 7478.581  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | UDStID3         | 0      | -158.094 | 6853.011  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | UDStID4         | 0      | -179.557 | 8117.747  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | DWal1           | 0      | -221.331 | 9594.216  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | DWal2           | 0      | -224.054 | 10247.192 | 0         | 0         | 0         |
| Subcellar | 69          | 130         | DWal3           | 0      | -412.808 | 8177.479  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | DWal4           | 0      | -9.543   | 10799.221 | 0         | 0         | 0         |
| Subcellar | 69          | 130         | DWal5           | 0      | -343.917 | 4856.839  | 0         | 0         | 0         |
| Subcellar | 69          | 130         | DWal6           | 0      | 59.349   | 7478.581  | 0         | 0         | 0         |
| Subcellar | 70          | 129         | Dead            | 0      | 675.428  | 1881.1    | 0         | 0         | 0         |
| Subcellar | 70          | 129         | Live            | 0      | 120.658  | 334.563   | 0         | 0         | 0         |
| Subcellar | 70          | 129         | Wind            | 0      | -415.826 | -1202.943 | 0         | 0         | 0         |
| Subcellar | 70          | 129         | Wind+Modal      | 0      | -415.826 | -1202.943 | 0         | 0         | 0         |
| Subcellar | 70          | 129         | wind 1          | 0      | -415.826 | -1202.943 | 0         | 0         | 0         |
| Subcellar | 70          | 129         | wind -1         | 0      | 415.826  | 1202.943  | 0         | 0         | 0         |



Table 5.4 - Joint Reactions (continued)

| Story     | Joint Label | Unique Name | Load Case/Combo | FX kip | FY kip    | FZ kip    | MX kip-ft | MY kip-ft | MZ kip-ft |
|-----------|-------------|-------------|-----------------|--------|-----------|-----------|-----------|-----------|-----------|
| Subcellar | 70          | 129         | UDStIS7         | 0      | 945.599   | 2633.541  | 0         | 0         | 0         |
| Subcellar | 70          | 129         | UDStIS8         | 0      | 1003.566  | 2792.622  | 0         | 0         | 0         |
| Subcellar | 70          | 129         | UDStIS9         | 0      | 515.345   | 1388.941  | 0         | 0         | 0         |
| Subcellar | 70          | 129         | UDStIS10        | 0      | 1346.998  | 3794.826  | 0         | 0         | 0         |
| Subcellar | 70          | 129         | UDStIS11        | 0      | 192.059   | 490.048   | 0         | 0         | 0         |
| Subcellar | 70          | 129         | UDStIS12        | 0      | 1023.711  | 2895.933  | 0         | 0         | 0         |
| Subcellar | 70          | 129         | UDStID3         | 0      | 675.428   | 1881.1    | 0         | 0         | 0         |
| Subcellar | 70          | 129         | UDStID4         | 0      | 796.086   | 2215.664  | 0         | 0         | 0         |
| Subcellar | 70          | 129         | DWal1           | 0      | 945.599   | 2633.541  | 0         | 0         | 0         |
| Subcellar | 70          | 129         | DWal2           | 0      | 1003.566  | 2792.622  | 0         | 0         | 0         |
| Subcellar | 70          | 129         | DWal3           | 0      | 515.345   | 1388.941  | 0         | 0         | 0         |
| Subcellar | 70          | 129         | DWal4           | 0      | 1346.998  | 3794.826  | 0         | 0         | 0         |
| Subcellar | 70          | 129         | DWal5           | 0      | 192.059   | 490.048   | 0         | 0         | 0         |
| Subcellar | 70          | 129         | DWal6           | 0      | 1023.711  | 2895.933  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | Dead            | 0      | -857.306  | 2399.964  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | Live            | 0      | -172.885  | 483.676   | 0         | 0         | 0         |
| Subcellar | 71          | 131         | Wind            | 0      | -415.966  | 1202.957  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | Wind+Modal      | 0      | -415.966  | 1202.957  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | wind 1          | 0      | -415.966  | 1202.957  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | wind -1         | 0      | 415.966   | -1202.957 | 0         | 0         | 0         |
| Subcellar | 71          | 131         | UDStIS7         | 0      | -1200.229 | 3359.949  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | UDStIS8         | 0      | -1305.383 | 3653.839  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | UDStIS9         | 0      | -1617.619 | 4566.59   | 0         | 0         | 0         |
| Subcellar | 71          | 131         | UDStIS10        | 0      | -785.686  | 2160.675  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | UDStIS11        | 0      | -1187.542 | 3362.925  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | UDStIS12        | 0      | -355.61   | 957.01    | 0         | 0         | 0         |
| Subcellar | 71          | 131         | UDStID3         | 0      | -857.306  | 2399.964  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | UDStID4         | 0      | -1030.191 | 2883.64   | 0         | 0         | 0         |
| Subcellar | 71          | 131         | DWal1           | 0      | -1200.229 | 3359.949  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | DWal2           | 0      | -1305.383 | 3653.839  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | DWal3           | 0      | -1617.619 | 4566.59   | 0         | 0         | 0         |
| Subcellar | 71          | 131         | DWal4           | 0      | -785.686  | 2160.675  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | DWal5           | 0      | -1187.542 | 3362.925  | 0         | 0         | 0         |
| Subcellar | 71          | 131         | DWal6           | 0      | -355.61   | 957.01    | 0         | 0         | 0         |
| Subcellar | 72          | 128         | Dead            | 0      | 343.891   | 7702.961  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | Live            | 0      | 74.823    | 1508.851  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | Wind            | 0      | -201.518  | 1310.786  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | Wind+Modal      | 0      | -201.518  | 1310.786  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | wind 1          | 0      | -201.518  | 1310.786  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | wind -1         | 0      | 201.518   | -1310.786 | 0         | 0         | 0         |
| Subcellar | 72          | 128         | UDStIS7         | 0      | 481.447   | 10784.145 | 0         | 0         | 0         |
| Subcellar | 72          | 128         | UDStIS8         | 0      | 532.386   | 11657.714 | 0         | 0         | 0         |
| Subcellar | 72          | 128         | UDStIS9         | 0      | 285.974   | 12063.19  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | UDStIS10        | 0      | 689.01    | 9441.617  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | UDStIS11        | 0      | 107.984   | 8243.451  | 0         | 0         | 0         |

**Table 5.4 - Joint Reactions (continued)**

| Story     | Joint Label | Unique Name | Load Case/Combo | FX kip | FY kip  | FZ kip    | MX kip-ft | MY kip-ft | MZ kip-ft |
|-----------|-------------|-------------|-----------------|--------|---------|-----------|-----------|-----------|-----------|
| Subcellar | 72          | 128         | UDStIS12        | 0      | 511.02  | 5621.879  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | UDStID3         | 0      | 343.891 | 7702.961  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | UDStID4         | 0      | 418.714 | 9211.812  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | DWAl1           | 0      | 481.447 | 10784.145 | 0         | 0         | 0         |
| Subcellar | 72          | 128         | DWAl2           | 0      | 532.386 | 11657.714 | 0         | 0         | 0         |
| Subcellar | 72          | 128         | DWAl3           | 0      | 285.974 | 12063.19  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | DWAl4           | 0      | 689.01  | 9441.617  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | DWAl5           | 0      | 107.984 | 8243.451  | 0         | 0         | 0         |
| Subcellar | 72          | 128         | DWAl6           | 0      | 511.02  | 5621.879  | 0         | 0         | 0         |

**5.4 Modal Results**

**Table 5.5 - Modal Periods and Frequencies**

| Case  | Mode | Period sec | Frequency cyc/sec | Circular Frequency rad/sec | Eigenvalue rad <sup>2</sup> /sec <sup>2</sup> |
|-------|------|------------|-------------------|----------------------------|---|
| Modal | 1    | -61861.268 | -1.617E-05        | -0.0001                    | 0   |
| Modal | 2    | 1.982      | 0.505             | 3.1705                     | 10.0523                                       |
| Modal | 3    | 1.741      | 0.574             | 3.6082                     | 13.0191                                       |
| Modal | 4    | 0.733      | 1.365             | 8.5758                     | 73.5438                                       |
| Modal | 5    | 0.54       | 1.853             | 11.6415                    | 135.5246                                      |
| Modal | 6    | 0.405      | 2.469             | 15.5147                    | 240.7066                                      |
| Modal | 7    | 0.395      | 2.53              | 15.8948                    | 252.6435                                      |
| Modal | 8    | 0.262      | 3.818             | 23.9887                    | 575.4554                                      |
| Modal | 9    | 0.229      | 4.37              | 27.4571                    | 753.8946                                      |
| Modal | 10   | 0.186      | 5.382             | 33.8174                    | 1143.6196                                     |
| Modal | 11   | 0.182      | 5.501             | 34.5609                    | 1194.4583                                     |
| Modal | 12   | 0.157      | 6.374             | 40.0473                    | 1603.7873                                     |

**Table 5.6 - Modal Participating Mass Ratios (Part 1 of 2)**

| Case  | Mode | Period sec | UX        | UY     | UZ | Sum UX | Sum UY | Sum UZ |
|-------|------|------------|-----------|--------|----|--------|--------|--------|
| Modal | 1    | -61861.268 | 0.7657    | 0      | 0  | 0.7657 | 0      | 0      |
| Modal | 2    | 1.982      | 7.543E-07 | 0      | 0  | 0.7657 | 0      | 0      |
| Modal | 3    | 1.741      | 0.1429    | 0      | 0  | 0.9086 | 0      | 0      |
| Modal | 4    | 0.733      | 1.043E-05 | 0      | 0  | 0.9086 | 0      | 0      |
| Modal | 5    | 0.54       | 0.0413    | 0      | 0  | 0.9499 | 0      | 0      |
| Modal | 6    | 0.405      | 0         | 0.6504 | 0  | 0.9499 | 0.6504 | 0      |
| Modal | 7    | 0.395      | 4.607E-05 | 0      | 0  | 0.95   | 0.6504 | 0      |
| Modal | 8    | 0.262      | 0.0184    | 0      | 0  | 0.9684 | 0.6504 | 0      |
| Modal | 9    | 0.229      | 0.0002    | 0      | 0  | 0.9686 | 0.6504 | 0      |
| Modal | 10   | 0.186      | 6.256E-07 | 0      | 0  | 0.9686 | 0.6504 | 0      |
| Modal | 11   | 0.182      | 0.0002    | 0      | 0  | 0.9688 | 0.6504 | 0      |
| Modal | 12   | 0.157      | 0         | 0.0002 | 0  | 0.9688 | 0.6505 | 0      |

**Table 5.6 - Modal Participating Mass Ratios (Part 2 of 2)**

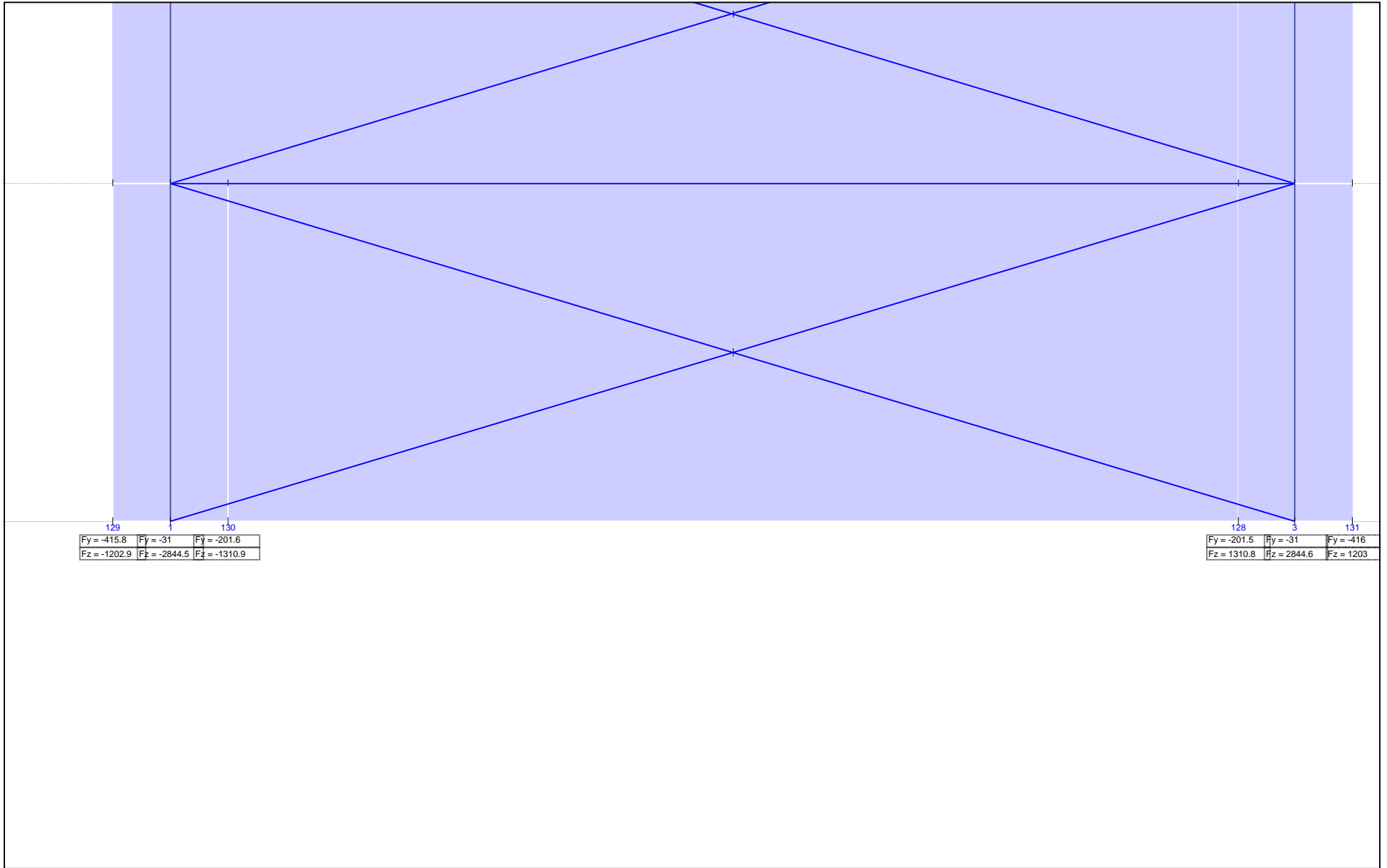
| Case  | Mode | RX     | RY        | RZ        | Sum RX | Sum RY | Sum RZ |
|-------|------|--------|-----------|-----------|--------|--------|--------|
| Modal | 1    | 0      | 0.2837    | 0         | 0      | 0.2837 | 0      |
| Modal | 2    | 0      | 2.306E-06 | 0.81      | 0      | 0.2837 | 0.81   |
| Modal | 3    | 0      | 0.437     | 7.156E-06 | 0      | 0.7206 | 0.81   |
| Modal | 4    | 0      | 3.189E-05 | 0.0963    | 0      | 0.7207 | 0.9063 |
| Modal | 5    | 0      | 0.1263    | 0.0001    | 0      | 0.8469 | 0.9064 |
| Modal | 6    | 0.3993 | 0         | 0         | 0.3993 | 0.8469 | 0.9064 |
| Modal | 7    | 0      | 0.0001    | 0.0422    | 0.3993 | 0.8471 | 0.9486 |
| Modal | 8    | 0      | 0.0563    | 0.0002    | 0.3993 | 0.9034 | 0.9488 |
| Modal | 9    | 0      | 0.0007    | 0.0193    | 0.3993 | 0.904  | 0.9681 |
| Modal | 10   | 0      | 1.913E-06 | 1.565E-05 | 0.3993 | 0.904  | 0.9681 |
| Modal | 11   | 0      | 0.0006    | 0         | 0.3993 | 0.9047 | 0.9681 |
| Modal | 12   | 0.0003 | 0         | 0         | 0.3995 | 0.9047 | 0.9681 |

**Table 5.7 - Modal Load Participation Ratios**

| Case  | Item Type    | Item | Static % | Dynamic % |
|-------|--------------|------|----------|-----------|
| Modal | Acceleration | UX   | 0        | 96.88     |
| Modal | Acceleration | UY   | 98.22    | 65.05     |
| Modal | Acceleration | UZ   | 0        | 0         |

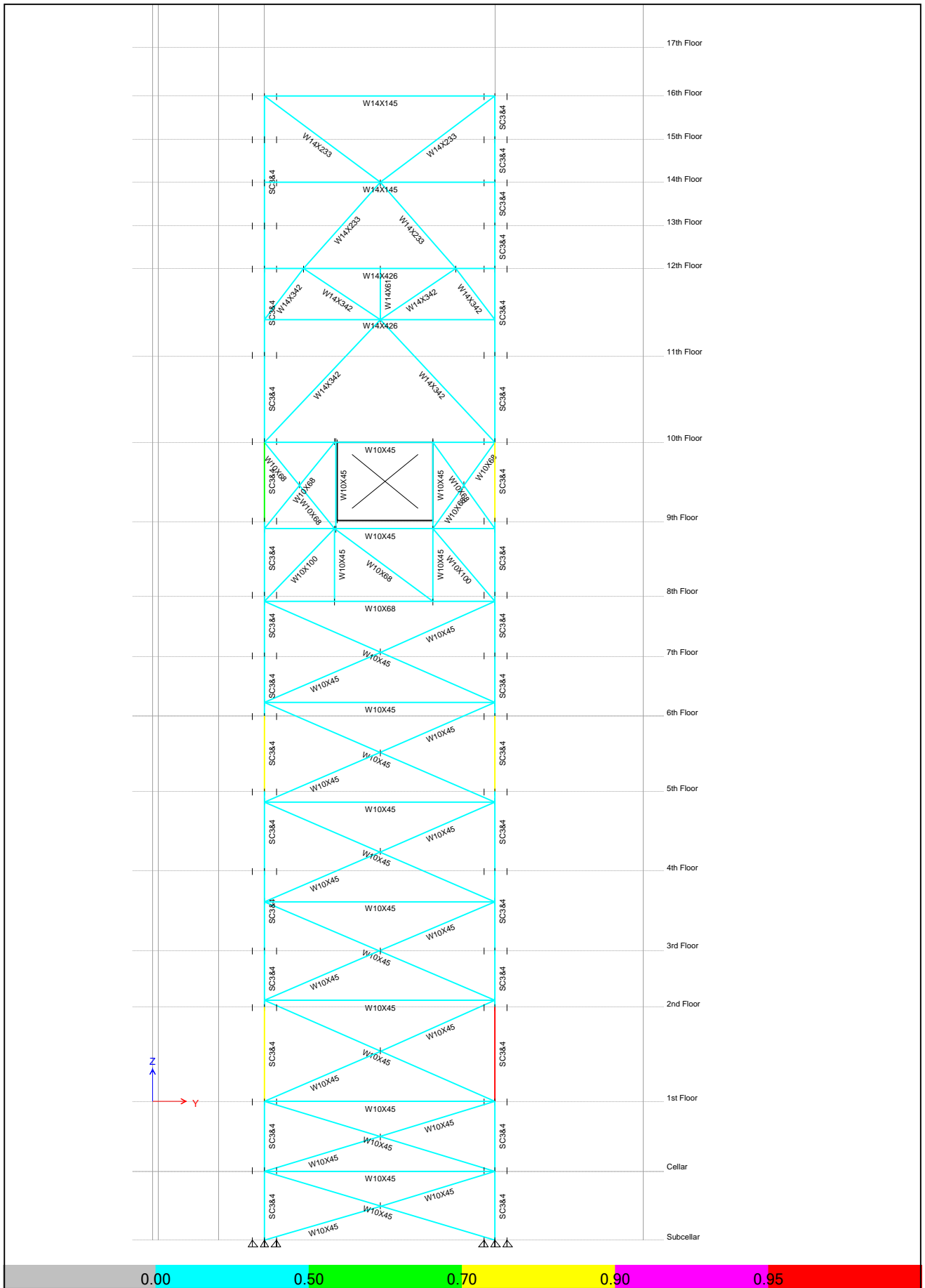
**Table 5.8 - Modal Direction Factors**

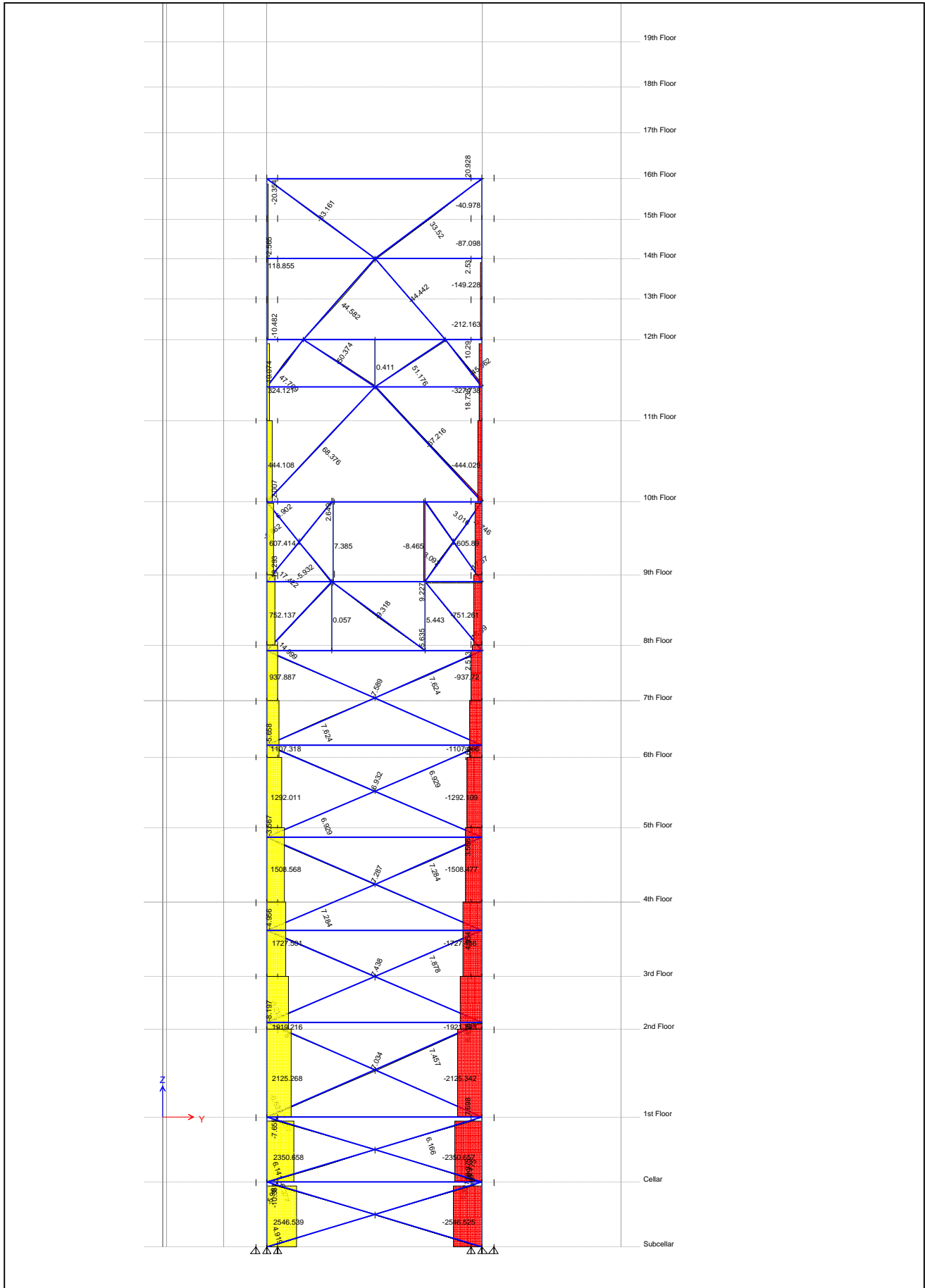
| Case  | Mode | Period sec | UX    | UY | UZ | RZ    |
|-------|------|------------|-------|----|----|-------|
| Modal | 1    | -61861.268 | 1     | 0  | 0  | 0     |
| Modal | 2    | 1.982      | 0.015 | 0  | 0  | 0.985 |
| Modal | 3    | 1.741      | 1     | 0  | 0  | 0     |
| Modal | 4    | 0.733      | 0.041 | 0  | 0  | 0.959 |
| Modal | 5    | 0.54       | 1     | 0  | 0  | 0     |
| Modal | 6    | 0.405      | 0     | 1  | 0  | 0     |
| Modal | 7    | 0.395      | 0.062 | 0  | 0  | 0.938 |
| Modal | 8    | 0.262      | 0.998 | 0  | 0  | 0.002 |
| Modal | 9    | 0.229      | 0.166 | 0  | 0  | 0.834 |
| Modal | 10   | 0.186      | 0.525 | 0  | 0  | 0.475 |
| Modal | 11   | 0.182      | 1     | 0  | 0  | 0     |
| Modal | 12   | 0.157      | 0     | 1  | 0  | 0     |



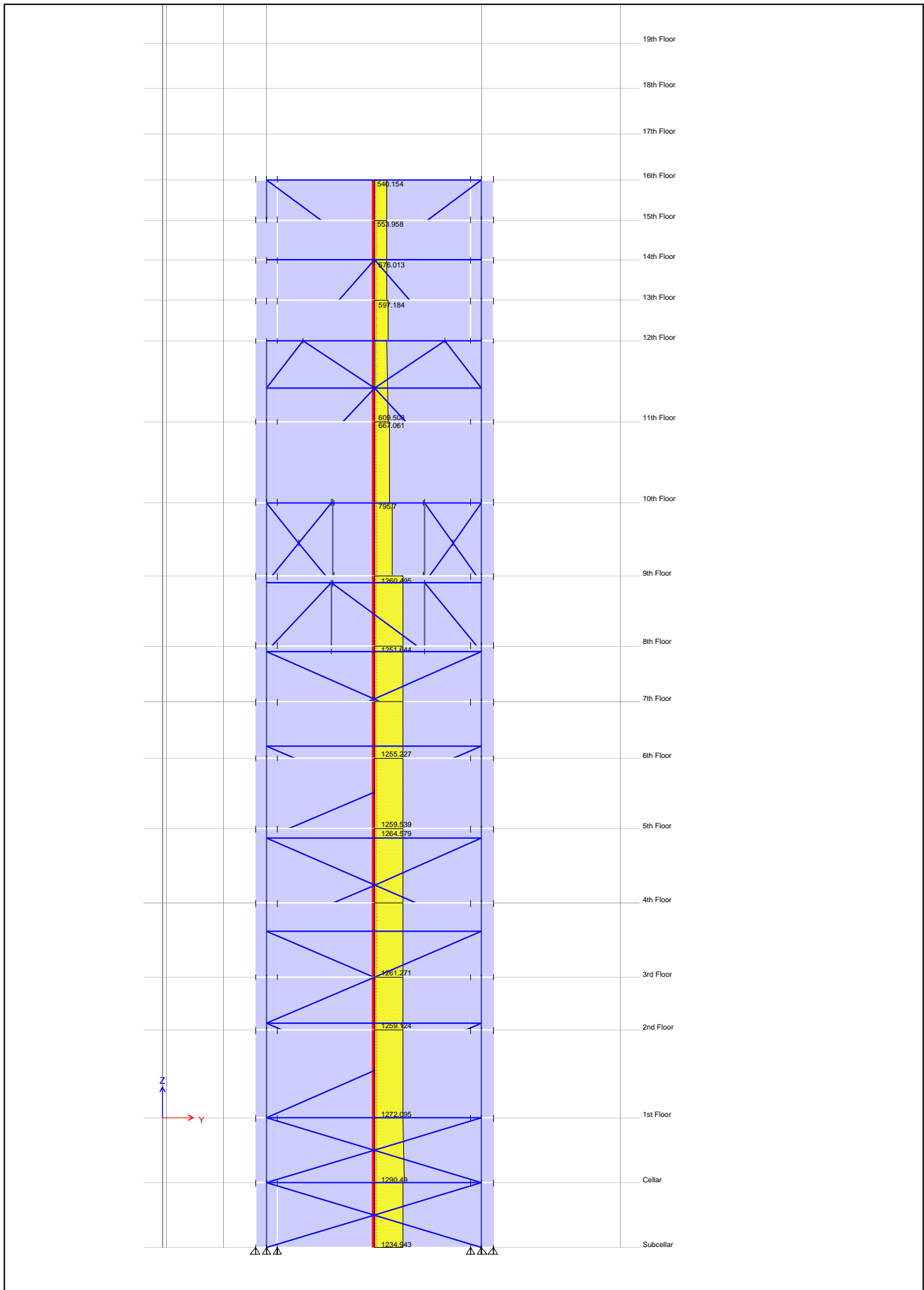
|              |              |              |
|--------------|--------------|--------------|
| 129          | 1            | 130          |
| Fy = -415.8  | Fy = -31     | Fy = -201.6  |
| Fz = -1202.9 | Fz = -2844.5 | Fz = -1310.9 |

|             |             |           |
|-------------|-------------|-----------|
| 128         | 3           | 131       |
| Fy = -201.5 | Fy = -31    | Fy = -416 |
| Fz = 1310.8 | Fz = 2844.6 | Fz = 1203 |

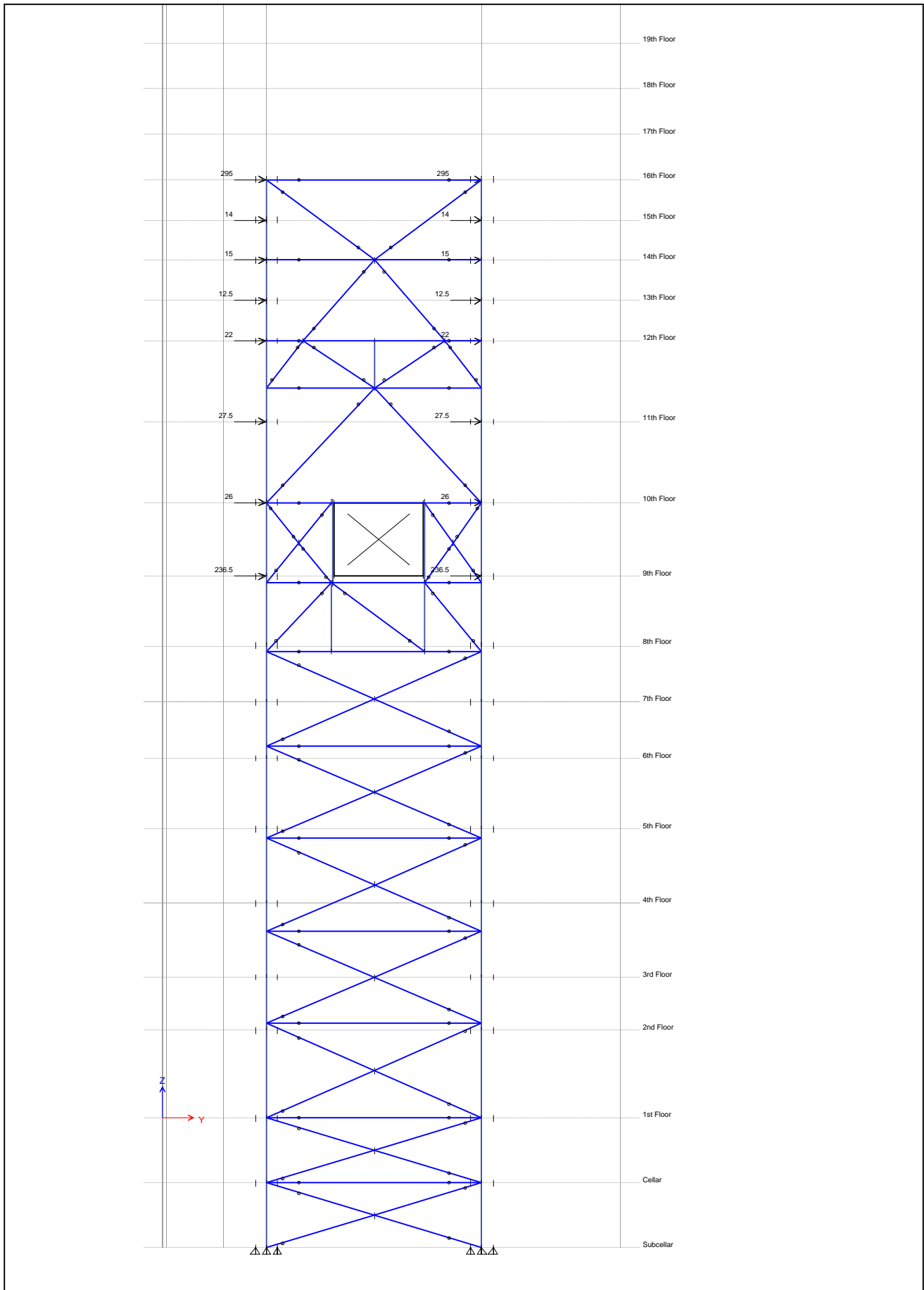




14442\_AJA\_20160920\_TrussTailorDBew - 9 Axial Force Diagram (Wind) [kip]

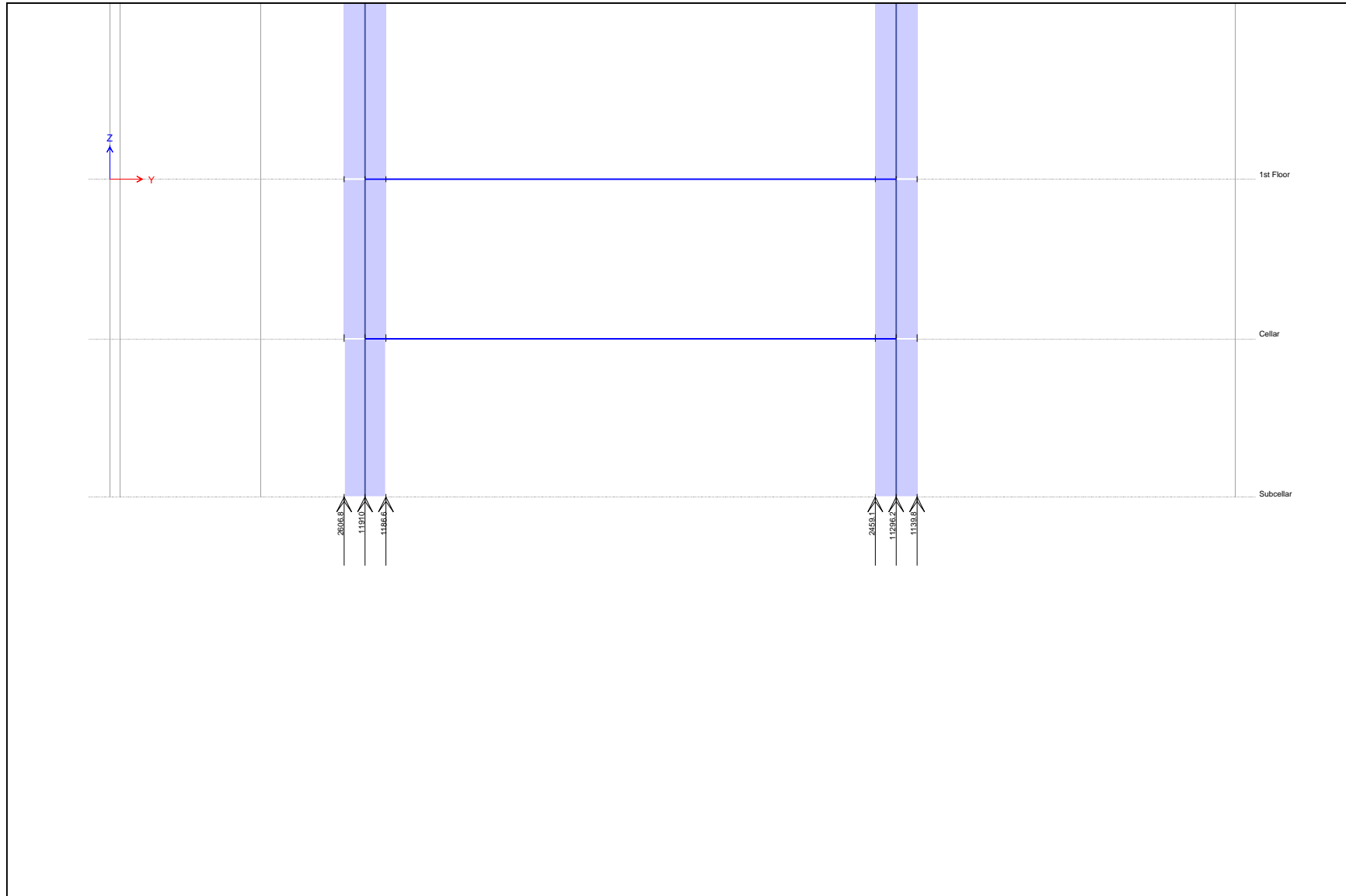


14442\_AJA\_20160920\_Etabs for EDB - 9 Shear Force 2-2 Diagram (Wind) [kip]



14442\_AJA\_20160920\_Truss T-1.Elevation View - 9 Joint Loads (Wind)

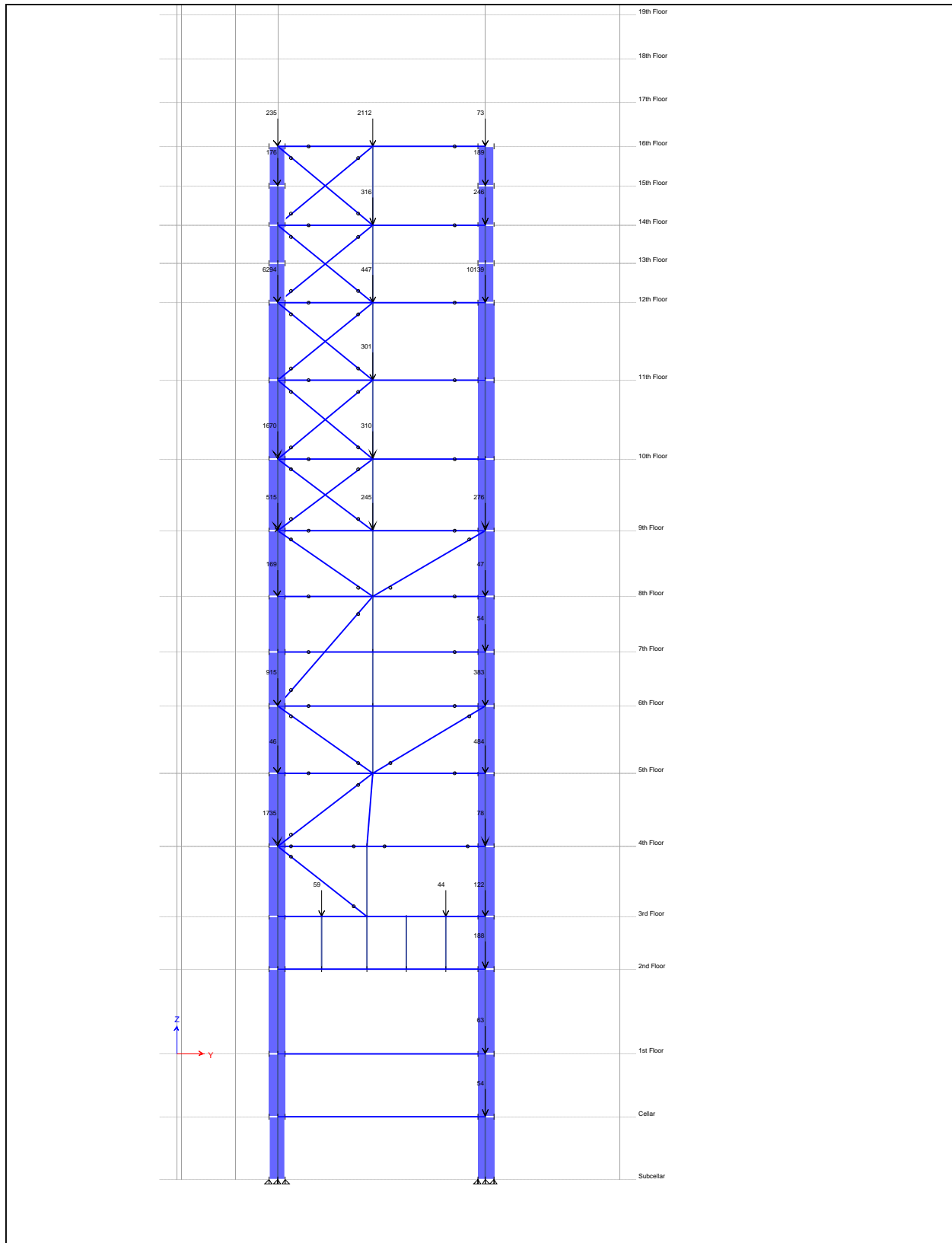




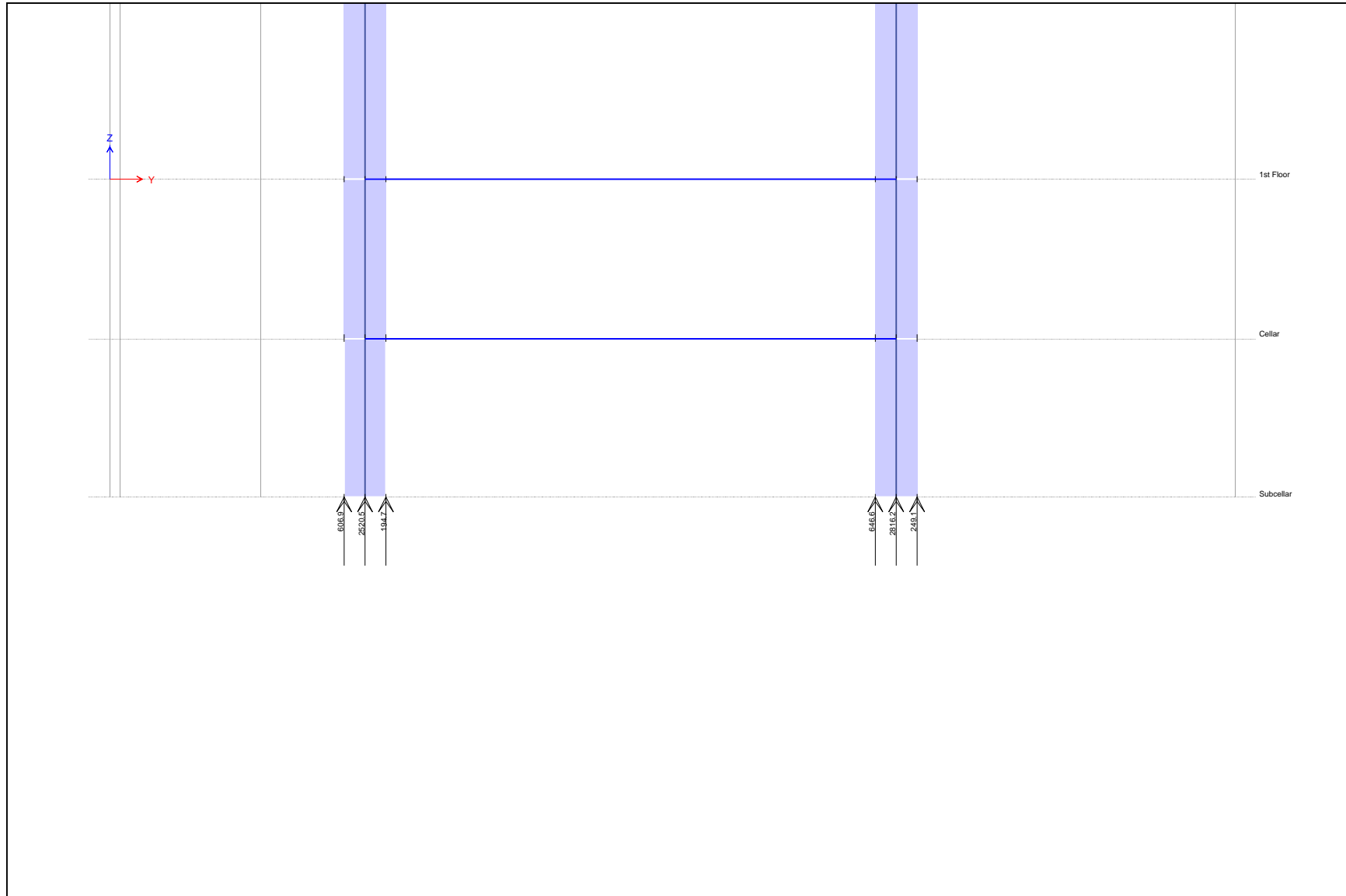
14442\_AJA\_20160920\_Truss T-2.EDB Elevation View - 3 Restraint Reactions (Dead) [kip, kip-ft]

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10/10/2016



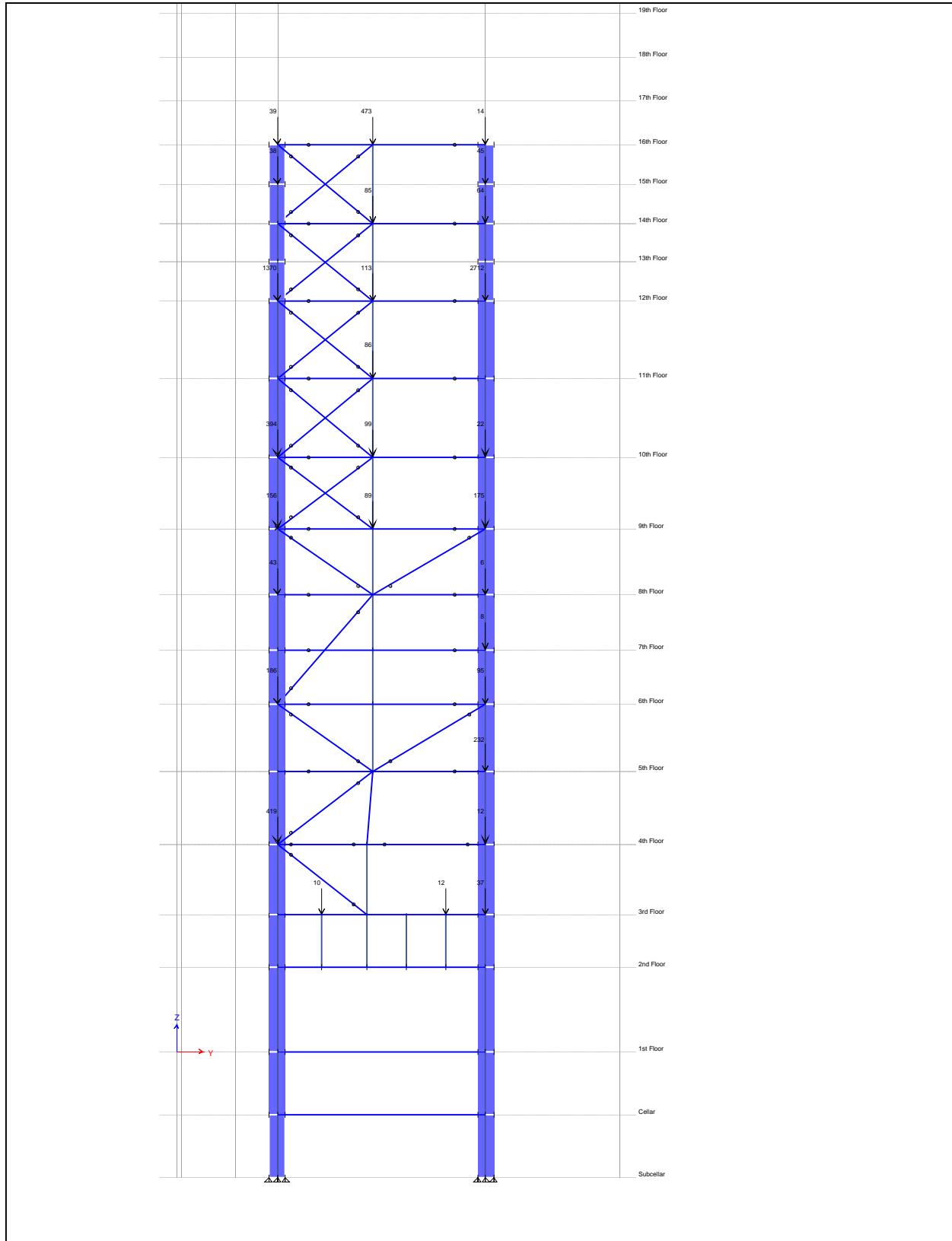
14442\_AJA\_20160920\_Truss T-2 Elevation View - 3 Joint Loads (Dead)



14442\_AJA\_20160920\_Truss T-2.EDB Elevation View - 3 Restraint Reactions (Live) [kip, kip-ft]

ETABS 2016 16.0.0

10/10/2016

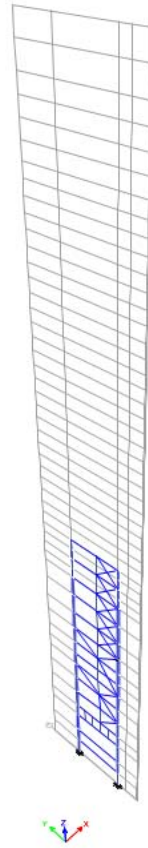


14442\_AJA\_20160920\_Truss T-2 Elevation View - 3 Joint Loads (Live)

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## Project Report

Model File: backup, Revision 0  
10/10/2016

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# 1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

## 1.1 Story Data

**Table 1.1 - Story Data**

| Name           | Height in | Elevation in | Master Story | Similar To | Splice Story |
|----------------|-----------|--------------|--------------|------------|--------------|
| 48th Screening | 180       | 6435.9996    | No           | None       | No           |
| 47th Main Roof | 195.9996  | 6255.9996    | No           | None       | No           |
| 46th Floor     | 140.0004  | 6060         | No           | None       | No           |
| 45th Floor     | 139.9992  | 5919.9996    | No           | None       | No           |
| 44th Floor     | 140.0004  | 5780.0004    | No           | None       | No           |
| 43rd Floor     | 140.0004  | 5640         | No           | None       | No           |
| 42nd Floor     | 117.9996  | 5499.9996    | No           | None       | No           |
| 41st Floor     | 116.0004  | 5382         | No           | None       | No           |
| 40th Floor     | 120       | 5265.9996    | No           | None       | No           |
| 39th Floor     | 117.9996  | 5145.9996    | No           | None       | No           |
| 38th Floor     | 117.9996  | 5028         | No           | None       | No           |
| 37th Floor     | 118.0008  | 4910.0004    | No           | None       | No           |
| 36th Floor     | 117.9996  | 4791.9996    | No           | None       | No           |
| 35th Floor     | 117.9996  | 4674         | No           | None       | No           |
| 34th Floor     | 118.0008  | 4556.0004    | No           | None       | No           |
| 33rd Floor     | 117.9996  | 4437.9996    | No           | None       | No           |
| 32nd Floor     | 117.9996  | 4320         | No           | None       | No           |
| 31st Floor     | 118.0008  | 4202.0004    | No           | None       | No           |
| 30th Floor     | 117.9996  | 4083.9996    | No           | None       | No           |
| 29th Floor     | 117.9996  | 3966         | No           | None       | No           |
| 28th Floor     | 118.0008  | 3848.0004    | No           | None       | No           |
| 27th Floor     | 117.9996  | 3729.9996    | No           | None       | No           |
| 26th Floor     | 117.9996  | 3612         | No           | None       | No           |
| 25th Floor     | 118.0008  | 3494.0004    | No           | None       | No           |
| 24th Floor     | 117.9996  | 3375.9996    | No           | None       | No           |
| 23rd Floor     | 117.9996  | 3258         | No           | None       | No           |
| 22nd Floor     | 118.0008  | 3140.0004    | No           | None       | No           |
| 21st Floor     | 117.9996  | 3021.9996    | No           | None       | No           |
| 20th Floor     | 117.9996  | 2904         | No           | None       | No           |
| 19th Floor     | 118.0008  | 2786.0004    | No           | None       | No           |
| 18th Floor     | 117.9996  | 2667.9996    | No           | None       | No           |
| 17th Floor     | 117.96    | 2550         | No           | None       | No           |
| 16th Floor     | 104.52    | 2432.04      | No           | None       | No           |
| 15th Floor     | 104.52    | 2327.52      | No           | None       | No           |
| 14th Floor     | 104.52    | 2223         | No           | None       | No           |
| 13th Floor     | 104.484   | 2118.48      | No           | None       | No           |
| 12th Floor     | 208.992   | 2013.996     | No           | None       | No           |
| 11th Floor     | 209.004   | 1805.004     | No           | None       | No           |
| 10th Floor     | 192       | 1596         | No           | None       | No           |

**Table 1.1 - Story Data (continued)**

| Name      | Height in | Elevation in | Master Story | Similar To | Splice Story |
|-----------|-----------|--------------|--------------|------------|--------------|
| 9th Floor | 180       | 1404         | No           | None       | No           |
| 8th Floor | 145.752   | 1224         | No           | None       | No           |
| 7th Floor | 145.752   | 1078.248     | No           | None       | No           |
| 6th Floor | 182.496   | 932.496      | No           | None       | No           |
| 5th Floor | 192.504   | 750          | No           | None       | No           |
| 4th Floor | 191.748   | 557.496      | No           | None       | No           |
| 3rd Floor | 138       | 365.748      | No           | None       | No           |
| 2nd Floor | 227.748   | 227.748      | No           | None       | No           |
| 1st Floor | 168       | 0            | No           | None       | No           |
| Cellar    | 168       | -168         | No           | None       | No           |
| Subcellar | 0         | -336         | No           | None       | No           |

**1.2 Grid Data**

**Table 1.2 - Grid Systems**

| Name | Type      | Story Range | X Origin ft | Y Origin ft | Rotation deg | Bubble Size in | Color    |
|------|-----------|-------------|-------------|-------------|--------------|----------------|----------|
| G1   | Cartesian | Default     | 0           | 0           | 0            | 60             | ffa0a0a0 |

**Table 1.3 - Grid Lines**

| Grid System | Grid Direction | Grid ID | Visible | Bubble Location | Ordinate ft |
|-------------|----------------|---------|---------|-----------------|-------------|
| G1          | X              | 1       | Yes     | End             | 0           |
| G1          | X              | 2       | Yes     | End             | 21.583      |
| G1          | X              | 3       | Yes     | End             | 77.333      |
| G1          | X              | 4       | Yes     | End             | 89.083      |
| G1          | X              | 5       | Yes     | End             | 113         |
| G1          | X              | 6       | Yes     | End             | 137.083     |
| G1          | X              | 7       | Yes     | End             | 161         |
| G1          | X              | 8       | Yes     | End             | 185.125     |
| G1          | X              | 9       | Yes     | End             | 206.75      |
| G1          | Y              | A       | Yes     | Start           | 0           |
| G1          | Y              | SW1     | Yes     | Start           | 1           |
| G1          | Y              | B       | Yes     | Start           | 13.333      |
| G1          | Y              | SC1     | Yes     | Start           | 22.5        |
| G1          | Y              | D-SC2   | Yes     | Start           | 69.104      |
| G1          | Y              | E       | Yes     | Start           | 98.917      |

**1.3 Point Coordinates**

**Table 1.4 - Joint Coordinates Data**

| Label | X in    | Y in     | $\Delta Z$ Below in |
|-------|---------|----------|---------------------|
| 3     | 927.996 | 829.248  | 0                   |
| 4     | 927.996 | 270      | 0                   |
| 73    | 927.996 | 247.75   | 0                   |
| 74    | 927.996 | 292.25   | 0                   |
| 75    | 927.996 | 806.998  | 0                   |
| 76    | 927.996 | 851.498  | 0                   |
| 179   | 927.996 | 527.5    | 0                   |
| 5     | 927.996 | 511.488  | 0                   |
| 8     | 927.996 | 617.4036 | 0                   |
| 9     | 927.996 | 723.3192 | 0                   |
| 10    | 927.996 | 390.744  | 0                   |

**1.4 Line Connectivity**

**Table 1.5 - Column Connectivity Data**

| Column | I-End Point | J-End Point | I-End Story |
|--------|-------------|-------------|-------------|
| C3     | 3           | 3           | Below       |
| C4     | 4           | 4           | Below       |
| C7     | 5           | 5           | Below       |
| C22    | 179         | 179         | Below       |
| C23    | 179         | 179         | Same        |
| C8     | 8           | 8           | Below       |
| C9     | 9           | 9           | Below       |
| C10    | 10          | 10          | Below       |

**Table 1.6 - Beam Connectivity Data**

| Beam | I-End Point | J-End Point | Curve Type |
|------|-------------|-------------|------------|
| B1   | 4           | 3           | None       |
| B2   | 5           | 3           | None       |
| B16  | 4           | 5           | None       |

**Table 1.7 - Brace Connectivity Data**

| Brace | I-End Point | J-End Point | I-End Story |
|-------|-------------|-------------|-------------|
| D39   | 179         | 4           | Same        |
| D40   | 4           | 179         | Same        |
| D41   | 179         | 4           | Below       |
| D42   | 4           | 179         | Below       |
| D46   | 179         | 3           | Below       |
| D50   | 5           | 179         | Below       |
| D52   | 5           | 4           | Below       |

1.5 Area Connectivity

Table 1.8 - Wall Connectivity Data

| Label | Number of Edges | Edge Number | Point 1 | Point 2 | Curve Type | Point 1 Story | Point 2 Story |
|-------|-----------------|-------------|---------|---------|------------|---------------|---------------|
| W3    | 4               | 1           | 73      | 74      | None       | Below         | Below         |
|       |                 | 2           | 74      | 74      | None       | Below         | Same          |
|       |                 | 3           | 74      | 73      | None       | Same          | Same          |
|       |                 | 4           | 73      | 73      | None       | Same          | Below         |
| W4    | 4               | 1           | 75      | 76      | None       | Below         | Below         |
|       |                 | 2           | 76      | 76      | None       | Below         | Same          |
|       |                 | 3           | 76      | 75      | None       | Same          | Same          |
|       |                 | 4           | 75      | 75      | None       | Same          | Below         |

1.6 Mass

Table 1.9 - Mass Source

| Name   | Include Elements | Include Added Mass | Include Loads | Include Lateral | Include Vertical | Lump at Stories | IsDefault |
|--------|------------------|--------------------|---------------|-----------------|------------------|-----------------|-----------|
| MsSrc1 | Yes              | Yes                | No            | Yes             | No               | Yes             | Yes       |

Table 1.10 - Mass Summary by Story

| Story          | UX<br>lb-s <sup>2</sup> /ft | UY<br>lb-s <sup>2</sup> /ft | UZ<br>lb-s <sup>2</sup> /ft |
|----------------|-----------------------------|-----------------------------|-----------------------------|
| 48th Screening | 0                           | 0                           | 0                           |
| 47th Main Roof | 0                           | 0                           | 0                           |
| 46th Floor     | 0                           | 0                           | 0                           |
| 45th Floor     | 0                           | 0                           | 0                           |
| 44th Floor     | 0                           | 0                           | 0                           |
| 43rd Floor     | 0                           | 0                           | 0                           |
| 42nd Floor     | 0                           | 0                           | 0                           |
| 41st Floor     | 0                           | 0                           | 0                           |
| 40th Floor     | 0                           | 0                           | 0                           |
| 39th Floor     | 0                           | 0                           | 0                           |
| 38th Floor     | 0                           | 0                           | 0                           |
| 37th Floor     | 0                           | 0                           | 0                           |
| 36th Floor     | 0                           | 0                           | 0                           |
| 35th Floor     | 0                           | 0                           | 0                           |
| 34th Floor     | 0                           | 0                           | 0                           |
| 33rd Floor     | 0                           | 0                           | 0                           |
| 32nd Floor     | 0                           | 0                           | 0                           |
| 31st Floor     | 0                           | 0                           | 0                           |
| 30th Floor     | 0                           | 0                           | 0                           |
| 29th Floor     | 0                           | 0                           | 0                           |
| 28th Floor     | 0                           | 0                           | 0                           |
| 27th Floor     | 0                           | 0                           | 0                           |
| 26th Floor     | 0                           | 0                           | 0                           |
| 25th Floor     | 0                           | 0                           | 0                           |

**Table 1.10 - Mass Summary by Story (continued)**

| Story      | UX<br>lb-s <sup>2</sup> /ft | UY<br>lb-s <sup>2</sup> /ft | UZ<br>lb-s <sup>2</sup> /ft |
|------------|-----------------------------|-----------------------------|-----------------------------|
| 24th Floor | 0                           | 0                           | 0                           |
| 23rd Floor | 0                           | 0                           | 0                           |
| 22nd Floor | 0                           | 0                           | 0                           |
| 21st Floor | 0                           | 0                           | 0                           |
| 20th Floor | 0                           | 0                           | 0                           |
| 19th Floor | 0                           | 0                           | 0                           |
| 18th Floor | 0                           | 0                           | 0                           |
| 17th Floor | 0                           | 0                           | 0                           |
| 16th Floor | 2273.57                     | 2273.57                     | 0                           |
| 15th Floor | 2325.82                     | 2325.82                     | 0                           |
| 14th Floor | 3929.72                     | 3929.72                     | 0                           |
| 13th Floor | 2325.42                     | 2325.42                     | 0                           |
| 12th Floor | 5091.62                     | 5091.62                     | 0                           |
| 11th Floor | 6254.53                     | 6254.53                     | 0                           |
| 10th Floor | 6040.08                     | 6040.08                     | 0                           |
| 9th Floor  | 5787.68                     | 5787.68                     | 0                           |
| 8th Floor  | 5173.05                     | 5173.05                     | 0                           |
| 7th Floor  | 4136.88                     | 4136.88                     | 0                           |
| 6th Floor  | 5089.61                     | 5089.61                     | 0                           |
| 5th Floor  | 5565.59                     | 5565.59                     | 0                           |
| 4th Floor  | 5608.11                     | 5608.11                     | 0                           |
| 3rd Floor  | 5172.95                     | 5172.95                     | 0                           |
| 2nd Floor  | 5209.74                     | 5209.74                     | 0                           |
| 1st Floor  | 5020.53                     | 5020.53                     | 0                           |
| Cellar     | 4355.77                     | 4355.77                     | 0                           |
| Subcellar  | 1869.2                      | 1869.2                      | 0                           |

**1.7 Groups**

**Table 1.11 - Group Definitions**

| Name | Color  |
|------|--------|
| All  | Yellow |

## 2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

### 2.1 Materials

**Table 2.1 - Material Properties - Summary**

| Name     | Type     | E<br>lb/in <sup>2</sup> | v   | Unit<br>Weight<br>lb/ft <sup>3</sup> | Design Strengths  |
|----------|----------|-------------------------|-----|--------------------------------------|---|
| 6000Psi  | Concrete | 4415201                 | 0.2 | 150                                  | Fc=6000 lb/in <sup>2</sup>                                |
| 8,000Psi | Concrete | 5098235                 | 0.2 | 150                                  | Fc=8000 lb/in <sup>2</sup>                                |
| A36      | Steel    | 29000000                | 0.3 | 490                                  | Fy=36000 lb/in <sup>2</sup> , Fu=58000 lb/in <sup>2</sup> |
| A615Gr60 | Rebar    | 29000000                | 0.3 | 490                                  | Fy=60000 lb/in <sup>2</sup> , Fu=90000 lb/in <sup>2</sup> |
| A992Fy50 | Steel    | 29000000                | 0.3 | 490                                  | Fy=50000 lb/in <sup>2</sup> , Fu=65000 lb/in <sup>2</sup> |

### 2.2 Frame Sections

**Table 2.2 - Frame Sections - Summary**

| Name    | Material | Shape               |
|---------|----------|---------------------|
| SC1&2   | A992Fy50 | Steel I/Wide Flange |
| W14X342 | A992Fy50 | Steel I/Wide Flange |
| W14X455 | A992Fy50 | Steel I/Wide Flange |
| W14X730 | A992Fy50 | Steel I/Wide Flange |
| W24X335 | A992Fy50 | Steel I/Wide Flange |
| W24X370 | A992Fy50 | Steel I/Wide Flange |

### 2.3 Shell Sections

**Table 2.3 - Shell Sections - Summary**

| Name          | Design<br>Type | Element<br>Type | Material | Total<br>Thickness<br>in |
|---------------|----------------|-----------------|----------|--------------------------|
| 36x44.5-SC1&2 | Wall           | Shell-Thin      | 4000Psi  | 36                       |

### 2.4 Reinforcement Sizes

**Table 2.4 - Reinforcing Bar Sizes**

| Name | Diameter<br>in | Area<br>in <sup>2</sup> |
|------|----------------|-------------------------|
| #4   | 0.5            | 0.2                     |
| #6   | 0.75           | 0.44                    |
| #9   | 1.128          | 1                       |

### 2.5 Tendon Sections

**Table 2.5 - Tendon Section Properties**

| Name    | Material  | StrandArea<br>in <sup>2</sup> | Color |
|---------|-----------|-------------------------------|-------|
| Tendon1 | A416Gr270 | 0.153                         | Red   |

### 3 Assignments

This chapter provides a listing of the assignments applied to the model.

#### 3.1 Joint Assignments

**Table 3.1 - Joint Assignments - Summary**

| Story      | Label | Unique Name | Diaphragm | Restraints |
|------------|-------|-------------|-----------|------------|
| 16th Floor | 3     | 479         | From Area |            |
| 16th Floor | 4     | 375         | From Area |            |
| 16th Floor | 73    | 764         | From Area |            |
| 16th Floor | 74    | 680         | From Area |            |
| 16th Floor | 75    | 786         | From Area |            |
| 16th Floor | 76    | 773         | From Area |            |
| 16th Floor | 179   | 759         | From Area |            |
| 15th Floor | 3     | 480         | From Area |            |
| 15th Floor | 4     | 374         | From Area |            |
| 15th Floor | 73    | 763         | From Area |            |
| 15th Floor | 74    | 654         | From Area |            |
| 15th Floor | 75    | 697         | From Area |            |
| 15th Floor | 76    | 771         | From Area |            |
| 14th Floor | 3     | 239         | From Area |            |
| 14th Floor | 4     | 240         | From Area |            |
| 14th Floor | 73    | 779         | From Area |            |
| 14th Floor | 74    | 682         | From Area |            |
| 14th Floor | 75    | 800         | From Area |            |
| 14th Floor | 76    | 2017        | From Area |            |
| 14th Floor | 179   | 789         | From Area |            |
| 13th Floor | 3     | 237         | From Area |            |
| 13th Floor | 4     | 238         | From Area |            |
| 13th Floor | 73    | 793         | From Area |            |
| 13th Floor | 74    | 696         | From Area |            |
| 13th Floor | 75    | 2137        | From Area |            |
| 13th Floor | 76    | 2724        | From Area |            |
| 12th Floor | 3     | 235         | From Area |            |
| 12th Floor | 4     | 236         | From Area |            |
| 12th Floor | 73    | 491         | From Area |            |
| 12th Floor | 74    | 490         | From Area |            |
| 12th Floor | 75    | 493         | From Area |            |
| 12th Floor | 76    | 492         | From Area |            |
| 12th Floor | 179   | 693         | From Area |            |
| 11th Floor | 3     | 233         | From Area |            |
| 11th Floor | 4     | 234         | From Area |            |
| 11th Floor | 73    | 486         | From Area |            |
| 11th Floor | 74    | 485         | From Area |            |
| 11th Floor | 75    | 489         | From Area |            |
| 11th Floor | 76    | 488         | From Area |            |
| 11th Floor | 179   | 681         | From Area |            |
| 10th Floor | 3     | 47          | From Area |            |

**Table 3.1 - Joint Assignments - Summary (continued)**

| Story      | Label | Unique Name | Diaphragm | Restraints |
|------------|-------|-------------|-----------|------------|
| 10th Floor | 4     | 48          | From Area |            |
| 10th Floor | 73    | 226         | From Area |            |
| 10th Floor | 74    | 225         | From Area |            |
| 10th Floor | 75    | 228         | From Area |            |
| 10th Floor | 76    | 227         | From Area |            |
| 10th Floor | 179   | 72          | From Area |            |
| 9th Floor  | 3     | 43          | From Area |            |
| 9th Floor  | 4     | 44          | From Area | UY         |
| 9th Floor  | 73    | 222         | From Area |            |
| 9th Floor  | 74    | 221         | From Area |            |
| 9th Floor  | 75    | 224         | From Area |            |
| 9th Floor  | 76    | 223         | From Area |            |
| 9th Floor  | 179   | 69          | From Area |            |
| 8th Floor  | 3     | 39          | From Area |            |
| 8th Floor  | 4     | 40          | From Area |            |
| 8th Floor  | 73    | 218         | From Area |            |
| 8th Floor  | 74    | 217         | From Area |            |
| 8th Floor  | 75    | 220         | From Area |            |
| 8th Floor  | 76    | 219         | From Area |            |
| 8th Floor  | 179   | 73          | From Area |            |
| 7th Floor  | 3     | 35          | From Area |            |
| 7th Floor  | 4     | 36          | From Area |            |
| 7th Floor  | 73    | 214         | From Area |            |
| 7th Floor  | 74    | 213         | From Area |            |
| 7th Floor  | 75    | 216         | From Area |            |
| 7th Floor  | 76    | 215         | From Area |            |
| 7th Floor  | 179   | 1808        | From Area |            |
| 6th Floor  | 3     | 31          | From Area |            |
| 6th Floor  | 4     | 32          | From Area |            |
| 6th Floor  | 73    | 210         | From Area |            |
| 6th Floor  | 74    | 209         | From Area |            |
| 6th Floor  | 75    | 212         | From Area |            |
| 6th Floor  | 76    | 211         | From Area |            |
| 6th Floor  | 179   | 1806        | From Area |            |
| 5th Floor  | 3     | 27          | From Area |            |
| 5th Floor  | 4     | 28          | From Area |            |
| 5th Floor  | 73    | 206         | From Area |            |
| 5th Floor  | 74    | 205         | From Area |            |
| 5th Floor  | 75    | 208         | From Area |            |
| 5th Floor  | 76    | 207         | From Area |            |
| 5th Floor  | 179   | 1724        | From Area |            |
| 4th Floor  | 3     | 23          | From Area |            |
| 4th Floor  | 4     | 24          | From Area |            |
| 4th Floor  | 73    | 202         | From Area |            |
| 4th Floor  | 74    | 201         | From Area |            |



**Table 3.1 - Joint Assignments - Summary (continued)**

| Story     | Label | Unique Name | Diaphragm | Restraints |
|-----------|-------|-------------|-----------|------------|
| 4th Floor | 75    | 204         | From Area |            |
| 4th Floor | 76    | 203         | From Area |            |
| 4th Floor | 5     | 49          | From Area |            |
| 3rd Floor | 3     | 19          | From Area |            |
| 3rd Floor | 4     | 20          | From Area |            |
| 3rd Floor | 73    | 198         | From Area |            |
| 3rd Floor | 74    | 197         | From Area |            |
| 3rd Floor | 75    | 200         | From Area |            |
| 3rd Floor | 76    | 199         | From Area |            |
| 3rd Floor | 5     | 55          | From Area |            |
| 3rd Floor | 8     | 58          | From Area |            |
| 3rd Floor | 9     | 62          | From Area |            |
| 3rd Floor | 10    | 64          | From Area |            |
| 2nd Floor | 3     | 15          | From Area |            |
| 2nd Floor | 4     | 16          | From Area |            |
| 2nd Floor | 73    | 194         | From Area |            |
| 2nd Floor | 74    | 193         | From Area |            |
| 2nd Floor | 75    | 196         | From Area |            |
| 2nd Floor | 76    | 195         | From Area |            |
| 2nd Floor | 5     | 60          | From Area |            |
| 2nd Floor | 8     | 57          | From Area |            |
| 2nd Floor | 9     | 61          | From Area |            |
| 2nd Floor | 10    | 63          | From Area |            |
| 1st Floor | 3     | 11          | From Area |            |
| 1st Floor | 4     | 12          | From Area |            |
| 1st Floor | 73    | 190         | From Area |            |
| 1st Floor | 74    | 189         | From Area |            |
| 1st Floor | 75    | 192         | From Area |            |
| 1st Floor | 76    | 191         | From Area |            |
| Cellar    | 3     | 6           | From Area |            |
| Cellar    | 4     | 8           | From Area |            |
| Cellar    | 73    | 133         | From Area |            |
| Cellar    | 74    | 134         | From Area |            |
| Cellar    | 75    | 188         | From Area |            |
| Cellar    | 76    | 187         | From Area |            |
| Subcellar | 3     | 5           | From Area | UX; UY; UZ |
| Subcellar | 4     | 7           | From Area | UX; UY; UZ |
| Subcellar | 73    | 135         | From Area | UX; UY; UZ |
| Subcellar | 74    | 136         | From Area | UX; UY; UZ |
| Subcellar | 75    | 137         | From Area | UX; UY; UZ |
| Subcellar | 76    | 138         | From Area | UX; UY; UZ |

3.2 Frame Assignments

Table 3.2 - Frame Assignments - Summary

| Story      | Label | Unique Name | Design Type | Length in | Analysis Section | Design Section | Axis Angle deg | Max Station Spacing in | Min Number Stations | Releases |
|------------|-------|-------------|-------------|-----------|------------------|----------------|----------------|------------------------|---------------------|----------|
| 16th Floor | C3    | 549         | Column      | 104.52    | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 16th Floor | C4    | 455         | Column      | 104.52    | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 16th Floor | C23   | 1311        | Column      | 209.04    | W14X730          | W14X730        |                |                        | 3                   | No       |
| 15th Floor | C3    | 548         | Column      | 104.52    | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 15th Floor | C4    | 454         | Column      | 104.52    | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 14th Floor | C3    | 547         | Column      | 104.52    | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 14th Floor | C4    | 343         | Column      | 104.52    | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 14th Floor | C23   | 1309        | Column      | 209.004   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 13th Floor | C3    | 546         | Column      | 104.484   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 13th Floor | C4    | 337         | Column      | 104.484   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 12th Floor | C3    | 545         | Column      | 208.992   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 12th Floor | C4    | 329         | Column      | 208.992   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 12th Floor | C22   | 1307        | Column      | 208.992   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 11th Floor | C3    | 544         | Column      | 209.004   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 11th Floor | C4    | 328         | Column      | 209.004   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 11th Floor | C22   | 1306        | Column      | 209.004   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 10th Floor | C3    | 43          | Column      | 192       | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 10th Floor | C4    | 44          | Column      | 192       | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 10th Floor | C22   | 1305        | Column      | 192       | W14X730          | W14X730        |                |                        | 3                   | No       |
| 9th Floor  | C3    | 39          | Column      | 180       | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 9th Floor  | C4    | 40          | Column      | 180       | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 9th Floor  | C22   | 67          | Column      | 180       | W14X730          | W14X730        |                |                        | 3                   | No       |
| 8th Floor  | C3    | 35          | Column      | 145.752   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 8th Floor  | C4    | 36          | Column      | 145.752   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 8th Floor  | C22   | 767         | Column      | 145.752   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 7th Floor  | C3    | 31          | Column      | 145.752   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 7th Floor  | C4    | 32          | Column      | 145.752   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 7th Floor  | C22   | 80          | Column      | 145.752   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 6th Floor  | C3    | 64          | Column      | 182.496   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 6th Floor  | C4    | 28          | Column      | 182.496   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 6th Floor  | C22   | 77          | Column      | 182.496   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 5th Floor  | C3    | 23          | Column      | 192.504   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 5th Floor  | C4    | 24          | Column      | 192.504   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 4th Floor  | C3    | 19          | Column      | 191.748   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 4th Floor  | C4    | 20          | Column      | 191.748   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 4th Floor  | C7    | 66          | Column      | 191.748   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 3rd Floor  | C3    | 15          | Column      | 138       | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 3rd Floor  | C4    | 16          | Column      | 138       | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 3rd Floor  | C7    | 73          | Column      | 138       | W14X730          | W14X730        |                |                        | 3                   | No       |
| 3rd Floor  | C8    | 59          | Column      | 138       | W14X730          | W14X730        |                |                        | 3                   | No       |
| 3rd Floor  | C9    | 61          | Column      | 138       | W14X730          | W14X730        |                |                        | 3                   | No       |
| 3rd Floor  | C10   | 65          | Column      | 138       | W14X730          | W14X730        |                |                        | 3                   | No       |

Table 3.2 - Frame Assignments - Summary (continued)

| Story      | Label | Unique Name | Design Type | Length in | Analysis Section | Design Section | Axis Angle deg | Max Station Spacing in | Min Number Stations | Releases |
|------------|-------|-------------|-------------|-----------|------------------|----------------|----------------|------------------------|---------------------|----------|
| 2nd Floor  | C3    | 11          | Column      | 227.748   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 2nd Floor  | C4    | 12          | Column      | 227.748   | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 1st Floor  | C3    | 7           | Column      | 168       | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 1st Floor  | C4    | 8           | Column      | 168       | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| Cellar     | C3    | 3           | Column      | 168       | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| Cellar     | C4    | 4           | Column      | 168       | SC1&2            | SC1&2          | 90             |                        | 3                   | No       |
| 16th Floor | B1    | 63          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | Yes      |
| 14th Floor | B1    | 60          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | Yes      |
| 12th Floor | B1    | 58          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | Yes      |
| 11th Floor | B1    | 57          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | Yes      |
| 10th Floor | B1    | 56          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | Yes      |
| 9th Floor  | B1    | 55          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | Yes      |
| 8th Floor  | B1    | 54          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | Yes      |
| 7th Floor  | B1    | 53          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | Yes      |
| 6th Floor  | B1    | 52          | Beam        | 559.248   | W24X370          | W24X370        |                | 24                     |                     | Yes      |
| 5th Floor  | B1    | 51          | Beam        | 559.248   | W24X335          | W24X370        |                | 24                     |                     | Yes      |
| 4th Floor  | B2    | 49          | Beam        | 317.76    | W14X455          | W14X455        |                | 24                     |                     | Yes      |
| 4th Floor  | B16   | 62          | Beam        | 241.488   | W14X455          | W14X455        |                | 24                     |                     | Yes      |
| 3rd Floor  | B1    | 50          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | No       |
| 2nd Floor  | B1    | 47          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | No       |
| 1st Floor  | B1    | 45          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | No       |
| Cellar     | B1    | 27          | Beam        | 559.248   | W14X455          | W14X455        |                | 24                     |                     | No       |
| 16th Floor | D39   | 75          | Brace       | 331.6685  | W14X342          | W14X342        |                |                        | 3                   | Yes      |
| 16th Floor | D40   | 234         | Brace       | 331.6685  | W14X342          | W14X342        |                |                        | 3                   | Yes      |
| 14th Floor | D39   | 236         | Brace       | 331.6458  | W14X342          | W14X342        |                |                        | 3                   | Yes      |
| 14th Floor | D40   | 76          | Brace       | 331.6458  | W14X342          | W14X342        |                |                        | 3                   | Yes      |
| 12th Floor | D41   | 78          | Brace       | 331.6382  | W14X342          | W14X342        |                |                        | 3                   | Yes      |
| 12th Floor | D42   | 240         | Brace       | 331.6382  | W14X342          | W14X342        |                |                        | 3                   | Yes      |
| 11th Floor | D41   | 276         | Brace       | 331.6458  | W14X342          | W14X342        |                |                        | 3                   | Yes      |
| 11th Floor | D42   | 79          | Brace       | 331.6458  | W14X342          | W14X342        |                |                        | 3                   | Yes      |
| 10th Floor | D41   | 223         | Brace       | 321.2013  | W14X342          | W14X342        |                |                        | 3                   | Yes      |
| 10th Floor | D42   | 320         | Brace       | 321.2013  | W14X342          | W14X342        |                |                        | 3                   | Yes      |
| 9th Floor  | D41   | 321         | Brace       | 314.1755  | W14X455          | W14X455        |                |                        | 3                   | Yes      |
| 9th Floor  | D46   | 759         | Brace       | 351.3572  | W14X455          | W14X455        |                |                        | 3                   | Yes      |
| 8th Floor  | D40   | 1247        | Brace       | 388.9484  | W14X455          | W14X455        |                |                        | 3                   | Yes      |
| 6th Floor  | D41   | 1256        | Brace       | 315.6122  | W14X455          | W14X455        |                |                        | 3                   | Yes      |
| 6th Floor  | D46   | 1257        | Brace       | 352.6424  | W14X455          | W14X455        |                |                        | 3                   | Yes      |
| 5th Floor  | D42   | 1296        | Brace       | 321.5028  | W14X455          | W14X455        |                |                        | 3                   | Yes      |
| 5th Floor  | D50   | 74          | Brace       | 193.1688  | W14X730          | W14X730        |                |                        | 3                   | No       |
| 4th Floor  | D52   | 70          | Brace       | 308.3565  | W14X455          | W14X455        |                |                        | 3                   | Yes      |

### 3.3 Shell Assignments

**Table 3.3 - Shell Assignments - Summary**

| Story      | Label | Unique Name | Section       | Pier |
|------------|-------|-------------|---------------|------|
| 16th Floor | W3    | 108         | 36x44.5-SC1&2 | SW1  |
| 16th Floor | W4    | 154         | 36x44.5-SC1&2 | SW1  |
| 15th Floor | W3    | 117         | 36x44.5-SC1&2 | SW1  |
| 15th Floor | W4    | 162         | 36x44.5-SC1&2 | SW1  |
| 14th Floor | W3    | 126         | 36x44.5-SC1&2 | SW1  |
| 14th Floor | W4    | 171         | 36x44.5-SC1&2 | SW1  |
| 13th Floor | W3    | 135         | 36x44.5-SC1&2 | SW1  |
| 13th Floor | W4    | 181         | 36x44.5-SC1&2 | SW1  |
| 12th Floor | W3    | 55          | 36x44.5-SC1&2 | SW1  |
| 12th Floor | W4    | 56          | 36x44.5-SC1&2 | SW1  |
| 11th Floor | W3    | 49          | 36x44.5-SC1&2 | SW1  |
| 11th Floor | W4    | 50          | 36x44.5-SC1&2 | SW1  |
| 10th Floor | W3    | 47          | 36x44.5-SC1&2 | SW1  |
| 10th Floor | W4    | 48          | 36x44.5-SC1&2 | SW1  |
| 9th Floor  | W3    | 45          | 36x44.5-SC1&2 | SW1  |
| 9th Floor  | W4    | 46          | 36x44.5-SC1&2 | SW1  |
| 8th Floor  | W3    | 43          | 36x44.5-SC1&2 | SW1  |
| 8th Floor  | W4    | 44          | 36x44.5-SC1&2 | SW1  |
| 7th Floor  | W3    | 41          | 36x44.5-SC1&2 | SW1  |
| 7th Floor  | W4    | 42          | 36x44.5-SC1&2 | SW1  |
| 6th Floor  | W3    | 39          | 36x44.5-SC1&2 | SW1  |
| 6th Floor  | W4    | 40          | 36x44.5-SC1&2 | SW1  |
| 5th Floor  | W3    | 37          | 36x44.5-SC1&2 | SW1  |
| 5th Floor  | W4    | 38          | 36x44.5-SC1&2 | SW1  |
| 4th Floor  | W3    | 35          | 36x44.5-SC1&2 | SW1  |
| 4th Floor  | W4    | 36          | 36x44.5-SC1&2 | SW1  |
| 3rd Floor  | W3    | 33          | 36x44.5-SC1&2 | SW1  |
| 3rd Floor  | W4    | 34          | 36x44.5-SC1&2 | SW1  |
| 2nd Floor  | W3    | 31          | 36x44.5-SC1&2 | SW1  |
| 2nd Floor  | W4    | 32          | 36x44.5-SC1&2 | SW1  |
| 1st Floor  | W3    | 29          | 36x44.5-SC1&2 | SW1  |
| 1st Floor  | W4    | 30          | 36x44.5-SC1&2 | SW1  |
| Cellar     | W3    | 3           | 36x44.5-SC1&2 | SW1  |
| Cellar     | W4    | 4           | 36x44.5-SC1&2 | SW1  |

## 4 Loads

This chapter provides loading information as applied to the model.

### 4.1 Load Patterns

Table 4.1 - Load Patterns

| Name | Type | Self Weight Multiplier | Auto Load |
|------|------|------------------------|-----------|
| Dead | Dead | 1                      |           |
| Live | Live | 0                      |           |
| Wind | Wind | 0                      | None      |

### 4.2 Applied Loads

#### 4.2.1 Point Loads

Table 4.2 - Joint Loads - Force

| Story      | Label | Unique Name | Load Pattern | FX kip | FY kip | FZ kip | MX kip-ft | MY kip-ft | MZ kip-ft | XDim in | YDim in |
|------------|-------|-------------|--------------|--------|--------|--------|-----------|-----------|-----------|---------|---------|
| 16th Floor | 3     | 479         | Dead         | 0      | 0      | -73    | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 4     | 375         | Dead         | 0      | 0      | -235   | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 179   | 759         | Dead         | 0      | 0      | -2112  | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 3     | 480         | Dead         | 0      | 0      | -189   | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 4     | 374         | Dead         | 0      | 0      | -176   | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 3     | 239         | Dead         | 0      | 0      | -246   | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 179   | 789         | Dead         | 0      | 0      | -316   | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 3     | 235         | Dead         | 0      | 0      | -10139 | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 4     | 236         | Dead         | 0      | 0      | -6294  | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 179   | 693         | Dead         | 0      | 0      | -447   | 0         | 0         | 0         | 0       | 0       |
| 11th Floor | 179   | 681         | Dead         | 0      | 0      | -301   | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 4     | 48          | Dead         | 0      | 0      | -1670  | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 179   | 72          | Dead         | 0      | 0      | -310   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 3     | 43          | Dead         | 0      | 0      | -276   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 4     | 44          | Dead         | 0      | 0      | -515   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 179   | 69          | Dead         | 0      | 0      | -245   | 0         | 0         | 0         | 0       | 0       |
| 8th Floor  | 3     | 39          | Dead         | 0      | 0      | -47    | 0         | 0         | 0         | 0       | 0       |
| 8th Floor  | 4     | 40          | Dead         | 0      | 0      | -169   | 0         | 0         | 0         | 0       | 0       |
| 7th Floor  | 3     | 35          | Dead         | 0      | 0      | -54    | 0         | 0         | 0         | 0       | 0       |
| 6th Floor  | 3     | 31          | Dead         | 0      | 0      | -383   | 0         | 0         | 0         | 0       | 0       |
| 6th Floor  | 4     | 32          | Dead         | 0      | 0      | -915   | 0         | 0         | 0         | 0       | 0       |
| 5th Floor  | 3     | 27          | Dead         | 0      | 0      | -484   | 0         | 0         | 0         | 0       | 0       |
| 5th Floor  | 4     | 28          | Dead         | 0      | 0      | -46    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor  | 3     | 23          | Dead         | 0      | 0      | -78    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor  | 4     | 24          | Dead         | 0      | 0      | -1735  | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor  | 3     | 19          | Dead         | 0      | 0      | -122   | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor  | 9     | 62          | Dead         | 0      | 0      | -44    | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor  | 10    | 64          | Dead         | 0      | 0      | -59    | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor  | 3     | 15          | Dead         | 0      | 0      | -188   | 0         | 0         | 0         | 0       | 0       |
| 1st Floor  | 3     | 11          | Dead         | 0      | 0      | -63    | 0         | 0         | 0         | 0       | 0       |

Table 4.2 - Joint Loads - Force (continued)

| Story      | Label | Unique Name | Load Pattern | FX kip | FY kip | FZ kip | MX kip-ft | MY kip-ft | MZ kip-ft | XDim in | YDim in |
|------------|-------|-------------|--------------|--------|--------|--------|-----------|-----------|-----------|---------|---------|
| Cellar     | 3     | 6           | Dead         | 0      | 0      | -54    | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 3     | 479         | Live         | 0      | 0      | -14    | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 4     | 375         | Live         | 0      | 0      | -39    | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 179   | 759         | Live         | 0      | 0      | -473   | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 3     | 480         | Live         | 0      | 0      | -45    | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 4     | 374         | Live         | 0      | 0      | -38    | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 3     | 239         | Live         | 0      | 0      | -64    | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 179   | 789         | Live         | 0      | 0      | -85    | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 3     | 235         | Live         | 0      | 0      | -2712  | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 4     | 236         | Live         | 0      | 0      | -1370  | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 179   | 693         | Live         | 0      | 0      | -113   | 0         | 0         | 0         | 0       | 0       |
| 11th Floor | 179   | 681         | Live         | 0      | 0      | -86    | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 3     | 47          | Live         | 0      | 0      | -22    | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 4     | 48          | Live         | 0      | 0      | -394   | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 179   | 72          | Live         | 0      | 0      | -99    | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 3     | 43          | Live         | 0      | 0      | -175   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 4     | 44          | Live         | 0      | 0      | -156   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor  | 179   | 69          | Live         | 0      | 0      | -89    | 0         | 0         | 0         | 0       | 0       |
| 8th Floor  | 3     | 39          | Live         | 0      | 0      | -6     | 0         | 0         | 0         | 0       | 0       |
| 8th Floor  | 4     | 40          | Live         | 0      | 0      | -43    | 0         | 0         | 0         | 0       | 0       |
| 7th Floor  | 3     | 35          | Live         | 0      | 0      | -8     | 0         | 0         | 0         | 0       | 0       |
| 6th Floor  | 3     | 31          | Live         | 0      | 0      | -95    | 0         | 0         | 0         | 0       | 0       |
| 6th Floor  | 4     | 32          | Live         | 0      | 0      | -186   | 0         | 0         | 0         | 0       | 0       |
| 5th Floor  | 3     | 27          | Live         | 0      | 0      | -232   | 0         | 0         | 0         | 0       | 0       |
| 4th Floor  | 3     | 23          | Live         | 0      | 0      | -12    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor  | 4     | 24          | Live         | 0      | 0      | -419   | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor  | 3     | 19          | Live         | 0      | 0      | -37    | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor  | 9     | 62          | Live         | 0      | 0      | -12    | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor  | 10    | 64          | Live         | 0      | 0      | -10    | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 3     | 479         | Wind         | 0      | 196.7  | 0      | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 4     | 375         | Wind         | 0      | 196.7  | 0      | 0         | 0         | 0         | 0       | 0       |
| 16th Floor | 179   | 759         | Wind         | 0      | 196.7  | 0      | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 3     | 480         | Wind         | 0      | 92.5   | 0      | 0         | 0         | 0         | 0       | 0       |
| 15th Floor | 4     | 374         | Wind         | 0      | 92.5   | 0      | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 3     | 239         | Wind         | 0      | 62.3   | 0      | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 4     | 240         | Wind         | 0      | 62.3   | 0      | 0         | 0         | 0         | 0       | 0       |
| 14th Floor | 179   | 789         | Wind         | 0      | 62.3   | 0      | 0         | 0         | 0         | 0       | 0       |
| 13th Floor | 3     | 237         | Wind         | 0      | 91     | 0      | 0         | 0         | 0         | 0       | 0       |
| 13th Floor | 4     | 238         | Wind         | 0      | 91     | 0      | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 3     | 235         | Wind         | 0      | 67     | 0      | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 4     | 236         | Wind         | 0      | 67     | 0      | 0         | 0         | 0         | 0       | 0       |
| 12th Floor | 179   | 693         | Wind         | 0      | 67     | 0      | 0         | 0         | 0         | 0       | 0       |
| 11th Floor | 3     | 233         | Wind         | 0      | 70.7   | 0      | 0         | 0         | 0         | 0       | 0       |
| 11th Floor | 4     | 234         | Wind         | 0      | 70.7   | 0      | 0         | 0         | 0         | 0       | 0       |
| 11th Floor | 179   | 681         | Wind         | 0      | 70.7   | 0      | 0         | 0         | 0         | 0       | 0       |

**Table 4.2 - Joint Loads - Force (continued)**

| Story      | Label | Unique Name | Load Pattern | FX kip | FY kip | FZ kip | MX kip-ft | MY kip-ft | MZ kip-ft | XDim in | YDim in |
|------------|-------|-------------|--------------|--------|--------|--------|-----------|-----------|-----------|---------|---------|
| 10th Floor | 3     | 47          | Wind         | 0      | 17.3   | 0      | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 4     | 48          | Wind         | 0      | 17.3   | 0      | 0         | 0         | 0         | 0       | 0       |
| 10th Floor | 179   | 72          | Wind         | 0      | 17.3   | 0      | 0         | 0         | 0         | 0       | 0       |

**4.3 Load Cases**

**Table 4.3 - Load Cases - Summary**

| Name   | Type          |
|--------|---------------|
| Dead   | Linear Static |
| Live   | Linear Static |
| Wind   | Linear Static |
| Wind-1 | Linear Static |

**4.4 Load Combinations**

**Table 4.4 - Load Combinations**

| Name       | Load Case/Combo | Mode | Scale Factor | Type       | Auto |
|------------|-----------------|------|--------------|------------|------|
| Wind+Modal | Wind            |      | 1            | Linear Add | No   |
| Wind+Modal | Modal           | 1    | 1            |            | No   |
| wind 1     | Wind            |      | 1            | Linear Add | No   |
| wind -1    | Wind            |      | -1           | Linear Add | No   |
| UDStIS1    | Dead            |      | 1.4          | Linear Add | No   |
| UDStIS2    | Dead            |      | 1.2          | Linear Add | No   |
| UDStIS2    | Live            |      | 1.6          |            | No   |
| UDStIS3    | Dead            |      | 1.2          | Linear Add | No   |
| UDStIS3    | Live            |      | 1            |            | No   |
| UDStIS3    | Wind            |      | 1            |            | No   |
| UDStIS4    | Dead            |      | 1.2          | Linear Add | No   |
| UDStIS4    | Live            |      | 1            |            | No   |
| UDStIS4    | Wind            |      | -1           |            | No   |
| UDStIS5    | Dead            |      | 0.9          | Linear Add | No   |
| UDStIS5    | Wind            |      | 1            |            | No   |
| UDStIS6    | Dead            |      | 0.9          | Linear Add | No   |
| UDStIS6    | Wind            |      | -1           |            | No   |
| UDStID1    | Dead            |      | 1            | Linear Add | No   |
| UDStID2    | Dead            |      | 1            | Linear Add | No   |
| UDStID2    | Live            |      | 1            |            | No   |

## 5 Analysis Results

This chapter provides analysis results.

### 5.1 Structure Results

**Table 5.1 - Base Reactions**

| Load Case/Combo | FX kip | FY kip | FZ kip    | MX kip-ft   | MY kip-ft  | MZ kip-ft  | X ft | Y ft | Z ft |
|-----------------|--------|--------|-----------|-------------|------------|------------|------|------|------|
| Dead            | 0      | 0      | 30598.494 | 1407468     | -2366273   | 0          | 0    | 0    | -28  |
| Live            | 0      | 0      | 7034      | 338575.9522 | -543960    | 0          | 0    | 0    | -28  |
| Wind            | 0      | -1609  | 0         | 339824.2507 | 2.331E-06  | -124429    | 0    | 0    | -28  |
| Wind-1          | 0      | 1609   | 0         | -339824     | -2.331E-06 | 124428.797 | 0    | 0    | -28  |
| Wind+Modal      | 0      | -1609  | 0         | 339824.2507 | 2.331E-06  | -124429    | 0    | 0    | -28  |
| wind 1          | 0      | -1609  | 0         | 339824.2507 | 2.331E-06  | -124429    | 0    | 0    | -28  |
| wind -1         | 0      | 1609   | 0         | -339824     | -2.331E-06 | 124428.797 | 0    | 0    | -28  |
| UDStIS1         | 0      | 0      | 42837.891 | 1970456     | -3312783   | 0          | 0    | 0    | -28  |
| UDStIS2         | 0      | 0      | 47972.592 | 2230683     | -3709864   | 0          | 0    | 0    | -28  |
| UDStIS3         | 0      | -1609  | 43752.192 | 2367362     | -3383488   | -124429    | 0    | 0    | -28  |
| UDStIS4         | 0      | 1609   | 43752.192 | 1687714     | -3383488   | 124428.797 | 0    | 0    | -28  |
| UDStIS5         | 0      | -1609  | 27538.644 | 1606546     | -2129646   | -124429    | 0    | 0    | -28  |
| UDStIS6         | 0      | 1609   | 27538.644 | 926897.1595 | -2129646   | 124428.797 | 0    | 0    | -28  |
| UDStID1         | 0      | 0      | 30598.494 | 1407468     | -2366273   | 0          | 0    | 0    | -28  |
| UDStID2         | 0      | 0      | 37632.494 | 1746044     | -2910234   | 0          | 0    | 0    | -28  |

### 5.2 Story Results

**Table 5.2 - Story Drifts**

| Story      | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft   |
|------------|-----------------|-----------|----------|-------|--------|---------|--------|
| 16th Floor | Dead            | Y         | 0.001479 | 74    | 77.333 | 24.3542 | 202.67 |
| 16th Floor | Live            | Y         | 0.000415 | 74    | 77.333 | 24.3542 | 202.67 |
| 16th Floor | Wind            | Y         | 0.002892 | 73    | 77.333 | 20.6458 | 202.67 |
| 16th Floor | Wind-1          | Y         | 0.002892 | 73    | 77.333 | 20.6458 | 202.67 |
| 16th Floor | Wind+Modal      | Y         | 0.002892 | 73    | 77.333 | 20.6458 | 202.67 |
| 16th Floor | wind 1          | Y         | 0.002892 | 73    | 77.333 | 20.6458 | 202.67 |
| 16th Floor | wind -1         | Y         | 0.002892 | 73    | 77.333 | 20.6458 | 202.67 |
| 16th Floor | UDStIS1         | Y         | 0.00207  | 74    | 77.333 | 24.3542 | 202.67 |
| 16th Floor | UDStIS2         | Y         | 0.002439 | 74    | 77.333 | 24.3542 | 202.67 |
| 16th Floor | UDStIS3         | Y         | 0.005079 | 73    | 77.333 | 20.6458 | 202.67 |
| 16th Floor | UDStIS4         | Y         | 0.000838 | 179   | 77.333 | 43.9583 | 202.67 |
| 16th Floor | UDStIS5         | Y         | 0.004221 | 73    | 77.333 | 20.6458 | 202.67 |
| 16th Floor | UDStIS6         | Y         | 0.001647 | 179   | 77.333 | 43.9583 | 202.67 |
| 16th Floor | UDStID1         | Y         | 0.001479 | 74    | 77.333 | 24.3542 | 202.67 |
| 16th Floor | UDStID2         | Y         | 0.001894 | 74    | 77.333 | 24.3542 | 202.67 |
| 15th Floor | Dead            | Y         | 0.001388 | 73    | 77.333 | 20.6458 | 193.96 |
| 15th Floor | Live            | Y         | 0.000396 | 73    | 77.333 | 20.6458 | 193.96 |
| 15th Floor | Wind            | Y         | 0.002955 | 75    | 77.333 | 67.2498 | 193.96 |
| 15th Floor | Wind-1          | Y         | 0.002955 | 75    | 77.333 | 67.2498 | 193.96 |
| 15th Floor | Wind+Modal      | Y         | 0.002955 | 75    | 77.333 | 67.2498 | 193.96 |



Table 5.2 - Story Drifts (continued)

| Story      | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft    |
|------------|-----------------|-----------|----------|-------|--------|---------|---------|
| 15th Floor | wind 1          | Y         | 0.002955 | 75    | 77.333 | 67.2498 | 193.96  |
| 15th Floor | wind -1         | Y         | 0.002955 | 75    | 77.333 | 67.2498 | 193.96  |
| 15th Floor | UDStlS1         | Y         | 0.001944 | 73    | 77.333 | 20.6458 | 193.96  |
| 15th Floor | UDStlS2         | Y         | 0.002299 | 73    | 77.333 | 20.6458 | 193.96  |
| 15th Floor | UDStlS3         | Y         | 0.005001 | 74    | 77.333 | 24.3542 | 193.96  |
| 15th Floor | UDStlS4         | Y         | 0.00097  | 75    | 77.333 | 67.2498 | 193.96  |
| 15th Floor | UDStlS5         | Y         | 0.004191 | 74    | 77.333 | 24.3542 | 193.96  |
| 15th Floor | UDStlS6         | Y         | 0.001754 | 75    | 77.333 | 67.2498 | 193.96  |
| 15th Floor | UDStlD1         | Y         | 0.001388 | 73    | 77.333 | 20.6458 | 193.96  |
| 15th Floor | UDStlD2         | Y         | 0.001784 | 73    | 77.333 | 20.6458 | 193.96  |
| 14th Floor | Dead            | Y         | 0.001269 | 74    | 77.333 | 24.3542 | 185.25  |
| 14th Floor | Live            | Y         | 0.000369 | 74    | 77.333 | 24.3542 | 185.25  |
| 14th Floor | Wind            | Y         | 0.003014 | 179   | 77.333 | 43.9583 | 185.25  |
| 14th Floor | Wind-1          | Y         | 0.003014 | 179   | 77.333 | 43.9583 | 185.25  |
| 14th Floor | Wind+Modal      | Y         | 0.003014 | 179   | 77.333 | 43.9583 | 185.25  |
| 14th Floor | wind 1          | Y         | 0.003014 | 179   | 77.333 | 43.9583 | 185.25  |
| 14th Floor | wind -1         | Y         | 0.003014 | 179   | 77.333 | 43.9583 | 185.25  |
| 14th Floor | UDStlS1         | Y         | 0.001777 | 74    | 77.333 | 24.3542 | 185.25  |
| 14th Floor | UDStlS2         | Y         | 0.002113 | 74    | 77.333 | 24.3542 | 185.25  |
| 14th Floor | UDStlS3         | Y         | 0.004878 | 74    | 77.333 | 24.3542 | 185.25  |
| 14th Floor | UDStlS4         | Y         | 0.00124  | 179   | 77.333 | 43.9583 | 185.25  |
| 14th Floor | UDStlS5         | Y         | 0.004129 | 76    | 77.333 | 70.9582 | 185.25  |
| 14th Floor | UDStlS6         | Y         | 0.001946 | 179   | 77.333 | 43.9583 | 185.25  |
| 14th Floor | UDStlD1         | Y         | 0.001269 | 74    | 77.333 | 24.3542 | 185.25  |
| 14th Floor | UDStlD2         | Y         | 0.001638 | 74    | 77.333 | 24.3542 | 185.25  |
| 13th Floor | Dead            | Y         | 0.00116  | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | Live            | Y         | 0.000344 | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | Wind            | Y         | 0.003066 | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | Wind-1          | Y         | 0.003066 | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | Wind+Modal      | Y         | 0.003066 | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | wind 1          | Y         | 0.003066 | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | wind -1         | Y         | 0.003066 | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | UDStlS1         | Y         | 0.001624 | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | UDStlS2         | Y         | 0.001942 | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | UDStlS3         | Y         | 0.004802 | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | UDStlS4         | Y         | 0.001362 | 76    | 77.333 | 70.9582 | 176.54  |
| 13th Floor | UDStlS5         | Y         | 0.00411  | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | UDStlS6         | Y         | 0.002041 | 76    | 77.333 | 70.9582 | 176.54  |
| 13th Floor | UDStlD1         | Y         | 0.00116  | 75    | 77.333 | 67.2498 | 176.54  |
| 13th Floor | UDStlD2         | Y         | 0.001504 | 75    | 77.333 | 67.2498 | 176.54  |
| 12th Floor | Dead            | Y         | 0.001031 | 73    | 77.333 | 20.6458 | 167.833 |
| 12th Floor | Live            | Y         | 0.000312 | 73    | 77.333 | 20.6458 | 167.833 |
| 12th Floor | Wind            | Y         | 0.002987 | 75    | 77.333 | 67.2498 | 167.833 |
| 12th Floor | Wind-1          | Y         | 0.002987 | 75    | 77.333 | 67.2498 | 167.833 |
| 12th Floor | Wind+Modal      | Y         | 0.002987 | 75    | 77.333 | 67.2498 | 167.833 |

Table 5.2 - Story Drifts (continued)

| Story      | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft    |
|------------|-----------------|-----------|----------|-------|--------|---------|---------|
| 12th Floor | wind 1          | Y         | 0.002987 | 75    | 77.333 | 67.2498 | 167.833 |
| 12th Floor | wind -1         | Y         | 0.002987 | 75    | 77.333 | 67.2498 | 167.833 |
| 12th Floor | UDStlS1         | Y         | 0.001444 | 73    | 77.333 | 20.6458 | 167.833 |
| 12th Floor | UDStlS2         | Y         | 0.001737 | 73    | 77.333 | 20.6458 | 167.833 |
| 12th Floor | UDStlS3         | Y         | 0.004536 | 73    | 77.333 | 20.6458 | 167.833 |
| 12th Floor | UDStlS4         | Y         | 0.001481 | 76    | 77.333 | 70.9582 | 167.833 |
| 12th Floor | UDStlS5         | Y         | 0.003914 | 73    | 77.333 | 20.6458 | 167.833 |
| 12th Floor | UDStlS6         | Y         | 0.002086 | 76    | 77.333 | 70.9582 | 167.833 |
| 12th Floor | UDStlD1         | Y         | 0.001031 | 73    | 77.333 | 20.6458 | 167.833 |
| 12th Floor | UDStlD2         | Y         | 0.001344 | 73    | 77.333 | 20.6458 | 167.833 |
| 11th Floor | Dead            | Y         | 0.000941 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | Live            | Y         | 0.000286 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | Wind            | Y         | 0.002938 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | Wind-1          | Y         | 0.002938 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | Wind+Modal      | Y         | 0.002938 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | wind 1          | Y         | 0.002938 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | wind -1         | Y         | 0.002938 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | UDStlS1         | Y         | 0.001317 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | UDStlS2         | Y         | 0.001587 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | UDStlS3         | Y         | 0.004353 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | UDStlS4         | Y         | 0.001524 | 75    | 77.333 | 67.2498 | 150.417 |
| 11th Floor | UDStlS5         | Y         | 0.003784 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | UDStlS6         | Y         | 0.002091 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | UDStlD1         | Y         | 0.000941 | 76    | 77.333 | 70.9582 | 150.417 |
| 11th Floor | UDStlD2         | Y         | 0.001227 | 76    | 77.333 | 70.9582 | 150.417 |
| 10th Floor | Dead            | Y         | 0.000714 | 179   | 77.333 | 43.9583 | 133     |
| 10th Floor | Live            | Y         | 0.000229 | 179   | 77.333 | 43.9583 | 133     |
| 10th Floor | Wind            | Y         | 0.00226  | 75    | 77.333 | 67.2498 | 133     |
| 10th Floor | Wind-1          | Y         | 0.00226  | 75    | 77.333 | 67.2498 | 133     |
| 10th Floor | Wind+Modal      | Y         | 0.00226  | 75    | 77.333 | 67.2498 | 133     |
| 10th Floor | wind 1          | Y         | 0.00226  | 75    | 77.333 | 67.2498 | 133     |
| 10th Floor | wind -1         | Y         | 0.00226  | 75    | 77.333 | 67.2498 | 133     |
| 10th Floor | UDStlS1         | Y         | 0.000999 | 179   | 77.333 | 43.9583 | 133     |
| 10th Floor | UDStlS2         | Y         | 0.001223 | 179   | 77.333 | 43.9583 | 133     |
| 10th Floor | UDStlS3         | Y         | 0.003335 | 75    | 77.333 | 67.2498 | 133     |
| 10th Floor | UDStlS4         | Y         | 0.001246 | 4     | 77.333 | 22.5    | 133     |
| 10th Floor | UDStlS5         | Y         | 0.002897 | 75    | 77.333 | 67.2498 | 133     |
| 10th Floor | UDStlS6         | Y         | 0.001627 | 4     | 77.333 | 22.5    | 133     |
| 10th Floor | UDStlD1         | Y         | 0.000714 | 179   | 77.333 | 43.9583 | 133     |
| 10th Floor | UDStlD2         | Y         | 0.000943 | 179   | 77.333 | 43.9583 | 133     |
| 9th Floor  | Dead            | Y         | 0.000302 | 73    | 77.333 | 20.6458 | 117     |
| 9th Floor  | Live            | Y         | 0.000123 | 73    | 77.333 | 20.6458 | 117     |
| 9th Floor  | Wind            | Y         | 0.000925 | 74    | 77.333 | 24.3542 | 117     |
| 9th Floor  | Wind-1          | Y         | 0.000925 | 74    | 77.333 | 24.3542 | 117     |
| 9th Floor  | Wind+Modal      | Y         | 0.000925 | 74    | 77.333 | 24.3542 | 117     |

Table 5.2 - Story Drifts (continued)

| Story     | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft   |
|-----------|-----------------|-----------|----------|-------|--------|---------|--------|
| 9th Floor | wind 1          | Y         | 0.000925 | 74    | 77.333 | 24.3542 | 117    |
| 9th Floor | wind -1         | Y         | 0.000925 | 74    | 77.333 | 24.3542 | 117    |
| 9th Floor | UDStlS1         | Y         | 0.000423 | 73    | 77.333 | 20.6458 | 117    |
| 9th Floor | UDStlS2         | Y         | 0.000559 | 73    | 77.333 | 20.6458 | 117    |
| 9th Floor | UDStlS3         | Y         | 0.001409 | 73    | 77.333 | 20.6458 | 117    |
| 9th Floor | UDStlS4         | Y         | 0.000495 | 179   | 77.333 | 43.9583 | 117    |
| 9th Floor | UDStlS5         | Y         | 0.001196 | 73    | 77.333 | 20.6458 | 117    |
| 9th Floor | UDStlS6         | Y         | 0.000656 | 74    | 77.333 | 24.3542 | 117    |
| 9th Floor | UDStlD1         | Y         | 0.000302 | 73    | 77.333 | 20.6458 | 117    |
| 9th Floor | UDStlD2         | Y         | 0.000425 | 73    | 77.333 | 20.6458 | 117    |
| 8th Floor | Dead            | Y         | 0.0007   | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | Live            | Y         | 0.000201 | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | Wind            | Y         | 0.000858 | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | Wind-1          | Y         | 0.000858 | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | Wind+Modal      | Y         | 0.000858 | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | wind 1          | Y         | 0.000858 | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | wind -1         | Y         | 0.000858 | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | UDStlS1         | Y         | 0.00098  | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | UDStlS2         | Y         | 0.001162 | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | UDStlS3         | Y         | 0.001899 | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | UDStlS4         | Y         | 0.000205 | 76    | 77.333 | 70.9582 | 102    |
| 8th Floor | UDStlS5         | Y         | 0.001488 | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | UDStlS6         | Y         | 0.000227 | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | UDStlD1         | Y         | 0.0007   | 179   | 77.333 | 43.9583 | 102    |
| 8th Floor | UDStlD2         | Y         | 0.000902 | 179   | 77.333 | 43.9583 | 102    |
| 7th Floor | Dead            | Y         | 0.000577 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | Live            | Y         | 0.000168 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | Wind            | Y         | 0.000669 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | Wind-1          | Y         | 0.000669 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | Wind+Modal      | Y         | 0.000669 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | wind 1          | Y         | 0.000669 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | wind -1         | Y         | 0.000669 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | UDStlS1         | Y         | 0.000808 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | UDStlS2         | Y         | 0.000961 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | UDStlS3         | Y         | 0.001529 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | UDStlS4         | Y         | 0.000191 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | UDStlS5         | Y         | 0.001188 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | UDStlS6         | Y         | 0.000169 | 74    | 77.333 | 24.3542 | 89.854 |
| 7th Floor | UDStlD1         | Y         | 0.000577 | 75    | 77.333 | 67.2498 | 89.854 |
| 7th Floor | UDStlD2         | Y         | 0.000745 | 75    | 77.333 | 67.2498 | 89.854 |
| 6th Floor | Dead            | Y         | 0.000317 | 74    | 77.333 | 24.3542 | 77.708 |
| 6th Floor | Live            | Y         | 0.000107 | 74    | 77.333 | 24.3542 | 77.708 |
| 6th Floor | Wind            | Y         | 0.000407 | 74    | 77.333 | 24.3542 | 77.708 |
| 6th Floor | Wind-1          | Y         | 0.000407 | 74    | 77.333 | 24.3542 | 77.708 |
| 6th Floor | Wind+Modal      | Y         | 0.000407 | 74    | 77.333 | 24.3542 | 77.708 |

Table 5.2 - Story Drifts (continued)

| Story     | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft   |
|-----------|-----------------|-----------|----------|-------|--------|---------|--------|
| 6th Floor | wind 1          | Y         | 0.000407 | 74    | 77.333 | 24.3542 | 77.708 |
| 6th Floor | wind -1         | Y         | 0.000407 | 74    | 77.333 | 24.3542 | 77.708 |
| 6th Floor | UDStlS1         | Y         | 0.000444 | 74    | 77.333 | 24.3542 | 77.708 |
| 6th Floor | UDStlS2         | Y         | 0.000552 | 74    | 77.333 | 24.3542 | 77.708 |
| 6th Floor | UDStlS3         | Y         | 0.000895 | 74    | 77.333 | 24.3542 | 77.708 |
| 6th Floor | UDStlS4         | Y         | 0.000129 | 179   | 77.333 | 43.9583 | 77.708 |
| 6th Floor | UDStlS5         | Y         | 0.000692 | 74    | 77.333 | 24.3542 | 77.708 |
| 6th Floor | UDStlS6         | Y         | 0.000223 | 179   | 77.333 | 43.9583 | 77.708 |
| 6th Floor | UDStlD1         | Y         | 0.000317 | 74    | 77.333 | 24.3542 | 77.708 |
| 6th Floor | UDStlD2         | Y         | 0.000424 | 74    | 77.333 | 24.3542 | 77.708 |
| 5th Floor | Dead            | Y         | 0.000764 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | Live            | Y         | 0.000198 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | Wind            | Y         | 0.000412 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | Wind-1          | Y         | 0.000412 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | Wind+Modal      | Y         | 0.000412 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | wind 1          | Y         | 0.000412 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | wind -1         | Y         | 0.000412 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | UDStlS1         | Y         | 0.00107  | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | UDStlS2         | Y         | 0.001233 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | UDStlS3         | Y         | 0.001527 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | UDStlS4         | Y         | 0.000703 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | UDStlS5         | Y         | 0.0011   | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | UDStlS6         | Y         | 0.000276 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | UDStlD1         | Y         | 0.000764 | 179   | 77.333 | 43.9583 | 62.5   |
| 5th Floor | UDStlD2         | Y         | 0.000962 | 179   | 77.333 | 43.9583 | 62.5   |
| 4th Floor | Dead            | Y         | 0.000578 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | Live            | Y         | 0.000138 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | Wind            | Y         | 0.000205 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | Wind-1          | Y         | 0.000205 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | Wind+Modal      | Y         | 0.000205 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | wind 1          | Y         | 0.000205 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | wind -1         | Y         | 0.000205 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | UDStlS1         | Y         | 0.000809 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | UDStlS2         | Y         | 0.000915 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | UDStlS3         | Y         | 0.001037 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | UDStlS4         | Y         | 0.000627 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | UDStlS5         | Y         | 0.000725 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | UDStlS6         | Y         | 0.000315 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | UDStlD1         | Y         | 0.000578 | 5     | 77.333 | 42.624  | 46.458 |
| 4th Floor | UDStlD2         | Y         | 0.000716 | 5     | 77.333 | 42.624  | 46.458 |
| 3rd Floor | Dead            | Y         | 0.000323 | 8     | 77.333 | 51.4503 | 30.479 |
| 3rd Floor | Live            | Y         | 9.9E-05  | 8     | 77.333 | 51.4503 | 30.479 |
| 3rd Floor | Wind            | Y         | 0.000432 | 5     | 77.333 | 42.624  | 30.479 |
| 3rd Floor | Wind-1          | Y         | 0.000432 | 5     | 77.333 | 42.624  | 30.479 |
| 3rd Floor | Wind+Modal      | Y         | 0.000432 | 5     | 77.333 | 42.624  | 30.479 |

Table 5.2 - Story Drifts (continued)

| Story     | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft   |
|-----------|-----------------|-----------|----------|-------|--------|---------|--------|
| 3rd Floor | wind 1          | Y         | 0.000432 | 5     | 77.333 | 42.624  | 30.479 |
| 3rd Floor | wind -1         | Y         | 0.000432 | 5     | 77.333 | 42.624  | 30.479 |
| 3rd Floor | UDStIS1         | Y         | 0.000452 | 8     | 77.333 | 51.4503 | 30.479 |
| 3rd Floor | UDStIS2         | Y         | 0.000546 | 8     | 77.333 | 51.4503 | 30.479 |
| 3rd Floor | UDStIS3         | Y         | 0.000905 | 5     | 77.333 | 42.624  | 30.479 |
| 3rd Floor | UDStIS4         | Y         | 0.000118 | 73    | 77.333 | 20.6458 | 30.479 |
| 3rd Floor | UDStIS5         | Y         | 0.000713 | 5     | 77.333 | 42.624  | 30.479 |
| 3rd Floor | UDStIS6         | Y         | 0.000229 | 73    | 77.333 | 20.6458 | 30.479 |
| 3rd Floor | UDStID1         | Y         | 0.000323 | 8     | 77.333 | 51.4503 | 30.479 |
| 3rd Floor | UDStID2         | Y         | 0.000422 | 8     | 77.333 | 51.4503 | 30.479 |
| 2nd Floor | Dead            | Y         | 0.000859 | 73    | 77.333 | 20.6458 | 18.979 |
| 2nd Floor | Live            | Y         | 0.000257 | 73    | 77.333 | 20.6458 | 18.979 |
| 2nd Floor | Wind            | Y         | 0.000945 | 74    | 77.333 | 24.3542 | 18.979 |
| 2nd Floor | Wind-1          | Y         | 0.000945 | 74    | 77.333 | 24.3542 | 18.979 |
| 2nd Floor | Wind+Modal      | Y         | 0.000945 | 74    | 77.333 | 24.3542 | 18.979 |
| 2nd Floor | wind 1          | Y         | 0.000945 | 74    | 77.333 | 24.3542 | 18.979 |
| 2nd Floor | wind -1         | Y         | 0.000945 | 74    | 77.333 | 24.3542 | 18.979 |
| 2nd Floor | UDStIS1         | Y         | 0.001202 | 73    | 77.333 | 20.6458 | 18.979 |
| 2nd Floor | UDStIS2         | Y         | 0.001443 | 73    | 77.333 | 20.6458 | 18.979 |
| 2nd Floor | UDStIS3         | Y         | 0.002232 | 73    | 77.333 | 20.6458 | 18.979 |
| 2nd Floor | UDStIS4         | Y         | 0.000347 | 76    | 77.333 | 70.9582 | 18.979 |
| 2nd Floor | UDStIS5         | Y         | 0.001717 | 73    | 77.333 | 20.6458 | 18.979 |
| 2nd Floor | UDStIS6         | Y         | 0.000172 | 74    | 77.333 | 24.3542 | 18.979 |
| 2nd Floor | UDStID1         | Y         | 0.000859 | 73    | 77.333 | 20.6458 | 18.979 |
| 2nd Floor | UDStID2         | Y         | 0.001116 | 73    | 77.333 | 20.6458 | 18.979 |
| 1st Floor | Dead            | Y         | 0.001034 | 74    | 77.333 | 24.3542 | 0      |
| 1st Floor | Live            | Y         | 0.000304 | 74    | 77.333 | 24.3542 | 0      |
| 1st Floor | Wind            | Y         | 0.001047 | 73    | 77.333 | 20.6458 | 0      |
| 1st Floor | Wind-1          | Y         | 0.001047 | 73    | 77.333 | 20.6458 | 0      |
| 1st Floor | Wind+Modal      | Y         | 0.001047 | 73    | 77.333 | 20.6458 | 0      |
| 1st Floor | wind 1          | Y         | 0.001047 | 73    | 77.333 | 20.6458 | 0      |
| 1st Floor | wind -1         | Y         | 0.001047 | 73    | 77.333 | 20.6458 | 0      |
| 1st Floor | UDStIS1         | Y         | 0.001448 | 74    | 77.333 | 24.3542 | 0      |
| 1st Floor | UDStIS2         | Y         | 0.001728 | 74    | 77.333 | 24.3542 | 0      |
| 1st Floor | UDStIS3         | Y         | 0.002591 | 74    | 77.333 | 24.3542 | 0      |
| 1st Floor | UDStIS4         | Y         | 0.0005   | 74    | 77.333 | 24.3542 | 0      |
| 1st Floor | UDStIS5         | Y         | 0.001977 | 74    | 77.333 | 24.3542 | 0      |
| 1st Floor | UDStIS6         | Y         | 0.000171 | 75    | 77.333 | 67.2498 | 0      |
| 1st Floor | UDStID1         | Y         | 0.001034 | 74    | 77.333 | 24.3542 | 0      |
| 1st Floor | UDStID2         | Y         | 0.001338 | 74    | 77.333 | 24.3542 | 0      |
| Cellar    | Dead            | Y         | 0.000469 | 73    | 77.333 | 20.6458 | -14    |
| Cellar    | Live            | Y         | 0.000137 | 73    | 77.333 | 20.6458 | -14    |
| Cellar    | Wind            | Y         | 0.000463 | 75    | 77.333 | 67.2498 | -14    |
| Cellar    | Wind-1          | Y         | 0.000463 | 75    | 77.333 | 67.2498 | -14    |
| Cellar    | Wind+Modal      | Y         | 0.000463 | 75    | 77.333 | 67.2498 | -14    |

**Table 5.2 - Story Drifts (continued)**

| Story  | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft |
|--------|-----------------|-----------|----------|-------|--------|---------|------|
| Cellar | wind 1          | Y         | 0.000463 | 75    | 77.333 | 67.2498 | -14  |
| Cellar | wind -1         | Y         | 0.000463 | 75    | 77.333 | 67.2498 | -14  |
| Cellar | UDStlS1         | Y         | 0.000656 | 73    | 77.333 | 20.6458 | -14  |
| Cellar | UDStlS2         | Y         | 0.000781 | 73    | 77.333 | 20.6458 | -14  |
| Cellar | UDStlS3         | Y         | 0.001157 | 73    | 77.333 | 20.6458 | -14  |
| Cellar | UDStlS4         | Y         | 0.000241 | 73    | 77.333 | 20.6458 | -14  |
| Cellar | UDStlS5         | Y         | 0.00088  | 73    | 77.333 | 20.6458 | -14  |
| Cellar | UDStlS6         | Y         | 7.8E-05  | 76    | 77.333 | 70.9582 | -14  |
| Cellar | UDStlD1         | Y         | 0.000469 | 73    | 77.333 | 20.6458 | -14  |
| Cellar | UDStlD2         | Y         | 0.000606 | 73    | 77.333 | 20.6458 | -14  |

**Table 5.3 - Story Max/Avg Drifts**

| Story      | Load Case/Combo | Direction | Max Drift in | Avg Drift in | Ratio |
|------------|-----------------|-----------|--------------|--------------|-------|
| 16th Floor | Dead            | Y         | 0.154554     | 0.146251     | 1.057 |
| 16th Floor | Live            | Y         | 0.043427     | 0.041624     | 1.043 |
| 16th Floor | Wind            | Y         | 0.30231      | 0.296509     | 1.02  |
| 16th Floor | Wind-1          | Y         | 0.30231      | 0.296509     | 1.02  |
| 16th Floor | Wind+Modal      | Y         | 0.30231      | 0.296509     | 1.02  |
| 16th Floor | wind 1          | Y         | 0.30231      | 0.296509     | 1.02  |
| 16th Floor | wind -1         | Y         | 0.30231      | 0.296509     | 1.02  |
| 16th Floor | UDStlS1         | Y         | 0.216375     | 0.204751     | 1.057 |
| 16th Floor | UDStlS2         | Y         | 0.254947     | 0.242099     | 1.053 |
| 16th Floor | UDStlS3         | Y         | 0.530909     | 0.513739     | 1.033 |
| 16th Floor | UDStlS4         | Y         | 0.087624     | 0.080066     | 1.094 |
| 16th Floor | UDStlS5         | Y         | 0.441224     | 0.428203     | 1.03  |
| 16th Floor | UDStlS6         | Y         | 0.172178     | 0.16724      | 1.03  |
| 16th Floor | UDStlD1         | Y         | 0.154554     | 0.146251     | 1.057 |
| 16th Floor | UDStlD2         | Y         | 0.19798      | 0.187875     | 1.054 |
| 15th Floor | Dead            | Y         | 0.145101     | 0.142188     | 1.02  |
| 15th Floor | Live            | Y         | 0.04136      | 0.040704     | 1.016 |
| 15th Floor | Wind            | Y         | 0.308888     | 0.307975     | 1.003 |
| 15th Floor | Wind-1          | Y         | 0.308888     | 0.307975     | 1.003 |
| 15th Floor | Wind+Modal      | Y         | 0.308888     | 0.307975     | 1.003 |
| 15th Floor | wind 1          | Y         | 0.308888     | 0.307975     | 1.003 |
| 15th Floor | wind -1         | Y         | 0.308888     | 0.307975     | 1.003 |
| 15th Floor | UDStlS1         | Y         | 0.203142     | 0.199063     | 1.02  |
| 15th Floor | UDStlS2         | Y         | 0.240297     | 0.235751     | 1.019 |
| 15th Floor | UDStlS3         | Y         | 0.522678     | 0.519096     | 1.007 |
| 15th Floor | UDStlS4         | Y         | 0.101366     | 0.096473     | 1.051 |
| 15th Floor | UDStlS5         | Y         | 0.43808      | 0.435882     | 1.005 |
| 15th Floor | UDStlS6         | Y         | 0.183327     | 0.179899     | 1.019 |
| 15th Floor | UDStlD1         | Y         | 0.145101     | 0.142188     | 1.02  |
| 15th Floor | UDStlD2         | Y         | 0.186461     | 0.182892     | 1.02  |

**Table 5.3 - Story Max/Avg Drifts (continued)**

| Story      | Load Case/Combo | Direction | Max Drift in | Avg Drift in | Ratio |
|------------|-----------------|-----------|--------------|--------------|-------|
| 14th Floor | Dead            | Y         | 0.132641     | 0.12836      | 1.033 |
| 14th Floor | Live            | Y         | 0.038528     | 0.037547     | 1.026 |
| 14th Floor | Wind            | Y         | 0.315024     | 0.313579     | 1.005 |
| 14th Floor | Wind-1          | Y         | 0.315024     | 0.313579     | 1.005 |
| 14th Floor | Wind+Modal      | Y         | 0.315024     | 0.313579     | 1.005 |
| 14th Floor | wind 1          | Y         | 0.315024     | 0.313579     | 1.005 |
| 14th Floor | wind -1         | Y         | 0.315024     | 0.313579     | 1.005 |
| 14th Floor | UDStlS1         | Y         | 0.185698     | 0.179704     | 1.033 |
| 14th Floor | UDStlS2         | Y         | 0.220814     | 0.214108     | 1.031 |
| 14th Floor | UDStlS3         | Y         | 0.509831     | 0.505158     | 1.009 |
| 14th Floor | UDStlS4         | Y         | 0.129561     | 0.121999     | 1.062 |
| 14th Floor | UDStlS5         | Y         | 0.431532     | 0.429114     | 1.006 |
| 14th Floor | UDStlS6         | Y         | 0.203352     | 0.198054     | 1.027 |
| 14th Floor | UDStlD1         | Y         | 0.132641     | 0.12836      | 1.033 |
| 14th Floor | UDStlD2         | Y         | 0.171169     | 0.165908     | 1.032 |
| 13th Floor | Dead            | Y         | 0.121178     | 0.119984     | 1.01  |
| 13th Floor | Live            | Y         | 0.035915     | 0.035596     | 1.009 |
| 13th Floor | Wind            | Y         | 0.320373     | 0.318903     | 1.005 |
| 13th Floor | Wind-1          | Y         | 0.320373     | 0.318903     | 1.005 |
| 13th Floor | Wind+Modal      | Y         | 0.320373     | 0.318903     | 1.005 |
| 13th Floor | wind 1          | Y         | 0.320373     | 0.318903     | 1.005 |
| 13th Floor | wind -1         | Y         | 0.320373     | 0.318903     | 1.005 |
| 13th Floor | UDStlS1         | Y         | 0.169649     | 0.167977     | 1.01  |
| 13th Floor | UDStlS2         | Y         | 0.202878     | 0.200935     | 1.01  |
| 13th Floor | UDStlS3         | Y         | 0.501702     | 0.49916      | 1.005 |
| 13th Floor | UDStlS4         | Y         | 0.142343     | 0.139361     | 1.021 |
| 13th Floor | UDStlS5         | Y         | 0.429434     | 0.427445     | 1.005 |
| 13th Floor | UDStlS6         | Y         | 0.213258     | 0.210897     | 1.011 |
| 13th Floor | UDStlD1         | Y         | 0.121178     | 0.119984     | 1.01  |
| 13th Floor | UDStlD2         | Y         | 0.157093     | 0.15558      | 1.01  |
| 12th Floor | Dead            | Y         | 0.215555     | 0.212264     | 1.016 |
| 12th Floor | Live            | Y         | 0.06523      | 0.064516     | 1.011 |
| 12th Floor | Wind            | Y         | 0.624252     | 0.622583     | 1.003 |
| 12th Floor | Wind-1          | Y         | 0.624252     | 0.622583     | 1.003 |
| 12th Floor | Wind+Modal      | Y         | 0.624252     | 0.622583     | 1.003 |
| 12th Floor | wind 1          | Y         | 0.624252     | 0.622583     | 1.003 |
| 12th Floor | wind -1         | Y         | 0.624252     | 0.622583     | 1.003 |
| 12th Floor | UDStlS1         | Y         | 0.301777     | 0.29717      | 1.016 |
| 12th Floor | UDStlS2         | Y         | 0.363033     | 0.357943     | 1.014 |
| 12th Floor | UDStlS3         | Y         | 0.947948     | 0.942149     | 1.006 |
| 12th Floor | UDStlS4         | Y         | 0.309561     | 0.304859     | 1.015 |
| 12th Floor | UDStlS5         | Y         | 0.818052     | 0.813784     | 1.005 |
| 12th Floor | UDStlS6         | Y         | 0.436056     | 0.433054     | 1.007 |
| 12th Floor | UDStlD1         | Y         | 0.215555     | 0.212264     | 1.016 |

**Table 5.3 - Story Max/Avg Drifts (continued)**

| Story      | Load Case/Combo | Direction | Max Drift in | Avg Drift in | Ratio |
|------------|-----------------|-----------|--------------|--------------|-------|
| 12th Floor | UDStID2         | Y         | 0.280785     | 0.27678      | 1.014 |
| 11th Floor | Dead            | Y         | 0.196651     | 0.18996      | 1.035 |
| 11th Floor | Live            | Y         | 0.059778     | 0.058363     | 1.024 |
| 11th Floor | Wind            | Y         | 0.613976     | 0.599297     | 1.024 |
| 11th Floor | Wind-1          | Y         | 0.613976     | 0.599297     | 1.024 |
| 11th Floor | Wind+Modal      | Y         | 0.613976     | 0.599297     | 1.024 |
| 11th Floor | wind 1          | Y         | 0.613976     | 0.599297     | 1.024 |
| 11th Floor | wind -1         | Y         | 0.613976     | 0.599297     | 1.024 |
| 11th Floor | UDStIS1         | Y         | 0.275311     | 0.265944     | 1.035 |
| 11th Floor | UDStIS2         | Y         | 0.331626     | 0.321334     | 1.032 |
| 11th Floor | UDStIS3         | Y         | 0.909735     | 0.885613     | 1.027 |
| 11th Floor | UDStIS4         | Y         | 0.318516     | 0.313131     | 1.017 |
| 11th Floor | UDStIS5         | Y         | 0.790962     | 0.770261     | 1.027 |
| 11th Floor | UDStIS6         | Y         | 0.436991     | 0.428333     | 1.02  |
| 11th Floor | UDStID1         | Y         | 0.196651     | 0.18996      | 1.035 |
| 11th Floor | UDStID2         | Y         | 0.256429     | 0.248324     | 1.033 |
| 10th Floor | Dead            | Y         | 0.137049     | 0.125403     | 1.093 |
| 10th Floor | Live            | Y         | 0.043932     | 0.041414     | 1.061 |
| 10th Floor | Wind            | Y         | 0.433861     | 0.424057     | 1.023 |
| 10th Floor | Wind-1          | Y         | 0.433861     | 0.424057     | 1.023 |
| 10th Floor | Wind+Modal      | Y         | 0.433861     | 0.424057     | 1.023 |
| 10th Floor | wind 1          | Y         | 0.433861     | 0.424057     | 1.023 |
| 10th Floor | wind -1         | Y         | 0.433861     | 0.424057     | 1.023 |
| 10th Floor | UDStIS1         | Y         | 0.191869     | 0.175564     | 1.093 |
| 10th Floor | UDStIS2         | Y         | 0.23475      | 0.216746     | 1.083 |
| 10th Floor | UDStIS3         | Y         | 0.640397     | 0.615027     | 1.041 |
| 10th Floor | UDStIS4         | Y         | 0.239188     | 0.225366     | 1.061 |
| 10th Floor | UDStIS5         | Y         | 0.556246     | 0.536441     | 1.037 |
| 10th Floor | UDStIS6         | Y         | 0.312295     | 0.304443     | 1.026 |
| 10th Floor | UDStID1         | Y         | 0.137049     | 0.125403     | 1.093 |
| 10th Floor | UDStID2         | Y         | 0.180981     | 0.166817     | 1.085 |
| 9th Floor  | Dead            | Y         | 0.054396     | 0.042367     | 1.284 |
| 9th Floor  | Live            | Y         | 0.022144     | 0.019622     | 1.129 |
| 9th Floor  | Wind            | Y         | 0.166451     | 0.154537     | 1.077 |
| 9th Floor  | Wind-1          | Y         | 0.166451     | 0.154537     | 1.077 |
| 9th Floor  | Wind+Modal      | Y         | 0.166451     | 0.154537     | 1.077 |
| 9th Floor  | wind 1          | Y         | 0.166451     | 0.154537     | 1.077 |
| 9th Floor  | wind -1         | Y         | 0.166451     | 0.154537     | 1.077 |
| 9th Floor  | UDStIS1         | Y         | 0.076154     | 0.059314     | 1.284 |
| 9th Floor  | UDStIS2         | Y         | 0.100706     | 0.082236     | 1.225 |
| 9th Floor  | UDStIS3         | Y         | 0.253653     | 0.224892     | 1.128 |
| 9th Floor  | UDStIS4         | Y         | 0.089116     | 0.076967     | 1.158 |
| 9th Floor  | UDStIS5         | Y         | 0.21519      | 0.192559     | 1.118 |
| 9th Floor  | UDStIS6         | Y         | 0.118076     | 0.109593     | 1.077 |



**Table 5.3 - Story Max/Avg Drifts (continued)**

| Story     | Load Case/Combo | Direction | Max Drift in | Avg Drift in | Ratio |
|-----------|-----------------|-----------|--------------|--------------|-------|
| 9th Floor | UDStID1         | Y         | 0.054396     | 0.042367     | 1.284 |
| 9th Floor | UDStID2         | Y         | 0.07654      | 0.06199      | 1.235 |
| 8th Floor | Dead            | Y         | 0.102063     | 0.087501     | 1.166 |
| 8th Floor | Live            | Y         | 0.029334     | 0.02619      | 1.12  |
| 8th Floor | Wind            | Y         | 0.124987     | 0.107224     | 1.166 |
| 8th Floor | Wind-1          | Y         | 0.124987     | 0.107224     | 1.166 |
| 8th Floor | Wind+Modal      | Y         | 0.124987     | 0.107224     | 1.166 |
| 8th Floor | wind 1          | Y         | 0.124987     | 0.107224     | 1.166 |
| 8th Floor | wind -1         | Y         | 0.124987     | 0.107224     | 1.166 |
| 8th Floor | UDStIS1         | Y         | 0.142888     | 0.122501     | 1.166 |
| 8th Floor | UDStIS2         | Y         | 0.169409     | 0.146906     | 1.153 |
| 8th Floor | UDStIS3         | Y         | 0.276796     | 0.239771     | 1.154 |
| 8th Floor | UDStIS4         | Y         | 0.029816     | 0.02411      | 1.237 |
| 8th Floor | UDStIS5         | Y         | 0.216844     | 0.18733      | 1.158 |
| 8th Floor | UDStIS6         | Y         | 0.033131     | 0.02566      | 1.291 |
| 8th Floor | UDStID1         | Y         | 0.102063     | 0.087501     | 1.166 |
| 8th Floor | UDStID2         | Y         | 0.131396     | 0.113692     | 1.156 |
| 7th Floor | Dead            | Y         | 0.084095     | 0.075387     | 1.116 |
| 7th Floor | Live            | Y         | 0.024473     | 0.022827     | 1.072 |
| 7th Floor | Wind            | Y         | 0.097491     | 0.091066     | 1.071 |
| 7th Floor | Wind-1          | Y         | 0.097491     | 0.091066     | 1.071 |
| 7th Floor | Wind+Modal      | Y         | 0.097491     | 0.091066     | 1.071 |
| 7th Floor | wind 1          | Y         | 0.097491     | 0.091066     | 1.071 |
| 7th Floor | wind -1         | Y         | 0.097491     | 0.091066     | 1.071 |
| 7th Floor | UDStIS1         | Y         | 0.117734     | 0.105542     | 1.116 |
| 7th Floor | UDStIS2         | Y         | 0.140071     | 0.126989     | 1.103 |
| 7th Floor | UDStIS3         | Y         | 0.222879     | 0.204359     | 1.091 |
| 7th Floor | UDStIS4         | Y         | 0.027896     | 0.022226     | 1.255 |
| 7th Floor | UDStIS5         | Y         | 0.173177     | 0.158915     | 1.09  |
| 7th Floor | UDStIS6         | Y         | 0.024631     | 0.023218     | 1.061 |
| 7th Floor | UDStID1         | Y         | 0.084095     | 0.075387     | 1.116 |
| 7th Floor | UDStID2         | Y         | 0.108568     | 0.098215     | 1.105 |
| 6th Floor | Dead            | Y         | 0.05783      | 0.038473     | 1.503 |
| 6th Floor | Live            | Y         | 0.019609     | 0.015565     | 1.26  |
| 6th Floor | Wind            | Y         | 0.074315     | 0.06615      | 1.123 |
| 6th Floor | Wind-1          | Y         | 0.074315     | 0.06615      | 1.123 |
| 6th Floor | Wind+Modal      | Y         | 0.074315     | 0.06615      | 1.123 |
| 6th Floor | wind 1          | Y         | 0.074315     | 0.06615      | 1.123 |
| 6th Floor | wind -1         | Y         | 0.074315     | 0.06615      | 1.123 |
| 6th Floor | UDStIS1         | Y         | 0.080962     | 0.053862     | 1.503 |
| 6th Floor | UDStIS2         | Y         | 0.10077      | 0.071071     | 1.418 |
| 6th Floor | UDStIS3         | Y         | 0.16332      | 0.127882     | 1.277 |
| 6th Floor | UDStIS4         | Y         | 0.023526     | 0.004418     | 5.325 |
| 6th Floor | UDStIS5         | Y         | 0.126362     | 0.100776     | 1.254 |

**Table 5.3 - Story Max/Avg Drifts (continued)**

| Story     | Load Case/Combo | Direction | Max Drift in | Avg Drift in | Ratio |
|-----------|-----------------|-----------|--------------|--------------|-------|
| 6th Floor | UDStIS6         | Y         | 0.040781     | 0.031497     | 1.295 |
| 6th Floor | UDStID1         | Y         | 0.05783      | 0.038473     | 1.503 |
| 6th Floor | UDStID2         | Y         | 0.077439     | 0.054037     | 1.433 |
| 5th Floor | Dead            | Y         | 0.147084     | 0.128086     | 1.148 |
| 5th Floor | Live            | Y         | 0.038093     | 0.034105     | 1.117 |
| 5th Floor | Wind            | Y         | 0.0793       | 0.071199     | 1.114 |
| 5th Floor | Wind-1          | Y         | 0.0793       | 0.071199     | 1.114 |
| 5th Floor | Wind+Modal      | Y         | 0.0793       | 0.071199     | 1.114 |
| 5th Floor | wind 1          | Y         | 0.0793       | 0.071199     | 1.114 |
| 5th Floor | wind -1         | Y         | 0.0793       | 0.071199     | 1.114 |
| 5th Floor | UDStIS1         | Y         | 0.205918     | 0.17932      | 1.148 |
| 5th Floor | UDStIS2         | Y         | 0.237449     | 0.208271     | 1.14  |
| 5th Floor | UDStIS3         | Y         | 0.293893     | 0.259007     | 1.135 |
| 5th Floor | UDStIS4         | Y         | 0.135294     | 0.116609     | 1.16  |
| 5th Floor | UDStIS5         | Y         | 0.211675     | 0.186476     | 1.135 |
| 5th Floor | UDStIS6         | Y         | 0.053076     | 0.044078     | 1.204 |
| 5th Floor | UDStID1         | Y         | 0.147084     | 0.128086     | 1.148 |
| 5th Floor | UDStID2         | Y         | 0.185177     | 0.162191     | 1.142 |
| 4th Floor | Dead            | Y         | 0.110776     | 0.103645     | 1.069 |
| 4th Floor | Live            | Y         | 0.026546     | 0.02471      | 1.074 |
| 4th Floor | Wind            | Y         | 0.039271     | 0.033575     | 1.17  |
| 4th Floor | Wind-1          | Y         | 0.039271     | 0.033575     | 1.17  |
| 4th Floor | Wind+Modal      | Y         | 0.039271     | 0.033575     | 1.17  |
| 4th Floor | wind 1          | Y         | 0.039271     | 0.033575     | 1.17  |
| 4th Floor | wind -1         | Y         | 0.039271     | 0.033575     | 1.17  |
| 4th Floor | UDStIS1         | Y         | 0.155087     | 0.145103     | 1.069 |
| 4th Floor | UDStIS2         | Y         | 0.175406     | 0.16411      | 1.069 |
| 4th Floor | UDStIS3         | Y         | 0.198749     | 0.182936     | 1.086 |
| 4th Floor | UDStIS4         | Y         | 0.120206     | 0.113476     | 1.059 |
| 4th Floor | UDStIS5         | Y         | 0.13897      | 0.127064     | 1.094 |
| 4th Floor | UDStIS6         | Y         | 0.060427     | 0.057543     | 1.05  |
| 4th Floor | UDStID1         | Y         | 0.110776     | 0.103645     | 1.069 |
| 4th Floor | UDStID2         | Y         | 0.137323     | 0.12848      | 1.069 |
| 3rd Floor | Dead            | Y         | 0.044585     | 0.033469     | 1.332 |
| 3rd Floor | Live            | Y         | 0.013678     | 0.011186     | 1.223 |
| 3rd Floor | Wind            | Y         | 0.059634     | 0.055692     | 1.071 |
| 3rd Floor | Wind-1          | Y         | 0.059634     | 0.055692     | 1.071 |
| 3rd Floor | Wind+Modal      | Y         | 0.059634     | 0.055692     | 1.071 |
| 3rd Floor | wind 1          | Y         | 0.059634     | 0.055692     | 1.071 |
| 3rd Floor | wind -1         | Y         | 0.059634     | 0.055692     | 1.071 |
| 3rd Floor | UDStIS1         | Y         | 0.062419     | 0.046856     | 1.332 |
| 3rd Floor | UDStIS2         | Y         | 0.075386     | 0.058059     | 1.298 |
| 3rd Floor | UDStIS3         | Y         | 0.124841     | 0.106054     | 1.177 |
| 3rd Floor | UDStIS4         | Y         | 0.016234     | 0.002923     | 5.554 |

**Table 5.3 - Story Max/Avg Drifts (continued)**

| Story     | Load Case/Combo | Direction | Max Drift in | Avg Drift in | Ratio |
|-----------|-----------------|-----------|--------------|--------------|-------|
| 3rd Floor | UDStIS5         | Y         | 0.098377     | 0.085122     | 1.156 |
| 3rd Floor | UDStIS6         | Y         | 0.031633     | 0.024149     | 1.31  |
| 3rd Floor | UDStID1         | Y         | 0.044585     | 0.033469     | 1.332 |
| 3rd Floor | UDStID2         | Y         | 0.058263     | 0.044654     | 1.305 |
| 2nd Floor | Dead            | Y         | 0.195615     | 0.195314     | 1.002 |
| 2nd Floor | Live            | Y         | 0.058633     | 0.058555     | 1.001 |
| 2nd Floor | Wind            | Y         | 0.215172     | 0.214305     | 1.004 |
| 2nd Floor | Wind-1          | Y         | 0.215172     | 0.214305     | 1.004 |
| 2nd Floor | Wind+Modal      | Y         | 0.215172     | 0.214305     | 1.004 |
| 2nd Floor | wind 1          | Y         | 0.215172     | 0.214305     | 1.004 |
| 2nd Floor | wind -1         | Y         | 0.215172     | 0.214305     | 1.004 |
| 2nd Floor | UDStIS1         | Y         | 0.273861     | 0.273439     | 1.002 |
| 2nd Floor | UDStIS2         | Y         | 0.328551     | 0.328064     | 1.001 |
| 2nd Floor | UDStIS3         | Y         | 0.508433     | 0.507182     | 1.002 |
| 2nd Floor | UDStIS4         | Y         | 0.079053     | 0.078529     | 1.007 |
| 2nd Floor | UDStIS5         | Y         | 0.391115     | 0.390033     | 1.003 |
| 2nd Floor | UDStIS6         | Y         | 0.039246     | 0.038587     | 1.017 |
| 2nd Floor | UDStID1         | Y         | 0.195615     | 0.195314     | 1.002 |
| 2nd Floor | UDStID2         | Y         | 0.254248     | 0.253869     | 1.001 |
| 1st Floor | Dead            | Y         | 0.173757     | 0.167766     | 1.036 |
| 1st Floor | Live            | Y         | 0.051103     | 0.04971      | 1.028 |
| 1st Floor | Wind            | Y         | 0.175836     | 0.175058     | 1.004 |
| 1st Floor | Wind-1          | Y         | 0.175836     | 0.175058     | 1.004 |
| 1st Floor | Wind+Modal      | Y         | 0.175836     | 0.175058     | 1.004 |
| 1st Floor | wind 1          | Y         | 0.175836     | 0.175058     | 1.004 |
| 1st Floor | wind -1         | Y         | 0.175836     | 0.175058     | 1.004 |
| 1st Floor | UDStIS1         | Y         | 0.243259     | 0.234873     | 1.036 |
| 1st Floor | UDStIS2         | Y         | 0.290272     | 0.280856     | 1.034 |
| 1st Floor | UDStIS3         | Y         | 0.435282     | 0.426005     | 1.022 |
| 1st Floor | UDStIS4         | Y         | 0.083939     | 0.076055     | 1.104 |
| 1st Floor | UDStIS5         | Y         | 0.332052     | 0.325965     | 1.019 |
| 1st Floor | UDStIS6         | Y         | 0.028681     | 0.023986     | 1.196 |
| 1st Floor | UDStID1         | Y         | 0.173757     | 0.167766     | 1.036 |
| 1st Floor | UDStID2         | Y         | 0.224859     | 0.217477     | 1.034 |
| Cellar    | Dead            | Y         | 0.07875      | 0.074956     | 1.051 |
| Cellar    | Live            | Y         | 0.022984     | 0.022112     | 1.039 |
| Cellar    | Wind            | Y         | 0.077708     | 0.077313     | 1.005 |
| Cellar    | Wind-1          | Y         | 0.077708     | 0.077313     | 1.005 |
| Cellar    | Wind+Modal      | Y         | 0.077708     | 0.077313     | 1.005 |
| Cellar    | wind 1          | Y         | 0.077708     | 0.077313     | 1.005 |
| Cellar    | wind -1         | Y         | 0.077708     | 0.077313     | 1.005 |
| Cellar    | UDStIS1         | Y         | 0.11025      | 0.104939     | 1.051 |
| Cellar    | UDStIS2         | Y         | 0.131274     | 0.125327     | 1.047 |
| Cellar    | UDStIS3         | Y         | 0.194402     | 0.189065     | 1.028 |

**Table 5.3 - Story Max/Avg Drifts (continued)**

| Story  | Load Case/Combo | Direction | Max Drift in | Avg Drift in | Ratio |
|--------|-----------------|-----------|--------------|--------------|-------|
| Cellar | UDStIS4         | Y         | 0.040565     | 0.035054     | 1.157 |
| Cellar | UDStIS5         | Y         | 0.147794     | 0.144467     | 1.023 |
| Cellar | UDStIS6         | Y         | 0.013047     | 0.009545     | 1.367 |
| Cellar | UDStID1         | Y         | 0.07875      | 0.074956     | 1.051 |
| Cellar | UDStID2         | Y         | 0.101734     | 0.097068     | 1.048 |

**Table 5.4 - Story Forces**

| Story      | Load Case/Combo | Location | P kip    | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft   |
|------------|-----------------|----------|----------|--------|----------|-------------|-------------|-------------|
| 16th Floor | Dead            | Top      | 2439.863 | 0      | 0        | 0           | 104081.8669 | -188682     |
| 16th Floor | Dead            | Bottom   | 456.811  | 0      | -105.493 | -8158.1049  | 18752.3603  | -35326.5879 |
| 16th Floor | Live            | Top      | 526      | 0      | 0        | 0           | 22637.2477  | -40677.158  |
| 16th Floor | Live            | Bottom   | 66.95    | 0      | -24.285  | -1878.065   | 2852.6357   | -5177.4583  |
| 16th Floor | Wind            | Top      | 0        | 0      | -590.1   | -45634.2033 | 0           | 0           |
| 16th Floor | Wind            | Bottom   | -80.074  | 0      | -17.846  | -1380.1083  | 1678.8573   | 6192.342    |
| 16th Floor | Wind-1          | Top      | 0        | 0      | 590.1    | 45634.2033  | 0           | 0           |
| 16th Floor | Wind-1          | Bottom   | 80.074   | 0      | 17.846   | 1380.1083   | -1678.8573  | -6192.342   |
| 16th Floor | Wind+Modal      | Top      | 0        | 0      | -590.1   | -45634.2033 | 0           | 0           |
| 16th Floor | Wind+Modal      | Bottom   | -80.074  | 0      | -17.846  | -1380.1083  | 1678.8573   | 6192.342    |
| 16th Floor | wind 1          | Top      | 0        | 0      | -590.1   | -45634.2033 | 0           | 0           |
| 16th Floor | wind 1          | Bottom   | -80.074  | 0      | -17.846  | -1380.1083  | 1678.8573   | 6192.342    |
| 16th Floor | wind -1         | Top      | 0        | 0      | 590.1    | 45634.2033  | 0           | 0           |
| 16th Floor | wind -1         | Bottom   | 80.074   | 0      | 17.846   | 1380.1083   | -1678.8573  | -6192.342   |
| 16th Floor | UDStIS1         | Top      | 3415.808 | 0      | 0        | 0           | 145714.6137 | -264155     |
| 16th Floor | UDStIS1         | Bottom   | 639.536  | 0      | -147.69  | -11421.3468 | 26253.3044  | -49457.223  |
| 16th Floor | UDStIS2         | Top      | 3769.436 | 0      | 0        | 0           | 161117.8366 | -291502     |
| 16th Floor | UDStIS2         | Bottom   | 655.294  | 0      | -165.449 | -12794.6298 | 27067.0495  | -50675.8388 |
| 16th Floor | UDStIS3         | Top      | 3453.836 | 0      | -590.1   | -45634.2033 | 147535.488  | -267095     |
| 16th Floor | UDStIS3         | Bottom   | 535.05   | 0      | -168.724 | -13047.8991 | 27034.3253  | -41377.0218 |
| 16th Floor | UDStIS4         | Top      | 3453.836 | 0      | 590.1    | 45634.2033  | 147535.488  | -267095     |
| 16th Floor | UDStIS4         | Bottom   | 695.197  | 0      | -133.031 | -10287.6825 | 23676.6108  | -53761.7058 |
| 16th Floor | UDStIS5         | Top      | 2195.877 | 0      | -590.1   | -45634.2033 | 93673.6802  | -169814     |
| 16th Floor | UDStIS5         | Bottom   | 331.056  | 0      | -112.79  | -8722.4027  | 18555.9815  | -25601.5871 |
| 16th Floor | UDStIS6         | Top      | 2195.877 | 0      | 590.1    | 45634.2033  | 93673.6802  | -169814     |
| 16th Floor | UDStIS6         | Bottom   | 491.204  | 0      | -77.098  | -5962.1861  | 15198.267   | -37986.271  |
| 16th Floor | UDStID1         | Top      | 2439.863 | 0      | 0        | 0           | 104081.8669 | -188682     |
| 16th Floor | UDStID1         | Bottom   | 456.811  | 0      | -105.493 | -8158.1049  | 18752.3603  | -35326.5879 |
| 16th Floor | UDStID2         | Top      | 2965.863 | 0      | 0        | 0           | 126719.1146 | -229359     |
| 16th Floor | UDStID2         | Bottom   | 523.761  | 0      | -129.779 | -10036.1699 | 21604.996   | -40504.0462 |
| 15th Floor | Dead            | Top      | 821.811  | 0      | -105.493 | -8158.1049  | 35773.0163  | -63553.1329 |
| 15th Floor | Dead            | Bottom   | 896.642  | 0      | -105.493 | -8158.1049  | 40119.2713  | -69340.0384 |
| 15th Floor | Live            | Top      | 149.95   | 0      | -24.285  | -1878.065   | 6817.3157   | -11596.0973 |
| 15th Floor | Live            | Bottom   | 149.95   | 0      | -24.285  | -1878.065   | 7028.8418   | -11596.0973 |
| 15th Floor | Wind            | Top      | -80.074  | 0      | -202.846 | -15686.7133 | 1678.8573   | 6192.342    |

Table 5.4 - Story Forces (continued)

| Story      | Load Case/Combo | Location | P kip    | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft   |
|------------|-----------------|----------|----------|--------|----------|-------------|-------------|-------------|
| 15th Floor | Wind            | Bottom   | -80.074  | 0      | -202.846 | -15686.7133 | 3445.6486   | 6192.342    |
| 15th Floor | Wind-1          | Top      | 80.074   | 0      | 202.846  | 15686.7133  | -1678.8573  | -6192.342   |
| 15th Floor | Wind-1          | Bottom   | 80.074   | 0      | 202.846  | 15686.7133  | -3445.6486  | -6192.342   |
| 15th Floor | Wind+Modal      | Top      | -80.074  | 0      | -202.846 | -15686.7133 | 1678.8573   | 6192.342    |
| 15th Floor | Wind+Modal      | Bottom   | -80.074  | 0      | -202.846 | -15686.7133 | 3445.6486   | 6192.342    |
| 15th Floor | wind 1          | Top      | -80.074  | 0      | -202.846 | -15686.7133 | 1678.8573   | 6192.342    |
| 15th Floor | wind 1          | Bottom   | -80.074  | 0      | -202.846 | -15686.7133 | 3445.6486   | 6192.342    |
| 15th Floor | wind -1         | Top      | 80.074   | 0      | 202.846  | 15686.7133  | -1678.8573  | -6192.342   |
| 15th Floor | wind -1         | Bottom   | 80.074   | 0      | 202.846  | 15686.7133  | -3445.6486  | -6192.342   |
| 15th Floor | UDStIS1         | Top      | 1150.536 | 0      | -147.69  | -11421.3468 | 50082.2228  | -88974.386  |
| 15th Floor | UDStIS1         | Bottom   | 1255.299 | 0      | -147.69  | -11421.3468 | 56166.9798  | -97076.0537 |
| 15th Floor | UDStIS2         | Top      | 1226.094 | 0      | -165.449 | -12794.6298 | 53835.3247  | -94817.5152 |
| 15th Floor | UDStIS2         | Bottom   | 1315.891 | 0      | -165.449 | -12794.6298 | 59389.2724  | -101762     |
| 15th Floor | UDStIS3         | Top      | 1056.05  | 0      | -353.724 | -27354.5041 | 51423.7925  | -81667.5148 |
| 15th Floor | UDStIS3         | Bottom   | 1145.847 | 0      | -353.724 | -27354.5041 | 58617.616   | -88611.8015 |
| 15th Floor | UDStIS4         | Top      | 1216.197 | 0      | 51.969   | 4018.9225   | 48066.078   | -94052.1988 |
| 15th Floor | UDStIS4         | Bottom   | 1305.995 | 0      | 51.969   | 4018.9225   | 51726.3188  | -100996     |
| 15th Floor | UDStIS5         | Top      | 659.556  | 0      | -297.79  | -23029.0077 | 33874.5719  | -51005.4776 |
| 15th Floor | UDStIS5         | Bottom   | 726.904  | 0      | -297.79  | -23029.0077 | 39552.9928  | -56213.6926 |
| 15th Floor | UDStIS6         | Top      | 819.704  | 0      | 107.902  | 8344.4189   | 30516.8574  | -63390.1615 |
| 15th Floor | UDStIS6         | Bottom   | 887.052  | 0      | 107.902  | 8344.4189   | 32661.6956  | -68598.3765 |
| 15th Floor | UDStID1         | Top      | 821.811  | 0      | -105.493 | -8158.1049  | 35773.0163  | -63553.1329 |
| 15th Floor | UDStID1         | Bottom   | 896.642  | 0      | -105.493 | -8158.1049  | 40119.2713  | -69340.0384 |
| 15th Floor | UDStID2         | Top      | 971.761  | 0      | -129.779 | -10036.1699 | 42590.332   | -75149.2302 |
| 15th Floor | UDStID2         | Bottom   | 1046.592 | 0      | -129.779 | -10036.1699 | 47148.1131  | -80936.1357 |
| 14th Floor | Dead            | Top      | 3568.131 | 0      | 0        | 0           | 160949.0452 | -275934     |
| 14th Floor | Dead            | Bottom   | 1401.161 | 0      | -28.665  | -2216.7699  | 67200.3975  | -108356     |
| 14th Floor | Live            | Top      | 758      | 0      | 0        | 0           | 34761.042   | -58618.414  |
| 14th Floor | Live            | Bottom   | 250.9    | 0      | -6.909   | -534.3048   | 12793.8414  | -19402.8841 |
| 14th Floor | Wind            | Top      | 0        | 0      | -962     | -74394.346  | 11890.892   | 0           |
| 14th Floor | Wind            | Bottom   | -533.387 | 0      | -18.685  | -1444.9383  | -2878.3478  | 41248.425   |
| 14th Floor | Wind-1          | Top      | 0        | 0      | 962      | 74394.346   | -11890.892  | 0           |
| 14th Floor | Wind-1          | Bottom   | 533.387  | 0      | 18.685   | 1444.9383   | 2878.3478   | -41248.425  |
| 14th Floor | Wind+Modal      | Top      | 0        | 0      | -962     | -74394.346  | 11890.892   | 0           |
| 14th Floor | Wind+Modal      | Bottom   | -533.387 | 0      | -18.685  | -1444.9383  | -2878.3478  | 41248.425   |
| 14th Floor | wind 1          | Top      | 0        | 0      | -962     | -74394.346  | 11890.892   | 0           |
| 14th Floor | wind 1          | Bottom   | -533.387 | 0      | -18.685  | -1444.9383  | -2878.3478  | 41248.425   |
| 14th Floor | wind -1         | Top      | 0        | 0      | 962      | 74394.346   | -11890.892  | 0           |
| 14th Floor | wind -1         | Bottom   | 533.387  | 0      | 18.685   | 1444.9383   | 2878.3478   | -41248.425  |
| 14th Floor | UDStIS1         | Top      | 4995.383 | 0      | 0        | 0           | 225328.6633 | -386308     |
| 14th Floor | UDStIS1         | Bottom   | 1961.625 | 0      | -40.131  | -3103.4778  | 94080.5565  | -151698     |
| 14th Floor | UDStIS2         | Top      | 5494.557 | 0      | 0        | 0           | 248756.5214 | -424911     |
| 14th Floor | UDStIS2         | Bottom   | 2082.834 | 0      | -45.453  | -3515.0115  | 101110.6232 | -161072     |
| 14th Floor | UDStIS3         | Top      | 5039.757 | 0      | -962     | -74394.346  | 239790.7882 | -389740     |
| 14th Floor | UDStIS3         | Bottom   | 1398.906 | 0      | -59.992  | -4639.367   | 90555.9706  | -108182     |

Table 5.4 - Story Forces (continued)

| Story      | Load Case/Combo | Location | P kip     | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft   |
|------------|-----------------|----------|-----------|--------|----------|-------------|-------------|-------------|
| 14th Floor | UDStIS4         | Top      | 5039.757  | 0      | 962      | 74394.346   | 216009.0042 | -389740     |
| 14th Floor | UDStIS4         | Bottom   | 2465.681  | 0      | -22.623  | -1749.4903  | 96312.6662  | -190678     |
| 14th Floor | UDStIS5         | Top      | 3211.318  | 0      | -962     | -74394.346  | 156745.0327 | -248341     |
| 14th Floor | UDStIS5         | Bottom   | 727.658   | 0      | -44.483  | -3440.0312  | 57602.0099  | -56271.9503 |
| 14th Floor | UDStIS6         | Top      | 3211.318  | 0      | 962      | 74394.346   | 132963.2487 | -248341     |
| 14th Floor | UDStIS6         | Bottom   | 1794.432  | 0      | -7.114   | -550.1545   | 63358.7055  | -138769     |
| 14th Floor | UDStID1         | Top      | 3568.131  | 0      | 0        | 0           | 160949.0452 | -275934     |
| 14th Floor | UDStID1         | Bottom   | 1401.161  | 0      | -28.665  | -2216.7699  | 67200.3975  | -108356     |
| 14th Floor | UDStID2         | Top      | 4326.131  | 0      | 0        | 0           | 195710.0872 | -334553     |
| 14th Floor | UDStID2         | Bottom   | 1652.061  | 0      | -35.574  | -2751.0747  | 79994.2389  | -127759     |
| 13th Floor | Dead            | Top      | 1401.161  | 0      | -28.665  | -2216.7699  | 67200.3975  | -108356     |
| 13th Floor | Dead            | Bottom   | 1475.966  | 0      | -28.665  | -2216.7699  | 70876.2146  | -114141     |
| 13th Floor | Live            | Top      | 250.9     | 0      | -6.909   | -534.3048   | 12793.8414  | -19402.8841 |
| 13th Floor | Live            | Bottom   | 250.9     | 0      | -6.909   | -534.3048   | 12853.9993  | -19402.8841 |
| 13th Floor | Wind            | Top      | -533.387  | 0      | -200.685 | -15519.5443 | -2878.3478  | 41248.425   |
| 13th Floor | Wind            | Bottom   | -533.387  | 0      | -200.685 | -15519.5443 | -1130.9867  | 41248.425   |
| 13th Floor | Wind-1          | Top      | 533.387   | 0      | 200.685  | 15519.5443  | 2878.3478   | -41248.425  |
| 13th Floor | Wind-1          | Bottom   | 533.387   | 0      | 200.685  | 15519.5443  | 1130.9867   | -41248.425  |
| 13th Floor | Wind+Modal      | Top      | -533.387  | 0      | -200.685 | -15519.5443 | -2878.3478  | 41248.425   |
| 13th Floor | Wind+Modal      | Bottom   | -533.387  | 0      | -200.685 | -15519.5443 | -1130.9867  | 41248.425   |
| 13th Floor | wind 1          | Top      | -533.387  | 0      | -200.685 | -15519.5443 | -2878.3478  | 41248.425   |
| 13th Floor | wind 1          | Bottom   | -533.387  | 0      | -200.685 | -15519.5443 | -1130.9867  | 41248.425   |
| 13th Floor | wind -1         | Top      | 533.387   | 0      | 200.685  | 15519.5443  | 2878.3478   | -41248.425  |
| 13th Floor | wind -1         | Bottom   | 533.387   | 0      | 200.685  | 15519.5443  | 1130.9867   | -41248.425  |
| 13th Floor | UDStIS1         | Top      | 1961.625  | 0      | -40.131  | -3103.4778  | 94080.5565  | -151698     |
| 13th Floor | UDStIS1         | Bottom   | 2066.353  | 0      | -40.131  | -3103.4778  | 99226.7005  | -159797     |
| 13th Floor | UDStIS2         | Top      | 2082.834  | 0      | -45.453  | -3515.0115  | 101110.6232 | -161072     |
| 13th Floor | UDStIS2         | Bottom   | 2172.6    | 0      | -45.453  | -3515.0115  | 105617.8565 | -168014     |
| 13th Floor | UDStIS3         | Top      | 1398.906  | 0      | -241.992 | -18713.973  | 90555.9706  | -108182     |
| 13th Floor | UDStIS3         | Bottom   | 1488.673  | 0      | -241.992 | -18713.973  | 96774.4702  | -115124     |
| 13th Floor | UDStIS4         | Top      | 2465.681  | 0      | 159.377  | 12325.1157  | 96312.6662  | -190678     |
| 13th Floor | UDStIS4         | Bottom   | 2555.447  | 0      | 159.377  | 12325.1157  | 99036.4436  | -197620     |
| 13th Floor | UDStIS5         | Top      | 727.658   | 0      | -226.483 | -17514.6372 | 57602.0099  | -56271.9503 |
| 13th Floor | UDStIS5         | Bottom   | 794.982   | 0      | -226.483 | -17514.6372 | 62657.6064  | -61478.3714 |
| 13th Floor | UDStIS6         | Top      | 1794.432  | 0      | 174.886  | 13524.4515  | 63358.7055  | -138769     |
| 13th Floor | UDStIS6         | Bottom   | 1861.757  | 0      | 174.886  | 13524.4515  | 64919.5799  | -143975     |
| 13th Floor | UDStID1         | Top      | 1401.161  | 0      | -28.665  | -2216.7699  | 67200.3975  | -108356     |
| 13th Floor | UDStID1         | Bottom   | 1475.966  | 0      | -28.665  | -2216.7699  | 70876.2146  | -114141     |
| 13th Floor | UDStID2         | Top      | 1652.061  | 0      | -35.574  | -2751.0747  | 79994.2389  | -127759     |
| 13th Floor | UDStID2         | Bottom   | 1726.867  | 0      | -35.574  | -2751.0747  | 83730.214   | -133544     |
| 12th Floor | Dead            | Top      | 20649.369 | 0      | 0        | 0           | 1031814     | -1596878    |
| 12th Floor | Dead            | Bottom   | 20830.735 | 0      | 0        | 0           | 1039858     | -1610903    |
| 12th Floor | Live            | Top      | 4953      | 0      | 0        | 0           | 257963.3817 | -383030     |
| 12th Floor | Live            | Bottom   | 4953      | 0      | 0        | 0           | 257963.3817 | -383030     |
| 12th Floor | Wind            | Top      | 0         | 0      | -1345    | -104013     | 30230.72    | 0           |

Table 5.4 - Story Forces (continued)

| Story      | Load Case/Combo | Location | P kip     | VX kip | VY kip  | T kip-ft    | MX kip-ft   | MY kip-ft |
|------------|-----------------|----------|-----------|--------|---------|-------------|-------------|-----------|
| 12th Floor | Wind            | Bottom   | 0         | 0      | -1345   | -104013     | 53655.24    | 0         |
| 12th Floor | Wind-1          | Top      | 0         | 0      | 1345    | 104012.885  | -30230.72   | 0         |
| 12th Floor | Wind-1          | Bottom   | 0         | 0      | 1345    | 104012.885  | -53655.24   | 0         |
| 12th Floor | Wind+Modal      | Top      | 0         | 0      | -1345   | -104013     | 30230.72    | 0         |
| 12th Floor | Wind+Modal      | Bottom   | 0         | 0      | -1345   | -104013     | 53655.24    | 0         |
| 12th Floor | wind 1          | Top      | 0         | 0      | -1345   | -104013     | 30230.72    | 0         |
| 12th Floor | wind 1          | Bottom   | 0         | 0      | -1345   | -104013     | 53655.24    | 0         |
| 12th Floor | wind -1         | Top      | 0         | 0      | 1345    | 104012.885  | -30230.72   | 0         |
| 12th Floor | wind -1         | Bottom   | 0         | 0      | 1345    | 104012.885  | -53655.24   | 0         |
| 12th Floor | UDStIS1         | Top      | 28909.117 | 0      | 0       | 0           | 1444539     | -2235629  |
| 12th Floor | UDStIS1         | Bottom   | 29163.028 | 0      | 0       | 0           | 1455802     | -2255264  |
| 12th Floor | UDStIS2         | Top      | 32704.043 | 0      | 0       | -5.463E-07  | 1650918     | -2529102  |
| 12th Floor | UDStIS2         | Bottom   | 32921.682 | 0      | 0       | -6.009E-07  | 1660571     | -2545932  |
| 12th Floor | UDStIS3         | Top      | 29732.243 | 0      | -1345   | -104013     | 1526370     | -2299284  |
| 12th Floor | UDStIS3         | Bottom   | 29949.882 | 0      | -1345   | -104013     | 1559448     | -2316114  |
| 12th Floor | UDStIS4         | Top      | 29732.243 | 0      | 1345    | 104012.885  | 1465909     | -2299284  |
| 12th Floor | UDStIS4         | Bottom   | 29949.882 | 0      | 1345    | 104012.885  | 1452138     | -2316114  |
| 12th Floor | UDStIS5         | Top      | 18584.432 | 0      | -1345   | -104013     | 958863.0149 | -1437190  |
| 12th Floor | UDStIS5         | Bottom   | 18747.661 | 0      | -1345   | -104013     | 989527.6477 | -1449813  |
| 12th Floor | UDStIS6         | Top      | 18584.432 | 0      | 1345    | 104012.885  | 898401.5749 | -1437190  |
| 12th Floor | UDStIS6         | Bottom   | 18747.661 | 0      | 1345    | 104012.885  | 882217.1677 | -1449813  |
| 12th Floor | UDStID1         | Top      | 20649.369 | 0      | 0       | 0           | 1031814     | -1596878  |
| 12th Floor | UDStID1         | Bottom   | 20830.735 | 0      | 0       | 0           | 1039858     | -1610903  |
| 12th Floor | UDStID2         | Top      | 25602.369 | 0      | 0       | 0           | 1289777     | -1979908  |
| 12th Floor | UDStID2         | Bottom   | 25783.735 | 0      | 0       | 0           | 1297822     | -1993934  |
| 11th Floor | Dead            | Top      | 21151.598 | 0      | 0       | 0           | 1053999     | -1635717  |
| 11th Floor | Dead            | Bottom   | 21332.973 | 0      | 0       | 0           | 1062044     | -1649743  |
| 11th Floor | Live            | Top      | 5039      | 0      | 0       | 0           | 261743.7983 | -389681   |
| 11th Floor | Live            | Bottom   | 5039      | 0      | 0       | 0           | 261743.7983 | -389681   |
| 11th Floor | Wind            | Top      | 0         | 0      | -1557.1 | -120415     | 53655.24    | 0         |
| 11th Floor | Wind            | Bottom   | 0         | 0      | -1557.1 | -120415     | 80775.2507  | 0         |
| 11th Floor | Wind-1          | Top      | 0         | 0      | 1557.1  | 120415.2143 | -53655.24   | 0         |
| 11th Floor | Wind-1          | Bottom   | 0         | 0      | 1557.1  | 120415.2143 | -80775.2507 | 0         |
| 11th Floor | Wind+Modal      | Top      | 0         | 0      | -1557.1 | -120415     | 53655.24    | 0         |
| 11th Floor | Wind+Modal      | Bottom   | 0         | 0      | -1557.1 | -120415     | 80775.2507  | 0         |
| 11th Floor | wind 1          | Top      | 0         | 0      | -1557.1 | -120415     | 53655.24    | 0         |
| 11th Floor | wind 1          | Bottom   | 0         | 0      | -1557.1 | -120415     | 80775.2507  | 0         |
| 11th Floor | wind -1         | Top      | 0         | 0      | 1557.1  | 120415.2143 | -53655.24   | 0         |
| 11th Floor | wind -1         | Bottom   | 0         | 0      | 1557.1  | 120415.2143 | -80775.2507 | 0         |
| 11th Floor | UDStIS1         | Top      | 29612.237 | 0      | 0       | 0           | 1475599     | -2290003  |
| 11th Floor | UDStIS1         | Bottom   | 29866.162 | 0      | 0       | -5.091E-07  | 1486862     | -2309640  |
| 11th Floor | UDStIS2         | Top      | 33444.317 | 0      | 0       | -5.583E-07  | 1683589     | -2586349  |
| 11th Floor | UDStIS2         | Bottom   | 33661.968 | 0      | 0       | -6.163E-07  | 1693243     | -2603181  |
| 11th Floor | UDStIS3         | Top      | 30420.917 | 0      | -1557.1 | -120415     | 1580198     | -2352541  |
| 11th Floor | UDStIS3         | Bottom   | 30638.568 | 0      | -1557.1 | -120415     | 1616972     | -2369372  |



Table 5.4 - Story Forces (continued)

| Story      | Load Case/Combo | Location | P kip     | VX kip | VY kip  | T kip-ft    | MX kip-ft   | MY kip-ft  |
|------------|-----------------|----------|-----------|--------|---------|-------------|-------------|------------|
| 11th Floor | UDStIS4         | Top      | 30420.917 | 0      | 1557.1  | 120415.2143 | 1472888     | -2352541   |
| 11th Floor | UDStIS4         | Bottom   | 30638.568 | 0      | 1557.1  | 120415.2143 | 1455422     | -2369372   |
| 11th Floor | UDStIS5         | Top      | 19036.438 | 0      | -1557.1 | -120415     | 1002255     | -1472145   |
| 11th Floor | UDStIS5         | Bottom   | 19199.676 | 0      | -1557.1 | -120415     | 1036615     | -1484769   |
| 11th Floor | UDStIS6         | Top      | 19036.438 | 0      | 1557.1  | 120415.2143 | 894944.2776 | -1472145   |
| 11th Floor | UDStIS6         | Bottom   | 19199.676 | 0      | 1557.1  | 120415.2143 | 875064.7758 | -1484769   |
| 11th Floor | UDStID1         | Top      | 21151.598 | 0      | 0       | 0           | 1053999     | -1635717   |
| 11th Floor | UDStID1         | Bottom   | 21332.973 | 0      | 0       | 0           | 1062044     | -1649743   |
| 11th Floor | UDStID2         | Top      | 26190.598 | 0      | 0       | 0           | 1315743     | -2025398   |
| 11th Floor | UDStID2         | Bottom   | 26371.973 | 0      | 0       | 0           | 1323788     | -2039424   |
| 10th Floor | Dead            | Top      | 23332.836 | 0      | 0       | 0           | 1114156     | -1804398   |
| 10th Floor | Dead            | Bottom   | 23500.402 | 0      | 0       | 0           | 1121578     | -1817357   |
| 10th Floor | Live            | Top      | 5554      | 0      | 0       | 0           | 276480.9613 | -429507    |
| 10th Floor | Live            | Bottom   | 5554      | 0      | 0       | 0           | 276480.9613 | -429507    |
| 10th Floor | Wind            | Top      | 0         | 0      | -1609   | -124429     | 80775.2507  | 1.491E-06  |
| 10th Floor | Wind            | Bottom   | 0         | 0      | -1609   | -124429     | 106519.2507 | 1.494E-06  |
| 10th Floor | Wind-1          | Top      | 0         | 0      | 1609    | 124428.797  | -80775.2507 | -1.491E-06 |
| 10th Floor | Wind-1          | Bottom   | 0         | 0      | 1609    | 124428.797  | -106519     | -1.494E-06 |
| 10th Floor | Wind+Modal      | Top      | 0         | 0      | -1609   | -124429     | 80775.2507  | 1.485E-06  |
| 10th Floor | Wind+Modal      | Bottom   | 0         | 0      | -1609   | -124429     | 106519.2507 | 1.488E-06  |
| 10th Floor | wind 1          | Top      | 0         | 0      | -1609   | -124429     | 80775.2507  | 1.491E-06  |
| 10th Floor | wind 1          | Bottom   | 0         | 0      | -1609   | -124429     | 106519.2507 | 1.494E-06  |
| 10th Floor | wind -1         | Top      | 0         | 0      | 1609    | 124428.797  | -80775.2507 | -1.491E-06 |
| 10th Floor | wind -1         | Bottom   | 0         | 0      | 1609    | 124428.797  | -106519     | -1.494E-06 |
| 10th Floor | UDStIS1         | Top      | 32665.971 | 0      | 0       | -5.99E-07   | 1559819     | -2526158   |
| 10th Floor | UDStIS1         | Bottom   | 32900.563 | 0      | 0       | -5.948E-07  | 1570210     | -2544299   |
| 10th Floor | UDStIS2         | Top      | 36885.803 | 0      | 0       | -7.231E-07  | 1779357     | -2852490   |
| 10th Floor | UDStIS2         | Bottom   | 37086.883 | 0      | 0       | -7.225E-07  | 1788263     | -2868040   |
| 10th Floor | UDStIS3         | Top      | 33553.403 | 0      | -1609   | -124429     | 1694244     | -2594785   |
| 10th Floor | UDStIS3         | Bottom   | 33754.483 | 0      | -1609   | -124429     | 1728894     | -2610335   |
| 10th Floor | UDStIS4         | Top      | 33553.403 | 0      | 1609    | 124428.797  | 1532693     | -2594785   |
| 10th Floor | UDStIS4         | Bottom   | 33754.483 | 0      | 1609    | 124428.797  | 1515856     | -2610335   |
| 10th Floor | UDStIS5         | Top      | 20999.553 | 0      | -1609   | -124429     | 1083516     | -1623958   |
| 10th Floor | UDStIS5         | Bottom   | 21150.362 | 0      | -1609   | -124429     | 1115940     | -1635621   |
| 10th Floor | UDStIS6         | Top      | 20999.553 | 0      | 1609    | 124428.797  | 921965.4482 | -1623958   |
| 10th Floor | UDStIS6         | Bottom   | 21150.362 | 0      | 1609    | 124428.797  | 902901.2178 | -1635621   |
| 10th Floor | UDStID1         | Top      | 23332.836 | 0      | 0       | 0           | 1114156     | -1804398   |
| 10th Floor | UDStID1         | Bottom   | 23500.402 | 0      | 0       | 0           | 1121578     | -1817357   |
| 10th Floor | UDStID2         | Top      | 28886.836 | 0      | 0       | -5.589E-07  | 1390637     | -2233906   |
| 10th Floor | UDStID2         | Bottom   | 29054.402 | 0      | 0       | -5.578E-07  | 1398059     | -2246864   |
| 9th Floor  | Dead            | Top      | 24556.266 | 0      | 206.295 | 15953.4087  | 1163918     | -1899010   |
| 9th Floor  | Dead            | Bottom   | 24721.399 | 0      | 206.295 | 15953.4087  | 1168360     | -1911780   |
| 9th Floor  | Live            | Top      | 5974      | 0      | 60.856  | 4706.1842   | 295996.453  | -461987    |
| 9th Floor  | Live            | Bottom   | 5974      | 0      | 60.856  | 4706.1842   | 295083.6116 | -461987    |
| 9th Floor  | Wind            | Top      | 0         | 0      | 208.374 | 16114.1535  | 106519.2507 | 1.974E-06  |



Table 5.4 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft   |
|-----------|-----------------|----------|-----------|--------|----------|-------------|-------------|-------------|
| 9th Floor | Wind            | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 103393.6471 | 1.976E-06   |
| 9th Floor | Wind-1          | Top      | 0         | 0      | -208.374 | -16114.1535 | -106519     | -1.974E-06  |
| 9th Floor | Wind-1          | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -103394     | -1.976E-06  |
| 9th Floor | Wind+Modal      | Top      | 0         | 0      | 208.374  | 16114.1535  | 106519.2507 | 1.968E-06   |
| 9th Floor | Wind+Modal      | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 103393.6471 | 1.97E-06    |
| 9th Floor | wind 1          | Top      | 0         | 0      | 208.374  | 16114.1535  | 106519.2507 | 1.974E-06   |
| 9th Floor | wind 1          | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 103393.6471 | 1.976E-06   |
| 9th Floor | wind -1         | Top      | 0         | 0      | -208.374 | -16114.1535 | -106519     | -1.974E-06  |
| 9th Floor | wind -1         | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -103394     | -1.976E-06  |
| 9th Floor | UDStIS1         | Top      | 34378.772 | 0      | 288.813  | 22334.7722  | 1629485     | -2658614    |
| 9th Floor | UDStIS1         | Bottom   | 34609.959 | 0      | 288.813  | 22334.7722  | 1635704     | -2676492    |
| 9th Floor | UDStIS2         | Top      | 39025.919 | 0      | 344.924  | 26673.9852  | 1870296     | -3017991    |
| 9th Floor | UDStIS2         | Bottom   | 39224.079 | 0      | 344.924  | 26673.9852  | 1874166     | -3033316    |
| 9th Floor | UDStIS3         | Top      | 35441.519 | 0      | 516.784  | 39964.4281  | 1799217     | -2740799    |
| 9th Floor | UDStIS3         | Bottom   | 35639.679 | 0      | 516.784  | 39964.4281  | 1800509     | -2756123    |
| 9th Floor | UDStIS4         | Top      | 35441.519 | 0      | 100.036  | 7736.1212   | 1586179     | -2740799    |
| 9th Floor | UDStIS4         | Bottom   | 35639.679 | 0      | 100.036  | 7736.1212   | 1593722     | -2756123    |
| 9th Floor | UDStIS5         | Top      | 22100.639 | 0      | 394.039  | 30472.2213  | 1154046     | -1709109    |
| 9th Floor | UDStIS5         | Bottom   | 22249.259 | 0      | 394.039  | 30472.2213  | 1154918     | -1720602    |
| 9th Floor | UDStIS6         | Top      | 22100.639 | 0      | -22.708  | -1756.0856  | 941007.0113 | -1709109    |
| 9th Floor | UDStIS6         | Bottom   | 22249.259 | 0      | -22.708  | -1756.0856  | 948130.3575 | -1720602    |
| 9th Floor | UDStID1         | Top      | 24556.266 | 0      | 206.295  | 15953.4087  | 1163918     | -1899010    |
| 9th Floor | UDStID1         | Bottom   | 24721.399 | 0      | 206.295  | 15953.4087  | 1168360     | -1911780    |
| 9th Floor | UDStID2         | Top      | 30530.266 | 0      | 267.151  | 20659.5929  | 1459915     | -2360997    |
| 9th Floor | UDStID2         | Bottom   | 30695.399 | 0      | 267.151  | 20659.5929  | 1463444     | -2373767    |
| 8th Floor | Dead            | Top      | 24957.262 | 0      | 206.295  | 15953.4087  | 1176320     | -1930020    |
| 8th Floor | Dead            | Bottom   | 24455.964 | 0      | -343.082 | -26531.5894 | 1158643     | -1891253    |
| 8th Floor | Live            | Top      | 6023      | 0      | 60.856   | 4706.1842   | 296465.7356 | -465777     |
| 8th Floor | Live            | Bottom   | 5872.04   | 0      | -72.494  | -5606.2151  | 290710.2995 | -454102     |
| 8th Floor | Wind            | Top      | 0         | 0      | 208.374  | 16114.1535  | 103393.6471 | 2.505E-06   |
| 8th Floor | Wind            | Bottom   | -484.837  | 0      | -219.907 | -17006.1011 | 84751.9997  | 37493.9289  |
| 8th Floor | Wind-1          | Top      | 0         | 0      | -208.374 | -16114.1535 | -103394     | -2.505E-06  |
| 8th Floor | Wind-1          | Bottom   | 484.837   | 0      | 219.907  | 17006.1011  | -84751.9997 | -37493.9289 |
| 8th Floor | Wind+Modal      | Top      | 0         | 0      | 208.374  | 16114.1535  | 103393.6471 | 2.499E-06   |
| 8th Floor | Wind+Modal      | Bottom   | -484.837  | 0      | -219.907 | -17006.1011 | 84751.9997  | 37493.9289  |
| 8th Floor | wind 1          | Top      | 0         | 0      | 208.374  | 16114.1535  | 103393.6471 | 2.505E-06   |
| 8th Floor | wind 1          | Bottom   | -484.837  | 0      | -219.907 | -17006.1011 | 84751.9997  | 37493.9289  |
| 8th Floor | wind -1         | Top      | 0         | 0      | -208.374 | -16114.1535 | -103394     | -2.505E-06  |
| 8th Floor | wind -1         | Bottom   | 484.837   | 0      | 219.907  | 17006.1011  | -84751.9997 | -37493.9289 |
| 8th Floor | UDStIS1         | Top      | 34940.167 | 0      | 288.813  | 22334.7722  | 1646848     | -2702028    |
| 8th Floor | UDStIS1         | Bottom   | 34238.349 | 0      | -480.315 | -37144.2251 | 1622101     | -2647754    |
| 8th Floor | UDStIS2         | Top      | 39585.515 | 0      | 344.924  | 26673.9852  | 1885929     | -3061267    |
| 8th Floor | UDStIS2         | Bottom   | 38742.42  | 0      | -527.69  | -40807.8514 | 1855509     | -2996068    |
| 8th Floor | UDStIS3         | Top      | 35971.715 | 0      | 516.784  | 39964.4281  | 1811444     | -2781801    |
| 8th Floor | UDStIS3         | Bottom   | 34734.359 | 0      | -704.101 | -54450.2235 | 1765834     | -2686112    |

Table 5.4 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft   |
|-----------|-----------------|----------|-----------|--------|----------|-------------|-------------|-------------|
| 8th Floor | UDStIS4         | Top      | 35971.715 | 0      | 100.036  | 7736.1212   | 1604656     | -2781801    |
| 8th Floor | UDStIS4         | Bottom   | 35704.034 | 0      | -264.286 | -20438.0212 | 1596330     | -2761100    |
| 8th Floor | UDStIS5         | Top      | 22461.536 | 0      | 394.039  | 30472.2213  | 1162082     | -1737018    |
| 8th Floor | UDStIS5         | Bottom   | 21525.53  | 0      | -528.682 | -40884.5316 | 1127531     | -1664634    |
| 8th Floor | UDStIS6         | Top      | 22461.536 | 0      | -22.708  | -1756.0856  | 955294.5041 | -1737018    |
| 8th Floor | UDStIS6         | Bottom   | 22495.205 | 0      | -88.867  | -6872.3293  | 958027.0514 | -1739622    |
| 8th Floor | UDStID1         | Top      | 24957.262 | 0      | 206.295  | 15953.4087  | 1176320     | -1930020    |
| 8th Floor | UDStID1         | Bottom   | 24455.964 | 0      | -343.082 | -26531.5894 | 1158643     | -1891253    |
| 8th Floor | UDStID2         | Top      | 30980.262 | 0      | 267.151  | 20659.5929  | 1472786     | -2395797    |
| 8th Floor | UDStID2         | Bottom   | 30328.004 | 0      | -415.577 | -32137.8045 | 1449354     | -2345356    |
| 7th Floor | Dead            | Top      | 24529.827 | 0      | -343.082 | -26531.5894 | 1163285     | -1896965    |
| 7th Floor | Dead            | Bottom   | 24643.064 | 0      | -343.082 | -26531.5894 | 1172622     | -1905722    |
| 7th Floor | Live            | Top      | 5880.04   | 0      | -72.494  | -5606.2151  | 291263.1315 | -454721     |
| 7th Floor | Live            | Bottom   | 5880.04   | 0      | -72.494  | -5606.2151  | 292143.6493 | -454721     |
| 7th Floor | Wind            | Top      | -484.837  | 0      | -219.907 | -17006.1011 | 84751.9997  | 37493.9289  |
| 7th Floor | Wind            | Bottom   | -484.837  | 0      | -219.907 | -17006.1011 | 87422.9953  | 37493.9289  |
| 7th Floor | Wind-1          | Top      | 484.837   | 0      | 219.907  | 17006.1011  | -84751.9997 | -37493.9289 |
| 7th Floor | Wind-1          | Bottom   | 484.837   | 0      | 219.907  | 17006.1011  | -87422.9953 | -37493.9289 |
| 7th Floor | Wind+Modal      | Top      | -484.837  | 0      | -219.907 | -17006.1011 | 84751.9997  | 37493.9289  |
| 7th Floor | Wind+Modal      | Bottom   | -484.837  | 0      | -219.907 | -17006.1011 | 87422.9953  | 37493.9289  |
| 7th Floor | wind 1          | Top      | -484.837  | 0      | -219.907 | -17006.1011 | 84751.9997  | 37493.9289  |
| 7th Floor | wind 1          | Bottom   | -484.837  | 0      | -219.907 | -17006.1011 | 87422.9953  | 37493.9289  |
| 7th Floor | wind -1         | Top      | 484.837   | 0      | 219.907  | 17006.1011  | -84751.9997 | -37493.9289 |
| 7th Floor | wind -1         | Bottom   | 484.837   | 0      | 219.907  | 17006.1011  | -87422.9953 | -37493.9289 |
| 7th Floor | UDStIS1         | Top      | 34341.758 | 0      | -480.315 | -37144.2251 | 1628599     | -2655751    |
| 7th Floor | UDStIS1         | Bottom   | 34500.29  | 0      | -480.315 | -37144.2251 | 1641671     | -2668011    |
| 7th Floor | UDStIS2         | Top      | 38843.856 | 0      | -527.69  | -40807.8514 | 1861963     | -3003912    |
| 7th Floor | UDStIS2         | Bottom   | 38979.741 | 0      | -527.69  | -40807.8514 | 1874576     | -3014420    |
| 7th Floor | UDStIS3         | Top      | 34830.995 | 0      | -704.101 | -54450.2235 | 1771957     | -2693585    |
| 7th Floor | UDStIS3         | Bottom   | 34966.879 | 0      | -704.101 | -54450.2235 | 1786713     | -2704094    |
| 7th Floor | UDStIS4         | Top      | 35800.67  | 0      | -264.286 | -20438.0212 | 1602453     | -2768573    |
| 7th Floor | UDStIS4         | Bottom   | 35936.554 | 0      | -264.286 | -20438.0212 | 1611867     | -2779082    |
| 7th Floor | UDStIS5         | Top      | 21592.007 | 0      | -528.682 | -40884.5316 | 1131708     | -1669775    |
| 7th Floor | UDStIS5         | Bottom   | 21693.92  | 0      | -528.682 | -40884.5316 | 1142783     | -1677656    |
| 7th Floor | UDStIS6         | Top      | 22561.682 | 0      | -88.867  | -6872.3293  | 962204.3032 | -1744763    |
| 7th Floor | UDStIS6         | Bottom   | 22663.595 | 0      | -88.867  | -6872.3293  | 967936.7663 | -1752644    |
| 7th Floor | UDStID1         | Top      | 24529.827 | 0      | -343.082 | -26531.5894 | 1163285     | -1896965    |
| 7th Floor | UDStID1         | Bottom   | 24643.064 | 0      | -343.082 | -26531.5894 | 1172622     | -1905722    |
| 7th Floor | UDStID2         | Top      | 30409.867 | 0      | -415.577 | -32137.8045 | 1454548     | -2351686    |
| 7th Floor | UDStID2         | Bottom   | 30523.104 | 0      | -415.577 | -32137.8045 | 1464766     | -2360443    |
| 6th Floor | Dead            | Top      | 26586.536 | 0      | 206.295  | 15953.4087  | 1234576     | -2056017    |
| 6th Floor | Dead            | Bottom   | 26753.712 | 0      | 206.295  | 15953.4087  | 1239068     | -2068945    |
| 6th Floor | Live            | Top      | 6312      | 0      | 60.856   | 4706.1842   | 306290.1314 | -488126     |
| 6th Floor | Live            | Bottom   | 6312      | 0      | 60.856   | 4706.1842   | 305364.6319 | -488126     |
| 6th Floor | Wind            | Top      | 0         | 0      | 208.374  | 16114.1535  | 98331.8363  | 2.888E-06   |

Table 5.4 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft  |
|-----------|-----------------|----------|-----------|--------|----------|-------------|-------------|------------|
| 6th Floor | Wind            | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 95162.891   | 2.889E-06  |
| 6th Floor | Wind-1          | Top      | 0         | 0      | -208.374 | -16114.1535 | -98331.8363 | -2.888E-06 |
| 6th Floor | Wind-1          | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -95162.891  | -2.889E-06 |
| 6th Floor | Wind+Modal      | Top      | 0         | 0      | 208.374  | 16114.1535  | 98331.8363  | 2.882E-06  |
| 6th Floor | Wind+Modal      | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 95162.891   | 2.883E-06  |
| 6th Floor | wind 1          | Top      | 0         | 0      | 208.374  | 16114.1535  | 98331.8363  | 2.888E-06  |
| 6th Floor | wind 1          | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 95162.891   | 2.889E-06  |
| 6th Floor | wind -1         | Top      | 0         | 0      | -208.374 | -16114.1535 | -98331.8363 | -2.888E-06 |
| 6th Floor | wind -1         | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -95162.891  | -2.889E-06 |
| 6th Floor | UDStIS1         | Top      | 37221.15  | 0      | 288.813  | 22334.7722  | 1728406     | -2878423   |
| 6th Floor | UDStIS1         | Bottom   | 37455.197 | 0      | 288.813  | 22334.7722  | 1734695     | -2896523   |
| 6th Floor | UDStIS2         | Top      | 42003.043 | 0      | 344.924  | 26673.9852  | 1971555     | -3248221   |
| 6th Floor | UDStIS2         | Bottom   | 42203.655 | 0      | 344.924  | 26673.9852  | 1975465     | -3263735   |
| 6th Floor | UDStIS3         | Top      | 38215.843 | 0      | 516.784  | 39964.4281  | 1886113     | -2955346   |
| 6th Floor | UDStIS3         | Bottom   | 38416.455 | 0      | 516.784  | 39964.4281  | 1887409     | -2970860   |
| 6th Floor | UDStIS4         | Top      | 38215.843 | 0      | 100.036  | 7736.1212   | 1689449     | -2955346   |
| 6th Floor | UDStIS4         | Bottom   | 38416.455 | 0      | 100.036  | 7736.1212   | 1697083     | -2970860   |
| 6th Floor | UDStIS5         | Top      | 23927.882 | 0      | 394.039  | 30472.2213  | 1209450     | -1850415   |
| 6th Floor | UDStIS5         | Bottom   | 24078.341 | 0      | 394.039  | 30472.2213  | 1210324     | -1862050   |
| 6th Floor | UDStIS6         | Top      | 23927.882 | 0      | -22.708  | -1756.0856  | 1012786     | -1850415   |
| 6th Floor | UDStIS6         | Bottom   | 24078.341 | 0      | -22.708  | -1756.0856  | 1019998     | -1862050   |
| 6th Floor | UDStID1         | Top      | 26586.536 | 0      | 206.295  | 15953.4087  | 1234576     | -2056017   |
| 6th Floor | UDStID1         | Bottom   | 26753.712 | 0      | 206.295  | 15953.4087  | 1239068     | -2068945   |
| 6th Floor | UDStID2         | Top      | 32898.536 | 0      | 267.151  | 20659.5929  | 1540866     | -2544142   |
| 6th Floor | UDStID2         | Bottom   | 33065.712 | 0      | 267.151  | 20659.5929  | 1544433     | -2557071   |
| 5th Floor | Dead            | Top      | 27298.283 | 0      | 206.295  | 15953.4087  | 1274217     | -2111058   |
| 5th Floor | Dead            | Bottom   | 27460.1   | 0      | 206.295  | 15953.4087  | 1278136     | -2123572   |
| 5th Floor | Live            | Top      | 6544      | 0      | 60.856   | 4706.1842   | 321396.7599 | -506067    |
| 5th Floor | Live            | Bottom   | 6544      | 0      | 60.856   | 4706.1842   | 320420.5065 | -506067    |
| 5th Floor | Wind            | Top      | 0         | 0      | 208.374  | 16114.1535  | 95162.891   | 2.71E-06   |
| 5th Floor | Wind            | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 91820.1622  | 2.71E-06   |
| 5th Floor | Wind-1          | Top      | 0         | 0      | -208.374 | -16114.1535 | -95162.891  | -2.71E-06  |
| 5th Floor | Wind-1          | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -91820.1622 | -2.71E-06  |
| 5th Floor | Wind+Modal      | Top      | 0         | 0      | 208.374  | 16114.1535  | 95162.891   | 2.704E-06  |
| 5th Floor | Wind+Modal      | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 91820.1622  | 2.705E-06  |
| 5th Floor | wind 1          | Top      | 0         | 0      | 208.374  | 16114.1535  | 95162.891   | 2.71E-06   |
| 5th Floor | wind 1          | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 91820.1622  | 2.71E-06   |
| 5th Floor | wind -1         | Top      | 0         | 0      | -208.374 | -16114.1535 | -95162.891  | -2.71E-06  |
| 5th Floor | wind -1         | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -91820.1622 | -2.71E-06  |
| 5th Floor | UDStIS1         | Top      | 38217.597 | 0      | 288.813  | 22334.7722  | 1783903     | -2955481   |
| 5th Floor | UDStIS1         | Bottom   | 38444.14  | 0      | 288.813  | 22334.7722  | 1789390     | -2973001   |
| 5th Floor | UDStIS2         | Top      | 43228.34  | 0      | 344.924  | 26673.9852  | 2043295     | -3342977   |
| 5th Floor | UDStIS2         | Bottom   | 43422.52  | 0      | 344.924  | 26673.9852  | 2046436     | -3357994   |
| 5th Floor | UDStIS3         | Top      | 39301.94  | 0      | 516.784  | 39964.4281  | 1945620     | -3039337   |
| 5th Floor | UDStIS3         | Bottom   | 39496.12  | 0      | 516.784  | 39964.4281  | 1946004     | -3054353   |

Table 5.4 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft  |
|-----------|-----------------|----------|-----------|--------|----------|-------------|-------------|------------|
| 5th Floor | UDStIS4         | Top      | 39301.94  | 0      | 100.036  | 7736.1212   | 1755294     | -3039337   |
| 5th Floor | UDStIS4         | Bottom   | 39496.12  | 0      | 100.036  | 7736.1212   | 1762363     | -3054353   |
| 5th Floor | UDStIS5         | Top      | 24568.455 | 0      | 394.039  | 30472.2213  | 1241958     | -1899952   |
| 5th Floor | UDStIS5         | Bottom   | 24714.09  | 0      | 394.039  | 30472.2213  | 1242142     | -1911215   |
| 5th Floor | UDStIS6         | Top      | 24568.455 | 0      | -22.708  | -1756.0856  | 1051632     | -1899952   |
| 5th Floor | UDStIS6         | Bottom   | 24714.09  | 0      | -22.708  | -1756.0856  | 1058502     | -1911215   |
| 5th Floor | UDStID1         | Top      | 27298.283 | 0      | 206.295  | 15953.4087  | 1274217     | -2111058   |
| 5th Floor | UDStID1         | Bottom   | 27460.1   | 0      | 206.295  | 15953.4087  | 1278136     | -2123572   |
| 5th Floor | UDStID2         | Top      | 33842.283 | 0      | 267.151  | 20659.5929  | 1595614     | -2617125   |
| 5th Floor | UDStID2         | Bottom   | 34004.1   | 0      | 267.151  | 20659.5929  | 1598556     | -2629639   |
| 4th Floor | Dead            | Top      | 29292.283 | 0      | 206.295  | 15953.4087  | 1323444     | -2265260   |
| 4th Floor | Dead            | Bottom   | 29452.972 | 0      | 206.295  | 15953.4087  | 1327315     | -2277687   |
| 4th Floor | Live            | Top      | 6975      | 0      | 60.856   | 4706.1842   | 330677.2545 | -539398    |
| 4th Floor | Live            | Bottom   | 6975      | 0      | 60.856   | 4706.1842   | 329704.835  | -539398    |
| 4th Floor | Wind            | Top      | 0         | 0      | 208.374  | 16114.1535  | 91820.1622  | 2.196E-06  |
| 4th Floor | Wind            | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 88490.5609  | 2.196E-06  |
| 4th Floor | Wind-1          | Top      | 0         | 0      | -208.374 | -16114.1535 | -91820.1622 | -2.196E-06 |
| 4th Floor | Wind-1          | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -88490.5609 | -2.196E-06 |
| 4th Floor | Wind+Modal      | Top      | 0         | 0      | 208.374  | 16114.1535  | 91820.1622  | 2.191E-06  |
| 4th Floor | Wind+Modal      | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 88490.5609  | 2.192E-06  |
| 4th Floor | wind 1          | Top      | 0         | 0      | 208.374  | 16114.1535  | 91820.1622  | 2.196E-06  |
| 4th Floor | wind 1          | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 88490.5609  | 2.196E-06  |
| 4th Floor | wind -1         | Top      | 0         | 0      | -208.374 | -16114.1535 | -91820.1622 | -2.196E-06 |
| 4th Floor | wind -1         | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -88490.5609 | -2.196E-06 |
| 4th Floor | UDStIS1         | Top      | 41009.196 | 0      | 288.813  | 22334.7722  | 1852822     | -3171364   |
| 4th Floor | UDStIS1         | Bottom   | 41234.16  | 0      | 288.813  | 22334.7722  | 1858241     | -3188761   |
| 4th Floor | UDStIS2         | Top      | 46310.739 | 0      | 344.924  | 26673.9852  | 2117217     | -3581348   |
| 4th Floor | UDStIS2         | Bottom   | 46503.566 | 0      | 344.924  | 26673.9852  | 2120306     | -3596260   |
| 4th Floor | UDStIS3         | Top      | 42125.739 | 0      | 516.784  | 39964.4281  | 2010630     | -3257710   |
| 4th Floor | UDStIS3         | Bottom   | 42318.566 | 0      | 516.784  | 39964.4281  | 2010974     | -3272622   |
| 4th Floor | UDStIS4         | Top      | 42125.739 | 0      | 100.036  | 7736.1212   | 1826990     | -3257710   |
| 4th Floor | UDStIS4         | Bottom   | 42318.566 | 0      | 100.036  | 7736.1212   | 1833993     | -3272622   |
| 4th Floor | UDStIS5         | Top      | 26363.054 | 0      | 394.039  | 30472.2213  | 1282920     | -2038734   |
| 4th Floor | UDStIS5         | Bottom   | 26507.674 | 0      | 394.039  | 30472.2213  | 1283074     | -2049918   |
| 4th Floor | UDStIS6         | Top      | 26363.054 | 0      | -22.708  | -1756.0856  | 1099280     | -2038734   |
| 4th Floor | UDStIS6         | Bottom   | 26507.674 | 0      | -22.708  | -1756.0856  | 1106093     | -2049918   |
| 4th Floor | UDStID1         | Top      | 29292.283 | 0      | 206.295  | 15953.4087  | 1323444     | -2265260   |
| 4th Floor | UDStID1         | Bottom   | 29452.972 | 0      | 206.295  | 15953.4087  | 1327315     | -2277687   |
| 4th Floor | UDStID2         | Top      | 36267.283 | 0      | 267.151  | 20659.5929  | 1654121     | -2804658   |
| 4th Floor | UDStID2         | Bottom   | 36427.972 | 0      | 267.151  | 20659.5929  | 1657020     | -2817084   |
| 3rd Floor | Dead            | Top      | 29697.835 | 0      | 206.295  | 15953.4087  | 1341229     | -2296623   |
| 3rd Floor | Dead            | Bottom   | 29830.289 | 0      | 206.295  | 15953.4087  | 1344955     | -2306866   |
| 3rd Floor | Live            | Top      | 7034      | 0      | 60.856   | 4706.1842   | 333310.6222 | -543960    |
| 3rd Floor | Live            | Bottom   | 7034      | 0      | 60.856   | 4706.1842   | 332610.7771 | -543960    |
| 3rd Floor | Wind            | Top      | 0         | 0      | 208.374  | 16114.1535  | 88490.5609  | 2.305E-06  |

Table 5.4 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft  |
|-----------|-----------------|----------|-----------|--------|----------|-------------|-------------|------------|
| 3rd Floor | Wind            | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 86094.2648  | 2.306E-06  |
| 3rd Floor | Wind-1          | Top      | 0         | 0      | -208.374 | -16114.1535 | -88490.5609 | -2.305E-06 |
| 3rd Floor | Wind-1          | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -86094.2648 | -2.306E-06 |
| 3rd Floor | Wind+Modal      | Top      | 0         | 0      | 208.374  | 16114.1535  | 88490.5609  | 2.302E-06  |
| 3rd Floor | Wind+Modal      | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 86094.2648  | 2.303E-06  |
| 3rd Floor | wind 1          | Top      | 0         | 0      | 208.374  | 16114.1535  | 88490.5609  | 2.305E-06  |
| 3rd Floor | wind 1          | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 86094.2648  | 2.306E-06  |
| 3rd Floor | wind -1         | Top      | 0         | 0      | -208.374 | -16114.1535 | -88490.5609 | -2.305E-06 |
| 3rd Floor | wind -1         | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -86094.2648 | -2.306E-06 |
| 3rd Floor | UDStIS1         | Top      | 41576.969 | 0      | 288.813  | 22334.7722  | 1877721     | -3215272   |
| 3rd Floor | UDStIS1         | Bottom   | 41762.405 | 0      | 288.813  | 22334.7722  | 1882936     | -3229612   |
| 3rd Floor | UDStIS2         | Top      | 46891.802 | 0      | 344.924  | 26673.9852  | 2142772     | -3626284   |
| 3rd Floor | UDStIS2         | Bottom   | 47050.747 | 0      | 344.924  | 26673.9852  | 2146123     | -3638575   |
| 3rd Floor | UDStIS3         | Top      | 42671.402 | 0      | 516.784  | 39964.4281  | 2031276     | -3299908   |
| 3rd Floor | UDStIS3         | Bottom   | 42830.347 | 0      | 516.784  | 39964.4281  | 2032651     | -3312199   |
| 3rd Floor | UDStIS4         | Top      | 42671.402 | 0      | 100.036  | 7736.1212   | 1854295     | -3299908   |
| 3rd Floor | UDStIS4         | Bottom   | 42830.347 | 0      | 100.036  | 7736.1212   | 1860462     | -3312199   |
| 3rd Floor | UDStIS5         | Top      | 26728.051 | 0      | 394.039  | 30472.2213  | 1295597     | -2066960   |
| 3rd Floor | UDStIS5         | Bottom   | 26847.26  | 0      | 394.039  | 30472.2213  | 1296553     | -2076179   |
| 3rd Floor | UDStIS6         | Top      | 26728.051 | 0      | -22.708  | -1756.0856  | 1118616     | -2066960   |
| 3rd Floor | UDStIS6         | Bottom   | 26847.26  | 0      | -22.708  | -1756.0856  | 1124365     | -2076179   |
| 3rd Floor | UDStID1         | Top      | 29697.835 | 0      | 206.295  | 15953.4087  | 1341229     | -2296623   |
| 3rd Floor | UDStID1         | Bottom   | 29830.289 | 0      | 206.295  | 15953.4087  | 1344955     | -2306866   |
| 3rd Floor | UDStID2         | Top      | 36731.835 | 0      | 267.151  | 20659.5929  | 1674540     | -2840583   |
| 3rd Floor | UDStID2         | Bottom   | 36864.289 | 0      | 267.151  | 20659.5929  | 1677565     | -2850826   |
| 2nd Floor | Dead            | Top      | 30038.152 | 0      | 206.295  | 15953.4087  | 1358856     | -2322940   |
| 2nd Floor | Dead            | Bottom   | 30201.208 | 0      | 206.295  | 15953.4087  | 1362409     | -2335550   |
| 2nd Floor | Live            | Top      | 7034      | 0      | 60.856   | 4706.1842   | 332610.7771 | -543960    |
| 2nd Floor | Live            | Bottom   | 7034      | 0      | 60.856   | 4706.1842   | 331455.7893 | -543960    |
| 2nd Floor | Wind            | Top      | 0         | 0      | 208.374  | 16114.1535  | 86094.2648  | 2.701E-06  |
| 2nd Floor | Wind            | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 82139.5428  | 2.701E-06  |
| 2nd Floor | Wind-1          | Top      | 0         | 0      | -208.374 | -16114.1535 | -86094.2648 | -2.701E-06 |
| 2nd Floor | Wind-1          | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -82139.5428 | -2.701E-06 |
| 2nd Floor | Wind+Modal      | Top      | 0         | 0      | 208.374  | 16114.1535  | 86094.2648  | 2.698E-06  |
| 2nd Floor | Wind+Modal      | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 82139.5428  | 2.699E-06  |
| 2nd Floor | wind 1          | Top      | 0         | 0      | 208.374  | 16114.1535  | 86094.2648  | 2.701E-06  |
| 2nd Floor | wind 1          | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 82139.5428  | 2.701E-06  |
| 2nd Floor | wind -1         | Top      | 0         | 0      | -208.374 | -16114.1535 | -86094.2648 | -2.701E-06 |
| 2nd Floor | wind -1         | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -82139.5428 | -2.701E-06 |
| 2nd Floor | UDStIS1         | Top      | 42053.413 | 0      | 288.813  | 22334.7722  | 1902398     | -3252117   |
| 2nd Floor | UDStIS1         | Bottom   | 42281.692 | 0      | 288.813  | 22334.7722  | 1907372     | -3269770   |
| 2nd Floor | UDStIS2         | Top      | 47300.183 | 0      | 344.924  | 26673.9852  | 2162804     | -3657865   |
| 2nd Floor | UDStIS2         | Bottom   | 47495.85  | 0      | 344.924  | 26673.9852  | 2165220     | -3672997   |
| 2nd Floor | UDStIS3         | Top      | 43079.783 | 0      | 516.784  | 39964.4281  | 2049332     | -3331489   |
| 2nd Floor | UDStIS3         | Bottom   | 43275.45  | 0      | 516.784  | 39964.4281  | 2048486     | -3346620   |

Table 5.4 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft  |
|-----------|-----------------|----------|-----------|--------|----------|-------------|-------------|------------|
| 2nd Floor | UDStIS4         | Top      | 43079.783 | 0      | 100.036  | 7736.1212   | 1877144     | -3331489   |
| 2nd Floor | UDStIS4         | Bottom   | 43275.45  | 0      | 100.036  | 7736.1212   | 1884207     | -3346620   |
| 2nd Floor | UDStIS5         | Top      | 27034.337 | 0      | 394.039  | 30472.2213  | 1309065     | -2090646   |
| 2nd Floor | UDStIS5         | Bottom   | 27181.088 | 0      | 394.039  | 30472.2213  | 1308308     | -2101995   |
| 2nd Floor | UDStIS6         | Top      | 27034.337 | 0      | -22.708  | -1756.0856  | 1136876     | -2090646   |
| 2nd Floor | UDStIS6         | Bottom   | 27181.088 | 0      | -22.708  | -1756.0856  | 1144028     | -2101995   |
| 2nd Floor | UDStID1         | Top      | 30038.152 | 0      | 206.295  | 15953.4087  | 1358856     | -2322940   |
| 2nd Floor | UDStID1         | Bottom   | 30201.208 | 0      | 206.295  | 15953.4087  | 1362409     | -2335550   |
| 2nd Floor | UDStID2         | Top      | 37072.152 | 0      | 267.151  | 20659.5929  | 1691467     | -2866901   |
| 2nd Floor | UDStID2         | Bottom   | 37235.208 | 0      | 267.151  | 20659.5929  | 1693865     | -2879510   |
| 1st Floor | Dead            | Top      | 30284.072 | 0      | 206.295  | 15953.4087  | 1367672     | -2341958   |
| 1st Floor | Dead            | Bottom   | 30404.351 | 0      | 206.295  | 15953.4087  | 1370293     | -2351260   |
| 1st Floor | Live            | Top      | 7034      | 0      | 60.856   | 4706.1842   | 331455.7893 | -543960    |
| 1st Floor | Live            | Bottom   | 7034      | 0      | 60.856   | 4706.1842   | 330603.804  | -543960    |
| 1st Floor | Wind            | Top      | 0         | 0      | 208.374  | 16114.1535  | 82139.5428  | 2.228E-06  |
| 1st Floor | Wind            | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 79222.3127  | 2.227E-06  |
| 1st Floor | Wind-1          | Top      | 0         | 0      | -208.374 | -16114.1535 | -82139.5428 | -2.228E-06 |
| 1st Floor | Wind-1          | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -79222.3127 | -2.227E-06 |
| 1st Floor | Wind+Modal      | Top      | 0         | 0      | 208.374  | 16114.1535  | 82139.5428  | 2.226E-06  |
| 1st Floor | Wind+Modal      | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 79222.3127  | 2.226E-06  |
| 1st Floor | wind 1          | Top      | 0         | 0      | 208.374  | 16114.1535  | 82139.5428  | 2.228E-06  |
| 1st Floor | wind 1          | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 79222.3127  | 2.227E-06  |
| 1st Floor | wind -1         | Top      | 0         | 0      | -208.374 | -16114.1535 | -82139.5428 | -2.228E-06 |
| 1st Floor | wind -1         | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -79222.3127 | -2.227E-06 |
| 1st Floor | UDStIS1         | Top      | 42397.7   | 0      | 288.813  | 22334.7722  | 1914741     | -3278741   |
| 1st Floor | UDStIS1         | Bottom   | 42566.091 | 0      | 288.813  | 22334.7722  | 1918410     | -3291764   |
| 1st Floor | UDStIS2         | Top      | 47595.286 | 0      | 344.924  | 26673.9852  | 2171536     | -3680686   |
| 1st Floor | UDStIS2         | Bottom   | 47739.621 | 0      | 344.924  | 26673.9852  | 2173318     | -3691848   |
| 1st Floor | UDStIS3         | Top      | 43374.886 | 0      | 516.784  | 39964.4281  | 2054802     | -3354310   |
| 1st Floor | UDStIS3         | Bottom   | 43519.221 | 0      | 516.784  | 39964.4281  | 2054178     | -3365472   |
| 1st Floor | UDStIS4         | Top      | 43374.886 | 0      | 100.036  | 7736.1212   | 1890523     | -3354310   |
| 1st Floor | UDStIS4         | Bottom   | 43519.221 | 0      | 100.036  | 7736.1212   | 1895733     | -3365472   |
| 1st Floor | UDStIS5         | Top      | 27255.664 | 0      | 394.039  | 30472.2213  | 1313045     | -2107762   |
| 1st Floor | UDStIS5         | Bottom   | 27363.916 | 0      | 394.039  | 30472.2213  | 1312486     | -2116134   |
| 1st Floor | UDStIS6         | Top      | 27255.664 | 0      | -22.708  | -1756.0856  | 1148765     | -2107762   |
| 1st Floor | UDStIS6         | Bottom   | 27363.916 | 0      | -22.708  | -1756.0856  | 1154042     | -2116134   |
| 1st Floor | UDStID1         | Top      | 30284.072 | 0      | 206.295  | 15953.4087  | 1367672     | -2341958   |
| 1st Floor | UDStID1         | Bottom   | 30404.351 | 0      | 206.295  | 15953.4087  | 1370293     | -2351260   |
| 1st Floor | UDStID2         | Top      | 37318.072 | 0      | 267.151  | 20659.5929  | 1699128     | -2885918   |
| 1st Floor | UDStID2         | Bottom   | 37438.351 | 0      | 267.151  | 20659.5929  | 1700897     | -2895220   |
| Cellar    | Dead            | Top      | 30478.214 | 0      | 206.295  | 15953.4087  | 1374935     | -2356972   |
| Cellar    | Dead            | Bottom   | 30598.494 | 0      | 206.295  | 15953.4087  | 1377555     | -2366273   |
| Cellar    | Live            | Top      | 7034      | 0      | 60.856   | 4706.1842   | 330603.804  | -543960    |
| Cellar    | Live            | Bottom   | 7034      | 0      | 60.856   | 4706.1842   | 329751.8187 | -543960    |
| Cellar    | Wind            | Top      | 0         | 0      | 208.374  | 16114.1535  | 79222.3127  | 2.331E-06  |



**Table 5.4 - Story Forces (continued)**

| Story  | Load Case/Combo | Location | P kip     | VX kip | VY kip   | T kip-ft    | MX kip-ft   | MY kip-ft  |
|--------|-----------------|----------|-----------|--------|----------|-------------|-------------|------------|
| Cellar | Wind            | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 76305.0827  | 2.331E-06  |
| Cellar | Wind-1          | Top      | 0         | 0      | -208.374 | -16114.1535 | -79222.3127 | -2.331E-06 |
| Cellar | Wind-1          | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -76305.0827 | -2.331E-06 |
| Cellar | Wind+Modal      | Top      | 0         | 0      | 208.374  | 16114.1535  | 79222.3127  | 2.33E-06   |
| Cellar | Wind+Modal      | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 76305.0827  | 2.331E-06  |
| Cellar | wind 1          | Top      | 0         | 0      | 208.374  | 16114.1535  | 79222.3127  | 2.331E-06  |
| Cellar | wind 1          | Bottom   | 0         | 0      | 208.374  | 16114.1535  | 76305.0827  | 2.331E-06  |
| Cellar | wind -1         | Top      | 0         | 0      | -208.374 | -16114.1535 | -79222.3127 | -2.331E-06 |
| Cellar | wind -1         | Bottom   | 0         | 0      | -208.374 | -16114.1535 | -76305.0827 | -2.331E-06 |
| Cellar | UDStIS1         | Top      | 42669.5   | 0      | 288.813  | 22334.7722  | 1924908     | -3299760   |
| Cellar | UDStIS1         | Bottom   | 42837.891 | 0      | 288.813  | 22334.7722  | 1928578     | -3312783   |
| Cellar | UDStIS2         | Top      | 47828.257 | 0      | 344.924  | 26673.9852  | 2178888     | -3698703   |
| Cellar | UDStIS2         | Bottom   | 47972.592 | 0      | 344.924  | 26673.9852  | 2180669     | -3709864   |
| Cellar | UDStIS3         | Top      | 43607.857 | 0      | 516.784  | 39964.4281  | 2059748     | -3372326   |
| Cellar | UDStIS3         | Bottom   | 43752.192 | 0      | 516.784  | 39964.4281  | 2059123     | -3383488   |
| Cellar | UDStIS4         | Top      | 43607.857 | 0      | 100.036  | 7736.1212   | 1901303     | -3372326   |
| Cellar | UDStIS4         | Bottom   | 43752.192 | 0      | 100.036  | 7736.1212   | 1906513     | -3383488   |
| Cellar | UDStIS5         | Top      | 27430.393 | 0      | 394.039  | 30472.2213  | 1316663     | -2121275   |
| Cellar | UDStIS5         | Bottom   | 27538.644 | 0      | 394.039  | 30472.2213  | 1316105     | -2129646   |
| Cellar | UDStIS6         | Top      | 27430.393 | 0      | -22.708  | -1756.0856  | 1158219     | -2121275   |
| Cellar | UDStIS6         | Bottom   | 27538.644 | 0      | -22.708  | -1756.0856  | 1163495     | -2129646   |
| Cellar | UDStID1         | Top      | 30478.214 | 0      | 206.295  | 15953.4087  | 1374935     | -2356972   |
| Cellar | UDStID1         | Bottom   | 30598.494 | 0      | 206.295  | 15953.4087  | 1377555     | -2366273   |
| Cellar | UDStID2         | Top      | 37512.214 | 0      | 267.151  | 20659.5929  | 1705538     | -2900932   |
| Cellar | UDStID2         | Bottom   | 37632.494 | 0      | 267.151  | 20659.5929  | 1707307     | -2910234   |

**5.3 Point Results**

**Table 5.5 - Joint Reactions**

| Story     | Joint Label | Unique Name | Load Case/Combo | FX kip | FY kip    | FZ kip | MX kip-ft | MY kip-ft | MZ kip-ft |
|-----------|-------------|-------------|-----------------|--------|-----------|--------|-----------|-----------|-----------|
| 9th Floor | 4           | 44          | Dead            | 0      | -206.295  | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | Live            | 0      | -60.856   | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | Wind            | 0      | -1817.374 | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | Wind-1          | 0      | 1817.374  | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | Wind+Modal      | 0      | -1817.374 | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | wind 1          | 0      | -1817.374 | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | wind -1         | 0      | 1817.374  | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | UDStIS1         | 0      | -288.813  | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | UDStIS2         | 0      | -344.924  | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | UDStIS3         | 0      | -2125.784 | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | UDStIS4         | 0      | 1508.964  | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | UDStIS5         | 0      | -2003.039 | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | UDStIS6         | 0      | 1631.708  | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | UDStID1         | 0      | -206.295  | 0      | 0         | 0         | 0         |
| 9th Floor | 4           | 44          | UDStID2         | 0      | -267.151  | 0      | 0         | 0         | 0         |

Table 5.5 - Joint Reactions (continued)

| Story     | Joint Label | Unique Name | Load Case/Combo | FX kip | FY kip   | FZ kip    | MX kip-ft | MY kip-ft | MZ kip-ft |
|-----------|-------------|-------------|-----------------|--------|----------|-----------|-----------|-----------|-----------|
| Subcellar | 3           | 5           | Dead            | 0      | 21.14    | 11296.165 | 0         | 0         | 0         |
| Subcellar | 3           | 5           | Live            | 0      | 6.656    | 2816.189  | 0         | 0         | 0         |
| Subcellar | 3           | 5           | Wind            | 0      | 23.599   | 1327.127  | 0         | 0         | 0         |
| Subcellar | 3           | 5           | Wind-1          | 0      | -23.599  | -1327.127 | 0         | 0         | 0         |
| Subcellar | 3           | 5           | Wind+Modal      | 0      | 23.599   | 1327.127  | 0         | 0         | 0         |
| Subcellar | 3           | 5           | wind 1          | 0      | 23.599   | 1327.127  | 0         | 0         | 0         |
| Subcellar | 3           | 5           | wind -1         | 0      | -23.599  | -1327.127 | 0         | 0         | 0         |
| Subcellar | 3           | 5           | UDStIS1         | 0      | 29.595   | 15814.631 | 0         | 0         | 0         |
| Subcellar | 3           | 5           | UDStIS2         | 0      | 36.017   | 18061.301 | 0         | 0         | 0         |
| Subcellar | 3           | 5           | UDStIS3         | 0      | 55.623   | 17698.714 | 0         | 0         | 0         |
| Subcellar | 3           | 5           | UDStIS4         | 0      | 8.424    | 15044.46  | 0         | 0         | 0         |
| Subcellar | 3           | 5           | UDStIS5         | 0      | 42.625   | 11493.676 | 0         | 0         | 0         |
| Subcellar | 3           | 5           | UDStIS6         | 0      | -4.574   | 8839.422  | 0         | 0         | 0         |
| Subcellar | 3           | 5           | UDStID1         | 0      | 21.14    | 11296.165 | 0         | 0         | 0         |
| Subcellar | 3           | 5           | UDStID2         | 0      | 27.795   | 14112.354 | 0         | 0         | 0         |
| Subcellar | 4           | 7           | Dead            | 0      | 25.087   | 11909.995 | 0         | 0         | 0         |
| Subcellar | 4           | 7           | Live            | 0      | 6.99     | 2520.544  | 0         | 0         | 0         |
| Subcellar | 4           | 7           | Wind            | 0      | 23.07    | -1327.234 | 0         | 0         | 0         |
| Subcellar | 4           | 7           | Wind-1          | 0      | -23.07   | 1327.234  | 0         | 0         | 0         |
| Subcellar | 4           | 7           | Wind+Modal      | 0      | 23.07    | -1327.234 | 0         | 0         | 0         |
| Subcellar | 4           | 7           | wind 1          | 0      | 23.07    | -1327.234 | 0         | 0         | 0         |
| Subcellar | 4           | 7           | wind -1         | 0      | -23.07   | 1327.234  | 0         | 0         | 0         |
| Subcellar | 4           | 7           | UDStIS1         | 0      | 35.122   | 16673.994 | 0         | 0         | 0         |
| Subcellar | 4           | 7           | UDStIS2         | 0      | 41.288   | 18324.865 | 0         | 0         | 0         |
| Subcellar | 4           | 7           | UDStIS3         | 0      | 60.164   | 15485.305 | 0         | 0         | 0         |
| Subcellar | 4           | 7           | UDStIS4         | 0      | 14.024   | 18139.773 | 0         | 0         | 0         |
| Subcellar | 4           | 7           | UDStIS5         | 0      | 45.648   | 9391.762  | 0         | 0         | 0         |
| Subcellar | 4           | 7           | UDStIS6         | 0      | -0.491   | 12046.23  | 0         | 0         | 0         |
| Subcellar | 4           | 7           | UDStID1         | 0      | 25.087   | 11909.995 | 0         | 0         | 0         |
| Subcellar | 4           | 7           | UDStID2         | 0      | 32.077   | 14430.54  | 0         | 0         | 0         |
| Subcellar | 73          | 135         | Dead            | 0      | 944.241  | 2606.825  | 0         | 0         | 0         |
| Subcellar | 73          | 135         | Live            | 0      | 203.033  | 606.906   | 0         | 0         | 0         |
| Subcellar | 73          | 135         | Wind            | 0      | -58.761  | 490.127   | 0         | 0         | 0         |
| Subcellar | 73          | 135         | Wind-1          | 0      | 58.761   | -490.127  | 0         | 0         | 0         |
| Subcellar | 73          | 135         | Wind+Modal      | 0      | -58.761  | 490.127   | 0         | 0         | 0         |
| Subcellar | 73          | 135         | wind 1          | 0      | -58.761  | 490.127   | 0         | 0         | 0         |
| Subcellar | 73          | 135         | wind -1         | 0      | 58.761   | -490.127  | 0         | 0         | 0         |
| Subcellar | 73          | 135         | UDStIS1         | 0      | 1321.937 | 3649.555  | 0         | 0         | 0         |
| Subcellar | 73          | 135         | UDStIS2         | 0      | 1457.941 | 4099.24   | 0         | 0         | 0         |
| Subcellar | 73          | 135         | UDStIS3         | 0      | 1277.361 | 4225.223  | 0         | 0         | 0         |
| Subcellar | 73          | 135         | UDStIS4         | 0      | 1394.883 | 3244.97   | 0         | 0         | 0         |
| Subcellar | 73          | 135         | UDStIS5         | 0      | 791.056  | 2836.27   | 0         | 0         | 0         |
| Subcellar | 73          | 135         | UDStIS6         | 0      | 908.578  | 1856.016  | 0         | 0         | 0         |
| Subcellar | 73          | 135         | UDStID1         | 0      | 944.241  | 2606.825  | 0         | 0         | 0         |
| Subcellar | 73          | 135         | UDStID2         | 0      | 1147.273 | 3213.731  | 0         | 0         | 0         |



Table 5.5 - Joint Reactions (continued)

| Story     | Joint Label | Unique Name | Load Case/Combo | FX kip | FY kip    | FZ kip   | MX kip-ft | MY kip-ft | MZ kip-ft |
|-----------|-------------|-------------|-----------------|--------|-----------|----------|-----------|-----------|-----------|
| Subcellar | 74          | 136         | Dead            | 0      | -855.454  | 1186.624 | 0         | 0         | 0         |
| Subcellar | 74          | 136         | Live            | 0      | -178.413  | 194.676  | 0         | 0         | 0         |
| Subcellar | 74          | 136         | Wind            | 0      | 138.819   | -912.146 | 0         | 0         | 0         |
| Subcellar | 74          | 136         | Wind-1          | 0      | -138.819  | 912.146  | 0         | 0         | 0         |
| Subcellar | 74          | 136         | Wind+Modal      | 0      | 138.819   | -912.146 | 0         | 0         | 0         |
| Subcellar | 74          | 136         | wind 1          | 0      | 138.819   | -912.146 | 0         | 0         | 0         |
| Subcellar | 74          | 136         | wind -1         | 0      | -138.819  | 912.146  | 0         | 0         | 0         |
| Subcellar | 74          | 136         | UDStIS1         | 0      | -1197.636 | 1661.274 | 0         | 0         | 0         |
| Subcellar | 74          | 136         | UDStIS2         | 0      | -1312.007 | 1735.432 | 0         | 0         | 0         |
| Subcellar | 74          | 136         | UDStIS3         | 0      | -1066.14  | 706.48   | 0         | 0         | 0         |
| Subcellar | 74          | 136         | UDStIS4         | 0      | -1343.778 | 2530.772 | 0         | 0         | 0         |
| Subcellar | 74          | 136         | UDStIS5         | 0      | -631.09   | 155.816  | 0         | 0         | 0         |
| Subcellar | 74          | 136         | UDStIS6         | 0      | -908.728  | 1980.108 | 0         | 0         | 0         |
| Subcellar | 74          | 136         | UDStID1         | 0      | -855.454  | 1186.624 | 0         | 0         | 0         |
| Subcellar | 74          | 136         | UDStID2         | 0      | -1033.868 | 1381.301 | 0         | 0         | 0         |
| Subcellar | 75          | 137         | Dead            | 0      | 889.721   | 2459.09  | 0         | 0         | 0         |
| Subcellar | 75          | 137         | Live            | 0      | 224.053   | 646.58   | 0         | 0         | 0         |
| Subcellar | 75          | 137         | Wind            | 0      | 140.221   | 916.786  | 0         | 0         | 0         |
| Subcellar | 75          | 137         | Wind-1          | 0      | -140.221  | -916.786 | 0         | 0         | 0         |
| Subcellar | 75          | 137         | Wind+Modal      | 0      | 140.221   | 916.786  | 0         | 0         | 0         |
| Subcellar | 75          | 137         | wind 1          | 0      | 140.221   | 916.786  | 0         | 0         | 0         |
| Subcellar | 75          | 137         | wind -1         | 0      | -140.221  | -916.786 | 0         | 0         | 0         |
| Subcellar | 75          | 137         | UDStIS1         | 0      | 1245.61   | 3442.726 | 0         | 0         | 0         |
| Subcellar | 75          | 137         | UDStIS2         | 0      | 1426.15   | 3985.437 | 0         | 0         | 0         |
| Subcellar | 75          | 137         | UDStIS3         | 0      | 1431.939  | 4514.275 | 0         | 0         | 0         |
| Subcellar | 75          | 137         | UDStIS4         | 0      | 1151.498  | 2680.703 | 0         | 0         | 0         |
| Subcellar | 75          | 137         | UDStIS5         | 0      | 940.97    | 3129.967 | 0         | 0         | 0         |
| Subcellar | 75          | 137         | UDStIS6         | 0      | 660.528   | 1296.395 | 0         | 0         | 0         |
| Subcellar | 75          | 137         | UDStID1         | 0      | 889.721   | 2459.09  | 0         | 0         | 0         |
| Subcellar | 75          | 137         | UDStID2         | 0      | 1113.774  | 3105.671 | 0         | 0         | 0         |
| Subcellar | 76          | 138         | Dead            | 0      | -818.439  | 1139.793 | 0         | 0         | 0         |
| Subcellar | 76          | 138         | Live            | 0      | -201.462  | 249.104  | 0         | 0         | 0         |
| Subcellar | 76          | 138         | Wind            | 0      | -58.574   | -494.66  | 0         | 0         | 0         |
| Subcellar | 76          | 138         | Wind-1          | 0      | 58.574    | 494.66   | 0         | 0         | 0         |
| Subcellar | 76          | 138         | Wind+Modal      | 0      | -58.574   | -494.66  | 0         | 0         | 0         |
| Subcellar | 76          | 138         | wind 1          | 0      | -58.574   | -494.66  | 0         | 0         | 0         |
| Subcellar | 76          | 138         | wind -1         | 0      | 58.574    | 494.66   | 0         | 0         | 0         |
| Subcellar | 76          | 138         | UDStIS1         | 0      | -1145.815 | 1595.71  | 0         | 0         | 0         |
| Subcellar | 76          | 138         | UDStIS2         | 0      | -1304.466 | 1766.318 | 0         | 0         | 0         |
| Subcellar | 76          | 138         | UDStIS3         | 0      | -1242.163 | 1122.196 | 0         | 0         | 0         |
| Subcellar | 76          | 138         | UDStIS4         | 0      | -1125.014 | 2111.516 | 0         | 0         | 0         |
| Subcellar | 76          | 138         | UDStIS5         | 0      | -795.169  | 531.154  | 0         | 0         | 0         |
| Subcellar | 76          | 138         | UDStIS6         | 0      | -678.021  | 1520.474 | 0         | 0         | 0         |
| Subcellar | 76          | 138         | UDStID1         | 0      | -818.439  | 1139.793 | 0         | 0         | 0         |
| Subcellar | 76          | 138         | UDStID2         | 0      | -1019.901 | 1388.897 | 0         | 0         | 0         |

5.4 Modal Results

Table 5.6 - Modal Periods and Frequencies

| Case  | Mode | Period sec  | Frequency cyc/sec | Circular Frequency rad/sec | Eigenvalue rad <sup>2</sup> /sec <sup>2</sup> |
|-------|------|-------------|-------------------|----------------------------|---|
| Modal | 1    | -146765.086 | -6.814E-06        | -4.281E-05                 | 0   |
| Modal | 2    | 2.574       | 0.388             | 2.4408                     | 5.9573  |
| Modal | 3    | 2.36        | 0.424             | 2.6622                     | 7.0873  |
| Modal | 4    | 0.962       | 1.039             | 6.5298                     | 42.6389                                       |
| Modal | 5    | 0.731       | 1.368             | 8.5959                     | 73.8895                                       |
| Modal | 6    | 0.54        | 1.852             | 11.6384                    | 135.4515                                      |
| Modal | 7    | 0.349       | 2.866             | 18.0088                    | 324.3176                                      |
| Modal | 8    | 0.31        | 3.228             | 20.2819                    | 411.3538                                      |
| Modal | 9    | 0.301       | 3.325             | 20.8927                    | 436.5038                                      |
| Modal | 10   | 0.283       | 3.531             | 22.188                     | 492.3081                                      |
| Modal | 11   | 0.218       | 4.585             | 28.8105                    | 830.0434                                      |
| Modal | 12   | 0.198       | 5.054             | 31.7568                    | 1008.4919                                     |

Table 5.7 - Modal Participating Mass Ratios (Part 1 of 2)

| Case  | Mode | Period sec  | UX        | UY     | UZ | Sum UX | Sum UY | Sum UZ |
|-------|------|-------------|-----------|--------|----|--------|--------|--------|
| Modal | 1    | -146765.086 | 0.7836    | 0      | 0  | 0.7836 | 0      | 0      |
| Modal | 2    | 2.574       | 0.0006    | 0      | 0  | 0.7842 | 0      | 0      |
| Modal | 3    | 2.36        | 0.1366    | 0      | 0  | 0.9208 | 0      | 0      |
| Modal | 4    | 0.962       | 0.0001    | 0      | 0  | 0.9209 | 0      | 0      |
| Modal | 5    | 0.731       | 0.0364    | 0      | 0  | 0.9573 | 0      | 0      |
| Modal | 6    | 0.54        | 0.0001    | 0      | 0  | 0.9574 | 0      | 0      |
| Modal | 7    | 0.349       | 0.0154    | 0      | 0  | 0.9728 | 0      | 0      |
| Modal | 8    | 0.31        | 0.0002    | 0      | 0  | 0.973  | 0      | 0      |
| Modal | 9    | 0.301       | 0         | 0.0228 | 0  | 0.973  | 0.0228 | 0      |
| Modal | 10   | 0.283       | 5.082E-06 | 0      | 0  | 0.973  | 0.0228 | 0      |
| Modal | 11   | 0.218       | 0.0023    | 0      | 0  | 0.9753 | 0.0228 | 0      |
| Modal | 12   | 0.198       | 0.0061    | 0      | 0  | 0.9815 | 0.0228 | 0      |

Table 5.7 - Modal Participating Mass Ratios (Part 2 of 2)

| Case  | Mode | RX     | RY        | RZ        | Sum RX | Sum RY | Sum RZ |
|-------|------|--------|-----------|-----------|--------|--------|--------|
| Modal | 1    | 0      | 0.2535    | 0.0001    | 0      | 0.2535 | 0.0001 |
| Modal | 2    | 0      | 0.0022    | 0.8343    | 0      | 0.2556 | 0.8344 |
| Modal | 3    | 0      | 0.4713    | 0.0026    | 0      | 0.727  | 0.8371 |
| Modal | 4    | 0      | 0.0002    | 0.0831    | 0      | 0.7271 | 0.9201 |
| Modal | 5    | 0      | 0.1255    | 1.467E-05 | 0      | 0.8527 | 0.9201 |
| Modal | 6    | 0      | 0.0003    | 0.0339    | 0      | 0.853  | 0.954  |
| Modal | 7    | 0      | 0.0532    | 0.0003    | 0      | 0.9062 | 0.9543 |
| Modal | 8    | 0      | 0.0007    | 0.0162    | 0      | 0.9069 | 0.9705 |
| Modal | 9    | 0.7414 | 0         | 0         | 0.7414 | 0.9069 | 0.9705 |
| Modal | 10   | 0      | 1.753E-05 | 3.946E-05 | 0.7414 | 0.9069 | 0.9705 |
| Modal | 11   | 0      | 0.008     | 0.0003    | 0.7414 | 0.9149 | 0.9708 |

**Table 5.7 - Modal Participating Mass Ratios (Part 2 of 2, continued)**

| Case  | Mode | RX | RY     | RZ     | Sum RX | Sum RY | Sum RZ |
|-------|------|----|--------|--------|--------|--------|--------|
| Modal | 12   | 0  | 0.0212 | 0.0002 | 0.7414 | 0.9361 | 0.9709 |

**Table 5.8 - Modal Load Participation Ratios**

| Case  | Item Type    | Item | Static % | Dynamic % |
|-------|--------------|------|----------|-----------|
| Modal | Acceleration | UX   | 0        | 98.15     |
| Modal | Acceleration | UY   | 6.76     | 2.28      |
| Modal | Acceleration | UZ   | 0        | 0         |

**Table 5.9 - Modal Direction Factors**

| Case  | Mode | Period sec  | UX    | UY | UZ | RZ    |
|-------|------|-------------|-------|----|----|-------|
| Modal | 1    | -146765.086 | 1     | 0  | 0  | 0     |
| Modal | 2    | 2.574       | 0.006 | 0  | 0  | 0.994 |
| Modal | 3    | 2.36        | 0.996 | 0  | 0  | 0.004 |
| Modal | 4    | 0.962       | 0.005 | 0  | 0  | 0.995 |
| Modal | 5    | 0.731       | 1     | 0  | 0  | 0     |
| Modal | 6    | 0.54        | 0.023 | 0  | 0  | 0.977 |
| Modal | 7    | 0.349       | 0.999 | 0  | 0  | 0.001 |
| Modal | 8    | 0.31        | 0.257 | 0  | 0  | 0.743 |
| Modal | 9    | 0.301       | 0     | 1  | 0  | 0     |
| Modal | 10   | 0.283       | 0.584 | 0  | 0  | 0.416 |
| Modal | 11   | 0.218       | 0.907 | 0  | 0  | 0.093 |
| Modal | 12   | 0.198       | 0.983 | 0  | 0  | 0.017 |

## 6 Design Data

This chapter provides design data and results.

### 6.1 Steel Frame Design

**Table 6.1 - Steel Frame Preferences - AISC 360-05**

| Item                              | Value              |
|-----------------------------------|--------------------|
| Multi-Response Design             | Step-by-Step - All |
| Frame Type                        | SMF                |
| Seismic Design Grade              | B                  |
| Importance Factor                 | 1                  |
| Design System Rho                 | 1                  |
| Design System Sds                 | 0.5                |
| Design System R                   | 8                  |
| Design System Omega0              | 3                  |
| Design System Cd                  | 5.5                |
| Design Provision                  | LRFD               |
| Analysis Method                   | Direct Analysis    |
| Second Order Method               | General 2nd Order  |
| Stiffness Reduction Method        | Limited 1st Order  |
| Phi (Bending)                     | 0.9                |
| Phi (Compression)                 | 0.9                |
| Phi (Tension-Yielding)            | 0.9                |
| Phi (Tension-Fracture)            | 0.75               |
| Phi (Shear)                       | 0.9                |
| Phi (Shear-Short Webbed Rolled I) | 1                  |
| Phi (Torsion)                     | 0.9                |
| Ignore Seismic Code?              | No                 |
| Ignore Special Seismic Load?      | No                 |
| Doubler Plate Plug-Welded?        | Yes                |
| HSS Welding Type                  | ERW                |
| Reduced HSS Thickness             | No                 |
| Consider Deflection?              | Yes                |
| DL Ratio                          | 120                |
| SDL+LL Ratio                      | 120                |
| LL Ratio                          | 360                |
| Total Ratio                       | 240                |
| Total Camber Limit                | 240                |
| Pattern Live Load Factor          | 0.75               |
| D/C Ratio Limit                   | 0.95               |

**Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 1 of 6)**

| Story      | Label | Unique Name | Design Type | Design Section     | Frame Type                | Omega0 | Check Deflection? |
|------------|-------|-------------|-------------|--------------------|---------------------------|--------|-------------------|
| 16th Floor | C3    | 549         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 16th Floor | C4    | 455         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 16th Floor | C23   | 1311        | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 15th Floor | C3    | 548         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 15th Floor | C4    | 454         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |

**Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 1 of 6, continued)**

| Story      | Label | Unique Name | Design Type | Design Section     | Frame Type                | Omega0 | Check Deflection? |
|------------|-------|-------------|-------------|--------------------|---------------------------|--------|-------------------|
| 14th Floor | C3    | 547         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 14th Floor | C4    | 343         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 14th Floor | C23   | 1309        | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 13th Floor | C3    | 546         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 13th Floor | C4    | 337         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 12th Floor | C3    | 545         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 12th Floor | C4    | 329         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 12th Floor | C22   | 1307        | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 11th Floor | C3    | 544         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 11th Floor | C4    | 328         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 11th Floor | C22   | 1306        | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 10th Floor | C3    | 43          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 10th Floor | C4    | 44          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 10th Floor | C22   | 1305        | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 9th Floor  | C3    | 39          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 9th Floor  | C4    | 40          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 9th Floor  | C22   | 67          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 8th Floor  | C3    | 35          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 8th Floor  | C4    | 36          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 8th Floor  | C22   | 767         | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 7th Floor  | C3    | 31          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 7th Floor  | C4    | 32          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 7th Floor  | C22   | 80          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 6th Floor  | C3    | 64          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 6th Floor  | C4    | 28          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 6th Floor  | C22   | 77          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 5th Floor  | C3    | 23          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 5th Floor  | C4    | 24          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 4th Floor  | C3    | 19          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 4th Floor  | C4    | 20          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 4th Floor  | C7    | 66          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 3rd Floor  | C3    | 15          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 3rd Floor  | C4    | 16          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 3rd Floor  | C7    | 73          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 3rd Floor  | C8    | 59          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 3rd Floor  | C9    | 61          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 3rd Floor  | C10   | 65          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 2nd Floor  | C3    | 11          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 2nd Floor  | C4    | 12          | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 1st Floor  | C3    | 7           | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 1st Floor  | C4    | 8           | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| Cellar     | C3    | 3           | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| Cellar     | C4    | 4           | Column      | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 16th Floor | B1    | 63          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 14th Floor | B1    | 60          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |

**Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 1 of 6, continued)**

| Story      | Label | Unique Name | Design Type | Design Section     | Frame Type                | Omega0 | Check Deflection? |
|------------|-------|-------------|-------------|--------------------|---------------------------|--------|-------------------|
| 12th Floor | B1    | 58          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 11th Floor | B1    | 57          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 10th Floor | B1    | 56          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 9th Floor  | B1    | 55          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 8th Floor  | B1    | 54          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 7th Floor  | B1    | 53          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 6th Floor  | B1    | 52          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 5th Floor  | B1    | 51          | Beam        | W24X370            | Special Moment Frame, SMF | 3      | Yes               |
| 4th Floor  | B2    | 49          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 4th Floor  | B16   | 62          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 3rd Floor  | B1    | 50          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 2nd Floor  | B1    | 47          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 1st Floor  | B1    | 45          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| Cellar     | B1    | 27          | Beam        | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 16th Floor | D39   | 75          | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 16th Floor | D40   | 234         | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 14th Floor | D39   | 236         | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 14th Floor | D40   | 76          | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 12th Floor | D41   | 78          | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 12th Floor | D42   | 240         | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 11th Floor | D41   | 276         | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 11th Floor | D42   | 79          | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 10th Floor | D41   | 223         | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 10th Floor | D42   | 320         | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 9th Floor  | D41   | 321         | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 9th Floor  | D46   | 759         | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 8th Floor  | D40   | 1247        | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 6th Floor  | D41   | 1256        | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 6th Floor  | D46   | 1257        | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 5th Floor  | D42   | 1296        | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 5th Floor  | D50   | 74          | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |
| 4th Floor  | D52   | 70          | Brace       | Program Determined | Special Moment Frame, SMF | 3      | Yes               |

**Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 2 of 6)**

| Story      | Label | Unique Name | Deflection Type | DL Ratio | SDL+LL Ratio | LL Ratio | Total Ratio | Camber Ratio | DL Absolute in | SDL+LL Absolute in | LL Absolute in |
|------------|-------|-------------|-----------------|----------|--------------|----------|-------------|--------------|----------------|--------------------|----------------|
| 16th Floor | C3    | 549         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 16th Floor | C4    | 455         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 16th Floor | C23   | 1311        | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 15th Floor | C3    | 548         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 15th Floor | C4    | 454         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 14th Floor | C3    | 547         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 14th Floor | C4    | 343         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 14th Floor | C23   | 1309        | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |

Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 2 of 6, continued)

| Story      | Label | Unique Name | Deflection Type | DL Ratio | SDL+LL Ratio | LL Ratio | Total Ratio | Camber Ratio | DL Absolute in | SDL+LL Absolute in | LL Absolute in |
|------------|-------|-------------|-----------------|----------|--------------|----------|-------------|--------------|----------------|--------------------|----------------|
| 13th Floor | C3    | 546         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 13th Floor | C4    | 337         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 12th Floor | C3    | 545         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 12th Floor | C4    | 329         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 12th Floor | C22   | 1307        | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 11th Floor | C3    | 544         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 11th Floor | C4    | 328         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 11th Floor | C22   | 1306        | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 10th Floor | C3    | 43          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 10th Floor | C4    | 44          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 10th Floor | C22   | 1305        | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 9th Floor  | C3    | 39          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 9th Floor  | C4    | 40          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 9th Floor  | C22   | 67          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 8th Floor  | C3    | 35          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 8th Floor  | C4    | 36          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 8th Floor  | C22   | 767         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 7th Floor  | C3    | 31          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 7th Floor  | C4    | 32          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 7th Floor  | C22   | 80          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 6th Floor  | C3    | 64          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 6th Floor  | C4    | 28          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 6th Floor  | C22   | 77          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 5th Floor  | C3    | 23          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 5th Floor  | C4    | 24          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 4th Floor  | C3    | 19          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 4th Floor  | C4    | 20          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 4th Floor  | C7    | 66          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 3rd Floor  | C3    | 15          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 3rd Floor  | C4    | 16          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 3rd Floor  | C7    | 73          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 3rd Floor  | C8    | 59          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 3rd Floor  | C9    | 61          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 3rd Floor  | C10   | 65          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 2nd Floor  | C3    | 11          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 2nd Floor  | C4    | 12          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 1st Floor  | C3    | 7           | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 1st Floor  | C4    | 8           | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| Cellar     | C3    | 3           | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| Cellar     | C4    | 4           | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 16th Floor | B1    | 63          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 14th Floor | B1    | 60          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 12th Floor | B1    | 58          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 11th Floor | B1    | 57          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |

**Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 2 of 6, continued)**

| Story      | Label | Unique Name | Deflection Type | DL Ratio | SDL+LL Ratio | LL Ratio | Total Ratio | Camber Ratio | DL Absolute in | SDL+LL Absolute in | LL Absolute in |
|------------|-------|-------------|-----------------|----------|--------------|----------|-------------|--------------|----------------|--------------------|----------------|
| 10th Floor | B1    | 56          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 9th Floor  | B1    | 55          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 8th Floor  | B1    | 54          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 7th Floor  | B1    | 53          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 6th Floor  | B1    | 52          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 5th Floor  | B1    | 51          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 4th Floor  | B2    | 49          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 4th Floor  | B16   | 62          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 3rd Floor  | B1    | 50          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 2nd Floor  | B1    | 47          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 1st Floor  | B1    | 45          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| Cellar     | B1    | 27          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 16th Floor | D39   | 75          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 16th Floor | D40   | 234         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 14th Floor | D39   | 236         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 14th Floor | D40   | 76          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 12th Floor | D41   | 78          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 12th Floor | D42   | 240         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 11th Floor | D41   | 276         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 11th Floor | D42   | 79          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 10th Floor | D41   | 223         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 10th Floor | D42   | 320         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 9th Floor  | D41   | 321         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 9th Floor  | D46   | 759         | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 8th Floor  | D40   | 1247        | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 6th Floor  | D41   | 1256        | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 6th Floor  | D46   | 1257        | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 5th Floor  | D42   | 1296        | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 5th Floor  | D50   | 74          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |
| 4th Floor  | D52   | 70          | Ratio           | 120      | 120          | 360      | 240         | 240          |                |                    |                |

**Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 3 of 6)**

| Story      | Label | Unique Name | Camber Absolute in | Camber in | Net Area Ratio | LLRF | Unbraced Length Ratio Major | Unbraced Length Ratio Minor | Unbraced Length Ratio (LTB) | Effective Length Factor Major |
|------------|-------|-------------|--------------------|-----------|----------------|------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|
| 16th Floor | C3    | 549         |                    | 0         | 1              | 1    | 1.818217                    | 0.818217                    | 0.818217                    | 1                             |
| 16th Floor | C4    | 455         |                    | 0         | 1              | 1    | 1.818217                    | 0.818217                    | 0.818217                    | 1                             |
| 16th Floor | C23   | 1311        |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 15th Floor | C3    | 548         |                    | 0         | 1              | 1    | 1.818217                    | 1                           | 1                           | 1                             |
| 15th Floor | C4    | 454         |                    | 0         | 1              | 1    | 1.818217                    | 1                           | 1                           | 1                             |
| 14th Floor | C3    | 547         |                    | 0         | 1              | 1    | 1.817872                    | 0.818217                    | 0.818217                    | 1                             |
| 14th Floor | C4    | 343         |                    | 0         | 1              | 1    | 1.817872                    | 0.818217                    | 0.818217                    | 1                             |
| 14th Floor | C23   | 1309        |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 13th Floor | C3    | 546         |                    | 0         | 1              | 1    | 1.818499                    | 1                           | 1                           | 1                             |



Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 3 of 6, continued)

| Story      | Label | Unique Name | Camber Absolute in | Camber in | Net Area Ratio | LLRF | Unbraced Length Ratio Major | Unbraced Length Ratio Minor | Unbraced Length Ratio (LTB) | Effective Length Factor Major |
|------------|-------|-------------|--------------------|-----------|----------------|------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|
| 13th Floor | C4    | 337         |                    | 0         | 1              | 1    | 1.818499                    | 1                           | 1                           | 1                             |
| 12th Floor | C3    | 545         |                    | 0         | 1              | 1    | 0.909087                    | 0.909087                    | 0.909087                    | 1                             |
| 12th Floor | C4    | 329         |                    | 0         | 1              | 1    | 0.909087                    | 0.909087                    | 0.909087                    | 1                             |
| 12th Floor | C22   | 1307        |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 11th Floor | C3    | 544         |                    | 0         | 1              | 1    | 0.909093                    | 0.909093                    | 0.909093                    | 1                             |
| 11th Floor | C4    | 328         |                    | 0         | 1              | 1    | 0.909093                    | 0.909093                    | 0.909093                    | 1                             |
| 11th Floor | C22   | 1306        |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 10th Floor | C3    | 43          |                    | 0         | 1              | 1    | 0.901042                    | 0.901042                    | 0.901042                    | 1                             |
| 10th Floor | C4    | 44          |                    | 0         | 1              | 1    | 0.901042                    | 0.901042                    | 0.901042                    | 1                             |
| 10th Floor | C22   | 1305        |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 9th Floor  | C3    | 39          |                    | 0         | 1              | 1    | 0.894444                    | 0.894444                    | 0.894444                    | 1                             |
| 9th Floor  | C4    | 40          |                    | 0         | 1              | 1    | 0.894444                    | 0.894444                    | 0.894444                    | 1                             |
| 9th Floor  | C22   | 67          |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 8th Floor  | C3    | 35          |                    | 0         | 1              | 1    | 0.869642                    | 0.869642                    | 0.869642                    | 1                             |
| 8th Floor  | C4    | 36          |                    | 0         | 1              | 1    | 0.869642                    | 0.869642                    | 0.869642                    | 1                             |
| 8th Floor  | C22   | 767         |                    | 0         | 1              | 1    | 1                           | 3.252099                    | 3.252099                    | 1                             |
| 7th Floor  | C3    | 31          |                    | 0         | 1              | 1    | 0.869642                    | 0.869642                    | 0.869642                    | 1                             |
| 7th Floor  | C4    | 32          |                    | 0         | 1              | 1    | 0.869642                    | 0.869642                    | 0.869642                    | 1                             |
| 7th Floor  | C22   | 80          |                    | 0         | 1              | 1    | 1                           | 3.252099                    | 3.252099                    | 1                             |
| 6th Floor  | C3    | 64          |                    | 0         | 1              | 1    | 0.846572                    | 0.846572                    | 0.846572                    | 1                             |
| 6th Floor  | C4    | 28          |                    | 0         | 1              | 1    | 0.846572                    | 0.846572                    | 0.846572                    | 1                             |
| 6th Floor  | C22   | 77          |                    | 0         | 1              | 1    | 1                           | 2.597317                    | 2.597317                    | 1                             |
| 5th Floor  | C3    | 23          |                    | 0         | 1              | 1    | 0.857146                    | 0.857146                    | 0.857146                    | 1                             |
| 5th Floor  | C4    | 24          |                    | 0         | 1              | 1    | 0.857146                    | 0.857146                    | 0.857146                    | 1                             |
| 4th Floor  | C3    | 19          |                    | 0         | 1              | 1    | 0.900912                    | 0.900912                    | 0.900912                    | 1                             |
| 4th Floor  | C4    | 20          |                    | 0         | 1              | 1    | 0.900912                    | 0.900912                    | 0.900912                    | 1                             |
| 4th Floor  | C7    | 66          |                    | 0         | 1              | 1    | 0.900912                    | 0.900912                    | 0.900912                    | 1                             |
| 3rd Floor  | C3    | 15          |                    | 0         | 1              | 1    | 0.862319                    | 0.862319                    | 0.862319                    | 1                             |
| 3rd Floor  | C4    | 16          |                    | 0         | 1              | 1    | 0.862319                    | 0.862319                    | 0.862319                    | 1                             |
| 3rd Floor  | C7    | 73          |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 3rd Floor  | C8    | 59          |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 3rd Floor  | C9    | 61          |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 3rd Floor  | C10   | 65          |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 2nd Floor  | C3    | 11          |                    | 0         | 1              | 1    | 0.916574                    | 0.916574                    | 0.916574                    | 1                             |
| 2nd Floor  | C4    | 12          |                    | 0         | 1              | 1    | 0.916574                    | 0.916574                    | 0.916574                    | 1                             |
| 1st Floor  | C3    | 7           |                    | 0         | 1              | 1    | 0.886905                    | 0.886905                    | 0.886905                    | 1                             |
| 1st Floor  | C4    | 8           |                    | 0         | 1              | 1    | 0.886905                    | 0.886905                    | 0.886905                    | 1                             |
| Cellar     | C3    | 3           |                    | 0         | 1              | 1    | 0.886905                    | 0.886905                    | 0.886905                    | 1                             |
| Cellar     | C4    | 4           |                    | 0         | 1              | 1    | 0.886905                    | 0.886905                    | 0.886905                    | 1                             |
| 16th Floor | B1    | 63          |                    | 0         | 1              | 1    | 0.506927                    | 0.934734                    | 0.934734                    | 1                             |
| 14th Floor | B1    | 60          |                    | 0         | 1              | 1    | 0.506927                    | 0.934734                    | 0.934734                    | 1                             |
| 12th Floor | B1    | 58          |                    | 0         | 1              | 1    | 0.506927                    | 0.934734                    | 0.934734                    | 1                             |
| 11th Floor | B1    | 57          |                    | 0         | 1              | 1    | 0.506927                    | 0.934734                    | 0.934734                    | 1                             |
| 10th Floor | B1    | 56          |                    | 0         | 1              | 1    | 0.506927                    | 0.934734                    | 0.934734                    | 1                             |

Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 3 of 6, continued)

| Story      | Label | Unique Name | Camber Absolute in | Camber in | Net Area Ratio | LLRF | Unbraced Length Ratio Major | Unbraced Length Ratio Minor | Unbraced Length Ratio (LTB) | Effective Length Factor Major |
|------------|-------|-------------|--------------------|-----------|----------------|------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|
| 9th Floor  | B1    | 55          |                    | 0         | 1              | 1    | 0.506927                    | 0.934734                    | 0.934734                    | 1                             |
| 8th Floor  | B1    | 54          |                    | 0         | 1              | 1    | 0.506927                    | 0.934734                    | 0.934734                    | 1                             |
| 7th Floor  | B1    | 53          |                    | 0         | 1              | 1    | 0.506927                    | 0.934734                    | 0.934734                    | 1                             |
| 6th Floor  | B1    | 52          |                    | 0         | 1              | 1    | 0.506927                    | 0.934734                    | 0.934734                    | 1                             |
| 5th Floor  | B1    | 51          |                    | 0         | 1              | 1    | 0.506927                    | 0.934734                    | 0.934734                    | 1                             |
| 4th Floor  | B2    | 49          |                    | 0         | 1              | 1    | 0.914401                    | 0.914401                    | 0.914401                    | 1                             |
| 4th Floor  | B16   | 62          |                    | 0         | 1              | 1    | 0.887365                    | 0.887365                    | 0.887365                    | 1                             |
| 3rd Floor  | B1    | 50          |                    | 0         | 1              | 1    | 0.215904                    | 0.934734                    | 0.934734                    | 1                             |
| 2nd Floor  | B1    | 47          |                    | 0         | 1              | 1    | 0.934734                    | 0.934734                    | 0.934734                    | 1                             |
| 1st Floor  | B1    | 45          |                    | 0         | 1              | 1    | 0.934734                    | 0.934734                    | 0.934734                    | 1                             |
| Cellar     | B1    | 27          |                    | 0         | 1              | 1    | 0.934734                    | 0.934734                    | 0.934734                    | 1                             |
| 16th Floor | D39   | 75          |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 16th Floor | D40   | 234         |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 14th Floor | D39   | 236         |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 14th Floor | D40   | 76          |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 12th Floor | D41   | 78          |                    | 0         | 1              | 1    | 0.5                         | 1                           | 1                           | 1                             |
| 12th Floor | D42   | 240         |                    | 0         | 1              | 1    | 0.5                         | 1                           | 1                           | 1                             |
| 11th Floor | D41   | 276         |                    | 0         | 1              | 1    | 0.5                         | 1                           | 1                           | 1                             |
| 11th Floor | D42   | 79          |                    | 0         | 1              | 1    | 0.5                         | 1                           | 1                           | 1                             |
| 10th Floor | D41   | 223         |                    | 0         | 1              | 1    | 0.5                         | 1                           | 1                           | 1                             |
| 10th Floor | D42   | 320         |                    | 0         | 1              | 1    | 0.5                         | 1                           | 1                           | 1                             |
| 9th Floor  | D41   | 321         |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 9th Floor  | D46   | 759         |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 8th Floor  | D40   | 1247        |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 6th Floor  | D41   | 1256        |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 6th Floor  | D46   | 1257        |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 5th Floor  | D42   | 1296        |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 5th Floor  | D50   | 74          |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |
| 4th Floor  | D52   | 70          |                    | 0         | 1              | 1    | 1                           | 1                           | 1                           | 1                             |

Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 4 of 6)

| Story      | Label | Unique Name | Effective Length Factor Major | Effective Length Factor Minor | Effective Length Factor (KLTB) | Moment Coefficient (Cm Major) | Moment Coefficient (Cm Minor) | Bending Coefficient (Cb) | Nonsway Moment Factor (B1 Major) |
|------------|-------|-------------|-------------------------------|-------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------------------|----------------------------------|
| 16th Floor | C3    | 549         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.102694                 | 1                                |
| 16th Floor | C4    | 455         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.18657                  | 1                                |
| 16th Floor | C23   | 1311        | 1                             | 1                             | 1                              | 1                             | 0.247624                      | 1                        | 1                                |
| 15th Floor | C3    | 548         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.688865                 | 1                                |
| 15th Floor | C4    | 454         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.038613                 | 1                                |
| 14th Floor | C3    | 547         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.023798                 | 1                                |
| 14th Floor | C4    | 343         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.028442                 | 1                                |
| 14th Floor | C23   | 1309        | 1                             | 1                             | 1                              | 1                             | 0.214983                      | 1                        | 1                                |

Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 4 of 6, continued)

| Story      | Label | Unique Name | Effective Length Factor Major | Effective Length Factor Minor | Effective Length Factor (KLTB) | Moment Coefficient (Cm Major) | Moment Coefficient (Cm Minor) | Bending Coefficient (Cb) | Nonsway Moment Factor (B1 Major) |
|------------|-------|-------------|-------------------------------|-------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------------------|----------------------------------|
| 13th Floor | C3    | 546         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.318682                 | 1                                |
| 13th Floor | C4    | 337         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.204912                 | 1                                |
| 12th Floor | C3    | 545         | 1                             | 1                             | 1                              | 0.888754                      | 1                             | 1.12517                  | 1                                |
| 12th Floor | C4    | 329         | 1                             | 1                             | 1                              | 0.514665                      | 1                             | 1.943011                 | 1                                |
| 12th Floor | C22   | 1307        | 1                             | 1                             | 1                              | 1                             | 0.210733                      | 1                        | 1                                |
| 11th Floor | C3    | 544         | 1                             | 1                             | 1                              | 0.322357                      | 1                             | 2.211236                 | 1                                |
| 11th Floor | C4    | 328         | 1                             | 1                             | 1                              | 0.488554                      | 1                             | 2.046856                 | 1                                |
| 11th Floor | C22   | 1306        | 1                             | 1                             | 1                              | 1                             | 0.222274                      | 1                        | 1                                |
| 10th Floor | C3    | 43          | 1                             | 1                             | 1                              | 0.811065                      | 1                             | 1.232946                 | 1                                |
| 10th Floor | C4    | 44          | 1                             | 1                             | 1                              | 0.772577                      | 1                             | 1.294369                 | 1                                |
| 10th Floor | C22   | 1305        | 1                             | 1                             | 1                              | 1                             | 0.234025                      | 1                        | 1                                |
| 9th Floor  | C3    | 39          | 1                             | 1                             | 1                              | 0.658322                      | 1                             | 1.519014                 | 1                                |
| 9th Floor  | C4    | 40          | 1                             | 1                             | 1                              | 0.944132                      | 1                             | 1.059174                 | 1                                |
| 9th Floor  | C22   | 67          | 1                             | 1                             | 1                              | 1                             | 0.355229                      | 1                        | 1                                |
| 8th Floor  | C3    | 35          | 1                             | 1                             | 1                              | 0.809895                      | 1                             | 1.234728                 | 1                                |
| 8th Floor  | C4    | 36          | 1                             | 1                             | 1                              | 0.725542                      | 1                             | 1.37828                  | 1                                |
| 8th Floor  | C22   | 767         | 1                             | 1                             | 1                              | 1                             | 1                             | 1                        | 1                                |
| 7th Floor  | C3    | 31          | 1                             | 1                             | 1                              | 0.736448                      | 1                             | 1.357869                 | 1                                |
| 7th Floor  | C4    | 32          | 1                             | 1                             | 1                              | 0.853484                      | 1                             | 1.171668                 | 1                                |
| 7th Floor  | C22   | 80          | 1                             | 1                             | 1                              | 1                             | 1                             | 1                        | 1                                |
| 6th Floor  | C3    | 64          | 1                             | 1                             | 1                              | 0.494939                      | 1                             | 2.020453                 | 1                                |
| 6th Floor  | C4    | 28          | 1                             | 1                             | 1                              | 0.674648                      | 1                             | 1.482254                 | 1                                |
| 6th Floor  | C22   | 77          | 1                             | 1                             | 1                              | 1                             | 1                             | 1                        | 1                                |
| 5th Floor  | C3    | 23          | 1                             | 1                             | 1                              | 0.824848                      | 1                             | 1.212344                 | 1                                |
| 5th Floor  | C4    | 24          | 1                             | 1                             | 1                              | 0.827228                      | 1                             | 1.208857                 | 1                                |
| 4th Floor  | C3    | 19          | 1                             | 1                             | 1                              | 0.84122                       | 1                             | 1.188749                 | 1                                |
| 4th Floor  | C4    | 20          | 1                             | 1                             | 1                              | 0.890089                      | 1                             | 1.123483                 | 1                                |
| 4th Floor  | C7    | 66          | 1                             | 1                             | 1                              | 1                             | 0.718836                      | 1                        | 1                                |
| 3rd Floor  | C3    | 15          | 1                             | 1                             | 1                              | 0.975886                      | 1                             | 1.02471                  | 1                                |
| 3rd Floor  | C4    | 16          | 1                             | 1                             | 1                              | 0.900821                      | 1                             | 1.110098                 | 1                                |
| 3rd Floor  | C7    | 73          | 1                             | 1                             | 1                              | 1                             | 0.215653                      | 1                        | 1                                |
| 3rd Floor  | C8    | 59          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.000016                 | 1                                |
| 3rd Floor  | C9    | 61          | 1                             | 1                             | 1                              | 1                             | 0.244257                      | 1                        | 1                                |
| 3rd Floor  | C10   | 65          | 1                             | 1                             | 1                              | 1                             | 0.244406                      | 1                        | 1                                |
| 2nd Floor  | C3    | 11          | 1                             | 1                             | 1                              | 0.864009                      | 1                             | 1.157396                 | 1                                |
| 2nd Floor  | C4    | 12          | 1                             | 1                             | 1                              | 0.827411                      | 1                             | 1.208589                 | 1                                |
| 1st Floor  | C3    | 7           | 1                             | 1                             | 1                              | 0.762603                      | 1                             | 1.311298                 | 1                                |
| 1st Floor  | C4    | 8           | 1                             | 1                             | 1                              | 0.829218                      | 1                             | 1.205956                 | 1                                |
| Cellar     | C3    | 3           | 1                             | 1                             | 1                              | 0.925956                      | 1                             | 1.079965                 | 1                                |
| Cellar     | C4    | 4           | 1                             | 1                             | 1                              | 0.919109                      | 1                             | 1.08801                  | 1                                |
| 16th Floor | B1    | 63          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.603518                 | 1                                |
| 14th Floor | B1    | 60          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.686241                 | 1                                |
| 12th Floor | B1    | 58          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.705158                 | 1                                |

Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 4 of 6, continued)

| Story      | Label | Unique Name | Effective Length Factor Major | Effective Length Factor Minor | Effective Length Factor (KLTB) | Moment Coefficient (Cm Major) | Moment Coefficient (Cm Minor) | Bending Coefficient (Cb) | Nonsway Moment Factor (B1 Major) |
|------------|-------|-------------|-------------------------------|-------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------------------|----------------------------------|
| 11th Floor | B1    | 57          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.691953                 | 1                                |
| 10th Floor | B1    | 56          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.641818                 | 1                                |
| 9th Floor  | B1    | 55          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.712553                 | 1                                |
| 8th Floor  | B1    | 54          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.814841                 | 1                                |
| 7th Floor  | B1    | 53          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.71767                  | 1                                |
| 6th Floor  | B1    | 52          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.690468                 | 1                                |
| 5th Floor  | B1    | 51          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.768841                 | 1                                |
| 4th Floor  | B2    | 49          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.416255                 | 1                                |
| 4th Floor  | B16   | 62          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.497848                 | 1                                |
| 3rd Floor  | B1    | 50          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.275804                 | 1                                |
| 2nd Floor  | B1    | 47          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.584988                 | 1                                |
| 1st Floor  | B1    | 45          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.432671                 | 1                                |
| Cellar     | B1    | 27          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.394343                 | 1                                |
| 16th Floor | D39   | 75          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.220243                 | 1                                |
| 16th Floor | D40   | 234         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.315789                 | 1                                |
| 14th Floor | D39   | 236         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.155051                 | 1                                |
| 14th Floor | D40   | 76          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.315789                 | 1                                |
| 12th Floor | D41   | 78          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.206411                 | 1                                |
| 12th Floor | D42   | 240         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.623422                 | 1                                |
| 11th Floor | D41   | 276         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.117836                 | 1                                |
| 11th Floor | D42   | 79          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.891843                 | 1                                |
| 10th Floor | D41   | 223         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.383412                 | 1                                |
| 10th Floor | D42   | 320         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.605241                 | 1                                |
| 9th Floor  | D41   | 321         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.279087                 | 1                                |
| 9th Floor  | D46   | 759         | 1                             | 1                             | 1                              | 1                             | 1                             | 1.460763                 | 1                                |
| 8th Floor  | D40   | 1247        | 1                             | 1                             | 1                              | 1                             | 1                             | 1.315789                 | 1                                |
| 6th Floor  | D41   | 1256        | 1                             | 1                             | 1                              | 1                             | 1                             | 1.814934                 | 1                                |
| 6th Floor  | D46   | 1257        | 1                             | 1                             | 1                              | 1                             | 1                             | 1.50434                  | 1                                |
| 5th Floor  | D42   | 1296        | 1                             | 1                             | 1                              | 1                             | 1                             | 1.682311                 | 1                                |
| 5th Floor  | D50   | 74          | 1                             | 1                             | 1                              | 0.500076                      | 1                             | 1.988578                 | 1                                |
| 4th Floor  | D52   | 70          | 1                             | 1                             | 1                              | 1                             | 1                             | 1.795635                 | 1                                |

Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 5 of 6)

| Story      | Label | Unique Name | Sway Moment Factor (B2 Major) | Sway Moment Factor (B2 Minor) | Reduce Hss Thickness? | HSS Welding Type? | Yield stress, Fy lb/in <sup>2</sup> | Expected to specified Fy ratio, Ry lb/in <sup>2</sup> | Compressive Capacity, Pnc kip | Tensile Capacity, Pnt kip |
|------------|-------|-------------|-------------------------------|-------------------------------|-----------------------|-------------------|-------------------------------------|---|-------------------------------|---------------------------|
| 16th Floor | C3    | 549         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24681.882                     | 25012.8                   |
| 16th Floor | C4    | 455         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24681.882                     | 25012.8                   |
| 16th Floor | C23   | 1311        | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 8364.593                      | 9675                      |
| 15th Floor | C3    | 548         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24681.882                     | 25012.8                   |

Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 5 of 6, continued)

| Story      | Label | Unique Name | Sway Moment Factor (B2 Major) | Sway Moment Factor (B2 Minor) | Reduce Hss Thickness? | HSS Welding Type? | Yield stress, Fy lb/in <sup>2</sup> | Expected to specified Fy ratio, Ry lb/in <sup>2</sup> | Compressive Capacity, Pnc kip | Tensile Capacity, Pnt kip |
|------------|-------|-------------|-------------------------------|-------------------------------|-----------------------|-------------------|-------------------------------------|---|-------------------------------|---------------------------|
| 15th Floor | C4    | 454         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24681.882                     | 25012.8                   |
| 14th Floor | C3    | 547         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24682.007                     | 25012.8                   |
| 14th Floor | C4    | 343         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24682.007                     | 25012.8                   |
| 14th Floor | C23   | 1309        | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 8365.012                      | 9675                      |
| 13th Floor | C3    | 546         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24682.007                     | 25012.8                   |
| 13th Floor | C4    | 337         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24682.007                     | 25012.8                   |
| 12th Floor | C3    | 545         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24200.52                      | 25012.8                   |
| 12th Floor | C4    | 329         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24200.52                      | 25012.8                   |
| 12th Floor | C22   | 1307        | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 8365.152                      | 9675                      |
| 11th Floor | C3    | 544         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24200.419                     | 25012.8                   |
| 11th Floor | C4    | 328         | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24200.419                     | 25012.8                   |
| 11th Floor | C22   | 1306        | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 8365.012                      | 9675                      |
| 10th Floor | C3    | 43          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24337.423                     | 25012.8                   |
| 10th Floor | C4    | 44          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24337.423                     | 25012.8                   |
| 10th Floor | C22   | 1305        | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 8557.154                      | 9675                      |
| 9th Floor  | C3    | 39          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24426.799                     | 25012.8                   |
| 9th Floor  | C4    | 40          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24426.799                     | 25012.8                   |
| 9th Floor  | C22   | 67          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 8685.329                      | 9675                      |
| 8th Floor  | C3    | 35          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24647.956                     | 25012.8                   |
| 8th Floor  | C4    | 36          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24647.956                     | 25012.8                   |
| 8th Floor  | C22   | 767         | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 4577.943                      | 9675                      |
| 7th Floor  | C3    | 31          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24647.956                     | 25012.8                   |
| 7th Floor  | C4    | 32          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24647.956                     | 25012.8                   |
| 7th Floor  | C22   | 80          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 4577.943                      | 9675                      |
| 6th Floor  | C3    | 64          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24472.684                     | 25012.8                   |
| 6th Floor  | C4    | 28          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24472.684                     | 25012.8                   |
| 6th Floor  | C22   | 77          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 4577.943                      | 9675                      |
| 5th Floor  | C3    | 23          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24397.656                     | 25012.8                   |
| 5th Floor  | C4    | 24          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24397.656                     | 25012.8                   |
| 4th Floor  | C3    | 19          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24339.363                     | 25012.8                   |
| 4th Floor  | C4    | 20          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24339.363                     | 25012.8                   |
| 4th Floor  | C7    | 66          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 8759.644                      | 9675                      |
| 3rd Floor  | C3    | 15          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24690.939                     | 25012.8                   |
| 3rd Floor  | C4    | 16          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24690.939                     | 25012.8                   |
| 3rd Floor  | C7    | 73          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 9080.399                      | 9675                      |
| 3rd Floor  | C8    | 59          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 9080.399                      | 9675                      |
| 3rd Floor  | C9    | 61          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 9080.399                      | 9675                      |
| 3rd Floor  | C10   | 65          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 9080.399                      | 9675                      |
| 2nd Floor  | C3    | 11          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24035.555                     | 25012.8                   |
| 2nd Floor  | C4    | 12          | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24035.555                     | 25012.8                   |
| 1st Floor  | C3    | 7           | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24510.047                     | 25012.8                   |

Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 5 of 6, continued)

| Story      | Label | Unique Name | Sway Moment Factor (B2 Major) | Sway Moment Factor (B2 Minor) | Reduce Hss Thickness? | HSS Welding Type? | Yield stress, Fy lb/in <sup>2</sup> | Expected to specified Fy ratio, Ry lb/in <sup>2</sup> | Compressive Capacity, Pnc kip | Tensile Capacity, Pnt kip |
|------------|-------|-------------|-------------------------------|-------------------------------|-----------------------|-------------------|-------------------------------------|---|-------------------------------|---------------------------|
| 1st Floor  | C4    | 8           | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24510.047                     | 25012.8                   |
| Cellar     | C3    | 3           | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24510.047                     | 25012.8                   |
| Cellar     | C4    | 4           | 1                             | 1                             | No                    | ERW               | 36000                               | 1.5   | 24510.047                     | 25012.8                   |
| 16th Floor | B1    | 63          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| 14th Floor | B1    | 60          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| 12th Floor | B1    | 58          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| 11th Floor | B1    | 57          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| 10th Floor | B1    | 56          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| 9th Floor  | B1    | 55          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| 8th Floor  | B1    | 54          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| 7th Floor  | B1    | 53          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| 6th Floor  | B1    | 52          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 958.988                       | 4905                      |
| 5th Floor  | B1    | 51          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 958.988                       | 4905                      |
| 4th Floor  | B2    | 49          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 4365.063                      | 6030                      |
| 4th Floor  | B16   | 62          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 5058.161                      | 6030                      |
| 3rd Floor  | B1    | 50          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| 2nd Floor  | B1    | 47          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| 1st Floor  | B1    | 45          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| Cellar     | B1    | 27          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2116.387                      | 6030                      |
| 16th Floor | D39   | 75          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2901.444                      | 4545                      |
| 16th Floor | D40   | 234         | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2901.444                      | 4545                      |
| 14th Floor | D39   | 236         | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2901.623                      | 4545                      |
| 14th Floor | D40   | 76          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2901.623                      | 4545                      |
| 12th Floor | D41   | 78          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2901.682                      | 4545                      |
| 12th Floor | D42   | 240         | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2901.682                      | 4545                      |
| 11th Floor | D41   | 276         | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2901.623                      | 4545                      |
| 11th Floor | D42   | 79          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2901.623                      | 4545                      |
| 10th Floor | D41   | 223         | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2983.48                       | 4545                      |
| 10th Floor | D42   | 320         | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 2983.48                       | 4545                      |
| 9th Floor  | D41   | 321         | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 4132.883                      | 6030                      |
| 9th Floor  | D46   | 759         | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 3759.433                      | 6030                      |
| 8th Floor  | D40   | 1247        | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 3379.61                       | 6030                      |
| 6th Floor  | D41   | 1256        | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 4118.597                      | 6030                      |
| 6th Floor  | D46   | 1257        | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 3746.437                      | 6030                      |
| 5th Floor  | D42   | 1296        | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 4059.861                      | 6030                      |
| 5th Floor  | D50   | 74          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 8544.334                      | 9675                      |
| 4th Floor  | D52   | 70          | 1                             | 1                             | No                    | ERW               | 50000                               | 1.1   | 4190.581                      | 6030                      |

**Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 6 of 6)**

| Story      | Label | Unique Name | Minor Bending Capacity, Mn2 kip-ft | Major Shear Capacity, Vn2 kip | Minor Shear Capacity, Vn3 kip | D/C Ratio Limit |
|------------|-------|-------------|------------------------------------|-------------------------------|-------------------------------|-----------------|
| 16th Floor | C3    | 549         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 16th Floor | C4    | 455         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 16th Floor | C23   | 1311        | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 15th Floor | C3    | 548         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 15th Floor | C4    | 454         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 14th Floor | C3    | 547         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 14th Floor | C4    | 343         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 14th Floor | C23   | 1309        | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 13th Floor | C3    | 546         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 13th Floor | C4    | 337         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 12th Floor | C3    | 545         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 12th Floor | C4    | 329         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 12th Floor | C22   | 1307        | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 11th Floor | C3    | 544         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 11th Floor | C4    | 328         | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 11th Floor | C22   | 1306        | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 10th Floor | C3    | 43          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 10th Floor | C4    | 44          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 10th Floor | C22   | 1305        | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 9th Floor  | C3    | 39          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 9th Floor  | C4    | 40          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 9th Floor  | C22   | 67          | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 8th Floor  | C3    | 35          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 8th Floor  | C4    | 36          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 8th Floor  | C22   | 767         | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 7th Floor  | C3    | 31          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 7th Floor  | C4    | 32          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 7th Floor  | C22   | 80          | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 6th Floor  | C3    | 64          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 6th Floor  | C4    | 28          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 6th Floor  | C22   | 77          | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 5th Floor  | C3    | 23          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 5th Floor  | C4    | 24          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 4th Floor  | C3    | 19          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 4th Floor  | C4    | 20          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 4th Floor  | C7    | 66          | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 3rd Floor  | C3    | 15          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 3rd Floor  | C4    | 16          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 3rd Floor  | C7    | 73          | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 3rd Floor  | C8    | 59          | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 3rd Floor  | C9    | 61          | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 3rd Floor  | C10   | 65          | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 2nd Floor  | C3    | 11          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |

**Table 6.2 - Steel Frame Overwrites - AISC 360-05 (Part 6 of 6, continued)**

| Story      | Label | Unique Name | Minor Bending Capacity, Mn2 kip-ft | Major Shear Capacity, Vn2 kip | Minor Shear Capacity, Vn3 kip | D/C Ratio Limit |
|------------|-------|-------------|------------------------------------|-------------------------------|-------------------------------|-----------------|
| 2nd Floor  | C4    | 12          | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 1st Floor  | C3    | 7           | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 1st Floor  | C4    | 8           | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| Cellar     | C3    | 3           | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| Cellar     | C4    | 4           | 13240.8                            | 5676.48                       | 13063.68                      | 0.95            |
| 16th Floor | B1    | 63          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 14th Floor | B1    | 60          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 12th Floor | B1    | 58          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 11th Floor | B1    | 57          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 10th Floor | B1    | 56          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 9th Floor  | B1    | 55          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 8th Floor  | B1    | 54          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 7th Floor  | B1    | 53          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 6th Floor  | B1    | 52          | 1001.25                            | 1276.8                        | 2012.256                      | 0.95            |
| 5th Floor  | B1    | 51          | 1001.25                            | 1276.8                        | 2012.256                      | 0.95            |
| 4th Floor  | B2    | 49          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 4th Floor  | B16   | 62          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 3rd Floor  | B1    | 50          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 2nd Floor  | B1    | 47          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 1st Floor  | B1    | 45          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| Cellar     | B1    | 27          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 16th Floor | D39   | 75          | 1267.5                             | 808.5                         | 2187.432                      | 0.95            |
| 16th Floor | D40   | 234         | 1267.5                             | 808.5                         | 2187.432                      | 0.95            |
| 14th Floor | D39   | 236         | 1267.5                             | 808.5                         | 2187.432                      | 0.95            |
| 14th Floor | D40   | 76          | 1267.5                             | 808.5                         | 2187.432                      | 0.95            |
| 12th Floor | D41   | 78          | 1267.5                             | 808.5                         | 2187.432                      | 0.95            |
| 12th Floor | D42   | 240         | 1267.5                             | 808.5                         | 2187.432                      | 0.95            |
| 11th Floor | D41   | 276         | 1267.5                             | 808.5                         | 2187.432                      | 0.95            |
| 11th Floor | D42   | 79          | 1267.5                             | 808.5                         | 2187.432                      | 0.95            |
| 10th Floor | D41   | 223         | 1267.5                             | 808.5                         | 2187.432                      | 0.95            |
| 10th Floor | D42   | 320         | 1267.5                             | 808.5                         | 2187.432                      | 0.95            |
| 9th Floor  | D41   | 321         | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 9th Floor  | D46   | 759         | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 8th Floor  | D40   | 1247        | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 6th Floor  | D41   | 1256        | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 6th Floor  | D46   | 1257        | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 5th Floor  | D42   | 1296        | 1755                               | 1151.4                        | 2912.112                      | 0.95            |
| 5th Floor  | D50   | 74          | 3060                               | 2063.04                       | 4746.006                      | 0.95            |
| 4th Floor  | D52   | 70          | 1755                               | 1151.4                        | 2912.112                      | 0.95            |



Table 6.3 - Steel Column Envelope

| Label | Story      | Section | Moment Interaction Check  | PMM Combo | V22 Ratio | V33 Ratio | Class   | Cont. Plate in <sup>2</sup> | Dbl. Plate in | B/C Ratio Major | B/C Ratio Minor |
|-------|------------|---------|---------------------------|-----------|-----------|-----------|---------|-----------------------------|---------------|-----------------|-----------------|
| C3    | 16th Floor | SC1&2   | 0.061 = 0.003 + 0.057 + 0 | UDStIS3   | 0.008     | 0         | Seismic |                             |               |                 |                 |
| C4    | 16th Floor | SC1&2   | 0.027 = 0.008 + 0.019 + 0 | UDStIS4   | 0.004     | 0         | Seismic |                             |               |                 |                 |
| C23   | 16th Floor | W14X730 | 0.622 = 0.332 + 0 + 0.29  | UDStIS3   | 0         | 0.023     | Seismic |                             |               |                 |                 |
| C3    | 15th Floor | SC1&2   | 0.048 = 0.011 + 0.037 + 0 | UDStIS3   | 0.018     | 0         | Seismic |                             |               |                 |                 |
| C4    | 15th Floor | SC1&2   | 0.037 = 0.013 + 0.024 + 0 | UDStIS4   | 0.003     | 0         | Seismic |                             |               |                 |                 |
| C3    | 14th Floor | SC1&2   | 0.039 = 0.013 + 0.026 + 0 | UDStIS4   | 0.004     | 0         | Seismic |                             |               |                 |                 |
| C4    | 14th Floor | SC1&2   | 0.051 = 0.024 + 0.027 + 0 | UDStIS4   | 0.001     | 0         | Seismic |                             |               |                 |                 |
| C23   | 14th Floor | W14X730 | 0.646 = 0.422 + 0 + 0.224 | UDStIS3   | 0         | 0.018     | Seismic |                             |               |                 |                 |
| C3    | 13th Floor | SC1&2   | 0.067 = 0.02 + 0.047 + 0  | UDStIS3   | 0.013     | 0         | Seismic |                             |               |                 |                 |
| C4    | 13th Floor | SC1&2   | 0.05 = 0.025 + 0.025 + 0  | UDStIS4   | 0.005     | 0         | Seismic |                             |               |                 |                 |
| C3    | 12th Floor | SC1&2   | 0.572 = 0.56 + 0.012 + 0  | UDStIS2   | 0.003     | 0         | Seismic |                             |               |                 |                 |
| C4    | 12th Floor | SC1&2   | 0.364 = 0.358 + 0.006 + 0 | UDStIS4   | 0.002     | 0         | Seismic |                             |               |                 |                 |
| C22   | 12th Floor | W14X730 | 0.774 = 0.559 + 0 + 0.215 | UDStIS3   | 0         | 0.018     | Seismic |                             |               |                 |                 |
| C3    | 11th Floor | SC1&2   | 0.567 = 0.565 + 0.002 + 0 | UDStIS2   | 0.003     | 0         | Seismic |                             |               |                 |                 |
| C4    | 11th Floor | SC1&2   | 0.401 = 0.397 + 0.004 + 0 | UDStIS4   | 0.001     | 0         | Seismic |                             |               |                 |                 |
| C22   | 11th Floor | W14X730 | 0.921 = 0.711 + 0 + 0.21  | UDStIS3   | 0         | 0.017     | Seismic |                             |               |                 |                 |
| C3    | 10th Floor | SC1&2   | 0.696 = 0.53 + 0.166 + 0  | UDStIS3   | 0.025     | 0         | Seismic |                             |               |                 |                 |
| C4    | 10th Floor | SC1&2   | 0.552 = 0.507 + 0.045 + 0 | UDStIS4   | 0.014     | 0         | Seismic |                             |               |                 |                 |
| C22   | 10th Floor | W14X730 | 0.996 = 0.811 + 0 + 0.185 | UDStIS3   | 0         | 0.016     | Seismic |                             |               |                 |                 |
| C3    | 9th Floor  | SC1&2   | 0.689 = 0.586 + 0.103 + 0 | UDStIS3   | 0.03      | 0         | Seismic |                             |               |                 |                 |
| C4    | 9th Floor  | SC1&2   | 0.599 = 0.545 + 0.054 + 0 | UDStIS4   | 0.029     | 0         | Seismic |                             |               |                 |                 |
| C22   | 9th Floor  | W14X730 | 0.905 = 0.89 + 0 + 0.015  | UDStIS3   | 0         | 0.001     | Seismic |                             |               |                 |                 |
| C3    | 8th Floor  | SC1&2   | 0.673 = 0.589 + 0.083 + 0 | UDStIS3   | 0.017     | 0         | Seismic |                             |               |                 |                 |
| C4    | 8th Floor  | SC1&2   | 0.573 = 0.55 + 0.022 + 0  | UDStIS4   | 0.014     | 0         | Seismic |                             |               |                 |                 |
| C22   | 8th Floor  | W14X730 | 1.002 = 0.898 + 0 + 0.105 | UDStIS3   | 0         | 0.012     | Seismic |                             |               |                 |                 |
| C3    | 7th Floor  | SC1&2   | 0.698 = 0.599 + 0.099 + 0 | UDStIS3   | 0.028     | 0         | Seismic |                             |               |                 |                 |
| C4    | 7th Floor  | SC1&2   | 0.573 = 0.554 + 0.019 + 0 | UDStIS4   | 0.005     | 0         | Seismic |                             |               |                 |                 |

**Table 6.3 - Steel Column Envelope (continued)**

| Label | Story     | Section | Moment Interaction Check  | PMM Combo | V22 Ratio | V33 Ratio | Class   | Cont. Plate in <sup>2</sup> | Dbl. Plate in | B/C Ratio Major | B/C Ratio Minor |
|-------|-----------|---------|---------------------------|-----------|-----------|-----------|---------|-----------------------------|---------------|-----------------|-----------------|
| C22   | 7th Floor | W14X730 | 0.967 = 0.88 + 0 + 0.087  | UDStIS3   | 0         | 0.009     | Seismic |                             |               |                 |                 |
| C3    | 6th Floor | SC1&2   | 0.661 = 0.627 + 0.034 + 0 | UDStIS3   | 0.015     | 0         | Seismic |                             |               |                 |                 |
| C4    | 6th Floor | SC1&2   | 0.625 = 0.595 + 0.029 + 0 | UDStIS4   | 0.014     | 0         | Seismic |                             |               |                 |                 |
| C22   | 6th Floor | W14X730 | 0.862 = 0.846 + 0 + 0.016 | UDStIS3   | 0         | 0.001     | Seismic |                             |               |                 |                 |
| C3    | 5th Floor | SC1&2   | 0.726 = 0.671 + 0.055 + 0 | UDStIS2   | 0.009     | 0         | Seismic |                             |               |                 |                 |
| C4    | 5th Floor | SC1&2   | 0.633 = 0.602 + 0.031 + 0 | UDStIS4   | 0.005     | 0         | Seismic |                             |               |                 |                 |
| C3    | 4th Floor | SC1&2   | 0.8 = 0.695 + 0.105 + 0   | UDStIS3   | 0.013     | 0         | Seismic |                             |               |                 |                 |
| C4    | 4th Floor | SC1&2   | 0.784 = 0.725 + 0.059 + 0 | UDStIS2   | 0.008     | 0         | Seismic |                             |               |                 |                 |
| C7    | 4th Floor | W14X730 | 0.112 = 0.08 + 0 + 0.032  | UDStIS3   | 0         | 0.001     | Seismic |                             |               |                 |                 |
| C3    | 3rd Floor | SC1&2   | 0.822 = 0.695 + 0.126 + 0 | UDStIS3   | 0.004     | 0         | Seismic |                             |               |                 |                 |
| C4    | 3rd Floor | SC1&2   | 0.813 = 0.722 + 0.091 + 0 | UDStIS2   | 0.012     | 0         | Seismic |                             |               |                 |                 |
| C7    | 3rd Floor | W14X730 | 0.232 = 0.012 + 0 + 0.22  | UDStIS3   | 0         | 0.024     | Seismic |                             |               |                 |                 |
| C8    | 3rd Floor | W14X730 | 0.209 = 0.001 + 0 + 0.208 | UDStIS4   | 0         | 0.023     | Seismic |                             |               |                 |                 |
| C9    | 3rd Floor | W14X730 | 0.234 = 0.005 + 0 + 0.229 | UDStIS4   | 0         | 0.024     | Seismic |                             |               |                 |                 |
| C10   | 3rd Floor | W14X730 | 0.482 = 0.011 + 0 + 0.471 | UDStIS3   | 0         | 0.05      | Seismic |                             |               |                 |                 |
| C3    | 2nd Floor | SC1&2   | 0.784 = 0.727 + 0.058 + 0 | UDStIS3   | 0.005     | 0         | Seismic |                             |               |                 |                 |
| C4    | 2nd Floor | SC1&2   | 0.818 = 0.754 + 0.064 + 0 | UDStIS2   | 0.01      | 0         | Seismic |                             |               |                 |                 |
| C3    | 1st Floor | SC1&2   | 0.775 = 0.72 + 0.055 + 0  | UDStIS3   | 0.012     | 0         | Seismic |                             |               |                 |                 |
| C4    | 1st Floor | SC1&2   | 0.788 = 0.746 + 0.042 + 0 | UDStIS2   | 0.01      | 0         | Seismic |                             |               |                 |                 |
| C3    | Cellar    | SC1&2   | 0.864 = 0.72 + 0.144 + 0  | UDStIS3   | 0.01      | 0         | Seismic |                             |               |                 |                 |
| C4    | Cellar    | SC1&2   | 0.843 = 0.746 + 0.098 + 0 | UDStIS2   | 0.011     | 0         | Seismic |                             |               |                 |                 |

**Table 6.4 - Steel Beam Envelope**

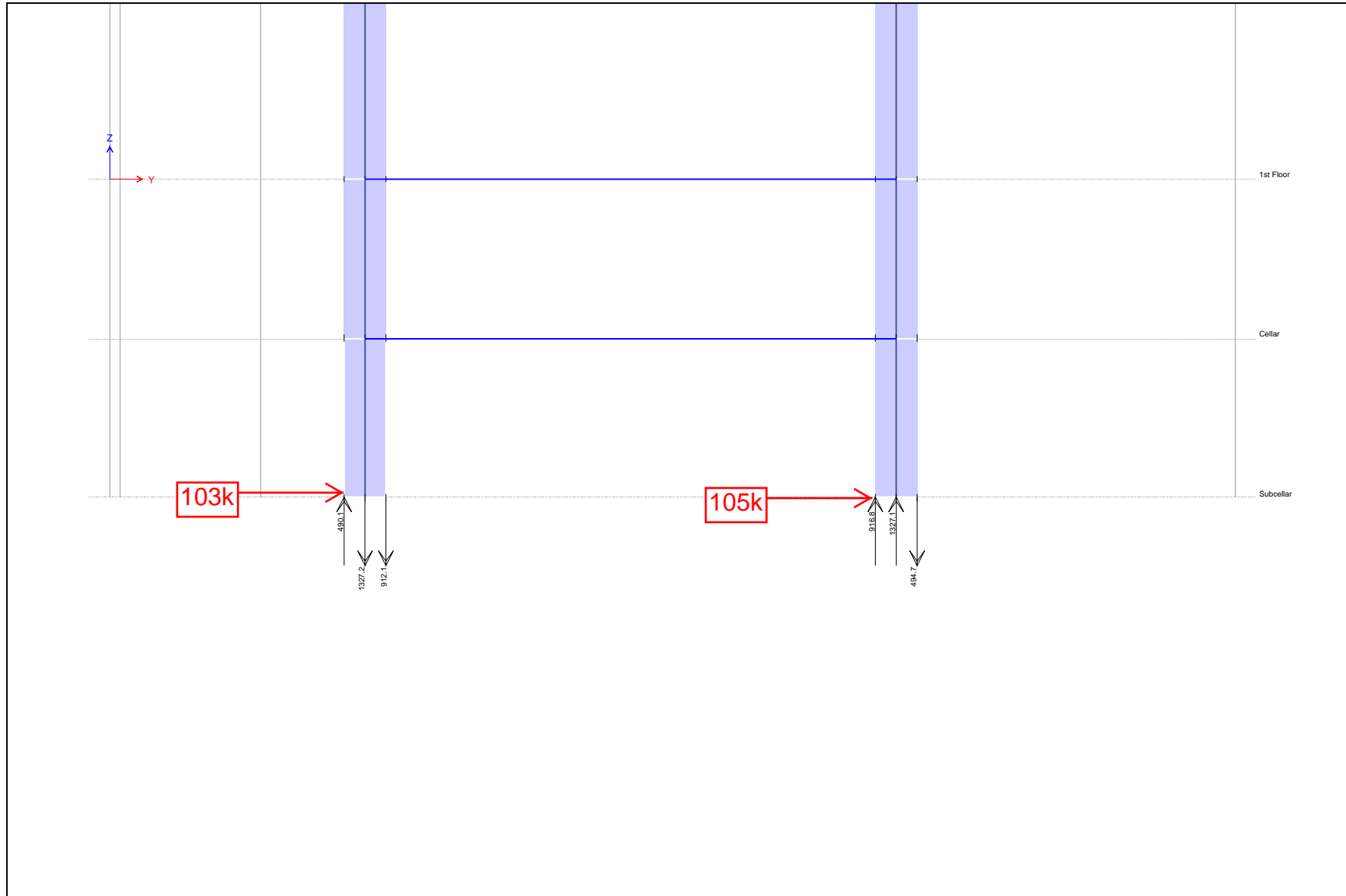
| Label | Story      | Section | Moment Interaction Check  | PMM Combo | V22 Ratio | V33 Ratio | Class   | Conn. V I-End kip | Conn. V J-End kip |
|-------|------------|---------|---------------------------|-----------|-----------|-----------|---------|-------------------|-------------------|
| B1    | 16th Floor | W14X455 | 0.668 = 0.006 + 0.663 + 0 | UDStIS3   | 0.164     | 0         | Seismic | 32.974            | 142.996           |
| B1    | 14th Floor | W14X455 | 0.719 = 0.022 + 0.698 + 0 | UDStIS3   | 0.177     | 0         | Seismic | 15.056            | 72.89             |
| B1    | 12th Floor | W14X455 | 0.656 = 0.012 + 0.644 + 0 | UDStIS3   | 0.162     | 0         | Seismic | 11.498            | 17.672            |
| B1    | 11th Floor | W14X455 | 0.612 = 0.007 + 0.605 + 0 | UDStIS3   | 0.152     | 0         | Seismic | 3.487             | 8.442             |

**Table 6.4 - Steel Beam Envelope (continued)**

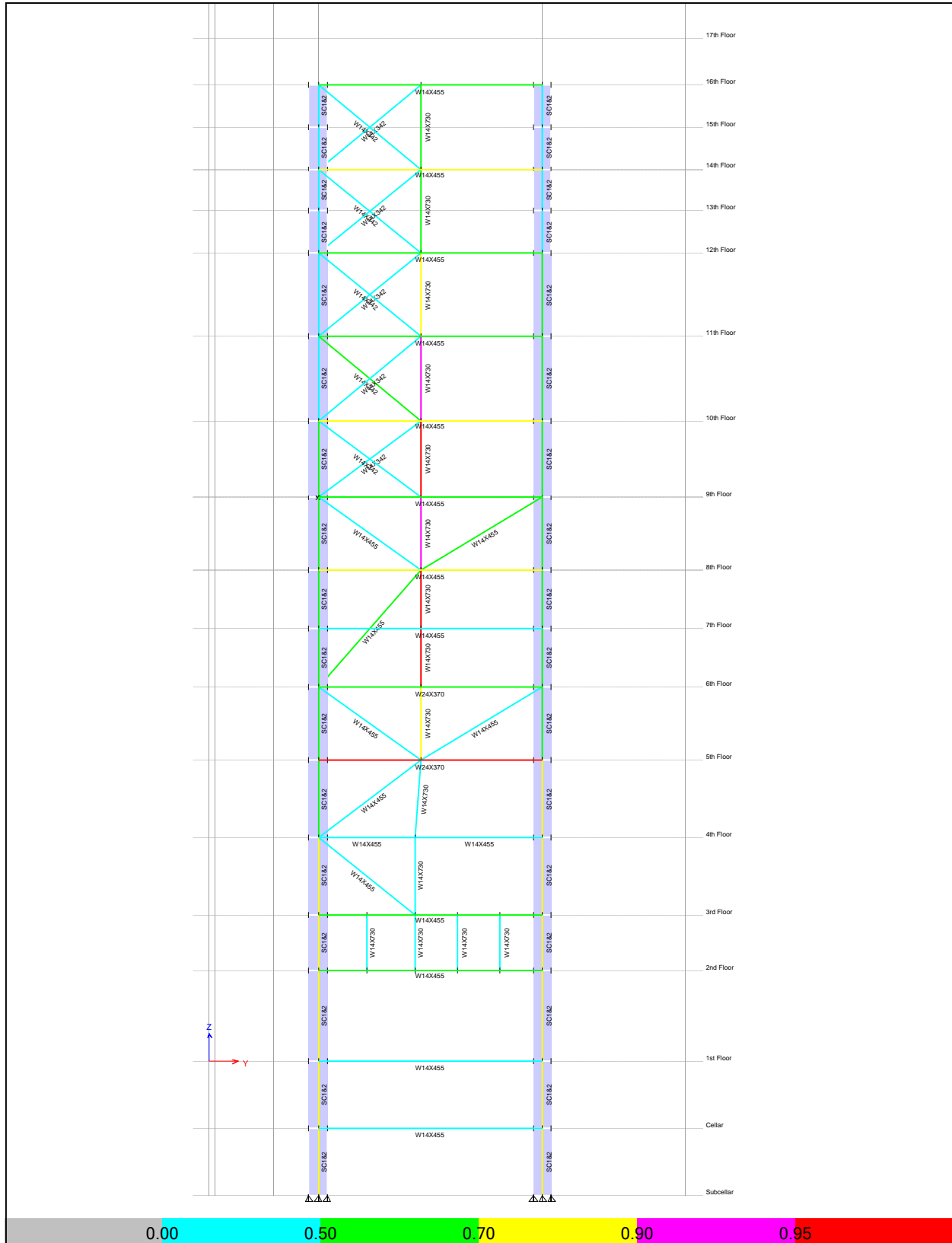
| Label | Story      | Section | Moment Interaction Check  | PMM Combo | V22 Ratio | V33 Ratio | Class   | Conn. V I-End kip | Conn. V J-End kip |
|-------|------------|---------|---------------------------|-----------|-----------|-----------|---------|-------------------|-------------------|
| B1    | 10th Floor | W14X455 | 0.765 = 0.266 + 0.499 + 0 | UDStIS3   | 0.139     | 0         | Seismic | 4.101             | 5.178             |
| B1    | 9th Floor  | W14X455 | 0.647 = 0.345 + 0.302 + 0 | UDStIS3   | 0.089     | 0         | Seismic | 3.785             | 1.651             |
| B1    | 8th Floor  | W14X455 | 0.727 = 0.54 + 0.187 + 0  | UDStIS3   | 0.06      | 0         | Seismic | 1.228             | 13.671            |
| B1    | 7th Floor  | W14X455 | 0.332 = 0.051 + 0.281 + 0 | UDStIS3   | 0.074     | 0         | Seismic | 7.291             | 3.397             |
| B1    | 6th Floor  | W24X370 | 0.693 = 0.437 + 0.256 + 0 | UDStIS3   | 0.081     | 0         | Seismic | 8.685             | 2.822             |
| B1    | 5th Floor  | W24X370 | 0.995 = 0.783 + 0.212 + 0 | UDStIS3   | 0.071     | 0         | Seismic | 2.979             | 7.43              |
| B2    | 4th Floor  | W14X455 | 0.173 = 0.008 + 0.165 + 0 | UDStIS3   | 0.027     | 0         | Seismic | 17.713            | 1.349             |
| B16   | 4th Floor  | W14X455 | 0.054 = 0.014 + 0.04 + 0  | UDStIS3   | 0.011     | 0         | Seismic | 4.084             | 3.154             |
| B1    | 3rd Floor  | W14X455 | 0.678 = 0.344 + 0.334 + 0 | UDStIS3   | 0.203     | 0         | Seismic | 0.736             | 0.221             |
| B1    | 2nd Floor  | W14X455 | 0.672 = 0.024 + 0.649 + 0 | UDStIS3   | 0.333     | 0         | Seismic | 0.485             | 0.456             |
| B1    | 1st Floor  | W14X455 | 0.211 = 0.009 + 0.202 + 0 | UDStIS3   | 0.035     | 0         | Seismic | 0.25              | 0.137             |
| B1    | Cellar     | W14X455 | 0.165 = 0.008 + 0.157 + 0 | UDStIS3   | 0.029     | 0         | Seismic | 0.227             | 0.335             |

**Table 6.5 - Steel Brace Envelope**

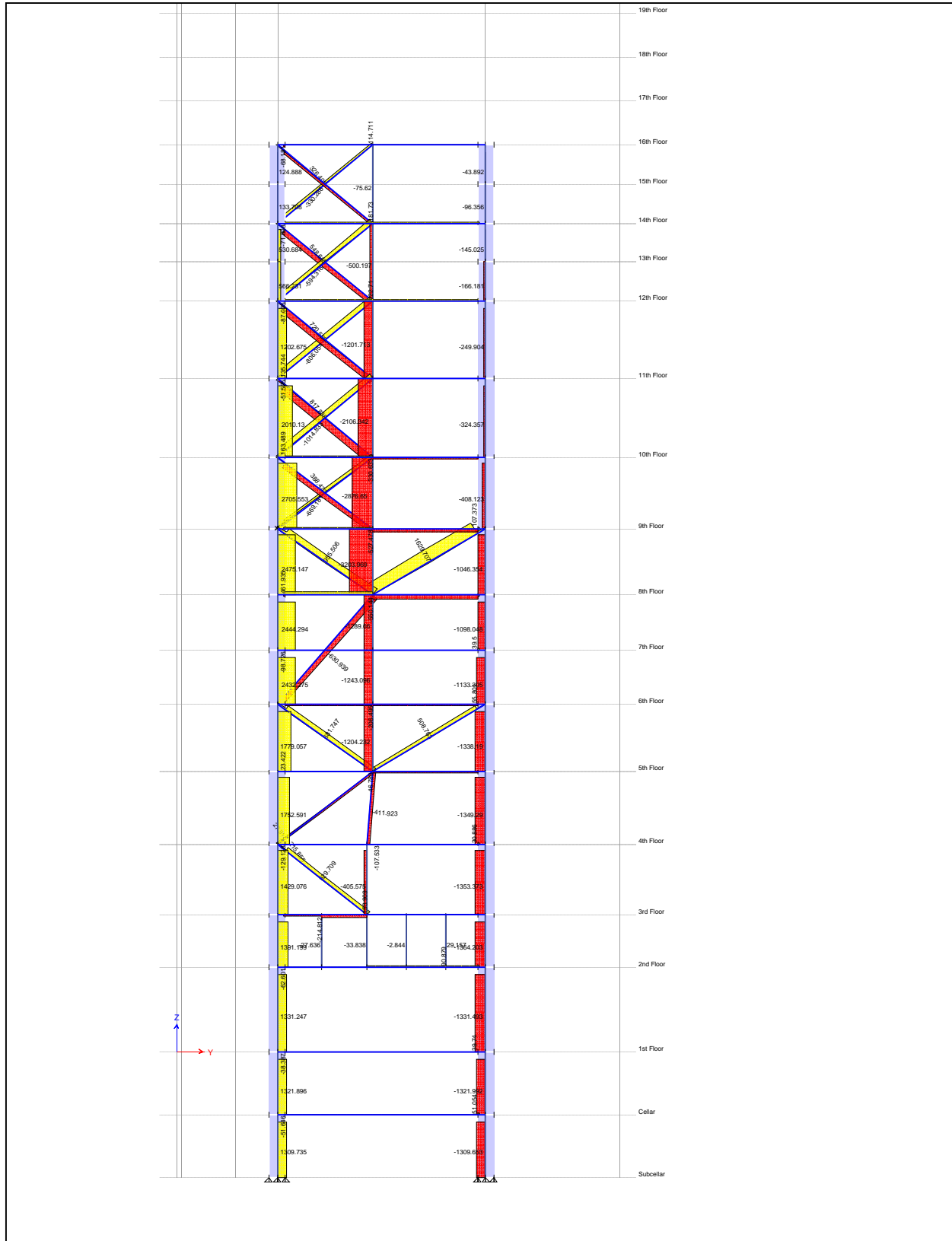
| Label | Story      | Section | Moment Interaction Check  | PMM Combo | V22 Ratio | V33 Ratio | Class   | Conn. P I-End kip | Conn. P J-End kip |
|-------|------------|---------|---------------------------|-----------|-----------|-----------|---------|-------------------|-------------------|
| D39   | 16th Floor | W14X342 | 0.082 = 0.068 + 0.015 + 0 | UDStIS3   | 0.006     | 0         | Seismic | -395.385          | -109.651          |
| D40   | 16th Floor | W14X342 | 0.232 = 0.221 + 0.011 + 0 | UDStIS4   | 0.006     | 0         | Seismic | -645.183          | -637.999          |
| D39   | 14th Floor | W14X342 | 0.26 = 0.243 + 0.018 + 0  | UDStIS3   | 0.008     | 0         | Seismic | -707.445          | -118.624          |
| D40   | 14th Floor | W14X342 | 0.27 = 0.259 + 0.011 + 0  | UDStIS4   | 0.006     | 0         | Seismic | -754.579          | -747.396          |
| D41   | 12th Floor | W14X342 | 0.438 = 0.374 + 0.064 + 0 | UDStIS3   | 0.044     | 0         | Seismic | -1102.35          | -389.05           |
| D42   | 12th Floor | W14X342 | 0.44 = 0.372 + 0.068 + 0  | UDStIS4   | 0.063     | 0         | Seismic | -401.35           | -1071.333         |
| D41   | 11th Floor | W14X342 | 0.517 = 0.446 + 0.07 + 0  | UDStIS3   | 0.048     | 0         | Seismic | -1317.662         | -358.002          |
| D42   | 11th Floor | W14X342 | 0.488 = 0.408 + 0.08 + 0  | UDStIS4   | 0.07      | 0         | Seismic | -432.303          | -1175.461         |
| D41   | 10th Floor | W14X342 | 0.416 = 0.297 + 0.119 + 0 | UDStIS3   | 0.063     | 0         | Seismic | -881.274          | -395.801          |
| D42   | 10th Floor | W14X342 | 0.407 = 0.362 + 0.045 + 0 | UDStIS4   | 0.086     | 0         | Seismic | -465.916          | -1070.872         |
| D41   | 9th Floor  | W14X455 | 0.258 = 0.248 + 0.01 + 0  | UDStIS3   | 0.079     | 0         | Seismic | 1492.098          | -434.483          |
| D46   | 9th Floor  | W14X455 | 0.533 = 0.428 + 0.105 + 0 | UDStIS3   | 0.077     | 0         | Seismic | 2571.281          | -327.706          |
| D40   | 8th Floor  | W14X455 | 0.558 = 0.546 + 0.012 + 0 | UDStIS3   | 0.006     | 0         | Seismic | -1850.766         | -1837.474         |
| D41   | 6th Floor  | W14X455 | 0.252 = 0.231 + 0.021 + 0 | UDStIS3   | 0.071     | 0         | Seismic | 1382.743          | -331.754          |
| D46   | 6th Floor  | W14X455 | 0.351 = 0.283 + 0.068 + 0 | UDStIS3   | 0.078     | 0         | Seismic | 1698.822          | -160.297          |
| D42   | 5th Floor  | W14X455 | 0.299 = 0.272 + 0.027 + 0 | UDStIS3   | 0.091     | 0         | Seismic | -488.924          | -1094.686         |
| D50   | 5th Floor  | W14X730 | 0.158 = 0.082 + 0.076 + 0 | UDStIS3   | 0.018     | 0         | Seismic | -1420.086         | -1406.002         |
| D52   | 4th Floor  | W14X455 | 0.258 = 0.239 + 0.02 + 0  | UDStIS3   | 0.082     | 0         | Seismic | 1430.968          | -601.649          |



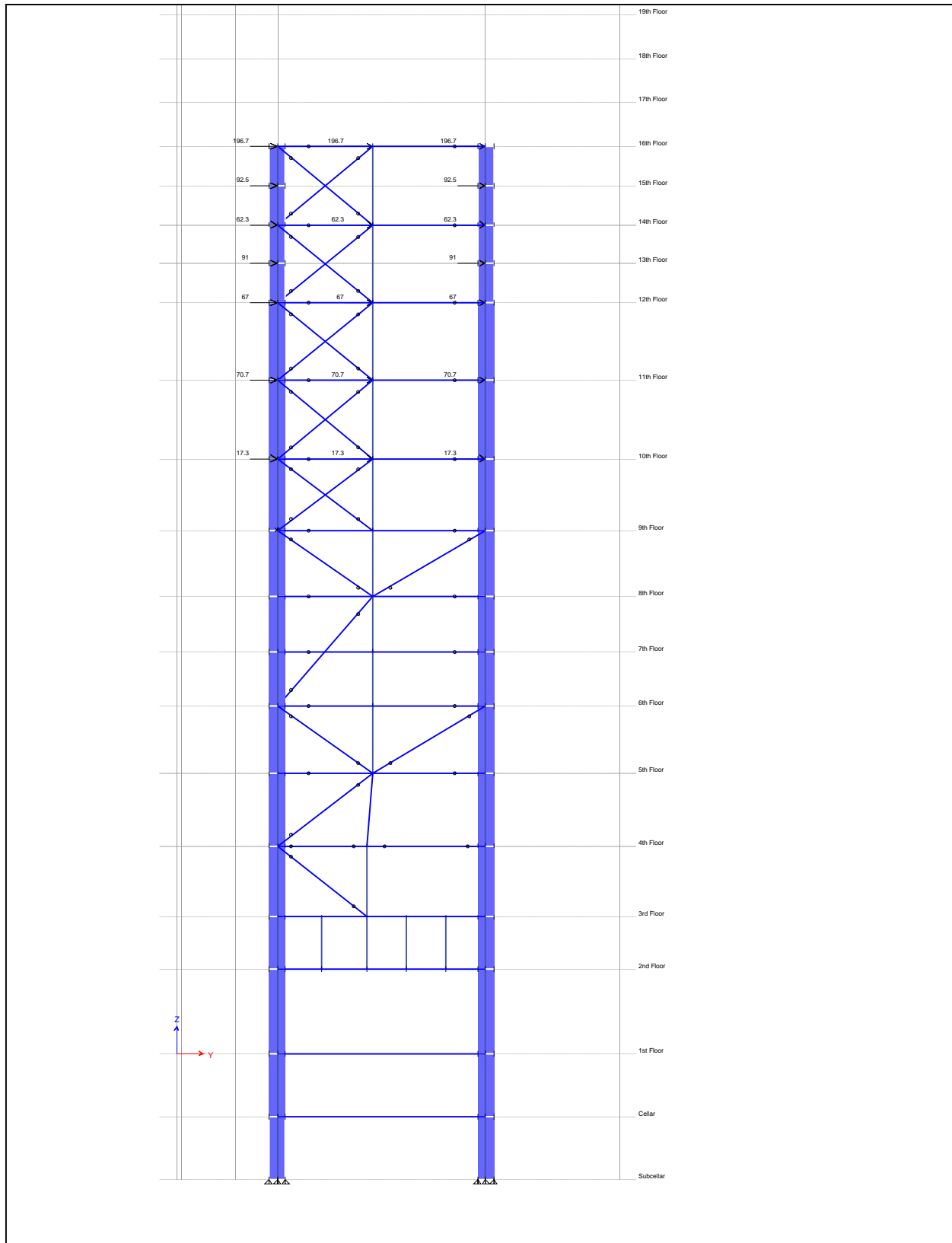
14442\_AJA\_20160920\_Truss T-2.EDB Elevation View - 3 Restraint Reactions (Wind) [kip, kip-ft]



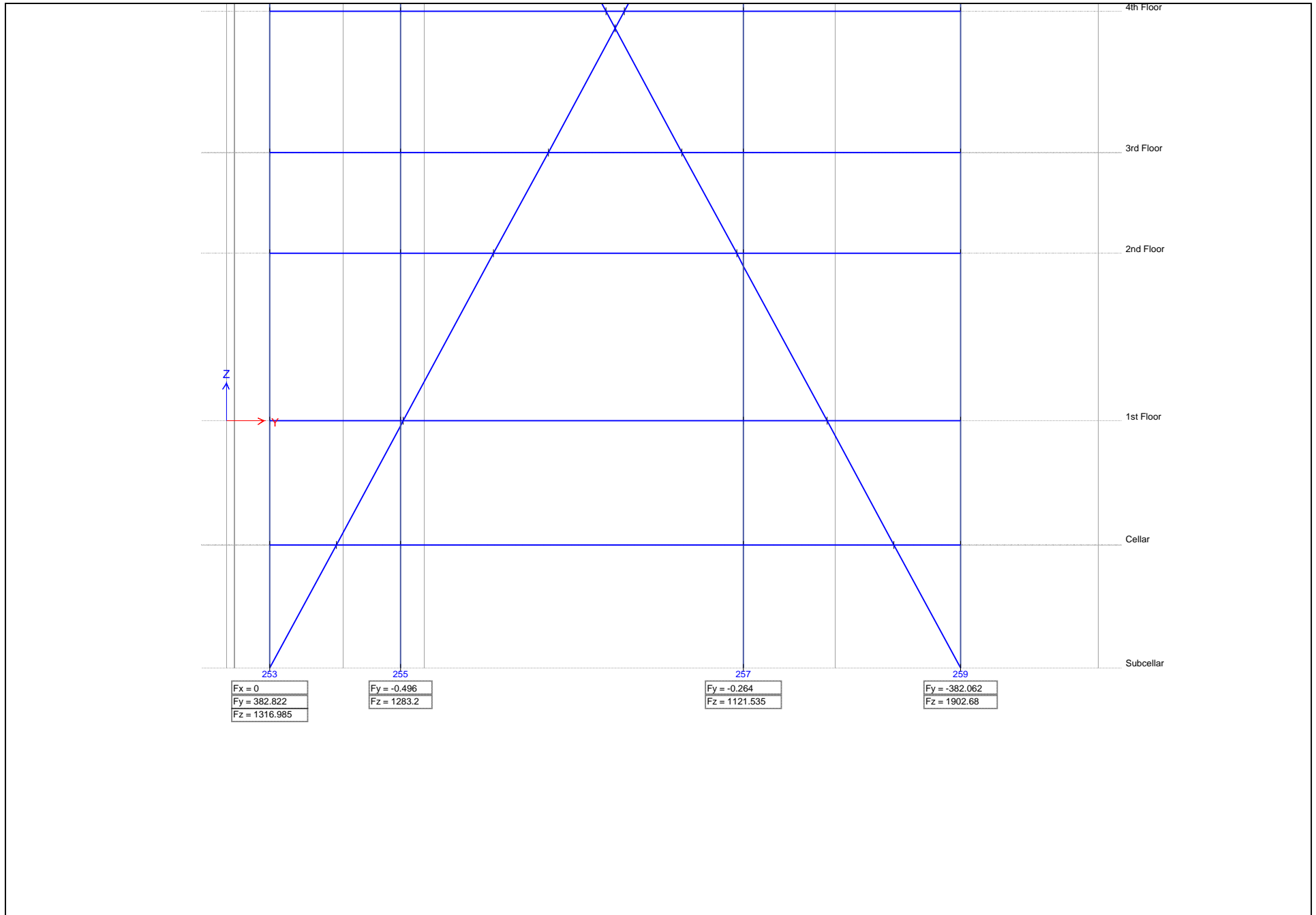
14442\_AJA\_20160920\_Plots - 3 Steel Design Sections (AISC 360-05)



14442\_AJA\_20160920\_Elevation 1 - 3 Axial Force Diagram (Wind) [kip]



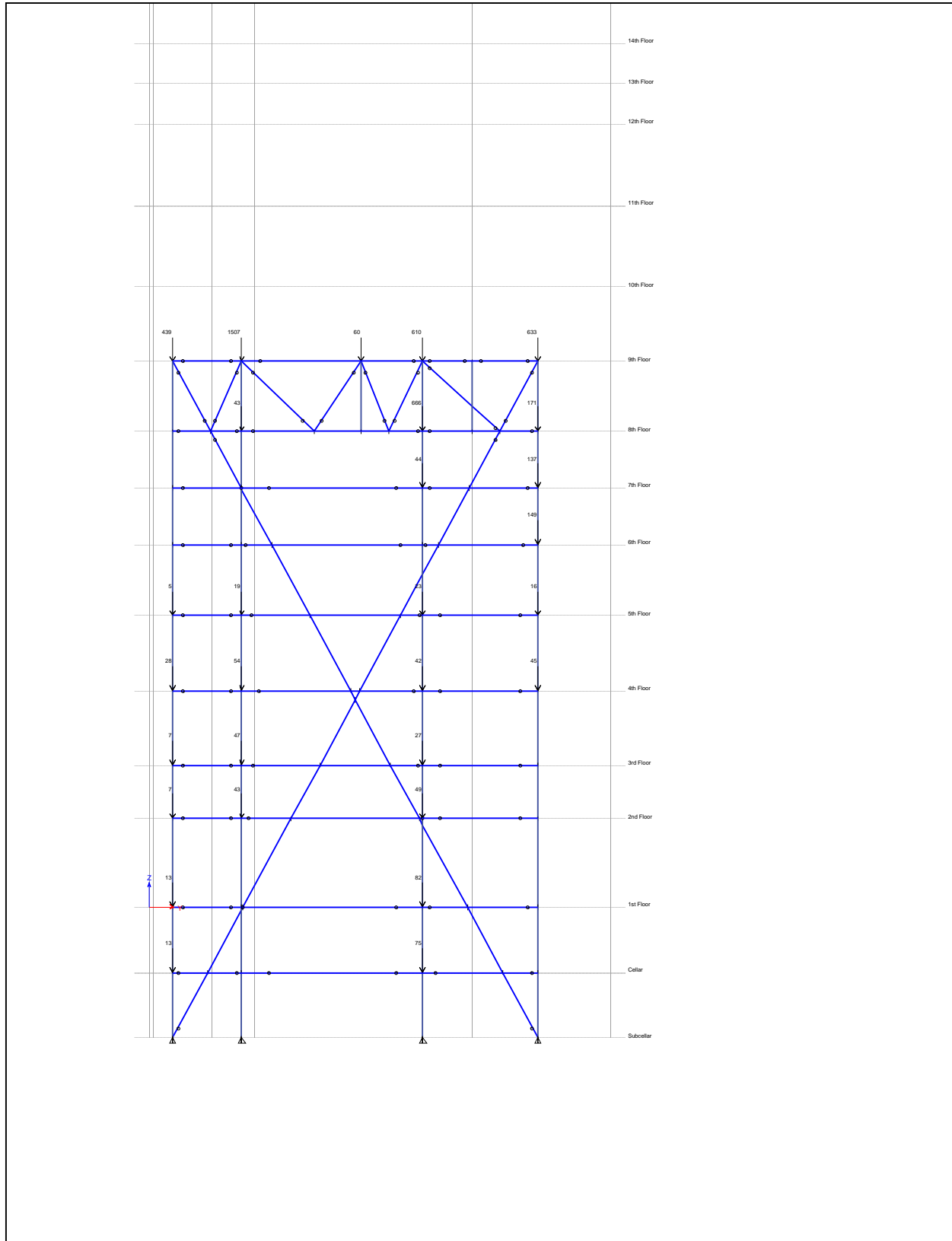
14442\_AJA\_20160920\_Truss T-2 Elevation View - 3 Joint Loads (Wind)





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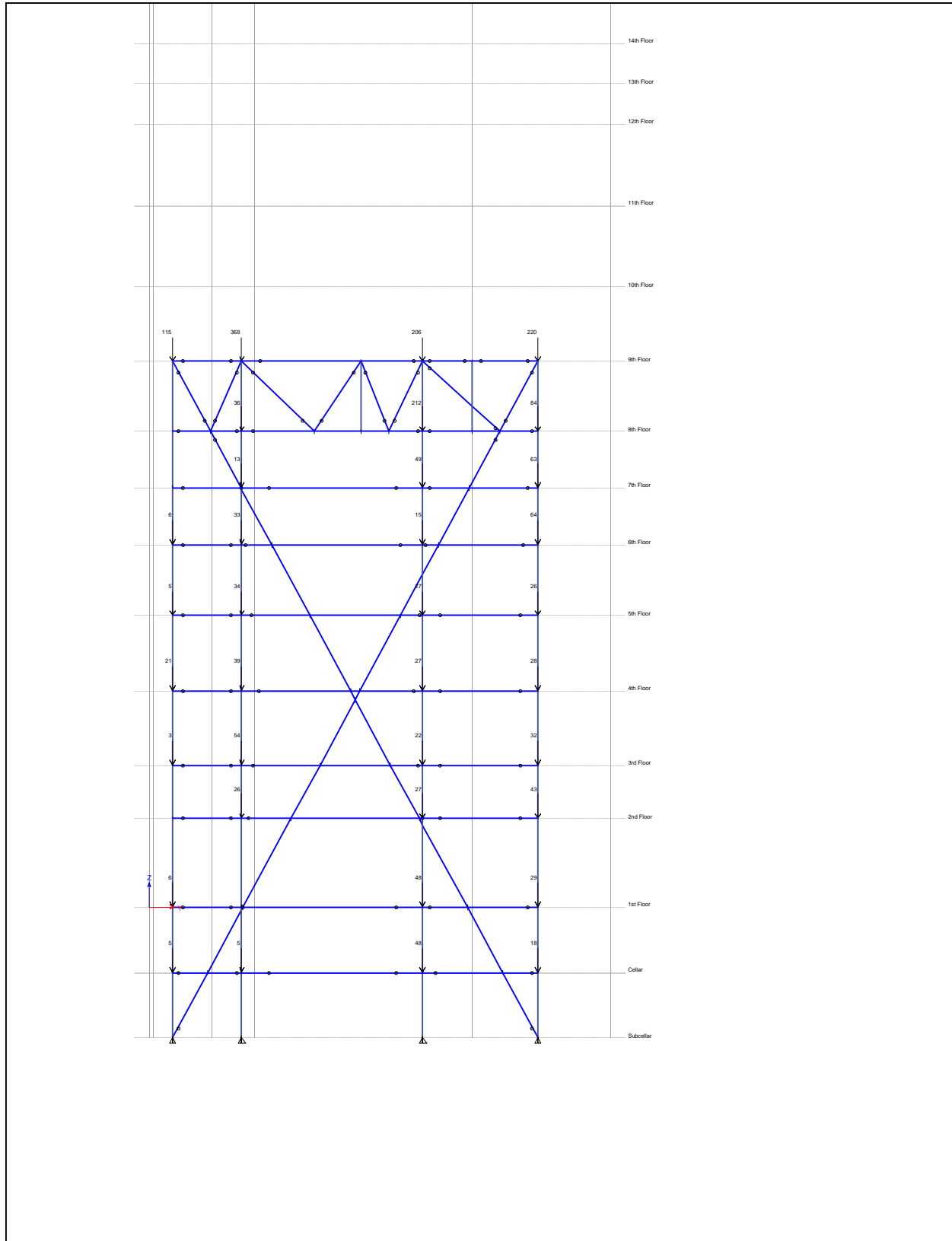
10/10/2016



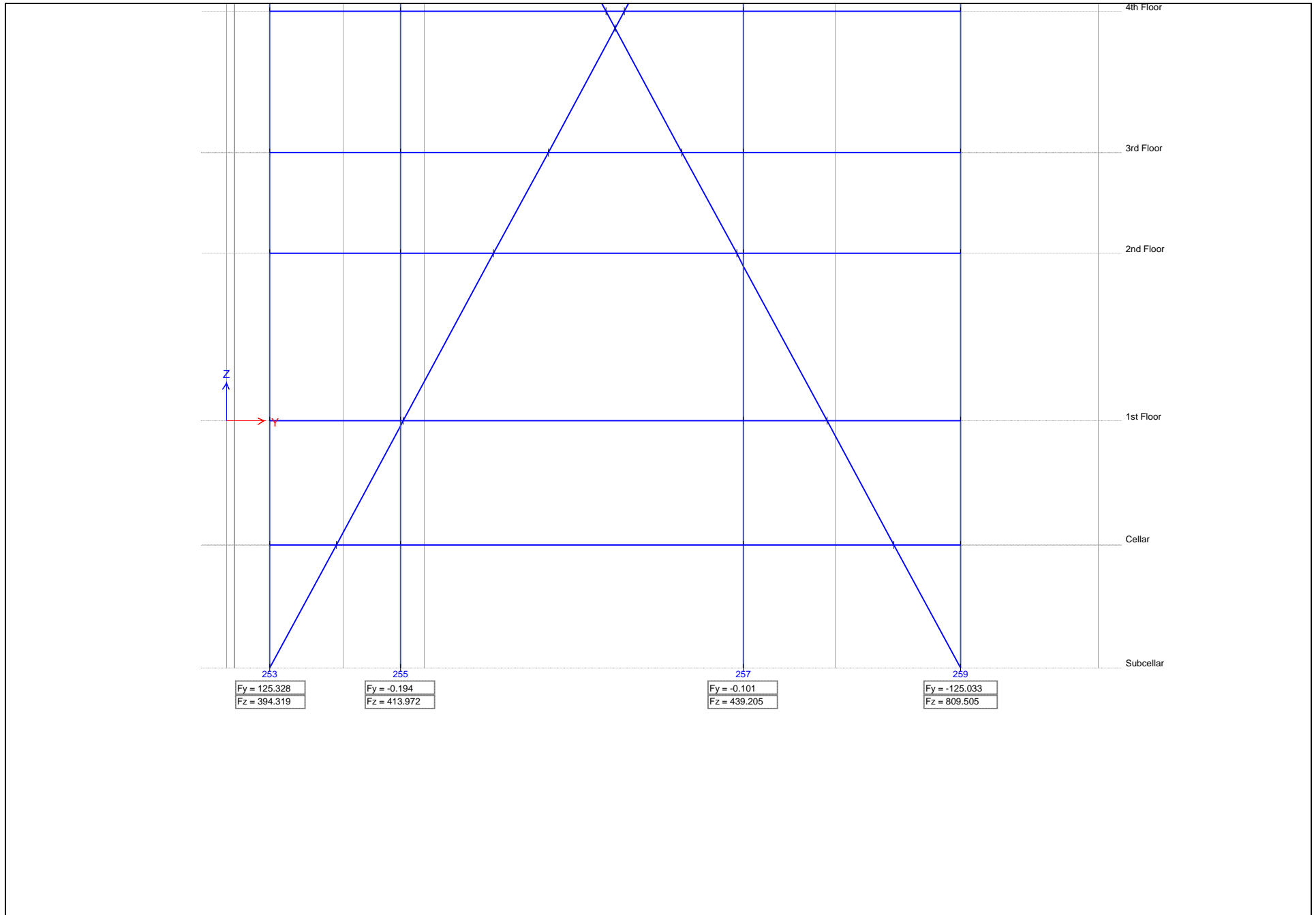
14442\_AJA\_20160920\_Truss T-5 Elevation View - 2 Joint Loads (Dead)

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10/10/2016



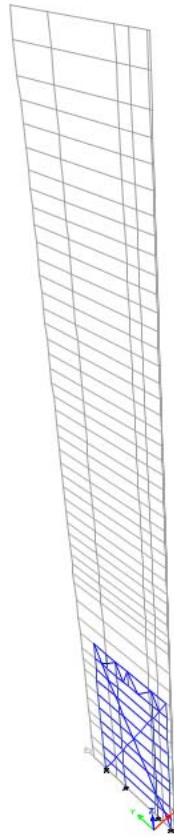
14442\_AJA\_20160920\_Truss T-5 Elevation View - 2 Joint Loads (Live)



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## Project Report

Model File: backup, Revision 0  
10/10/2016

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## 1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

### 1.1 Story Data

**Table 1.1 - Story Data**

| Name           | Height in | Elevation in | Master Story | Similar To | Splice Story |
|----------------|-----------|--------------|--------------|------------|--------------|
| 48th Screening | 180       | 6435.9996    | No           | None       | No           |
| 47th Main Roof | 195.9996  | 6255.9996    | No           | None       | No           |
| 46th Floor     | 140.0004  | 6060         | No           | None       | No           |
| 45th Floor     | 139.9992  | 5919.9996    | No           | None       | No           |
| 44th Floor     | 140.0004  | 5780.0004    | No           | None       | No           |
| 43rd Floor     | 140.0004  | 5640         | No           | None       | No           |
| 42nd Floor     | 117.9996  | 5499.9996    | No           | None       | No           |
| 41st Floor     | 116.0004  | 5382         | No           | None       | No           |
| 40th Floor     | 120       | 5265.9996    | No           | None       | No           |
| 39th Floor     | 117.9996  | 5145.9996    | No           | None       | No           |
| 38th Floor     | 117.9996  | 5028         | No           | None       | No           |
| 37th Floor     | 118.0008  | 4910.0004    | No           | None       | No           |
| 36th Floor     | 117.9996  | 4791.9996    | No           | None       | No           |
| 35th Floor     | 117.9996  | 4674         | No           | None       | No           |
| 34th Floor     | 118.0008  | 4556.0004    | No           | None       | No           |
| 33rd Floor     | 117.9996  | 4437.9996    | No           | None       | No           |
| 32nd Floor     | 117.9996  | 4320         | No           | None       | No           |
| 31st Floor     | 118.0008  | 4202.0004    | No           | None       | No           |
| 30th Floor     | 117.9996  | 4083.9996    | No           | None       | No           |
| 29th Floor     | 117.9996  | 3966         | No           | None       | No           |
| 28th Floor     | 118.0008  | 3848.0004    | No           | None       | No           |
| 27th Floor     | 117.9996  | 3729.9996    | No           | None       | No           |
| 26th Floor     | 117.9996  | 3612         | No           | None       | No           |
| 25th Floor     | 118.0008  | 3494.0004    | No           | None       | No           |
| 24th Floor     | 117.9996  | 3375.9996    | No           | None       | No           |
| 23rd Floor     | 117.9996  | 3258         | No           | None       | No           |
| 22nd Floor     | 118.0008  | 3140.0004    | No           | None       | No           |
| 21st Floor     | 117.9996  | 3021.9996    | No           | None       | No           |
| 20th Floor     | 117.9996  | 2904         | No           | None       | No           |
| 19th Floor     | 118.0008  | 2786.0004    | No           | None       | No           |
| 18th Floor     | 117.9996  | 2667.9996    | No           | None       | No           |
| 17th Floor     | 117.96    | 2550         | No           | None       | No           |
| 16th Floor     | 104.52    | 2432.04      | No           | None       | No           |
| 15th Floor     | 104.52    | 2327.52      | No           | None       | No           |
| 14th Floor     | 104.52    | 2223         | No           | None       | No           |
| 13th Floor     | 104.484   | 2118.48      | No           | None       | No           |
| 12th Floor     | 208.992   | 2013.996     | No           | None       | No           |
| 11th Floor     | 209.004   | 1805.004     | No           | None       | No           |
| 10th Floor     | 192       | 1596         | No           | None       | No           |

**Table 1.1 - Story Data (continued)**

| Name      | Height in | Elevation in | Master Story | Similar To | Splice Story |
|-----------|-----------|--------------|--------------|------------|--------------|
| 9th Floor | 180       | 1404         | No           | None       | No           |
| 8th Floor | 145.752   | 1224         | No           | None       | No           |
| 7th Floor | 145.752   | 1078.248     | No           | None       | No           |
| 6th Floor | 182.496   | 932.496      | No           | None       | No           |
| 5th Floor | 192.504   | 750          | No           | None       | No           |
| 4th Floor | 191.748   | 557.496      | No           | None       | No           |
| 3rd Floor | 138       | 365.748      | No           | None       | No           |
| 2nd Floor | 227.748   | 227.748      | No           | None       | No           |
| 1st Floor | 168       | 0            | No           | None       | No           |
| Cellar    | 168       | -168         | No           | None       | No           |
| Subcellar | 0         | -336         | No           | None       | No           |

**1.2 Grid Data**

**Table 1.2 - Grid Systems**

| Name | Type      | Story Range | X Origin ft | Y Origin ft | Rotation deg | Bubble Size in | Color    |
|------|-----------|-------------|-------------|-------------|--------------|----------------|----------|
| G1   | Cartesian | Default     | 0           | 0           | 0            | 60             | ffa0a0a0 |

**Table 1.3 - Grid Lines**

| Grid System | Grid Direction | Grid ID | Visible | Bubble Location | Ordinate ft |
|-------------|----------------|---------|---------|-----------------|-------------|
| G1          | X              | 1       | Yes     | End             | 0           |
| G1          | X              | 2       | Yes     | End             | 21.583      |
| G1          | X              | 3       | Yes     | End             | 77.333      |
| G1          | X              | 4       | Yes     | End             | 89.083      |
| G1          | X              | 5       | Yes     | End             | 113         |
| G1          | X              | 6       | Yes     | End             | 137.083     |
| G1          | X              | 7       | Yes     | End             | 161         |
| G1          | X              | 8       | Yes     | End             | 185.125     |
| G1          | X              | 9       | Yes     | End             | 206.75      |
| G1          | Y              | A       | Yes     | Start           | 0           |
| G1          | Y              | SW1     | Yes     | Start           | 1           |
| G1          | Y              | B       | Yes     | Start           | 13.333      |
| G1          | Y              | SC1     | Yes     | Start           | 22.5        |
| G1          | Y              | D-SC2   | Yes     | Start           | 69.104      |
| G1          | Y              | E       | Yes     | Start           | 98.917      |

**1.3 Point Coordinates**



**Table 1.4 - Joint Coordinates Data**

| Label | X in     | Y in     | $\Delta Z$ Below in |
|-------|----------|----------|---------------------|
| 78    | 258.996  | 60       | 0                   |
| 79    | 258.996  | 238      | 0                   |
| 80    | 258.996  | 704      | 0                   |
| 81    | 258.996  | 999.5    | 0                   |
| 83    | 258.996  | 829.248  | 0                   |
| 98    | 258.996  | 423.8047 | 0                   |
| 304   | 258.9956 | 544      | 0                   |
| 62    | 258.996  | 616.8672 | 0                   |
| 63    | 258.996  | 902.0595 | 0                   |
| 64    | 258.996  | 156.9994 | 0                   |
| 1     | 258.996  | 704      | 16.5911             |
| 2     | 258.996  | 238      | 6.2371              |
| 3     | 258.996  | 704      | 75.4212             |
| 4     | 258.996  | 238      | 4.2312              |
| 5     | 258.996  | 150.6833 | 0                   |
| 6     | 258.996  | 908.7692 | 0                   |
| 7     | 258.996  | 235.7149 | 0                   |
| 8     | 258.996  | 823.3852 | 0                   |
| 9     | 258.996  | 241.3667 | 0                   |
| 10    | 258.996  | 364.3009 | 0                   |
| 11    | 258.996  | 438.7908 | 0                   |
| 12    | 258.996  | 529.627  | 23.4647             |
| 13    | 258.996  | 542.2928 | 0                   |
| 14    | 258.996  | 646.203  | 0                   |
| 15    | 258.996  | 744.711  | 0                   |
| 16    | 258.996  | 818.0383 | 0                   |
| 17    | 258.996  | 695.0397 | 0                   |
| 18    | 258.996  | 620.5108 | 0                   |
| 19    | 258.996  | 516.9545 | 0                   |
| 20    | 258.996  | 412.9899 | 0                   |
| 21    | 258.996  | 314.4303 | 0                   |
| 22    | 258.996  | 236.2303 | 0.9543              |
| 23    | 258.996  | 829.248  | 113.8276            |

**1.4 Line Connectivity**

**Table 1.5 - Column Connectivity Data**

| Column | I-End Point | J-End Point | I-End Story |
|--------|-------------|-------------|-------------|
| C18    | 78          | 78          | Below       |
| C19    | 79          | 79          | Below       |
| C20    | 80          | 80          | Below       |
| C21    | 81          | 81          | Below       |
| C79    | 304         | 304         | Below       |
| C1     | 80          | 1           | Below       |

**Table 1.5 - Column Connectivity Data (continued)**

| Column | I-End Point | J-End Point | I-End Story |
|--------|-------------|-------------|-------------|
| C2     | 1           | 80          | Same        |
| C3     | 79          | 2           | Below       |
| C4     | 2           | 79          | Same        |
| C5     | 80          | 3           | Below       |
| C7     | 3           | 80          | Same        |
| C8     | 79          | 4           | Below       |
| C9     | 4           | 79          | Same        |
| C10    | 83          | 23          | Below       |
| C11    | 23          | 83          | Same        |

**Table 1.6 - Beam Connectivity Data**

| Beam | I-End Point | J-End Point | Curve Type |
|------|-------------|-------------|------------|
| B20  | 78          | 79          | None       |
| B21  | 79          | 80          | None       |
| B22  | 80          | 81          | None       |
| B24  | 83          | 81          | None       |
| B25  | 80          | 83          | None       |
| B1   | 78          | 5           | None       |
| B2   | 5           | 79          | None       |
| B3   | 80          | 6           | None       |
| B4   | 6           | 81          | None       |
| B5   | 78          | 7           | None       |
| B6   | 7           | 79          | None       |
| B7   | 80          | 8           | None       |
| B8   | 8           | 81          | None       |
| B9   | 78          | 64          | None       |
| B10  | 64          | 79          | None       |
| B11  | 79          | 98          | None       |
| B12  | 98          | 304         | None       |
| B13  | 304         | 62          | None       |
| B14  | 62          | 80          | None       |
| B15  | 83          | 63          | None       |
| B16  | 63          | 81          | None       |
| B17  | 79          | 304         | None       |
| B18  | 304         | 80          | None       |
| B19  | 79          | 21          | None       |
| B23  | 21          | 80          | None       |
| B26  | 80          | 15          | None       |
| B27  | 15          | 81          | None       |
| B28  | 79          | 20          | None       |
| B29  | 20          | 14          | None       |
| B30  | 14          | 80          | None       |
| B31  | 79          | 19          | None       |
| B32  | 19          | 13          | None       |

**Table 1.6 - Beam Connectivity Data (continued)**

| Beam | I-End Point | J-End Point | Curve Type |
|------|-------------|-------------|------------|
| B33  | 13          | 80          | None       |
| B34  | 79          | 11          | None       |
| B35  | 11          | 18          | None       |
| B36  | 18          | 80          | None       |
| B37  | 79          | 10          | None       |
| B38  | 10          | 17          | None       |
| B39  | 17          | 80          | None       |
| B40  | 79          | 9           | None       |
| B41  | 9           | 80          | None       |
| B42  | 80          | 16          | None       |
| B43  | 16          | 81          | None       |

**Table 1.7 - Brace Connectivity Data**

| Brace | I-End Point | J-End Point | I-End Story |
|-------|-------------|-------------|-------------|
| D78   | 98          | 79          | Below       |
| D43   | 98          | 304         | Below       |
| D44   | 62          | 80          | Below       |
| D45   | 62          | 304         | Below       |
| D70   | 63          | 81          | Below       |
| D71   | 64          | 79          | Below       |
| D75   | 64          | 78          | Below       |
| D1    | 78          | 5           | Below       |
| D2    | 5           | 2           | Below       |
| D3    | 2           | 9           | Same        |
| D4    | 9           | 10          | Below       |
| D5    | 10          | 11          | Below       |
| D6    | 11          | 12          | Below       |
| D7    | 12          | 13          | Same        |
| D8    | 13          | 14          | Below       |
| D9    | 14          | 3           | Below       |
| D10   | 3           | 15          | Same        |
| D11   | 15          | 8           | Below       |
| D12   | 8           | 63          | Below       |
| D13   | 81          | 6           | Below       |
| D14   | 6           | 16          | Below       |
| D15   | 16          | 1           | Below       |
| D16   | 1           | 17          | Same        |
| D17   | 17          | 18          | Below       |
| D18   | 18          | 12          | Below       |
| D19   | 12          | 19          | Same        |
| D20   | 19          | 20          | Below       |
| D21   | 20          | 21          | Below       |
| D22   | 21          | 4           | Below       |
| D23   | 4           | 22          | Same        |

**Table 1.7 - Brace Connectivity Data (continued)**

| Brace | I-End Point | J-End Point | I-End Story |
|-------|-------------|-------------|-------------|
| D24   | 22          | 7           | Same        |
| D25   | 7           | 64          | Below       |
| D26   | 63          | 23          | Below       |
| D27   | 23          | 80          | Same        |

**1.5 Mass**

**Table 1.8 - Mass Source**

| Name   | Include Elements | Include Added Mass | Include Loads | Include Lateral | Include Vertical | Lump at Stories | IsDefault |
|--------|------------------|--------------------|---------------|-----------------|------------------|-----------------|-----------|
| MsSrc1 | Yes              | Yes                | No            | Yes             | No               | Yes             | Yes       |

**Table 1.9 - Mass Summary by Story**

| Story          | UX<br>lb-s <sup>2</sup> /ft | UY<br>lb-s <sup>2</sup> /ft | UZ<br>lb-s <sup>2</sup> /ft |
|----------------|-----------------------------|-----------------------------|-----------------------------|
| 48th Screening | 0                           | 0                           | 0                           |
| 47th Main Roof | 0                           | 0                           | 0                           |
| 46th Floor     | 0                           | 0                           | 0                           |
| 45th Floor     | 0                           | 0                           | 0                           |
| 44th Floor     | 0                           | 0                           | 0                           |
| 43rd Floor     | 0                           | 0                           | 0                           |
| 42nd Floor     | 0                           | 0                           | 0                           |
| 41st Floor     | 0                           | 0                           | 0                           |
| 40th Floor     | 0                           | 0                           | 0                           |
| 39th Floor     | 0                           | 0                           | 0                           |
| 38th Floor     | 0                           | 0                           | 0                           |
| 37th Floor     | 0                           | 0                           | 0                           |
| 36th Floor     | 0                           | 0                           | 0                           |
| 35th Floor     | 0                           | 0                           | 0                           |
| 34th Floor     | 0                           | 0                           | 0                           |
| 33rd Floor     | 0                           | 0                           | 0                           |
| 32nd Floor     | 0                           | 0                           | 0                           |
| 31st Floor     | 0                           | 0                           | 0                           |
| 30th Floor     | 0                           | 0                           | 0                           |
| 29th Floor     | 0                           | 0                           | 0                           |
| 28th Floor     | 0                           | 0                           | 0                           |
| 27th Floor     | 0                           | 0                           | 0                           |
| 26th Floor     | 0                           | 0                           | 0                           |
| 25th Floor     | 0                           | 0                           | 0                           |
| 24th Floor     | 0                           | 0                           | 0                           |
| 23rd Floor     | 0                           | 0                           | 0                           |
| 22nd Floor     | 0                           | 0                           | 0                           |
| 21st Floor     | 0                           | 0                           | 0                           |
| 20th Floor     | 0                           | 0                           | 0                           |
| 19th Floor     | 0                           | 0                           | 0                           |

**Table 1.9 - Mass Summary by Story (continued)**

| Story      | UX<br>lb-s <sup>2</sup> /ft | UY<br>lb-s <sup>2</sup> /ft | UZ<br>lb-s <sup>2</sup> /ft |
|------------|-----------------------------|-----------------------------|-----------------------------|
| 18th Floor | 0                           | 0                           | 0                           |
| 17th Floor | 0                           | 0                           | 0                           |
| 16th Floor | 0                           | 0                           | 0                           |
| 15th Floor | 0                           | 0                           | 0                           |
| 14th Floor | 0                           | 0                           | 0                           |
| 13th Floor | 0                           | 0                           | 0                           |
| 12th Floor | 0                           | 0                           | 0                           |
| 11th Floor | 0                           | 0                           | 0                           |
| 10th Floor | 0                           | 0                           | 0                           |
| 9th Floor  | 1821.5                      | 1821.5                      | 0                           |
| 8th Floor  | 2208.78                     | 2208.78                     | 0                           |
| 7th Floor  | 1329.42                     | 1329.42                     | 0                           |
| 6th Floor  | 1473.77                     | 1473.77                     | 0                           |
| 5th Floor  | 1685.05                     | 1685.05                     | 0                           |
| 4th Floor  | 1782.41                     | 1782.41                     | 0                           |
| 3rd Floor  | 1490.15                     | 1490.15                     | 0                           |
| 2nd Floor  | 1672.09                     | 1672.09                     | 0                           |
| 1st Floor  | 1796.21                     | 1796.21                     | 0                           |
| Cellar     | 1781.36                     | 1781.36                     | 0                           |
| Subcellar  | 687.85                      | 687.85                      | 0                           |

**1.6 Groups**

**Table 1.10 - Group Definitions**

| Name | Color  |
|------|--------|
| All  | Yellow |

## 2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

### 2.1 Materials

**Table 2.1 - Material Properties - Summary**

| Name     | Type  | E<br>lb/in <sup>2</sup> | v   | Unit<br>Weight<br>lb/ft <sup>3</sup> | Design Strengths  |
|----------|-------|-------------------------|-----|--------------------------------------|---|
| A36      | Steel | 29000000                | 0.3 | 490                                  | Fy=36000 lb/in <sup>2</sup> , Fu=58000 lb/in <sup>2</sup> |
| A615Gr60 | Rebar | 29000000                | 0.3 | 490                                  | Fy=60000 lb/in <sup>2</sup> , Fu=90000 lb/in <sup>2</sup> |
| A992Fy50 | Steel | 29000000                | 0.3 | 490                                  | Fy=50000 lb/in <sup>2</sup> , Fu=65000 lb/in <sup>2</sup> |

### 2.2 Frame Sections

**Table 2.2 - Frame Sections - Summary**

| Name    | Material | Shape               |
|---------|----------|---------------------|
| W14X132 | A992Fy50 | Steel I/Wide Flange |
| W14X176 | A992Fy50 | Steel I/Wide Flange |
| W14X233 | A992Fy50 | Steel I/Wide Flange |
| W14X257 | A992Fy50 | Steel I/Wide Flange |
| W14X342 | A992Fy50 | Steel I/Wide Flange |
| W14X500 | A992Fy50 | Steel I/Wide Flange |
| W14X605 | A992Fy50 | Steel I/Wide Flange |
| W14X730 | A992Fy50 | Steel I/Wide Flange |
| W24X62  | A992Fy50 | Steel I/Wide Flange |
| W30X90  | A992Fy50 | Steel I/Wide Flange |

### 2.3 Reinforcement Sizes

**Table 2.3 - Reinforcing Bar Sizes**

| Name | Diameter<br>in | Area<br>in <sup>2</sup> |
|------|----------------|-------------------------|
| #4   | 0.5            | 0.2                     |
| #6   | 0.75           | 0.44                    |
| #9   | 1.128          | 1                       |

### 2.4 Tendon Sections

**Table 2.4 - Tendon Section Properties**

| Name    | Material  | StrandArea<br>in <sup>2</sup> | Color |
|---------|-----------|-------------------------------|-------|
| Tendon1 | A416Gr270 | 0.153                         | Red   |

### 3 Assignments

This chapter provides a listing of the assignments applied to the model.

#### 3.1 Joint Assignments

**Table 3.1 - Joint Assignments - Summary**

| Story     | Label | Unique Name | Diaphragm | Restraints |
|-----------|-------|-------------|-----------|------------|
| 9th Floor | 78    | 292         | From Area |            |
| 9th Floor | 79    | 293         | From Area |            |
| 9th Floor | 80    | 294         | From Area |            |
| 9th Floor | 81    | 295         | From Area |            |
| 9th Floor | 83    | 231         | From Area |            |
| 9th Floor | 304   | 1725        | From Area |            |
| 9th Floor | 23    | 23          | From Area |            |
| 8th Floor | 78    | 287         | From Area |            |
| 8th Floor | 79    | 288         | From Area |            |
| 8th Floor | 80    | 289         | From Area |            |
| 8th Floor | 81    | 290         | From Area |            |
| 8th Floor | 83    | 230         | From Area |            |
| 8th Floor | 98    | 309         | From Area |            |
| 8th Floor | 304   | 3315        | From Area |            |
| 8th Floor | 62    | 229         | From Area |            |
| 8th Floor | 63    | 3313        | From Area |            |
| 8th Floor | 64    | 3314        | From Area |            |
| 7th Floor | 78    | 282         | From Area |            |
| 7th Floor | 79    | 283         | From Area |            |
| 7th Floor | 80    | 284         | From Area |            |
| 7th Floor | 81    | 285         | From Area |            |
| 7th Floor | 4     | 4           | From Area |            |
| 7th Floor | 7     | 7           | From Area |            |
| 7th Floor | 8     | 8           | From Area |            |
| 7th Floor | 22    | 22          | From Area |            |
| 6th Floor | 78    | 277         | From Area |            |
| 6th Floor | 79    | 278         | From Area |            |
| 6th Floor | 80    | 279         | From Area |            |
| 6th Floor | 81    | 280         | From Area |            |
| 6th Floor | 3     | 3           | From Area |            |
| 6th Floor | 15    | 15          | From Area |            |
| 6th Floor | 21    | 21          | From Area |            |
| 5th Floor | 78    | 272         | From Area |            |
| 5th Floor | 79    | 273         | From Area |            |
| 5th Floor | 80    | 274         | From Area |            |
| 5th Floor | 81    | 275         | From Area |            |
| 5th Floor | 14    | 14          | From Area |            |
| 5th Floor | 20    | 20          | From Area |            |
| 4th Floor | 78    | 267         | From Area |            |
| 4th Floor | 79    | 268         | From Area |            |
| 4th Floor | 80    | 269         | From Area |            |

**Table 3.1 - Joint Assignments - Summary (continued)**

| Story     | Label | Unique Name | Diaphragm | Restraints |
|-----------|-------|-------------|-----------|------------|
| 4th Floor | 81    | 270         | From Area |            |
| 4th Floor | 12    | 12          | From Area |            |
| 4th Floor | 13    | 13          | From Area |            |
| 4th Floor | 19    | 19          | From Area |            |
| 3rd Floor | 78    | 262         | From Area |            |
| 3rd Floor | 79    | 263         | From Area |            |
| 3rd Floor | 80    | 264         | From Area |            |
| 3rd Floor | 81    | 265         | From Area |            |
| 3rd Floor | 11    | 11          | From Area |            |
| 3rd Floor | 18    | 18          | From Area |            |
| 2nd Floor | 78    | 244         | From Area |            |
| 2nd Floor | 79    | 246         | From Area |            |
| 2nd Floor | 80    | 248         | From Area |            |
| 2nd Floor | 81    | 250         | From Area |            |
| 2nd Floor | 1     | 1           | From Area |            |
| 2nd Floor | 10    | 10          | From Area |            |
| 2nd Floor | 17    | 17          | From Area |            |
| 1st Floor | 78    | 243         | From Area |            |
| 1st Floor | 79    | 245         | From Area |            |
| 1st Floor | 80    | 247         | From Area |            |
| 1st Floor | 81    | 249         | From Area |            |
| 1st Floor | 2     | 2           | From Area |            |
| 1st Floor | 9     | 9           | From Area |            |
| 1st Floor | 16    | 16          | From Area |            |
| Cellar    | 78    | 254         | From Area |            |
| Cellar    | 79    | 256         | From Area |            |
| Cellar    | 80    | 258         | From Area |            |
| Cellar    | 81    | 260         | From Area |            |
| Cellar    | 5     | 5           | From Area |            |
| Cellar    | 6     | 6           | From Area |            |
| Subcellar | 78    | 253         | From Area | UX; UY; UZ |
| Subcellar | 79    | 255         | From Area | UX; UY; UZ |
| Subcellar | 80    | 257         | From Area | UX; UY; UZ |
| Subcellar | 81    | 259         | From Area | UX; UY; UZ |

**3.2 Frame Assignments**

**Table 3.2 - Frame Assignments - Summary**

| Story     | Label | Unique Name | Design Type | Length in | Analysis Section | Design Section | Axis Angle deg | Max Station Spacing in | Min Number Stations | Releases |
|-----------|-------|-------------|-------------|-----------|------------------|----------------|----------------|------------------------|---------------------|----------|
| 9th Floor | C18   | 185         | Column      | 180       | W14X342          | W14X342        |                |                        | 3                   | No       |
| 9th Floor | C19   | 186         | Column      | 180       | W14X500          | W14X500        |                |                        | 3                   | No       |
| 9th Floor | C20   | 187         | Column      | 180       | W14X342          | W14X342        |                |                        | 3                   | No       |
| 9th Floor | C21   | 188         | Column      | 180       | W14X730          | W14X730        |                |                        | 3                   | No       |



Table 3.2 - Frame Assignments - Summary (continued)

| Story     | Label | Unique Name | Design Type | Length in | Analysis Section | Design Section | Axis Angle deg | Max Station Spacing in | Min Number Stations | Releases |
|-----------|-------|-------------|-------------|-----------|------------------|----------------|----------------|------------------------|---------------------|----------|
| 9th Floor | C79   | 262         | Column      | 180       | W14X132          | W14X132        |                |                        | 3                   | No       |
| 9th Floor | C10   | 76          | Column      | 66.1724   | W14X342          | W14X342        | 90             |                        | 3                   | No       |
| 9th Floor | C11   | 77          | Column      | 113.8276  | W14X342          | W14X342        | 90             |                        | 3                   | No       |
| 8th Floor | C18   | 180         | Column      | 145.752   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 8th Floor | C19   | 181         | Column      | 145.752   | W14X500          | W14X500        |                |                        | 3                   | No       |
| 8th Floor | C20   | 182         | Column      | 145.752   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 8th Floor | C21   | 183         | Column      | 145.752   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 7th Floor | C18   | 175         | Column      | 145.752   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 7th Floor | C20   | 177         | Column      | 145.752   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 7th Floor | C21   | 178         | Column      | 145.752   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 7th Floor | C8    | 7           | Column      | 141.5208  | W14X500          | W14X500        |                |                        | 3                   | No       |
| 7th Floor | C9    | 8           | Column      | 4.2312    | W14X500          | W14X500        |                |                        | 3                   | No       |
| 6th Floor | C18   | 170         | Column      | 182.496   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 6th Floor | C19   | 171         | Column      | 182.496   | W14X500          | W14X500        |                |                        | 3                   | No       |
| 6th Floor | C21   | 173         | Column      | 182.496   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 6th Floor | C5    | 5           | Column      | 107.0748  | W14X342          | W14X342        |                |                        | 3                   | No       |
| 6th Floor | C7    | 6           | Column      | 75.4212   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 5th Floor | C18   | 165         | Column      | 192.504   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 5th Floor | C19   | 166         | Column      | 192.504   | W14X605          | W14X605        |                |                        | 3                   | No       |
| 5th Floor | C20   | 167         | Column      | 192.504   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 5th Floor | C21   | 168         | Column      | 192.504   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 4th Floor | C18   | 160         | Column      | 191.748   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 4th Floor | C19   | 161         | Column      | 191.748   | W14X605          | W14X605        |                |                        | 3                   | No       |
| 4th Floor | C20   | 162         | Column      | 191.748   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 4th Floor | C21   | 163         | Column      | 191.748   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 3rd Floor | C18   | 155         | Column      | 138       | W14X342          | W14X342        |                |                        | 3                   | No       |
| 3rd Floor | C19   | 156         | Column      | 138       | W14X605          | W14X605        |                |                        | 3                   | No       |
| 3rd Floor | C20   | 157         | Column      | 138       | W14X342          | W14X342        |                |                        | 3                   | No       |
| 3rd Floor | C21   | 158         | Column      | 138       | W14X730          | W14X730        |                |                        | 3                   | No       |
| 2nd Floor | C18   | 124         | Column      | 227.748   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 2nd Floor | C19   | 132         | Column      | 227.748   | W14X605          | W14X605        |                |                        | 3                   | No       |
| 2nd Floor | C21   | 143         | Column      | 227.748   | W14X730          | W14X730        |                |                        | 3                   | No       |
| 2nd Floor | C1    | 1           | Column      | 211.1569  | W14X342          | W14X342        |                |                        | 3                   | No       |
| 2nd Floor | C2    | 2           | Column      | 16.5911   | W14X342          | W14X342        |                |                        | 3                   | No       |
| 1st Floor | C18   | 150         | Column      | 168       | W14X342          | W14X342        |                |                        | 3                   | No       |
| 1st Floor | C20   | 152         | Column      | 168       | W14X342          | W14X342        |                |                        | 3                   | No       |
| 1st Floor | C21   | 153         | Column      | 168       | W14X730          | W14X730        |                |                        | 3                   | No       |
| 1st Floor | C3    | 3           | Column      | 161.7629  | W14X605          | W14X605        |                |                        | 3                   | No       |
| 1st Floor | C4    | 4           | Column      | 6.2371    | W14X605          | W14X605        |                |                        | 3                   | No       |
| Cellar    | C18   | 145         | Column      | 168       | W14X342          | W14X342        |                |                        | 3                   | No       |
| Cellar    | C19   | 146         | Column      | 168       | W14X605          | W14X605        |                |                        | 3                   | No       |
| Cellar    | C20   | 147         | Column      | 168       | W14X342          | W14X342        |                |                        | 3                   | No       |
| Cellar    | C21   | 148         | Column      | 168       | W14X730          | W14X730        |                |                        | 3                   | No       |
| 9th Floor | B20   | 216         | Beam        | 178       | W14X176          | W14X176        |                | 24                     |                     | Yes      |

**Table 3.2 - Frame Assignments - Summary (continued)**

| Story     | Label | Unique Name | Design Type | Length in | Analysis Section | Design Section | Axis Angle deg | Max Station Spacing in | Min Number Stations | Releases |
|-----------|-------|-------------|-------------|-----------|------------------|----------------|----------------|------------------------|---------------------|----------|
| 9th Floor | B24   | 220         | Beam        | 170.252   | W14X342          | W14X342        |                | 24                     |                     | Yes      |
| 9th Floor | B25   | 221         | Beam        | 125.248   | W14X342          | W14X342        |                | 24                     |                     | Yes      |
| 9th Floor | B17   | 26          | Beam        | 306       | W14X257          | W14X257        |                | 24                     |                     | Yes      |
| 9th Floor | B18   | 27          | Beam        | 160       | W14X257          | W14X257        |                | 24                     |                     | Yes      |
| 8th Floor | B25   | 23          | Beam        | 125.248   | W14X176          | W14X176        |                | 24                     |                     | Yes      |
| 8th Floor | B9    | 17          | Beam        | 96.9994   | W14X176          | W14X176        |                | 24                     |                     | Yes      |
| 8th Floor | B10   | 18          | Beam        | 81.0006   | W14X176          | W14X176        |                | 24                     |                     | Yes      |
| 8th Floor | B11   | 19          | Beam        | 185.8047  | W14X176          | W14X176        |                | 24                     |                     | Yes      |
| 8th Floor | B12   | 20          | Beam        | 120.1953  | W14X176          | W14X176        |                | 24                     |                     | No       |
| 8th Floor | B13   | 21          | Beam        | 72.8672   | W14X176          | W14X176        |                | 24                     |                     | No       |
| 8th Floor | B14   | 22          | Beam        | 87.1328   | W14X176          | W14X176        |                | 24                     |                     | Yes      |
| 8th Floor | B15   | 24          | Beam        | 72.8115   | W14X176          | W14X176        |                | 24                     |                     | No       |
| 8th Floor | B16   | 25          | Beam        | 97.4405   | W14X176          | W14X176        |                | 24                     |                     | Yes      |
| 7th Floor | B21   | 210         | Beam        | 466       | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 7th Floor | B5    | 13          | Beam        | 175.7149  | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 7th Floor | B6    | 14          | Beam        | 2.2851    | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 7th Floor | B7    | 15          | Beam        | 119.3852  | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 7th Floor | B8    | 16          | Beam        | 176.1148  | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 6th Floor | B20   | 193         | Beam        | 178       | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 6th Floor | B19   | 55          | Beam        | 76.4303   | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 6th Floor | B23   | 56          | Beam        | 389.5697  | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 6th Floor | B26   | 57          | Beam        | 40.711    | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 6th Floor | B27   | 58          | Beam        | 254.789   | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 5th Floor | B20   | 196         | Beam        | 178       | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 5th Floor | B22   | 199         | Beam        | 295.5     | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 5th Floor | B28   | 59          | Beam        | 174.9899  | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 5th Floor | B29   | 60          | Beam        | 233.213   | W30X90           | W30X90         |                | 24                     |                     | No       |
| 5th Floor | B30   | 61          | Beam        | 57.797    | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 4th Floor | B20   | 200         | Beam        | 178       | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 4th Floor | B22   | 203         | Beam        | 295.5     | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 4th Floor | B31   | 62          | Beam        | 278.9545  | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 4th Floor | B32   | 63          | Beam        | 25.3383   | W30X90           | W30X90         |                | 24                     |                     | No       |
| 4th Floor | B33   | 64          | Beam        | 161.7072  | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 3rd Floor | B20   | 204         | Beam        | 178       | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 3rd Floor | B22   | 207         | Beam        | 295.5     | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 3rd Floor | B34   | 65          | Beam        | 200.7908  | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 3rd Floor | B35   | 66          | Beam        | 181.7201  | W30X90           | W30X90         |                | 24                     |                     | No       |
| 3rd Floor | B36   | 67          | Beam        | 83.4892   | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 2nd Floor | B20   | 242         | Beam        | 178       | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 2nd Floor | B22   | 246         | Beam        | 295.5     | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 2nd Floor | B37   | 69          | Beam        | 126.3009  | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 2nd Floor | B38   | 70          | Beam        | 330.7388  | W30X90           | W30X90         |                | 24                     |                     | No       |
| 2nd Floor | B39   | 71          | Beam        | 8.9603    | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 1st Floor | B20   | 247         | Beam        | 178       | W24X62           | W24X62         |                | 24                     |                     | Yes      |

Table 3.2 - Frame Assignments - Summary (continued)

| Story     | Label | Unique Name | Design Type | Length in | Analysis Section | Design Section | Axis Angle deg | Max Station Spacing in | Min Number Stations | Releases |
|-----------|-------|-------------|-------------|-----------|------------------|----------------|----------------|------------------------|---------------------|----------|
| 1st Floor | B40   | 72          | Beam        | 3.3667    | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 1st Floor | B41   | 73          | Beam        | 462.6333  | W30X90           | W30X90         |                | 24                     |                     | Yes      |
| 1st Floor | B42   | 74          | Beam        | 114.0383  | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| 1st Floor | B43   | 75          | Beam        | 181.4617  | W24X62           | W24X62         |                | 24                     |                     | Yes      |
| Cellar    | B21   | 190         | Beam        | 466       | W14X176          | W14X176        |                | 24                     |                     | Yes      |
| Cellar    | B1    | 9           | Beam        | 90.6833   | W14X176          | W14X176        |                | 24                     |                     | Yes      |
| Cellar    | B2    | 10          | Beam        | 87.3167   | W14X176          | W14X176        |                | 24                     |                     | Yes      |
| Cellar    | B3    | 11          | Beam        | 204.7692  | W14X176          | W14X176        |                | 24                     |                     | Yes      |
| Cellar    | B4    | 12          | Beam        | 90.7308   | W14X176          | W14X176        |                | 24                     |                     | Yes      |
| 9th Floor | D78   | 245         | Brace       | 258.6955  | W14X233          | W14X233        | 90             |                        | 3                   | Yes      |
| 9th Floor | D43   | 244         | Brace       | 216.4415  | W14X233          | W14X233        | 90             |                        | 3                   | Yes      |
| 9th Floor | D44   | 227         | Brace       | 199.9803  | W14X233          | W14X233        | 90             |                        | 3                   | Yes      |
| 9th Floor | D45   | 232         | Brace       | 194.1897  | W14X233          | W14X233        | 90             |                        | 3                   | Yes      |
| 9th Floor | D70   | 250         | Brace       | 204.6818  | W14X500          | W14X500        |                |                        | 3                   | Yes      |
| 9th Floor | D71   | 219         | Brace       | 197.3857  | W14X233          | W14X233        | 90             |                        | 3                   | Yes      |
| 9th Floor | D75   | 251         | Brace       | 204.4722  | W14X500          | W14X500        |                |                        | 3                   | Yes      |
| 9th Floor | D26   | 53          | Brace       | 98.3885   | W14X233          | W14X233        | 90             |                        | 3                   | Yes      |
| 9th Floor | D27   | 54          | Brace       | 169.2448  | W14X233          | W14X233        | 90             |                        | 3                   | Yes      |
| 8th Floor | D12   | 39          | Brace       | 165.63    | W14X500          | W14X500        | 90             |                        | 3                   | Yes      |
| 8th Floor | D25   | 52          | Brace       | 165.6495  | W14X500          | W14X500        | 90             |                        | 3                   | Yes      |
| 7th Floor | D11   | 38          | Brace       | 165.63    | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 7th Floor | D22   | 49          | Brace       | 160.8407  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 7th Floor | D23   | 50          | Brace       | 3.7243    | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 7th Floor | D24   | 51          | Brace       | 1.0846    | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 6th Floor | D9    | 36          | Brace       | 121.6779  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 6th Floor | D10   | 37          | Brace       | 85.7073   | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 6th Floor | D21   | 48          | Brace       | 207.4097  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 5th Floor | D8    | 35          | Brace       | 218.7581  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 5th Floor | D20   | 47          | Brace       | 218.784   | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 4th Floor | D6    | 33          | Brace       | 191.2341  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 4th Floor | D7    | 34          | Brace       | 26.6649   | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 4th Floor | D18   | 45          | Brace       | 191.2567  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 4th Floor | D19   | 46          | Brace       | 26.668    | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 3rd Floor | D5    | 32          | Brace       | 156.8207  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 3rd Floor | D17   | 44          | Brace       | 156.8393  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 2nd Floor | D4    | 31          | Brace       | 258.8088  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 2nd Floor | D15   | 42          | Brace       | 239.9833  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 2nd Floor | D16   | 43          | Brace       | 18.8561   | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 1st Floor | D2    | 29          | Brace       | 183.8245  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 1st Floor | D3    | 30          | Brace       | 7.0877    | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| 1st Floor | D14   | 41          | Brace       | 190.9348  | W14X500          | W14X500        | 90             |                        | 3                   | No       |
| Cellar    | D1    | 28          | Brace       | 190.9122  | W14X500          | W14X500        | 90             |                        | 3                   | Yes      |
| Cellar    | D13   | 40          | Brace       | 190.9348  | W14X500          | W14X500        | 90             |                        | 3                   | Yes      |

## 4 Loads

This chapter provides loading information as applied to the model.

### 4.1 Load Patterns

Table 4.1 - Load Patterns

| Name | Type | Self Weight Multiplier | Auto Load |
|------|------|------------------------|-----------|
| Dead | Dead | 1                      |           |
| Live | Live | 0                      |           |
| Wind | Wind | 0                      | None      |

### 4.2 Applied Loads

#### 4.2.1 Point Loads

Table 4.2 - Joint Loads - Force

| Story     | Label | Unique Name | Load Pattern | FX kip | FY kip | FZ kip | MX kip-ft | MY kip-ft | MZ kip-ft | XDim in | YDim in |
|-----------|-------|-------------|--------------|--------|--------|--------|-----------|-----------|-----------|---------|---------|
| 9th Floor | 78    | 292         | Dead         | 0      | 0      | -439   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor | 79    | 293         | Dead         | 0      | 0      | -1507  | 0         | 0         | 0         | 0       | 0       |
| 9th Floor | 80    | 294         | Dead         | 0      | 0      | -610   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor | 81    | 295         | Dead         | 0      | 0      | -633   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor | 304   | 1725        | Dead         | 0      | 0      | -60    | 0         | 0         | 0         | 0       | 0       |
| 8th Floor | 79    | 288         | Dead         | 0      | 0      | -43    | 0         | 0         | 0         | 0       | 0       |
| 8th Floor | 80    | 289         | Dead         | 0      | 0      | -666   | 0         | 0         | 0         | 0       | 0       |
| 8th Floor | 81    | 290         | Dead         | 0      | 0      | -171   | 0         | 0         | 0         | 0       | 0       |
| 7th Floor | 80    | 284         | Dead         | 0      | 0      | -44    | 0         | 0         | 0         | 0       | 0       |
| 7th Floor | 81    | 285         | Dead         | 0      | 0      | -137   | 0         | 0         | 0         | 0       | 0       |
| 6th Floor | 81    | 280         | Dead         | 0      | 0      | -149   | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 78    | 272         | Dead         | 0      | 0      | -5     | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 79    | 273         | Dead         | 0      | 0      | -19    | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 80    | 274         | Dead         | 0      | 0      | -23    | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 81    | 275         | Dead         | 0      | 0      | -16    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 78    | 267         | Dead         | 0      | 0      | -28    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 79    | 268         | Dead         | 0      | 0      | -54    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 80    | 269         | Dead         | 0      | 0      | -42    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 81    | 270         | Dead         | 0      | 0      | -45    | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor | 78    | 262         | Dead         | 0      | 0      | -7     | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor | 79    | 263         | Dead         | 0      | 0      | -47    | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor | 80    | 264         | Dead         | 0      | 0      | -27    | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor | 78    | 244         | Dead         | 0      | 0      | -7     | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor | 79    | 246         | Dead         | 0      | 0      | -43    | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor | 80    | 248         | Dead         | 0      | 0      | -49    | 0         | 0         | 0         | 0       | 0       |
| 1st Floor | 78    | 243         | Dead         | 0      | 0      | -13    | 0         | 0         | 0         | 0       | 0       |
| 1st Floor | 80    | 247         | Dead         | 0      | 0      | -82    | 0         | 0         | 0         | 0       | 0       |
| Cellar    | 78    | 254         | Dead         | 0      | 0      | -13    | 0         | 0         | 0         | 0       | 0       |
| Cellar    | 80    | 258         | Dead         | 0      | 0      | -75    | 0         | 0         | 0         | 0       | 0       |
| 9th Floor | 78    | 292         | Live         | 0      | 0      | -115   | 0         | 0         | 0         | 0       | 0       |

Table 4.2 - Joint Loads - Force (continued)

| Story     | Label | Unique Name | Load Pattern | FX kip | FY kip | FZ kip | MX kip-ft | MY kip-ft | MZ kip-ft | XDim in | YDim in |
|-----------|-------|-------------|--------------|--------|--------|--------|-----------|-----------|-----------|---------|---------|
| 9th Floor | 79    | 293         | Live         | 0      | 0      | -368   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor | 80    | 294         | Live         | 0      | 0      | -206   | 0         | 0         | 0         | 0       | 0       |
| 9th Floor | 81    | 295         | Live         | 0      | 0      | -220   | 0         | 0         | 0         | 0       | 0       |
| 8th Floor | 79    | 288         | Live         | 0      | 0      | -36    | 0         | 0         | 0         | 0       | 0       |
| 8th Floor | 80    | 289         | Live         | 0      | 0      | -212   | 0         | 0         | 0         | 0       | 0       |
| 8th Floor | 81    | 290         | Live         | 0      | 0      | -84    | 0         | 0         | 0         | 0       | 0       |
| 7th Floor | 79    | 283         | Live         | 0      | 0      | -13    | 0         | 0         | 0         | 0       | 0       |
| 7th Floor | 80    | 284         | Live         | 0      | 0      | -49    | 0         | 0         | 0         | 0       | 0       |
| 7th Floor | 81    | 285         | Live         | 0      | 0      | -63    | 0         | 0         | 0         | 0       | 0       |
| 6th Floor | 78    | 277         | Live         | 0      | 0      | -6     | 0         | 0         | 0         | 0       | 0       |
| 6th Floor | 79    | 278         | Live         | 0      | 0      | -33    | 0         | 0         | 0         | 0       | 0       |
| 6th Floor | 80    | 279         | Live         | 0      | 0      | -15    | 0         | 0         | 0         | 0       | 0       |
| 6th Floor | 81    | 280         | Live         | 0      | 0      | -64    | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 78    | 272         | Live         | 0      | 0      | -5     | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 79    | 273         | Live         | 0      | 0      | -34    | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 80    | 274         | Live         | 0      | 0      | -27    | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 81    | 275         | Live         | 0      | 0      | -26    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 78    | 267         | Live         | 0      | 0      | -21    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 79    | 268         | Live         | 0      | 0      | -39    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 80    | 269         | Live         | 0      | 0      | -27    | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 81    | 270         | Live         | 0      | 0      | -28    | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor | 78    | 262         | Live         | 0      | 0      | -3     | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor | 79    | 263         | Live         | 0      | 0      | -54    | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor | 80    | 264         | Live         | 0      | 0      | -22    | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor | 81    | 265         | Live         | 0      | 0      | -32    | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor | 79    | 246         | Live         | 0      | 0      | -26    | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor | 80    | 248         | Live         | 0      | 0      | -27    | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor | 81    | 250         | Live         | 0      | 0      | -43    | 0         | 0         | 0         | 0       | 0       |
| 1st Floor | 78    | 243         | Live         | 0      | 0      | -6     | 0         | 0         | 0         | 0       | 0       |
| 1st Floor | 80    | 247         | Live         | 0      | 0      | -48    | 0         | 0         | 0         | 0       | 0       |
| 1st Floor | 81    | 249         | Live         | 0      | 0      | -29    | 0         | 0         | 0         | 0       | 0       |
| Cellar    | 78    | 254         | Live         | 0      | 0      | -5     | 0         | 0         | 0         | 0       | 0       |
| Cellar    | 79    | 256         | Live         | 0      | 0      | -5     | 0         | 0         | 0         | 0       | 0       |
| Cellar    | 80    | 258         | Live         | 0      | 0      | -48    | 0         | 0         | 0         | 0       | 0       |
| Cellar    | 81    | 260         | Live         | 0      | 0      | -18    | 0         | 0         | 0         | 0       | 0       |
| 9th Floor | 78    | 292         | Wind         | 0      | 300    | 0      | 0         | 0         | 0         | 0       | 0       |
| 9th Floor | 79    | 293         | Wind         | 0      | 300    | 0      | 0         | 0         | 0         | 0       | 0       |
| 9th Floor | 80    | 294         | Wind         | 0      | 300    | 0      | 0         | 0         | 0         | 0       | 0       |
| 9th Floor | 81    | 295         | Wind         | 0      | 300    | 0      | 0         | 0         | 0         | 0       | 0       |
| 8th Floor | 78    | 287         | Wind         | 0      | 19.25  | 0      | 0         | 0         | 0         | 0       | 0       |
| 8th Floor | 79    | 288         | Wind         | 0      | 19.25  | 0      | 0         | 0         | 0         | 0       | 0       |
| 8th Floor | 80    | 289         | Wind         | 0      | 19.25  | 0      | 0         | 0         | 0         | 0       | 0       |
| 8th Floor | 81    | 290         | Wind         | 0      | 19.25  | 0      | 0         | 0         | 0         | 0       | 0       |
| 7th Floor | 78    | 282         | Wind         | 0      | 9.5    | 0      | 0         | 0         | 0         | 0       | 0       |
| 7th Floor | 79    | 283         | Wind         | 0      | 9.5    | 0      | 0         | 0         | 0         | 0       | 0       |

**Table 4.2 - Joint Loads - Force (continued)**

| Story     | Label | Unique Name | Load Pattern | FX kip | FY kip | FZ kip | MX kip-ft | MY kip-ft | MZ kip-ft | XDim in | YDim in |
|-----------|-------|-------------|--------------|--------|--------|--------|-----------|-----------|-----------|---------|---------|
| 7th Floor | 80    | 284         | Wind         | 0      | 9.5    | 0      | 0         | 0         | 0         | 0       | 0       |
| 7th Floor | 81    | 285         | Wind         | 0      | 9.5    | 0      | 0         | 0         | 0         | 0       | 0       |
| 6th Floor | 78    | 277         | Wind         | 0      | 5.75   | 0      | 0         | 0         | 0         | 0       | 0       |
| 6th Floor | 79    | 278         | Wind         | 0      | 5.75   | 0      | 0         | 0         | 0         | 0       | 0       |
| 6th Floor | 80    | 279         | Wind         | 0      | 5.75   | 0      | 0         | 0         | 0         | 0       | 0       |
| 6th Floor | 81    | 280         | Wind         | 0      | 5.75   | 0      | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 78    | 272         | Wind         | 0      | 6      | 0      | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 79    | 273         | Wind         | 0      | 6      | 0      | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 80    | 274         | Wind         | 0      | 6      | 0      | 0         | 0         | 0         | 0       | 0       |
| 5th Floor | 81    | 275         | Wind         | 0      | 6      | 0      | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 78    | 267         | Wind         | 0      | 5.25   | 0      | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 79    | 268         | Wind         | 0      | 5.25   | 0      | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 80    | 269         | Wind         | 0      | 5.25   | 0      | 0         | 0         | 0         | 0       | 0       |
| 4th Floor | 81    | 270         | Wind         | 0      | 5.25   | 0      | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor | 78    | 262         | Wind         | 0      | 26.25  | 0      | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor | 79    | 263         | Wind         | 0      | 26.25  | 0      | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor | 80    | 264         | Wind         | 0      | 26.25  | 0      | 0         | 0         | 0         | 0       | 0       |
| 3rd Floor | 81    | 265         | Wind         | 0      | 26.25  | 0      | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor | 78    | 244         | Wind         | 0      | 10.5   | 0      | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor | 79    | 246         | Wind         | 0      | 10.5   | 0      | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor | 80    | 248         | Wind         | 0      | 10.5   | 0      | 0         | 0         | 0         | 0       | 0       |
| 2nd Floor | 81    | 250         | Wind         | 0      | 10.5   | 0      | 0         | 0         | 0         | 0       | 0       |
| 1st Floor | 78    | 243         | Wind         | 0      | 25.25  | 0      | 0         | 0         | 0         | 0       | 0       |
| 1st Floor | 79    | 245         | Wind         | 0      | 25.25  | 0      | 0         | 0         | 0         | 0       | 0       |
| 1st Floor | 80    | 247         | Wind         | 0      | 25.25  | 0      | 0         | 0         | 0         | 0       | 0       |
| 1st Floor | 81    | 249         | Wind         | 0      | 25.25  | 0      | 0         | 0         | 0         | 0       | 0       |

**4.3 Load Cases**

**Table 4.3 - Load Cases - Summary**

| Name | Type          |
|------|---------------|
| Dead | Linear Static |
| Live | Linear Static |
| Wind | Linear Static |

**4.4 Load Combinations**

**Table 4.4 - Load Combinations**

| Name       | Load Case/Combo | Mode | Scale Factor | Type       | Auto |
|------------|-----------------|------|--------------|------------|------|
| Wind+Modal | Wind            |      | 1            | Linear Add | No   |
| Wind+Modal | Modal           | 1    | 1            |            | No   |
| wind 1     | Wind            |      | 1            | Linear Add | No   |
| wind -1    | Wind            |      | -1           | Linear Add | No   |
| UDStIS1    | Dead            |      | 1.4          | Linear Add | No   |
| UDStIS2    | Dead            |      | 1.2          | Linear Add | No   |

**Table 4.4 - Load Combinations (continued)**

| Name    | Load Case/Combo | Mode | Scale Factor | Type       | Auto |
|---------|-----------------|------|--------------|------------|------|
| UDStIS2 | Live            |      | 1.6          |            | No   |
| UDStIS3 | Dead            |      | 1.2          | Linear Add | No   |
| UDStIS3 | Live            |      | 1            |            | No   |
| UDStIS3 | Wind            |      | 1.6          |            | No   |
| UDStIS4 | Dead            |      | 1.2          | Linear Add | No   |
| UDStIS4 | Live            |      | 1            |            | No   |
| UDStIS4 | Wind            |      | -1.6         |            | No   |
| UDStIS5 | Dead            |      | 0.9          | Linear Add | No   |
| UDStIS5 | Wind            |      | 1.6          |            | No   |
| UDStIS6 | Dead            |      | 0.9          | Linear Add | No   |
| UDStIS6 | Wind            |      | -1.6         |            | No   |
| UDStID1 | Dead            |      | 1            | Linear Add | No   |
| UDStID2 | Dead            |      | 1            | Linear Add | No   |
| UDStID2 | Live            |      | 1            |            | No   |

## 5 Analysis Results

This chapter provides analysis results.

### 5.1 Structure Results

Table 5.1 - Base Reactions

| Load Case/Combo | FX kip | FY kip    | FZ kip    | MX kip-ft   | MY kip-ft  | MZ kip-ft   | X ft | Y ft | Z ft |
|-----------------|--------|-----------|-----------|-------------|------------|-------------|------|------|------|
| Dead            | 0      | 0         | 5624.401  | 256309.1665 | -121391    | 0           | 0    | 0    | -28  |
| Live            | 0      | 0         | 2057      | 103373.7083 | -44396.231 | 0           | 0    | 0    | -28  |
| Wind            | 0      | -1631     | 0         | 205596.767  | 0          | -35201.873  | 0    | 0    | -28  |
| Wind+Modal      | 0      | -1670.195 | 0         | 209699.3972 | 0          | -36047.8279 | 0    | 0    | -28  |
| wind 1          | 0      | -1631     | 0         | 205596.767  | 0          | -35201.873  | 0    | 0    | -28  |
| wind -1         | 0      | 1631      | 0         | -205597     | 0          | 35201.873   | 0    | 0    | -28  |
| UDStIS1         | 0      | 0         | 7874.161  | 358832.8331 | -169948    | 0           | 0    | 0    | -28  |
| UDStIS2         | 0      | 0         | 10040.481 | 472968.9331 | -216704    | 0           | 0    | 0    | -28  |
| UDStIS3         | 0      | -2609.6   | 8806.281  | 739899.5353 | -190066    | -56322.9968 | 0    | 0    | -28  |
| UDStIS4         | 0      | 2609.6    | 8806.281  | 81989.8809  | -190066    | 56322.9968  | 0    | 0    | -28  |
| UDStIS5         | 0      | -2609.6   | 5061.96   | 559633.077  | -109252    | -56322.9968 | 0    | 0    | -28  |
| UDStIS6         | 0      | 2609.6    | 5061.96   | -98276.5774 | -109252    | 56322.9968  | 0    | 0    | -28  |
| UDStID1         | 0      | 0         | 5624.401  | 256309.1665 | -121391    | 0           | 0    | 0    | -28  |
| UDStID2         | 0      | 0         | 7681.401  | 359682.8748 | -165788    | 0           | 0    | 0    | -28  |

### 5.2 Story Results

Table 5.2 - Story Drifts

| Story     | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft |
|-----------|-----------------|-----------|----------|-------|--------|---------|------|
| 9th Floor | Dead            | Y         | 0.000609 | 78    | 21.583 | 5       | 117  |
| 9th Floor | Live            | Y         | 0.000228 | 78    | 21.583 | 5       | 117  |
| 9th Floor | Wind            | Y         | 0.001225 | 78    | 21.583 | 5       | 117  |
| 9th Floor | Wind+Modal      | Y         | 0.001235 | 78    | 21.583 | 5       | 117  |
| 9th Floor | wind 1          | Y         | 0.001225 | 78    | 21.583 | 5       | 117  |
| 9th Floor | wind -1         | Y         | 0.001225 | 78    | 21.583 | 5       | 117  |
| 9th Floor | UDStIS1         | Y         | 0.000852 | 78    | 21.583 | 5       | 117  |
| 9th Floor | UDStIS2         | Y         | 0.001096 | 78    | 21.583 | 5       | 117  |
| 9th Floor | UDStIS3         | Y         | 0.002919 | 78    | 21.583 | 5       | 117  |
| 9th Floor | UDStIS4         | Y         | 0.002142 | 81    | 21.583 | 83.2917 | 117  |
| 9th Floor | UDStIS5         | Y         | 0.002509 | 78    | 21.583 | 5       | 117  |
| 9th Floor | UDStIS6         | Y         | 0.00187  | 83    | 21.583 | 69.104  | 117  |
| 9th Floor | UDStID1         | Y         | 0.000609 | 78    | 21.583 | 5       | 117  |
| 9th Floor | UDStID2         | Y         | 0.000837 | 78    | 21.583 | 5       | 117  |
| 8th Floor | Dead            | Y         | 0.000565 | 63    | 21.583 | 75.1716 | 102  |
| 8th Floor | Live            | Y         | 0.00027  | 63    | 21.583 | 75.1716 | 102  |
| 8th Floor | Wind            | Y         | 0.002738 | 79    | 21.583 | 19.8333 | 102  |
| 8th Floor | Wind+Modal      | Y         | 0.002759 | 79    | 21.583 | 19.8333 | 102  |
| 8th Floor | wind 1          | Y         | 0.002738 | 79    | 21.583 | 19.8333 | 102  |
| 8th Floor | wind -1         | Y         | 0.002738 | 79    | 21.583 | 19.8333 | 102  |
| 8th Floor | UDStIS1         | Y         | 0.000791 | 63    | 21.583 | 75.1716 | 102  |



Table 5.2 - Story Drifts (continued)

| Story     | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft   |
|-----------|-----------------|-----------|----------|-------|--------|---------|--------|
| 8th Floor | UDStIS2         | Y         | 0.001111 | 63    | 21.583 | 75.1716 | 102    |
| 8th Floor | UDStIS3         | Y         | 0.004943 | 63    | 21.583 | 75.1716 | 102    |
| 8th Floor | UDStIS4         | Y         | 0.004325 | 79    | 21.583 | 19.8333 | 102    |
| 8th Floor | UDStIS5         | Y         | 0.004559 | 80    | 21.583 | 58.6667 | 102    |
| 8th Floor | UDStIS6         | Y         | 0.004413 | 79    | 21.583 | 19.8333 | 102    |
| 8th Floor | UDStID1         | Y         | 0.000565 | 63    | 21.583 | 75.1716 | 102    |
| 8th Floor | UDStID2         | Y         | 0.000835 | 63    | 21.583 | 75.1716 | 102    |
| 7th Floor | Dead            | Y         | 0.001318 | 79    | 21.583 | 19.8333 | 89.854 |
| 7th Floor | Live            | Y         | 0.000429 | 79    | 21.583 | 19.8333 | 89.854 |
| 7th Floor | Wind            | Y         | 0.001973 | 81    | 21.583 | 83.2917 | 89.854 |
| 7th Floor | Wind+Modal      | Y         | 0.001986 | 81    | 21.583 | 83.2917 | 89.854 |
| 7th Floor | wind 1          | Y         | 0.001973 | 81    | 21.583 | 83.2917 | 89.854 |
| 7th Floor | wind -1         | Y         | 0.001973 | 81    | 21.583 | 83.2917 | 89.854 |
| 7th Floor | UDStIS1         | Y         | 0.001845 | 79    | 21.583 | 19.8333 | 89.854 |
| 7th Floor | UDStIS2         | Y         | 0.002268 | 79    | 21.583 | 19.8333 | 89.854 |
| 7th Floor | UDStIS3         | Y         | 0.001847 | 81    | 21.583 | 83.2917 | 89.854 |
| 7th Floor | UDStIS4         | Y         | 0.004754 | 80    | 21.583 | 58.6667 | 89.854 |
| 7th Floor | UDStIS5         | Y         | 0.002377 | 81    | 21.583 | 83.2917 | 89.854 |
| 7th Floor | UDStIS6         | Y         | 0.004027 | 80    | 21.583 | 58.6667 | 89.854 |
| 7th Floor | UDStID1         | Y         | 0.001318 | 79    | 21.583 | 19.8333 | 89.854 |
| 7th Floor | UDStID2         | Y         | 0.001747 | 79    | 21.583 | 19.8333 | 89.854 |
| 6th Floor | Dead            | Y         | 0.000394 | 78    | 21.583 | 5       | 77.708 |
| 6th Floor | Live            | Y         | 0.000109 | 78    | 21.583 | 5       | 77.708 |
| 6th Floor | Wind            | Y         | 0.001439 | 81    | 21.583 | 83.2917 | 77.708 |
| 6th Floor | Wind+Modal      | Y         | 0.001463 | 81    | 21.583 | 83.2917 | 77.708 |
| 6th Floor | wind 1          | Y         | 0.001439 | 81    | 21.583 | 83.2917 | 77.708 |
| 6th Floor | wind -1         | Y         | 0.001439 | 81    | 21.583 | 83.2917 | 77.708 |
| 6th Floor | UDStIS1         | Y         | 0.000551 | 78    | 21.583 | 5       | 77.708 |
| 6th Floor | UDStIS2         | Y         | 0.000647 | 78    | 21.583 | 5       | 77.708 |
| 6th Floor | UDStIS3         | Y         | 0.001899 | 80    | 21.583 | 58.6667 | 77.708 |
| 6th Floor | UDStIS4         | Y         | 0.002738 | 78    | 21.583 | 5       | 77.708 |
| 6th Floor | UDStIS5         | Y         | 0.002042 | 81    | 21.583 | 83.2917 | 77.708 |
| 6th Floor | UDStIS6         | Y         | 0.002562 | 81    | 21.583 | 83.2917 | 77.708 |
| 6th Floor | UDStID1         | Y         | 0.000394 | 78    | 21.583 | 5       | 77.708 |
| 6th Floor | UDStID2         | Y         | 0.000502 | 78    | 21.583 | 5       | 77.708 |
| 5th Floor | Dead            | Y         | 0.000823 | 14    | 21.583 | 53.8502 | 62.5   |
| 5th Floor | Live            | Y         | 0.00035  | 14    | 21.583 | 53.8502 | 62.5   |
| 5th Floor | Wind            | Y         | 0.001219 | 20    | 21.583 | 34.4158 | 62.5   |
| 5th Floor | Wind+Modal      | Y         | 0.001271 | 20    | 21.583 | 34.4158 | 62.5   |
| 5th Floor | wind 1          | Y         | 0.001219 | 20    | 21.583 | 34.4158 | 62.5   |
| 5th Floor | wind -1         | Y         | 0.001219 | 20    | 21.583 | 34.4158 | 62.5   |
| 5th Floor | UDStIS1         | Y         | 0.001153 | 14    | 21.583 | 53.8502 | 62.5   |
| 5th Floor | UDStIS2         | Y         | 0.001548 | 14    | 21.583 | 53.8502 | 62.5   |
| 5th Floor | UDStIS3         | Y         | 0.003259 | 14    | 21.583 | 53.8502 | 62.5   |
| 5th Floor | UDStIS4         | Y         | 0.000685 | 20    | 21.583 | 34.4158 | 62.5   |

Table 5.2 - Story Drifts (continued)

| Story     | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft   |
|-----------|-----------------|-----------|----------|-------|--------|---------|--------|
| 5th Floor | UDStIS5         | Y         | 0.002662 | 14    | 21.583 | 53.8502 | 62.5   |
| 5th Floor | UDStIS6         | Y         | 0.001253 | 20    | 21.583 | 34.4158 | 62.5   |
| 5th Floor | UDStID1         | Y         | 0.000823 | 14    | 21.583 | 53.8502 | 62.5   |
| 5th Floor | UDStID2         | Y         | 0.001173 | 14    | 21.583 | 53.8502 | 62.5   |
| 4th Floor | Dead            | Y         | 0.000575 | 81    | 21.583 | 83.2917 | 46.458 |
| 4th Floor | Live            | Y         | 0.000262 | 81    | 21.583 | 83.2917 | 46.458 |
| 4th Floor | Wind            | Y         | 0.000723 | 81    | 21.583 | 83.2917 | 46.458 |
| 4th Floor | Wind+Modal      | Y         | 0.000754 | 81    | 21.583 | 83.2917 | 46.458 |
| 4th Floor | wind 1          | Y         | 0.000723 | 81    | 21.583 | 83.2917 | 46.458 |
| 4th Floor | wind -1         | Y         | 0.000723 | 81    | 21.583 | 83.2917 | 46.458 |
| 4th Floor | UDStIS1         | Y         | 0.000805 | 81    | 21.583 | 83.2917 | 46.458 |
| 4th Floor | UDStIS2         | Y         | 0.001109 | 81    | 21.583 | 83.2917 | 46.458 |
| 4th Floor | UDStIS3         | Y         | 0.002109 | 81    | 21.583 | 83.2917 | 46.458 |
| 4th Floor | UDStIS4         | Y         | 0.000234 | 80    | 21.583 | 58.6667 | 46.458 |
| 4th Floor | UDStIS5         | Y         | 0.001675 | 81    | 21.583 | 83.2917 | 46.458 |
| 4th Floor | UDStIS6         | Y         | 0.000645 | 80    | 21.583 | 58.6667 | 46.458 |
| 4th Floor | UDStID1         | Y         | 0.000575 | 81    | 21.583 | 83.2917 | 46.458 |
| 4th Floor | UDStID2         | Y         | 0.000837 | 81    | 21.583 | 83.2917 | 46.458 |
| 3rd Floor | Dead            | Y         | 0.000207 | 18    | 21.583 | 51.7092 | 30.479 |
| 3rd Floor | Live            | Y         | 0.000105 | 18    | 21.583 | 51.7092 | 30.479 |
| 3rd Floor | Wind            | Y         | 0.001232 | 80    | 21.583 | 58.6667 | 30.479 |
| 3rd Floor | Wind+Modal      | Y         | 0.00126  | 80    | 21.583 | 58.6667 | 30.479 |
| 3rd Floor | wind 1          | Y         | 0.001232 | 80    | 21.583 | 58.6667 | 30.479 |
| 3rd Floor | wind -1         | Y         | 0.001232 | 80    | 21.583 | 58.6667 | 30.479 |
| 3rd Floor | UDStIS1         | Y         | 0.00029  | 18    | 21.583 | 51.7092 | 30.479 |
| 3rd Floor | UDStIS2         | Y         | 0.000416 | 18    | 21.583 | 51.7092 | 30.479 |
| 3rd Floor | UDStIS3         | Y         | 0.00232  | 80    | 21.583 | 58.6667 | 30.479 |
| 3rd Floor | UDStIS4         | Y         | 0.001676 | 78    | 21.583 | 5       | 30.479 |
| 3rd Floor | UDStIS5         | Y         | 0.002155 | 80    | 21.583 | 58.6667 | 30.479 |
| 3rd Floor | UDStIS6         | Y         | 0.001786 | 80    | 21.583 | 58.6667 | 30.479 |
| 3rd Floor | UDStID1         | Y         | 0.000207 | 18    | 21.583 | 51.7092 | 30.479 |
| 3rd Floor | UDStID2         | Y         | 0.000311 | 18    | 21.583 | 51.7092 | 30.479 |
| 2nd Floor | Dead            | Y         | 0.000439 | 80    | 21.583 | 58.6667 | 18.979 |
| 2nd Floor | Live            | Y         | 0.000209 | 80    | 21.583 | 58.6667 | 18.979 |
| 2nd Floor | Wind            | Y         | 0.001144 | 79    | 21.583 | 19.8333 | 18.979 |
| 2nd Floor | Wind+Modal      | Y         | 0.001167 | 79    | 21.583 | 19.8333 | 18.979 |
| 2nd Floor | wind 1          | Y         | 0.001144 | 79    | 21.583 | 19.8333 | 18.979 |
| 2nd Floor | wind -1         | Y         | 0.001144 | 79    | 21.583 | 19.8333 | 18.979 |
| 2nd Floor | UDStIS1         | Y         | 0.000615 | 80    | 21.583 | 58.6667 | 18.979 |
| 2nd Floor | UDStIS2         | Y         | 0.000862 | 80    | 21.583 | 58.6667 | 18.979 |
| 2nd Floor | UDStIS3         | Y         | 0.001108 | 79    | 21.583 | 19.8333 | 18.979 |
| 2nd Floor | UDStIS4         | Y         | 0.002551 | 79    | 21.583 | 19.8333 | 18.979 |
| 2nd Floor | UDStIS5         | Y         | 0.001442 | 79    | 21.583 | 19.8333 | 18.979 |
| 2nd Floor | UDStIS6         | Y         | 0.002218 | 79    | 21.583 | 19.8333 | 18.979 |
| 2nd Floor | UDStID1         | Y         | 0.000439 | 80    | 21.583 | 58.6667 | 18.979 |

**Table 5.2 - Story Drifts (continued)**

| Story     | Load Case/Combo | Direction | Drift    | Label | X ft   | Y ft    | Z ft   |
|-----------|-----------------|-----------|----------|-------|--------|---------|--------|
| 2nd Floor | UDStID2         | Y         | 0.000649 | 80    | 21.583 | 58.6667 | 18.979 |
| 1st Floor | Dead            | Y         | 0.000169 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | Live            | Y         | 7.9E-05  | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | Wind            | Y         | 0.000938 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | Wind+Modal      | Y         | 0.000954 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | wind 1          | Y         | 0.000938 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | wind -1         | Y         | 0.000938 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | UDStIS1         | Y         | 0.000237 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | UDStIS2         | Y         | 0.000329 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | UDStIS3         | Y         | 0.001219 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | UDStIS4         | Y         | 0.001782 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | UDStIS5         | Y         | 0.001348 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | UDStIS6         | Y         | 0.001652 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | UDStID1         | Y         | 0.000169 | 81    | 21.583 | 83.2917 | 0      |
| 1st Floor | UDStID2         | Y         | 0.000248 | 81    | 21.583 | 83.2917 | 0      |
| Cellar    | Dead            | Y         | 7.6E-05  | 78    | 21.583 | 5       | -14    |
| Cellar    | Live            | Y         | 3E-05    | 78    | 21.583 | 5       | -14    |
| Cellar    | Wind            | Y         | 0.000851 | 81    | 21.583 | 83.2917 | -14    |
| Cellar    | Wind+Modal      | Y         | 0.000876 | 81    | 21.583 | 83.2917 | -14    |
| Cellar    | wind 1          | Y         | 0.000851 | 81    | 21.583 | 83.2917 | -14    |
| Cellar    | wind -1         | Y         | 0.000851 | 81    | 21.583 | 83.2917 | -14    |
| Cellar    | UDStIS1         | Y         | 0.000106 | 78    | 21.583 | 5       | -14    |
| Cellar    | UDStIS2         | Y         | 0.00014  | 78    | 21.583 | 5       | -14    |
| Cellar    | UDStIS3         | Y         | 0.001458 | 81    | 21.583 | 83.2917 | -14    |
| Cellar    | UDStIS4         | Y         | 0.001266 | 81    | 21.583 | 83.2917 | -14    |
| Cellar    | UDStIS5         | Y         | 0.001413 | 81    | 21.583 | 83.2917 | -14    |
| Cellar    | UDStIS6         | Y         | 0.001311 | 81    | 21.583 | 83.2917 | -14    |
| Cellar    | UDStID1         | Y         | 7.6E-05  | 78    | 21.583 | 5       | -14    |
| Cellar    | UDStID2         | Y         | 0.000106 | 78    | 21.583 | 5       | -14    |

**Table 5.3 - Story Forces**

| Story     | Load Case/Combo | Location | P kip    | VX kip     | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft   |
|-----------|-----------------|----------|----------|------------|-----------|-------------|-------------|-------------|
| 9th Floor | Dead            | Top      | 3268.157 | -0.0001629 | 0         | 0.0058      | 124238.358  | -70536.6255 |
| 9th Floor | Dead            | Bottom   | 3347.053 | -0.0001633 | 0         | 0.0058      | 127943.8324 | -72239.4512 |
| 9th Floor | Live            | Top      | 909      | 0          | 0         | -0.0008     | 38283.1667  | -19618.947  |
| 9th Floor | Live            | Bottom   | 909      | 0          | 0         | -0.0008     | 38283.1667  | -19618.947  |
| 9th Floor | Wind            | Top      | 0        | 0          | -1200     | -25899.5942 | 0           | 0           |
| 9th Floor | Wind            | Bottom   | 0        | 0          | -1200     | -25899.5942 | 18000       | -2.69E-05   |
| 9th Floor | Wind+Modal      | Top      | 0        | 0          | -1206.941 | -26049.3976 | 0           | 0           |
| 9th Floor | Wind+Modal      | Bottom   | 0        | 0          | -1206.941 | -26049.3976 | 18104.112   | -2.697E-05  |
| 9th Floor | wind 1          | Top      | 0        | 0          | -1200     | -25899.5942 | 0           | 0           |
| 9th Floor | wind 1          | Bottom   | 0        | 0          | -1200     | -25899.5942 | 18000       | -2.69E-05   |
| 9th Floor | wind -1         | Top      | 0        | 0          | 1200      | 25899.5942  | 0           | 0           |
| 9th Floor | wind -1         | Bottom   | 0        | 0          | 1200      | 25899.5942  | -18000      | 2.69E-05    |

Table 5.3 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip    | VX kip     | VY kip  | T kip-ft    | MX kip-ft   | MY kip-ft   |
|-----------|-----------------|----------|----------|------------|---------|-------------|-------------|-------------|
| 9th Floor | UDStIS1         | Top      | 4575.419 | -0.0002281 | 0       | 0.0081      | 173933.7012 | -98751.2757 |
| 9th Floor | UDStIS1         | Bottom   | 4685.875 | -0.0002286 | 0       | 0.0082      | 179121.3653 | -101135     |
| 9th Floor | UDStIS2         | Top      | 5376.188 | -0.0001968 | 0       | 0.0058      | 210339.0963 | -116034     |
| 9th Floor | UDStIS2         | Bottom   | 5470.864 | -0.0001973 | 0       | 0.0058      | 214785.6655 | -118078     |
| 9th Floor | UDStIS3         | Top      | 4830.788 | -0.000199  | -1920   | -41439.3446 | 187369.1963 | -104263     |
| 9th Floor | UDStIS3         | Bottom   | 4925.464 | -0.0001999 | -1920   | -41439.3445 | 220615.7655 | -106306     |
| 9th Floor | UDStIS4         | Top      | 4830.788 | -0.0001936 | 1920    | 41439.357   | 187369.1963 | -104263     |
| 9th Floor | UDStIS4         | Bottom   | 4925.464 | -0.0001936 | 1920    | 41439.357   | 163015.7655 | -106306     |
| 9th Floor | UDStIS5         | Top      | 2941.341 | -0.0001494 | -1920   | -41439.3455 | 111814.5222 | -63482.9629 |
| 9th Floor | UDStIS5         | Bottom   | 3012.348 | -0.0001501 | -1920   | -41439.3455 | 143949.4491 | -65015.5061 |
| 9th Floor | UDStIS6         | Top      | 2941.341 | -0.000144  | 1920    | 41439.356   | 111814.5222 | -63482.9629 |
| 9th Floor | UDStIS6         | Bottom   | 3012.348 | -0.0001438 | 1920    | 41439.356   | 86349.4491  | -65015.506  |
| 9th Floor | UDStID1         | Top      | 3268.157 | -0.0001629 | 0       | 0.0058      | 124238.358  | -70536.6255 |
| 9th Floor | UDStID1         | Bottom   | 3347.053 | -0.0001633 | 0       | 0.0058      | 127943.8324 | -72239.4512 |
| 9th Floor | UDStID2         | Top      | 4177.157 | -0.0001637 | 0       | 0.0051      | 162521.5247 | -90155.5725 |
| 9th Floor | UDStID2         | Bottom   | 4256.053 | -0.0001641 | 0       | 0.0051      | 166226.999  | -91858.3982 |
| 8th Floor | Dead            | Top      | 4240.111 | 0          | 0       | -0.0002     | 182690.1238 | -91514.3108 |
| 8th Floor | Dead            | Bottom   | 4277.23  | 0          | 0       | -0.0002     | 184425.8645 | -92315.4558 |
| 8th Floor | Live            | Top      | 1241     | 0          | 0       | -0.0001     | 58431       | -26784.503  |
| 8th Floor | Live            | Bottom   | 1241     | 0          | 0       | -0.0001     | 58431       | -26784.503  |
| 8th Floor | Wind            | Top      | 0        | 0          | -1277   | -27561.4912 | 18000       | -2.69E-05   |
| 8th Floor | Wind            | Bottom   | 0        | 0          | -1277   | -27561.4912 | 33510.442   | 5.446E-06   |
| 8th Floor | Wind+Modal      | Top      | 0        | 0          | -1292   | -27885.2272 | 18104.112   | -2.697E-05  |
| 8th Floor | Wind+Modal      | Bottom   | 0        | 0          | -1292   | -27885.2272 | 33796.739   | 5.462E-06   |
| 8th Floor | wind 1          | Top      | 0        | 0          | -1277   | -27561.4912 | 18000       | -2.69E-05   |
| 8th Floor | wind 1          | Bottom   | 0        | 0          | -1277   | -27561.4912 | 33510.442   | 5.446E-06   |
| 8th Floor | wind -1         | Top      | 0        | 0          | 1277    | 27561.4912  | -18000      | 2.69E-05    |
| 8th Floor | wind -1         | Bottom   | 0        | 0          | 1277    | 27561.4912  | -33510.442  | -5.446E-06  |
| 8th Floor | UDStIS1         | Top      | 5936.155 | 6.144E-06  | 0       | -0.0003     | 255766.1733 | -128120     |
| 8th Floor | UDStIS1         | Bottom   | 5988.122 | 6.144E-06  | 0       | -0.0003     | 258196.2103 | -129242     |
| 8th Floor | UDStIS2         | Top      | 7073.733 | 7.199E-06  | 0       | -0.0004     | 312717.7485 | -152672     |
| 8th Floor | UDStIS2         | Bottom   | 7118.276 | 7.199E-06  | 0       | -0.0004     | 314800.6374 | -153634     |
| 8th Floor | UDStIS3         | Top      | 6329.133 | 1.073E-05  | -2043.2 | -44098.3862 | 306459.1485 | -136602     |
| 8th Floor | UDStIS3         | Bottom   | 6373.676 | 1.073E-05  | -2043.2 | -44098.3862 | 333358.7446 | -137563     |
| 8th Floor | UDStIS4         | Top      | 6329.133 | 0          | 2043.2  | 44098.3855  | 248859.1485 | -136602     |
| 8th Floor | UDStIS4         | Bottom   | 6373.676 | 0          | 2043.2  | 44098.3855  | 226125.3302 | -137563     |
| 8th Floor | UDStIS5         | Top      | 3816.1   | 8.21E-06   | -2043.2 | -44098.3861 | 193221.1114 | -82362.8797 |
| 8th Floor | UDStIS5         | Bottom   | 3849.507 | 8.21E-06   | -2043.2 | -44098.3861 | 219599.9852 | -83083.9102 |
| 8th Floor | UDStIS6         | Top      | 3816.1   | 0          | 2043.2  | 44098.3857  | 135621.1114 | -82362.8796 |
| 8th Floor | UDStIS6         | Bottom   | 3849.507 | 0          | 2043.2  | 44098.3857  | 112366.5708 | -83083.9102 |
| 8th Floor | UDStID1         | Top      | 4240.111 | 0          | 0       | -0.0002     | 182690.1238 | -91514.3108 |
| 8th Floor | UDStID1         | Bottom   | 4277.23  | 0          | 0       | -0.0002     | 184425.8645 | -92315.4558 |
| 8th Floor | UDStID2         | Top      | 5481.111 | 5.596E-06  | 0       | -0.0003     | 241121.1238 | -118299     |
| 8th Floor | UDStID2         | Bottom   | 5518.23  | 5.596E-06  | 0       | -0.0003     | 242856.8645 | -119100     |
| 7th Floor | Dead            | Top      | 4463.883 | 0          | 0       | 0.0001      | 198662.6025 | -96343.9844 |

Table 5.3 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip    | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft   |
|-----------|-----------------|----------|----------|--------|-----------|-------------|-------------|-------------|
| 7th Floor | Dead            | Bottom   | 4501.002 | 0      | 0         | 4.582E-05   | 200398.3722 | -97145.1294 |
| 7th Floor | Live            | Top      | 1366     | 0      | 0         | 2.09E-05    | 66810.875   | -29482.378  |
| 7th Floor | Live            | Bottom   | 1366     | 0      | 0         | 1.274E-05   | 66810.875   | -29482.378  |
| 7th Floor | Wind            | Top      | 0        | 0      | -1315     | -28381.645  | 33510.442   | 5.428E-06   |
| 7th Floor | Wind            | Bottom   | 0        | 0      | -1315     | -28381.645  | 49482.432   | -1.166E-06  |
| 7th Floor | Wind+Modal      | Top      | 0        | 0      | -1334.572 | -28804.0603 | 33796.739   | 5.442E-06   |
| 7th Floor | Wind+Modal      | Bottom   | 0        | 0      | -1334.582 | -28804.2833 | 50006.5711  | -1.17E-06   |
| 7th Floor | wind 1          | Top      | 0        | 0      | -1315     | -28381.645  | 33510.442   | 5.428E-06   |
| 7th Floor | wind 1          | Bottom   | 0        | 0      | -1315     | -28381.645  | 49482.432   | -1.166E-06  |
| 7th Floor | wind -1         | Top      | 0        | 0      | 1315      | 28381.645   | -33510.442  | -5.428E-06  |
| 7th Floor | wind -1         | Bottom   | 0        | 0      | 1315      | 28381.645   | -49482.432  | 1.166E-06   |
| 7th Floor | UDStIS1         | Top      | 6249.436 | 0      | 0         | 0.0001      | 278127.6434 | -134882     |
| 7th Floor | UDStIS1         | Bottom   | 6301.403 | 0      | 0         | 0.0001      | 280557.7211 | -136003     |
| 7th Floor | UDStIS2         | Top      | 7542.259 | 0      | 0         | 0.0001      | 345292.523  | -162785     |
| 7th Floor | UDStIS2         | Bottom   | 7586.803 | 0      | 0         | 0.0001      | 347375.4467 | -163746     |
| 7th Floor | UDStIS3         | Top      | 6722.659 | 0      | -2104     | -45410.6319 | 358822.7052 | -145095     |
| 7th Floor | UDStIS3         | Bottom   | 6767.203 | 0      | -2104     | -45410.6319 | 386460.8129 | -146057     |
| 7th Floor | UDStIS4         | Top      | 6722.659 | 0      | 2104      | 45410.6321  | 251589.2908 | -145095     |
| 7th Floor | UDStIS4         | Bottom   | 6767.203 | 0      | 2104      | 45410.632   | 228117.0305 | -146057     |
| 7th Floor | UDStIS5         | Top      | 4017.495 | 0      | -2104     | -45410.6319 | 232413.0494 | -86709.5859 |
| 7th Floor | UDStIS5         | Bottom   | 4050.902 | 0      | -2104     | -45410.6319 | 259530.4262 | -87430.6165 |
| 7th Floor | UDStIS6         | Top      | 4017.495 | 0      | 2104      | 45410.632   | 125179.635  | -86709.5859 |
| 7th Floor | UDStIS6         | Bottom   | 4050.902 | 0      | 2104      | 45410.632   | 101186.6438 | -87430.6165 |
| 7th Floor | UDStID1         | Top      | 4463.883 | 0      | 0         | 0.0001      | 198662.6025 | -96343.9844 |
| 7th Floor | UDStID1         | Bottom   | 4501.002 | 0      | 0         | 4.582E-05   | 200398.3722 | -97145.1294 |
| 7th Floor | UDStID2         | Top      | 5829.883 | 0      | 0         | 0.0001      | 265473.4775 | -125826     |
| 7th Floor | UDStID2         | Bottom   | 5867.002 | 0      | 0         | 0.0001      | 267209.2472 | -126628     |
| 6th Floor | Dead            | Top      | 4655.622 | 0      | 0         | -2.178E-05  | 213052.6349 | -100482     |
| 6th Floor | Dead            | Bottom   | 4702.099 | 0      | 0         | 1.979E-06   | 215226.0322 | -101485     |
| 6th Floor | Live            | Top      | 1484     | 0      | 0         | -6.041E-06  | 73706.0417  | -32029.172  |
| 6th Floor | Live            | Bottom   | 1484     | 0      | 0         | 5.487E-07   | 73706.0417  | -32029.172  |
| 6th Floor | Wind            | Top      | 0        | 0      | -1338     | -28878.054  | 49482.432   | -1.165E-06  |
| 6th Floor | Wind            | Bottom   | 0        | 0      | -1338     | -28878.054  | 69830.736   | 0           |
| 6th Floor | Wind+Modal      | Top      | 0        | 0      | -1362.551 | -29407.9408 | 50006.5711  | -1.17E-06   |
| 6th Floor | Wind+Modal      | Bottom   | 0        | 0      | -1362.551 | -29407.9408 | 70728.2485  | 0           |
| 6th Floor | wind 1          | Top      | 0        | 0      | -1338     | -28878.054  | 49482.432   | -1.165E-06  |
| 6th Floor | wind 1          | Bottom   | 0        | 0      | -1338     | -28878.054  | 69830.736   | 0           |
| 6th Floor | wind -1         | Top      | 0        | 0      | 1338      | 28878.054   | -49482.432  | 1.165E-06   |
| 6th Floor | wind -1         | Bottom   | 0        | 0      | 1338      | 28878.054   | -69830.736  | 0           |
| 6th Floor | UDStIS1         | Top      | 6517.871 | 0      | 0         | -3.049E-05  | 298273.6888 | -140675     |
| 6th Floor | UDStIS1         | Bottom   | 6582.938 | 0      | 0         | 2.77E-06    | 301316.4451 | -142080     |
| 6th Floor | UDStIS2         | Top      | 7961.146 | 0      | 0         | -3.58E-05   | 373592.8285 | -171825     |
| 6th Floor | UDStIS2         | Bottom   | 8016.919 | 0      | 0         | 3.252E-06   | 376200.9053 | -173029     |
| 6th Floor | UDStIS3         | Top      | 7070.746 | 0      | -2140.8   | -46204.8865 | 408541.0947 | -152608     |
| 6th Floor | UDStIS3         | Bottom   | 7126.519 | 0      | -2140.8   | -46204.8864 | 443706.4579 | -153812     |

Table 5.3 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip    | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft   |
|-----------|-----------------|----------|----------|--------|-----------|-------------|-------------|-------------|
| 6th Floor | UDStIS4         | Top      | 7070.746 | 0      | 2140.8    | 46204.8864  | 250197.3123 | -152608     |
| 6th Floor | UDStIS4         | Bottom   | 7126.519 | 0      | 2140.8    | 46204.8864  | 220248.1027 | -153812     |
| 6th Floor | UDStIS5         | Top      | 4190.06  | 0      | -2140.8   | -46204.8864 | 270919.2626 | -90434.0587 |
| 6th Floor | UDStIS5         | Bottom   | 4231.889 | 0      | -2140.8   | -46204.8864 | 305432.6066 | -91336.8607 |
| 6th Floor | UDStIS6         | Top      | 4190.06  | 0      | 2140.8    | 46204.8864  | 112575.4802 | -90434.0587 |
| 6th Floor | UDStIS6         | Bottom   | 4231.889 | 0      | 2140.8    | 46204.8864  | 81974.2514  | -91336.8607 |
| 6th Floor | UDStID1         | Top      | 4655.622 | 0      | 0         | -2.178E-05  | 213052.6349 | -100482     |
| 6th Floor | UDStID1         | Bottom   | 4702.099 | 0      | 0         | 1.979E-06   | 215226.0322 | -101485     |
| 6th Floor | UDStID2         | Top      | 6139.622 | 0      | 0         | -2.782E-05  | 286758.6765 | -132511     |
| 6th Floor | UDStID2         | Bottom   | 6186.099 | 0      | 0         | 2.527E-06   | 288932.0739 | -133515     |
| 5th Floor | Dead            | Top      | 4770.716 | 0      | 0         | 0           | 218553.6195 | -102966     |
| 5th Floor | Dead            | Bottom   | 4821.434 | 0      | 0         | 0           | 220879.8165 | -104061     |
| 5th Floor | Live            | Top      | 1576     | 0      | 0         | 0           | 78154.9583  | -34014.808  |
| 5th Floor | Live            | Bottom   | 1576     | 0      | 0         | 0           | 78154.9583  | -34014.808  |
| 5th Floor | Wind            | Top      | 0        | 0      | -1362     | -29396.046  | 69830.736   | 0           |
| 5th Floor | Wind            | Bottom   | 0        | 0      | -1362     | -29396.046  | 91679.94    | 0           |
| 5th Floor | Wind+Modal      | Top      | 0        | 0      | -1391.555 | -30033.9249 | 70728.2485  | 0           |
| 5th Floor | Wind+Modal      | Bottom   | 0        | 0      | -1391.555 | -30033.9249 | 93051.5689  | 0           |
| 5th Floor | wind 1          | Top      | 0        | 0      | -1362     | -29396.046  | 69830.736   | 0           |
| 5th Floor | wind 1          | Bottom   | 0        | 0      | -1362     | -29396.046  | 91679.94    | 0           |
| 5th Floor | wind -1         | Top      | 0        | 0      | 1362      | 29396.046   | -69830.736  | 0           |
| 5th Floor | wind -1         | Bottom   | 0        | 0      | 1362      | 29396.046   | -91679.94   | 0           |
| 5th Floor | UDStIS1         | Top      | 6679.003 | 0      | 0         | 0           | 305975.0673 | -144153     |
| 5th Floor | UDStIS1         | Bottom   | 6750.008 | 0      | 0         | 0           | 309231.7431 | -145685     |
| 5th Floor | UDStIS2         | Top      | 8246.459 | 0      | 0         | 0           | 387312.2767 | -177983     |
| 5th Floor | UDStIS2         | Bottom   | 8307.321 | 0      | 0         | 0           | 390103.7131 | -179297     |
| 5th Floor | UDStIS3         | Top      | 7300.859 | 0      | -2179.2   | -47033.6736 | 452148.4793 | -157574     |
| 5th Floor | UDStIS3         | Bottom   | 7361.721 | 0      | -2179.2   | -47033.6736 | 489898.6421 | -158888     |
| 5th Floor | UDStIS4         | Top      | 7300.859 | 0      | 2179.2    | 47033.6736  | 228690.1241 | -157574     |
| 5th Floor | UDStIS4         | Bottom   | 7361.721 | 0      | 2179.2    | 47033.6736  | 196522.8341 | -158888     |
| 5th Floor | UDStIS5         | Top      | 4293.645 | 0      | -2179.2   | -47033.6736 | 308427.4351 | -92669.7297 |
| 5th Floor | UDStIS5         | Bottom   | 4339.291 | 0      | -2179.2   | -47033.6736 | 345479.7389 | -93654.9116 |
| 5th Floor | UDStIS6         | Top      | 4293.645 | 0      | 2179.2    | 47033.6736  | 84969.0799  | -92669.7297 |
| 5th Floor | UDStIS6         | Bottom   | 4339.291 | 0      | 2179.2    | 47033.6736  | 52103.9309  | -93654.9116 |
| 5th Floor | UDStID1         | Top      | 4770.716 | 0      | 0         | 0           | 218553.6195 | -102966     |
| 5th Floor | UDStID1         | Bottom   | 4821.434 | 0      | 0         | 0           | 220879.8165 | -104061     |
| 5th Floor | UDStID2         | Top      | 6346.716 | 0      | 0         | 0           | 296708.5778 | -136981     |
| 5th Floor | UDStID2         | Bottom   | 6397.434 | 0      | 0         | 0           | 299034.7748 | -138076     |
| 4th Floor | Dead            | Top      | 4996.051 | 0      | 0         | 1.314E-06   | 228546.6954 | -107830     |
| 4th Floor | Dead            | Bottom   | 5046.57  | 0      | 0         | 0           | 230863.8074 | -108920     |
| 4th Floor | Live            | Top      | 1691     | 0      | 0         | 0           | 82949.625   | -36496.853  |
| 4th Floor | Live            | Bottom   | 1691     | 0      | 0         | 0           | 82949.625   | -36496.853  |
| 4th Floor | Wind            | Top      | 0        | 0      | -1383     | -29849.289  | 91679.94    | 0           |
| 4th Floor | Wind            | Bottom   | 0        | 0      | -1383     | -29849.289  | 113778.897  | 0           |
| 4th Floor | Wind+Modal      | Top      | 0        | 0      | -1415.616 | -30553.2425 | 93051.5689  | 0           |

Table 5.3 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip    | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft   |
|-----------|-----------------|----------|----------|--------|-----------|-------------|-------------|-------------|
| 4th Floor | Wind+Modal      | Bottom   | 0        | 0      | -1416.142 | -30564.5956 | 115679.0755 | 0           |
| 4th Floor | wind 1          | Top      | 0        | 0      | -1383     | -29849.289  | 91679.94    | 0           |
| 4th Floor | wind 1          | Bottom   | 0        | 0      | -1383     | -29849.289  | 113778.897  | 0           |
| 4th Floor | wind -1         | Top      | 0        | 0      | 1383      | 29849.289   | -91679.94   | 0           |
| 4th Floor | wind -1         | Bottom   | 0        | 0      | 1383      | 29849.289   | -113779     | 0           |
| 4th Floor | UDSttS1         | Top      | 6994.472 | 0      | 0         | 1.84E-06    | 319965.3736 | -150962     |
| 4th Floor | UDSttS1         | Bottom   | 7065.198 | 0      | 0         | 0           | 323209.3304 | -152488     |
| 4th Floor | UDSttS2         | Top      | 8700.862 | 0      | 0         | 2.147E-06   | 406975.4345 | -187791     |
| 4th Floor | UDSttS2         | Bottom   | 8761.484 | 0      | 0         | 0           | 409755.9689 | -189099     |
| 4th Floor | UDSttS3         | Top      | 7686.262 | 0      | -2212.8   | -47758.8624 | 503893.5635 | -165893     |
| 4th Floor | UDSttS3         | Bottom   | 7746.884 | 0      | -2212.8   | -47758.8624 | 542032.4291 | -167201     |
| 4th Floor | UDSttS4         | Top      | 7686.262 | 0      | 2212.8    | 47758.8624  | 210517.7555 | -165893     |
| 4th Floor | UDSttS4         | Bottom   | 7746.884 | 0      | 2212.8    | 47758.8624  | 177939.9587 | -167201     |
| 4th Floor | UDSttS5         | Top      | 4496.446 | 0      | -2212.8   | -47758.8624 | 352379.9299 | -97046.7988 |
| 4th Floor | UDSttS5         | Bottom   | 4541.913 | 0      | -2212.8   | -47758.8624 | 389823.6619 | -98028.1117 |
| 4th Floor | UDSttS6         | Top      | 4496.446 | 0      | 2212.8    | 47758.8624  | 59004.1219  | -97046.7988 |
| 4th Floor | UDSttS6         | Bottom   | 4541.913 | 0      | 2212.8    | 47758.8624  | 25731.1915  | -98028.1117 |
| 4th Floor | UDSttD1         | Top      | 4996.051 | 0      | 0         | 1.314E-06   | 228546.6954 | -107830     |
| 4th Floor | UDSttD1         | Bottom   | 5046.57  | 0      | 0         | 0           | 230863.8074 | -108920     |
| 4th Floor | UDSttD2         | Top      | 6687.051 | 0      | 0         | 1.67E-06    | 311496.3204 | -144327     |
| 4th Floor | UDSttD2         | Bottom   | 6737.57  | 0      | 0         | 0           | 313813.4324 | -145417     |
| 3rd Floor | Dead            | Top      | 5133.187 | 0      | 0         | 0           | 233658.728  | -110790     |
| 3rd Floor | Dead            | Bottom   | 5169.546 | 0      | 0         | 0           | 235326.3722 | -111574     |
| 3rd Floor | Live            | Top      | 1802     | 0      | 0         | 0           | 87991.625   | -38892.566  |
| 3rd Floor | Live            | Bottom   | 1802     | 0      | 0         | 0           | 87991.625   | -38892.566  |
| 3rd Floor | Wind            | Top      | 0        | 0      | -1488     | -32115.504  | 113778.897  | 0           |
| 3rd Floor | Wind            | Bottom   | 0        | 0      | -1488     | -32115.504  | 130890.897  | 0           |
| 3rd Floor | Wind+Modal      | Top      | 0        | 0      | -1523.388 | -32879.2878 | 115679.0755 | 0           |
| 3rd Floor | Wind+Modal      | Bottom   | 0        | 0      | -1523.388 | -32879.2878 | 133198.04   | 0           |
| 3rd Floor | wind 1          | Top      | 0        | 0      | -1488     | -32115.504  | 113778.897  | 0           |
| 3rd Floor | wind 1          | Bottom   | 0        | 0      | -1488     | -32115.504  | 130890.897  | 0           |
| 3rd Floor | wind -1         | Top      | 0        | 0      | 1488      | 32115.504   | -113779     | 0           |
| 3rd Floor | wind -1         | Bottom   | 0        | 0      | 1488      | 32115.504   | -130891     | 0           |
| 3rd Floor | UDSttS1         | Top      | 7186.462 | 0      | 0         | 5.763E-07   | 327122.2192 | -155105     |
| 3rd Floor | UDSttS1         | Bottom   | 7237.364 | 0      | 0         | 5.763E-07   | 329456.921  | -156204     |
| 3rd Floor | UDSttS2         | Top      | 9043.025 | 0      | 0         | 6.795E-07   | 421177.0736 | -195176     |
| 3rd Floor | UDSttS2         | Bottom   | 9086.655 | 0      | 0         | 6.795E-07   | 423178.2466 | -196117     |
| 3rd Floor | UDSttS3         | Top      | 7961.825 | 0      | -2380.8   | -51384.8064 | 550428.3338 | -171840     |
| 3rd Floor | UDSttS3         | Bottom   | 8005.455 | 0      | -2380.8   | -51384.8064 | 579808.7068 | -172782     |
| 3rd Floor | UDSttS4         | Top      | 7961.825 | 0      | 2380.8    | 51384.8064  | 186335.8634 | -171840     |
| 3rd Floor | UDSttS4         | Bottom   | 8005.455 | 0      | 2380.8    | 51384.8064  | 160957.8364 | -172782     |
| 3rd Floor | UDSttS5         | Top      | 4619.869 | 0      | -2380.8   | -51384.8064 | 392339.0904 | -99710.6253 |
| 3rd Floor | UDSttS5         | Bottom   | 4652.591 | 0      | -2380.8   | -51384.8064 | 421219.1701 | -100417     |
| 3rd Floor | UDSttS6         | Top      | 4619.869 | 0      | 2380.8    | 51384.8064  | 28246.62    | -99710.6253 |
| 3rd Floor | UDSttS6         | Bottom   | 4652.591 | 0      | 2380.8    | 51384.8064  | 2368.2997   | -100417     |



Table 5.3 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip    | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft  |
|-----------|-----------------|----------|----------|--------|-----------|-------------|-------------|------------|
| 3rd Floor | UDStID1         | Top      | 5133.187 | 0      | 0         | 0           | 233658.728  | -110790    |
| 3rd Floor | UDStID1         | Bottom   | 5169.546 | 0      | 0         | 0           | 235326.3722 | -111574    |
| 3rd Floor | UDStID2         | Top      | 6935.187 | 0      | 0         | 5.276E-07   | 321650.353  | -149682    |
| 3rd Floor | UDStID2         | Bottom   | 6971.546 | 0      | 0         | 5.276E-07   | 323317.9972 | -150467    |
| 2nd Floor | Dead            | Top      | 5274.163 | 0      | 0         | 0           | 239332.6261 | -113832    |
| 2nd Floor | Dead            | Bottom   | 5334.166 | 0      | 0         | 0           | 242084.8759 | -115127    |
| 2nd Floor | Live            | Top      | 1898     | 0      | 0         | 0           | 93672.8333  | -40964.534 |
| 2nd Floor | Live            | Bottom   | 1898     | 0      | 0         | 0           | 93672.8333  | -40964.534 |
| 2nd Floor | Wind            | Top      | 0        | 0      | -1530     | -33021.99   | 130890.897  | 0          |
| 2nd Floor | Wind            | Bottom   | 0        | 0      | -1530     | -33021.99   | 159928.767  | 0          |
| 2nd Floor | Wind+Modal      | Top      | 0        | 0      | -1567.304 | -33827.1136 | 133198.04   | 0          |
| 2nd Floor | Wind+Modal      | Bottom   | 0        | 0      | -1567.304 | -33827.1136 | 162943.8949 | 0          |
| 2nd Floor | wind 1          | Top      | 0        | 0      | -1530     | -33021.99   | 130890.897  | 0          |
| 2nd Floor | wind 1          | Bottom   | 0        | 0      | -1530     | -33021.99   | 159928.767  | 0          |
| 2nd Floor | wind -1         | Top      | 0        | 0      | 1530      | 33021.99    | -130891     | 0          |
| 2nd Floor | wind -1         | Bottom   | 0        | 0      | 1530      | 33021.99    | -159929     | 0          |
| 2nd Floor | UDStIS1         | Top      | 7383.828 | 0      | 0         | 6.427E-07   | 335065.6765 | -159365    |
| 2nd Floor | UDStIS1         | Bottom   | 7467.833 | 0      | 0         | 0           | 338918.8263 | -161178    |
| 2nd Floor | UDStIS2         | Top      | 9365.795 | 0      | 0         | 7.554E-07   | 437075.6846 | -202142    |
| 2nd Floor | UDStIS2         | Bottom   | 9437.8   | 0      | 0         | 5.022E-07   | 440378.3844 | -203696    |
| 2nd Floor | UDStIS3         | Top      | 8226.995 | 0      | -2448     | -52835.184  | 590297.4198 | -177563    |
| 2nd Floor | UDStIS3         | Bottom   | 8299     | 0      | -2448     | -52835.184  | 640060.7116 | -179117    |
| 2nd Floor | UDStIS4         | Top      | 8226.995 | 0      | 2448      | 52835.184   | 171446.5494 | -177563    |
| 2nd Floor | UDStIS4         | Bottom   | 8299     | 0      | 2448      | 52835.184   | 128288.6572 | -179117    |
| 2nd Floor | UDStIS5         | Top      | 4746.746 | 0      | -2448     | -52835.184  | 424824.7987 | -102449    |
| 2nd Floor | UDStIS5         | Bottom   | 4800.75  | 0      | -2448     | -52835.184  | 473762.4155 | -103615    |
| 2nd Floor | UDStIS6         | Top      | 4746.746 | 0      | 2448      | 52835.184   | 5973.9283   | -102449    |
| 2nd Floor | UDStIS6         | Bottom   | 4800.75  | 0      | 2448      | 52835.184   | -38009.6389 | -103615    |
| 2nd Floor | UDStID1         | Top      | 5274.163 | 0      | 0         | 0           | 239332.6261 | -113832    |
| 2nd Floor | UDStID1         | Bottom   | 5334.166 | 0      | 0         | 0           | 242084.8759 | -115127    |
| 2nd Floor | UDStID2         | Top      | 7172.163 | 0      | 0         | 5.869E-07   | 333005.4594 | -154797    |
| 2nd Floor | UDStID2         | Bottom   | 7232.166 | 0      | 0         | 0           | 335757.7093 | -156092    |
| 1st Floor | Dead            | Top      | 5434.825 | 0      | 0         | -7.32E-07   | 247205.1354 | -117300    |
| 1st Floor | Dead            | Bottom   | 5479.087 | 0      | 0         | 0           | 249235.3983 | -118255    |
| 1st Floor | Live            | Top      | 1981     | 0      | 0         | 0           | 98934.2917  | -42755.923 |
| 1st Floor | Live            | Bottom   | 1981     | 0      | 0         | 0           | 98934.2917  | -42755.923 |
| 1st Floor | Wind            | Top      | 0        | 0      | -1631     | -35201.873  | 159928.767  | 0          |
| 1st Floor | Wind            | Bottom   | 0        | 0      | -1631     | -35201.873  | 182762.767  | 0          |
| 1st Floor | Wind+Modal      | Top      | 0        | 0      | -1669.483 | -36032.4581 | 162943.8949 | 0          |
| 1st Floor | Wind+Modal      | Bottom   | 0        | 0      | -1669.483 | -36032.4581 | 186316.6612 | 0          |
| 1st Floor | wind 1          | Top      | 0        | 0      | -1631     | -35201.873  | 159928.767  | 0          |
| 1st Floor | wind 1          | Bottom   | 0        | 0      | -1631     | -35201.873  | 182762.767  | 0          |
| 1st Floor | wind -1         | Top      | 0        | 0      | 1631      | 35201.873   | -159929     | 0          |
| 1st Floor | wind -1         | Bottom   | 0        | 0      | 1631      | 35201.873   | -182763     | 0          |
| 1st Floor | UDStIS1         | Top      | 7608.755 | 0      | 0         | -1.025E-06  | 346087.1895 | -164220    |



Table 5.3 - Story Forces (continued)

| Story     | Load Case/Combo | Location | P kip     | VX kip | VY kip    | T kip-ft    | MX kip-ft   | MY kip-ft  |
|-----------|-----------------|----------|-----------|--------|-----------|-------------|-------------|------------|
| 1st Floor | UDStIS1         | Bottom   | 7670.722  | 0      | 0         | 0           | 348929.5577 | -165557    |
| 1st Floor | UDStIS2         | Top      | 9691.39   | 0      | 0         | -1.218E-06  | 454941.0291 | -209169    |
| 1st Floor | UDStIS2         | Bottom   | 9744.504  | 0      | 0         | 0           | 457377.3447 | -210316    |
| 1st Floor | UDStIS3         | Top      | 8502.79   | 0      | -2609.6   | -56322.9968 | 651466.4813 | -183516    |
| 1st Floor | UDStIS3         | Bottom   | 8555.904  | 0      | -2609.6   | -56322.9968 | 690437.1969 | -184662    |
| 1st Floor | UDStIS4         | Top      | 8502.79   | 0      | 2609.6    | 56322.9968  | 139694.4269 | -183516    |
| 1st Floor | UDStIS4         | Bottom   | 8555.904  | 0      | 2609.6    | 56322.9968  | 105596.3425 | -184662    |
| 1st Floor | UDStIS5         | Top      | 4891.342  | 0      | -2609.6   | -56322.9968 | 478370.649  | -105570    |
| 1st Floor | UDStIS5         | Bottom   | 4931.178  | 0      | -2609.6   | -56322.9968 | 516732.2857 | -106430    |
| 1st Floor | UDStIS6         | Top      | 4891.342  | 0      | 2609.6    | 56322.9968  | -33401.4054 | -105570    |
| 1st Floor | UDStIS6         | Bottom   | 4931.178  | 0      | 2609.6    | 56322.9968  | -68108.5687 | -106430    |
| 1st Floor | UDStID1         | Top      | 5434.825  | 0      | 0         | -7.32E-07   | 247205.1354 | -117300    |
| 1st Floor | UDStID1         | Bottom   | 5479.087  | 0      | 0         | 0           | 249235.3983 | -118255    |
| 1st Floor | UDStID2         | Top      | 7415.825  | 0      | 0         | -9.44E-07   | 346139.427  | -160056    |
| 1st Floor | UDStID2         | Bottom   | 7460.087  | 0      | 0         | 0           | 348169.69   | -161011    |
| Cellar    | Dead            | Top      | 5580.138  | 0      | 0         | 0           | 254278.8649 | -120436    |
| Cellar    | Dead            | Bottom   | 5624.401  | 0      | 0         | 0           | 256309.1665 | -121391    |
| Cellar    | Live            | Top      | 2057      | 0      | 0         | 0           | 103373.7083 | -44396.231 |
| Cellar    | Live            | Bottom   | 2057      | 0      | 0         | 0           | 103373.7083 | -44396.231 |
| Cellar    | Wind            | Top      | 0         | 0      | -1631     | -35201.873  | 182762.767  | 0          |
| Cellar    | Wind            | Bottom   | 0         | 0      | -1631     | -35201.873  | 205596.767  | 0          |
| Cellar    | Wind+Modal      | Top      | 0         | 0      | -1670.195 | -36047.8279 | 186316.6612 | 0          |
| Cellar    | Wind+Modal      | Bottom   | 0         | 0      | -1670.195 | -36047.8279 | 209699.3972 | 0          |
| Cellar    | wind 1          | Top      | 0         | 0      | -1631     | -35201.873  | 182762.767  | 0          |
| Cellar    | wind 1          | Bottom   | 0         | 0      | -1631     | -35201.873  | 205596.767  | 0          |
| Cellar    | wind -1         | Top      | 0         | 0      | 1631      | 35201.873   | -182763     | 0          |
| Cellar    | wind -1         | Bottom   | 0         | 0      | 1631      | 35201.873   | -205597     | 0          |
| Cellar    | UDStIS1         | Top      | 7812.194  | 0      | 0         | 0           | 355990.4108 | -168611    |
| Cellar    | UDStIS1         | Bottom   | 7874.161  | 0      | 0         | 0           | 358832.8331 | -169948    |
| Cellar    | UDStIS2         | Top      | 9987.366  | 0      | 0         | 0           | 470532.5712 | -215557    |
| Cellar    | UDStIS2         | Bottom   | 10040.481 | 0      | 0         | 0           | 472968.9331 | -216704    |
| Cellar    | UDStIS3         | Top      | 8753.166  | 0      | -2609.6   | -56322.9968 | 700928.7734 | -188920    |
| Cellar    | UDStIS3         | Bottom   | 8806.281  | 0      | -2609.6   | -56322.9968 | 739899.5353 | -190066    |
| Cellar    | UDStIS4         | Top      | 8753.166  | 0      | 2609.6    | 56322.9968  | 116087.919  | -188920    |
| Cellar    | UDStIS4         | Bottom   | 8806.281  | 0      | 2609.6    | 56322.9968  | 81989.8809  | -190066    |
| Cellar    | UDStIS5         | Top      | 5022.125  | 0      | -2609.6   | -56322.9968 | 521271.4056 | -108393    |
| Cellar    | UDStIS5         | Bottom   | 5061.96   | 0      | -2609.6   | -56322.9968 | 559633.077  | -109252    |
| Cellar    | UDStIS6         | Top      | 5022.125  | 0      | 2609.6    | 56322.9968  | -63569.4488 | -108393    |
| Cellar    | UDStIS6         | Bottom   | 5061.96   | 0      | 2609.6    | 56322.9968  | -98276.5774 | -109252    |
| Cellar    | UDStID1         | Top      | 5580.138  | 0      | 0         | 0           | 254278.8649 | -120436    |
| Cellar    | UDStID1         | Bottom   | 5624.401  | 0      | 0         | 0           | 256309.1665 | -121391    |
| Cellar    | UDStID2         | Top      | 7637.138  | 0      | 0         | 0           | 357652.5732 | -164832    |
| Cellar    | UDStID2         | Bottom   | 7681.401  | 0      | 0         | 0           | 359682.8748 | -165788    |

5.3 Point Results

Table 5.4 - Joint Reactions

| Story     | Joint Label | Unique Name | Load Case/Combo | FX kip | FY kip   | FZ kip    | MX kip-ft | MY kip-ft | MZ kip-ft |
|-----------|-------------|-------------|-----------------|--------|----------|-----------|-----------|-----------|-----------|
| Subcellar | 78          | 253         | Dead            | 0      | 382.822  | 1316.985  | 0         | 0         | 0         |
| Subcellar | 78          | 253         | Live            | 0      | 125.328  | 394.319   | 0         | 0         | 0         |
| Subcellar | 78          | 253         | Wind            | 0      | -834.401 | -2250.361 | 0         | 0         | 0         |
| Subcellar | 78          | 253         | Wind+Modal      | 0      | -854.148 | -2295.526 | 0         | 0         | 0         |
| Subcellar | 78          | 253         | wind 1          | 0      | -834.401 | -2250.361 | 0         | 0         | 0         |
| Subcellar | 78          | 253         | wind -1         | 0      | 834.401  | 2250.361  | 0         | 0         | 0         |
| Subcellar | 78          | 253         | UDStIS1         | 0      | 535.951  | 1843.78   | 0         | 0         | 0         |
| Subcellar | 78          | 253         | UDStIS2         | 0      | 659.912  | 2211.293  | 0         | 0         | 0         |
| Subcellar | 78          | 253         | UDStIS3         | 0      | -750.327 | -1625.876 | 0         | 0         | 0         |
| Subcellar | 78          | 253         | UDStIS4         | 0      | 1919.757 | 5575.278  | 0         | 0         | 0         |
| Subcellar | 78          | 253         | UDStIS5         | 0      | -990.502 | -2415.29  | 0         | 0         | 0         |
| Subcellar | 78          | 253         | UDStIS6         | 0      | 1679.582 | 4785.864  | 0         | 0         | 0         |
| Subcellar | 78          | 253         | UDStID1         | 0      | 382.822  | 1316.985  | 0         | 0         | 0         |
| Subcellar | 78          | 253         | UDStID2         | 0      | 508.151  | 1711.304  | 0         | 0         | 0         |
| Subcellar | 79          | 255         | Dead            | 0      | -0.496   | 1283.2    | 0         | 0         | 0         |
| Subcellar | 79          | 255         | Live            | 0      | -0.194   | 413.972   | 0         | 0         | 0         |
| Subcellar | 79          | 255         | Wind            | 0      | -0.83    | -492.612  | 0         | 0         | 0         |
| Subcellar | 79          | 255         | Wind+Modal      | 0      | -0.904   | -503.451  | 0         | 0         | 0         |
| Subcellar | 79          | 255         | wind 1          | 0      | -0.83    | -492.612  | 0         | 0         | 0         |
| Subcellar | 79          | 255         | wind -1         | 0      | 0.83     | 492.612   | 0         | 0         | 0         |
| Subcellar | 79          | 255         | UDStIS1         | 0      | -0.695   | 1796.48   | 0         | 0         | 0         |
| Subcellar | 79          | 255         | UDStIS2         | 0      | -0.907   | 2202.195  | 0         | 0         | 0         |
| Subcellar | 79          | 255         | UDStIS3         | 0      | -2.118   | 1165.633  | 0         | 0         | 0         |
| Subcellar | 79          | 255         | UDStIS4         | 0      | 0.538    | 2741.991  | 0         | 0         | 0         |
| Subcellar | 79          | 255         | UDStIS5         | 0      | -1.775   | 366.701   | 0         | 0         | 0         |
| Subcellar | 79          | 255         | UDStIS6         | 0      | 0.882    | 1943.059  | 0         | 0         | 0         |
| Subcellar | 79          | 255         | UDStID1         | 0      | -0.496   | 1283.2    | 0         | 0         | 0         |
| Subcellar | 79          | 255         | UDStID2         | 0      | -0.691   | 1697.172  | 0         | 0         | 0         |
| Subcellar | 80          | 257         | Dead            | 0      | -0.264   | 1121.535  | 0         | 0         | 0         |
| Subcellar | 80          | 257         | Live            | 0      | -0.101   | 439.205   | 0         | 0         | 0         |
| Subcellar | 80          | 257         | Wind            | 0      | 0.206    | 75.047    | 0         | 0         | 0         |
| Subcellar | 80          | 257         | Wind+Modal      | 0      | 0.182    | 79.971    | 0         | 0         | 0         |
| Subcellar | 80          | 257         | wind 1          | 0      | 0.206    | 75.047    | 0         | 0         | 0         |
| Subcellar | 80          | 257         | wind -1         | 0      | -0.206   | -75.047   | 0         | 0         | 0         |
| Subcellar | 80          | 257         | UDStIS1         | 0      | -0.37    | 1570.15   | 0         | 0         | 0         |
| Subcellar | 80          | 257         | UDStIS2         | 0      | -0.479   | 2048.57   | 0         | 0         | 0         |
| Subcellar | 80          | 257         | UDStIS3         | 0      | -0.088   | 1905.123  | 0         | 0         | 0         |
| Subcellar | 80          | 257         | UDStIS4         | 0      | -0.748   | 1664.971  | 0         | 0         | 0         |
| Subcellar | 80          | 257         | UDStIS5         | 0      | 0.092    | 1129.458  | 0         | 0         | 0         |
| Subcellar | 80          | 257         | UDStIS6         | 0      | -0.568   | 889.306   | 0         | 0         | 0         |
| Subcellar | 80          | 257         | UDStID1         | 0      | -0.264   | 1121.535  | 0         | 0         | 0         |
| Subcellar | 80          | 257         | UDStID2         | 0      | -0.365   | 1560.74   | 0         | 0         | 0         |
| Subcellar | 81          | 259         | Dead            | 0      | -382.062 | 1902.68   | 0         | 0         | 0         |
| Subcellar | 81          | 259         | Live            | 0      | -125.033 | 809.505   | 0         | 0         | 0         |

**Table 5.4 - Joint Reactions (continued)**

| Story     | Joint Label | Unique Name | Load Case/Combo | FX kip | FY kip    | FZ kip    | MX kip-ft | MY kip-ft | MZ kip-ft |
|-----------|-------------|-------------|-----------------|--------|-----------|-----------|-----------|-----------|-----------|
| Subcellar | 81          | 259         | Wind            | 0      | -795.975  | 2667.925  | 0         | 0         | 0         |
| Subcellar | 81          | 259         | Wind+Modal      | 0      | -815.325  | 2719.005  | 0         | 0         | 0         |
| Subcellar | 81          | 259         | wind 1          | 0      | -795.975  | 2667.925  | 0         | 0         | 0         |
| Subcellar | 81          | 259         | wind -1         | 0      | 795.975   | -2667.925 | 0         | 0         | 0         |
| Subcellar | 81          | 259         | UDStIS1         | 0      | -534.886  | 2663.752  | 0         | 0         | 0         |
| Subcellar | 81          | 259         | UDStIS2         | 0      | -658.526  | 3578.423  | 0         | 0         | 0         |
| Subcellar | 81          | 259         | UDStIS3         | 0      | -1857.067 | 7361.4    | 0         | 0         | 0         |
| Subcellar | 81          | 259         | UDStIS4         | 0      | 690.053   | -1175.96  | 0         | 0         | 0         |
| Subcellar | 81          | 259         | UDStIS5         | 0      | -1617.415 | 5981.092  | 0         | 0         | 0         |
| Subcellar | 81          | 259         | UDStIS6         | 0      | 929.704   | -2556.268 | 0         | 0         | 0         |
| Subcellar | 81          | 259         | UDStID1         | 0      | -382.062  | 1902.68   | 0         | 0         | 0         |
| Subcellar | 81          | 259         | UDStID2         | 0      | -507.094  | 2712.184  | 0         | 0         | 0         |

**5.4 Modal Results**

**Table 5.5 - Modal Periods and Frequencies**

| Case  | Mode | Period sec | Frequency cyc/sec | Circular Frequency rad/sec | Eigenvalue rad <sup>2</sup> /sec <sup>2</sup> |
|-------|------|------------|-------------------|----------------------------|---|
| Modal | 1    | 0.182      | 5.48              | 34.4337                    | 1185.6768                                     |
| Modal | 2    | 0.096      | 10.443            | 65.6128                    | 4305.0399                                     |
| Modal | 3    | 0.089      | 11.282            | 70.8846                    | 5024.6305                                     |
| Modal | 4    | 0.08       | 12.456            | 78.2612                    | 6124.812                                      |
| Modal | 5    | 0.056      | 17.765            | 111.622                    | 12459.4806                                    |
| Modal | 6    | 0.047      | 21.226            | 133.3638                   | 17785.8926                                    |
| Modal | 7    | 0.038      | 26.089            | 163.9248                   | 26871.3551                                    |
| Modal | 8    | 0.035      | 28.376            | 178.2925                   | 31788.2182                                    |
| Modal | 9    | 0.032      | 31.17             | 195.8495                   | 38357.0395                                    |
| Modal | 10   | 0.03       | 33.46             | 210.2341                   | 44198.3593                                    |
| Modal | 11   | 0.029      | 33.992            | 213.5786                   | 45615.8211                                    |
| Modal | 12   | 0.028      | 35.576            | 223.5322                   | 49966.6404                                    |

**Table 5.6 - Modal Participating Mass Ratios (Part 1 of 2)**

| Case  | Mode | Period sec | UX | UY        | UZ | Sum UX | Sum UY | Sum UZ |
|-------|------|------------|----|-----------|----|--------|--------|--------|
| Modal | 1    | 0.182      | 0  | 0.7695    | 0  | 0      | 0.7695 | 0      |
| Modal | 2    | 0.096      | 0  | 0.1306    | 0  | 0      | 0.9002 | 0      |
| Modal | 3    | 0.089      | 0  | 0.0905    | 0  | 0      | 0.9907 | 0      |
| Modal | 4    | 0.08       | 0  | 0.0017    | 0  | 0      | 0.9924 | 0      |
| Modal | 5    | 0.056      | 0  | 4.152E-06 | 0  | 0      | 0.9924 | 0      |
| Modal | 6    | 0.047      | 0  | 0.0018    | 0  | 0      | 0.9942 | 0      |
| Modal | 7    | 0.038      | 0  | 0.0002    | 0  | 0      | 0.9945 | 0      |
| Modal | 8    | 0.035      | 0  | 0.0009    | 0  | 0      | 0.9953 | 0      |
| Modal | 9    | 0.032      | 0  | 0.0009    | 0  | 0      | 0.9962 | 0      |
| Modal | 10   | 0.03       | 0  | 0         | 0  | 0      | 0.9962 | 0      |
| Modal | 11   | 0.029      | 0  | 0.0002    | 0  | 0      | 0.9964 | 0      |

**Table 5.6 - Modal Participating Mass Ratios (Part 1 of 2, continued)**

| Case  | Mode | Period sec | UX | UY     | UZ | Sum UX | Sum UY | Sum UZ |
|-------|------|------------|----|--------|----|--------|--------|--------|
| Modal | 12   | 0.028      | 0  | 0.0004 | 0  | 0      | 0.9968 | 0      |

**Table 5.6 - Modal Participating Mass Ratios (Part 2 of 2)**

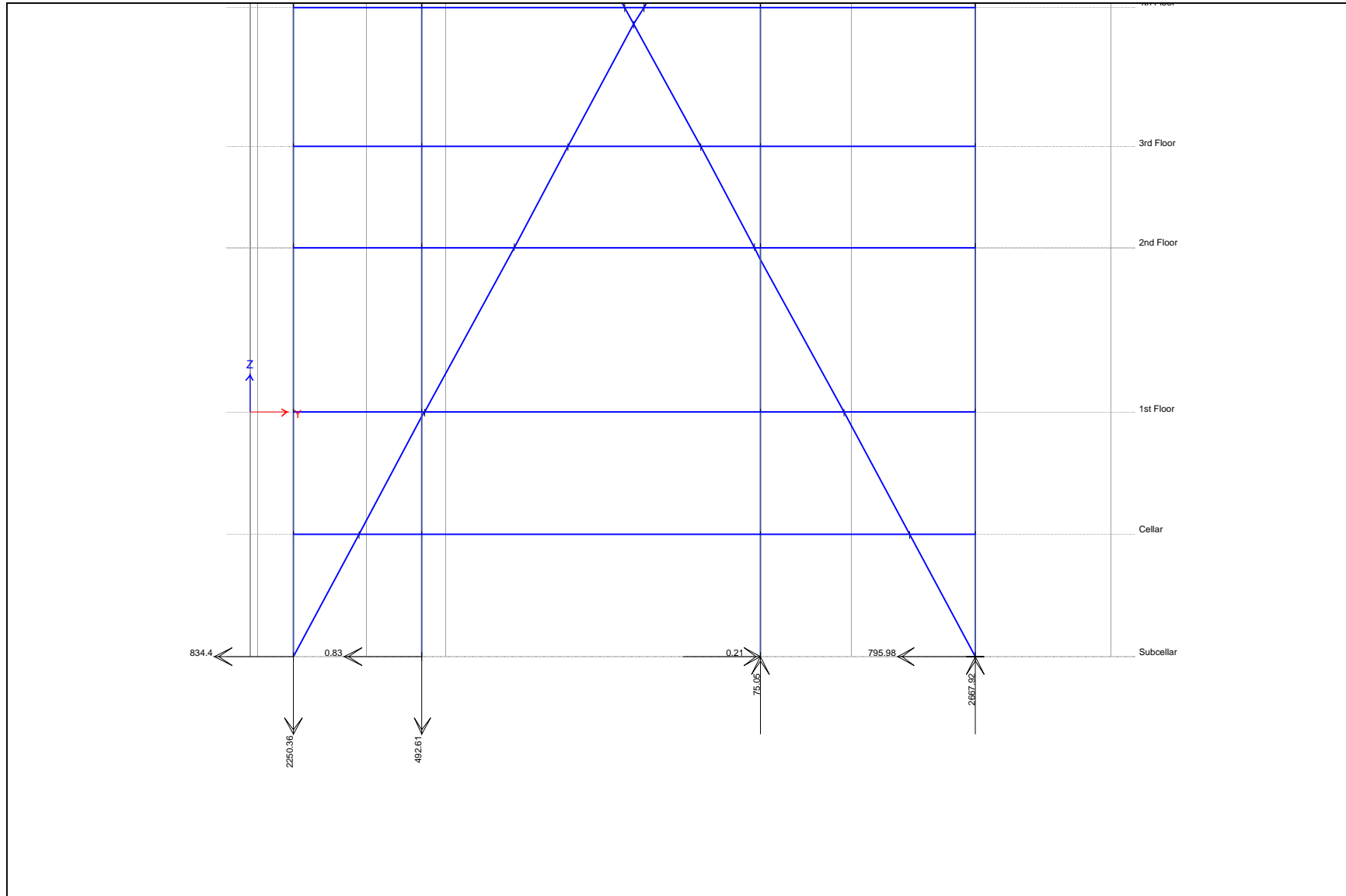
| Case  | Mode | RX        | RY | RZ        | Sum RX | Sum RY | Sum RZ |
|-------|------|-----------|----|-----------|--------|--------|--------|
| Modal | 1    | 0.2871    | 0  | 0.0083    | 0.2871 | 0      | 0.0083 |
| Modal | 2    | 0.3033    | 0  | 0.0063    | 0.5904 | 0      | 0.0145 |
| Modal | 3    | 0.3883    | 0  | 0.026     | 0.9787 | 0      | 0.0405 |
| Modal | 4    | 0.0002    | 0  | 0.0244    | 0.9789 | 0      | 0.065  |
| Modal | 5    | 0.0026    | 0  | 0.0132    | 0.9815 | 0      | 0.0781 |
| Modal | 6    | 0.0038    | 0  | 0.0005    | 0.9854 | 0      | 0.0786 |
| Modal | 7    | 4.501E-06 | 0  | 0.0021    | 0.9854 | 0      | 0.0807 |
| Modal | 8    | 0.0025    | 0  | 0.0034    | 0.9878 | 0      | 0.0841 |
| Modal | 9    | 0.0009    | 0  | 0.0009    | 0.9887 | 0      | 0.0851 |
| Modal | 10   | 3.249E-05 | 0  | 0.0001    | 0.9888 | 0      | 0.0851 |
| Modal | 11   | 0.0005    | 0  | 1.592E-05 | 0.9892 | 0      | 0.0852 |
| Modal | 12   | 0.0007    | 0  | 0.0002    | 0.99   | 0      | 0.0853 |

**Table 5.7 - Modal Load Participation Ratios**

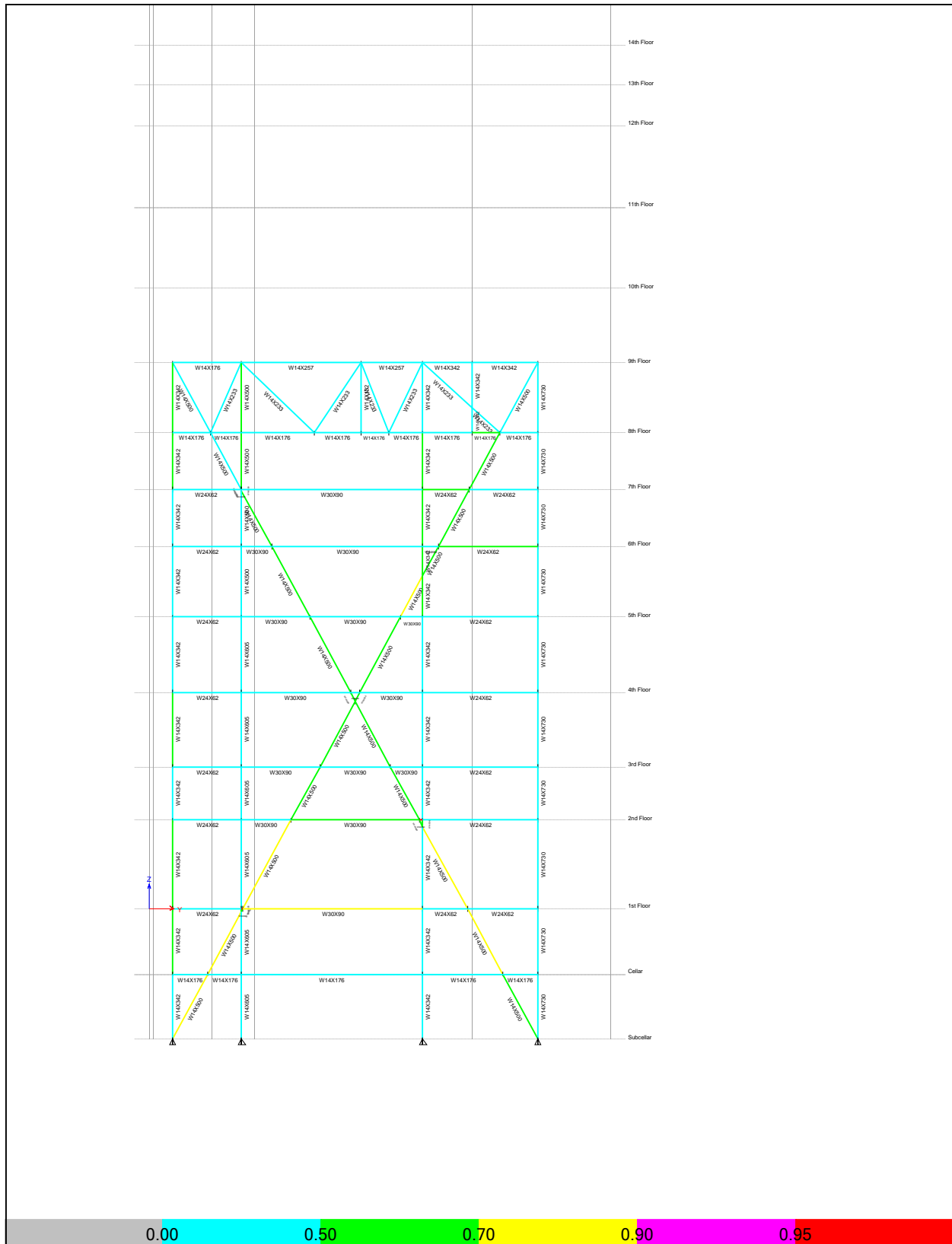
| Case  | Item Type    | Item | Static % | Dynamic % |
|-------|--------------|------|----------|-----------|
| Modal | Acceleration | UX   | 0        | 0         |
| Modal | Acceleration | UY   | 99.99    | 99.68     |
| Modal | Acceleration | UZ   | 0        | 0         |

**Table 5.8 - Modal Direction Factors**

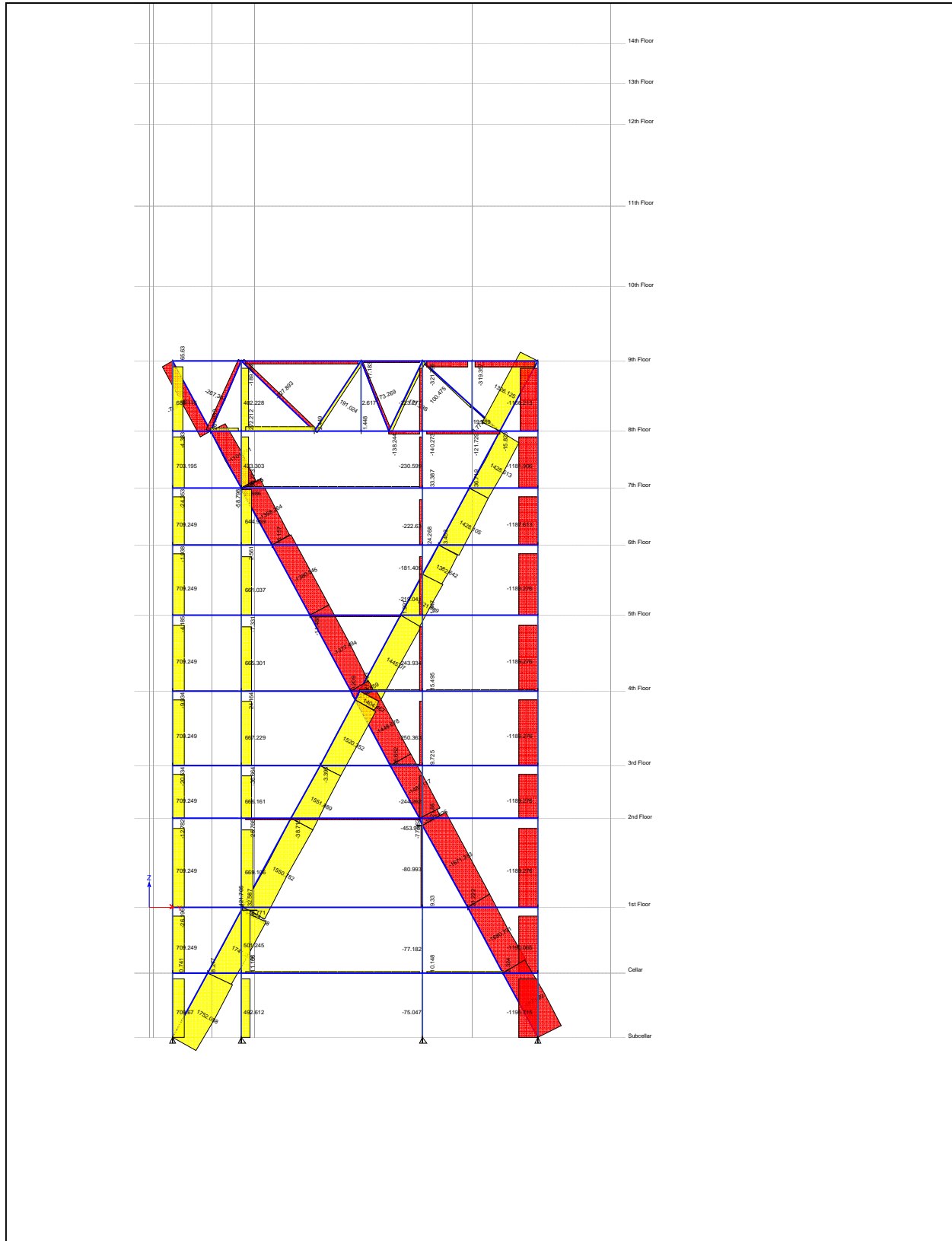
| Case  | Mode | Period sec | UX | UY | UZ | RZ |
|-------|------|------------|----|----|----|----|
| Modal | 1    | 0.182      | 0  | 1  | 0  | 0  |
| Modal | 2    | 0.096      | 0  | 1  | 0  | 0  |
| Modal | 3    | 0.089      | 0  | 1  | 0  | 0  |
| Modal | 4    | 0.08       | 0  | 1  | 0  | 0  |
| Modal | 5    | 0.056      | 0  | 1  | 0  | 0  |
| Modal | 6    | 0.047      | 0  | 1  | 0  | 0  |
| Modal | 7    | 0.038      | 0  | 1  | 0  | 0  |
| Modal | 8    | 0.035      | 0  | 1  | 0  | 0  |
| Modal | 9    | 0.032      | 0  | 1  | 0  | 0  |
| Modal | 10   | 0.03       | 0  | 1  | 0  | 0  |
| Modal | 11   | 0.029      | 0  | 1  | 0  | 0  |
| Modal | 12   | 0.028      | 0  | 1  | 0  | 0  |



14442\_AJA\_20160920\_Truss T-5.EDB Elevation View - 2 Restraint Reactions (Wind) [kip, kip-ft]



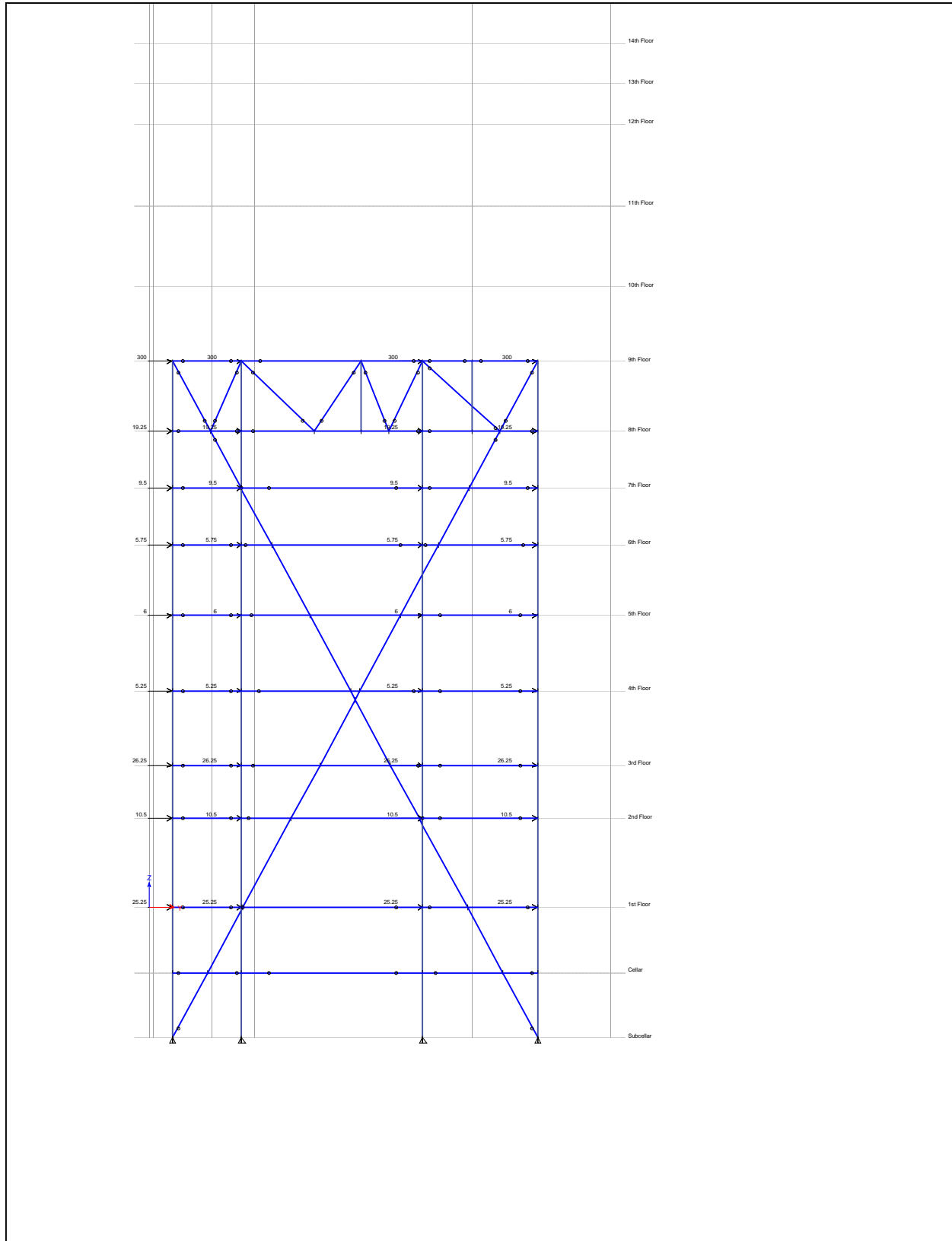
14442\_AJA\_20160920\_Plus IT 5 FEB - 2 Steel Design Sections (AISC 360-05)



14442\_AJA\_20160920\_Elevation 5.ZDD - 2 Axial Force Diagram (Wind) [kip]

ETABS 2016 16.0.0

10/10/2016



14442\_AJA\_20160920\_Truss T-5 Elevation View - 2 Joint Loads (Wind)



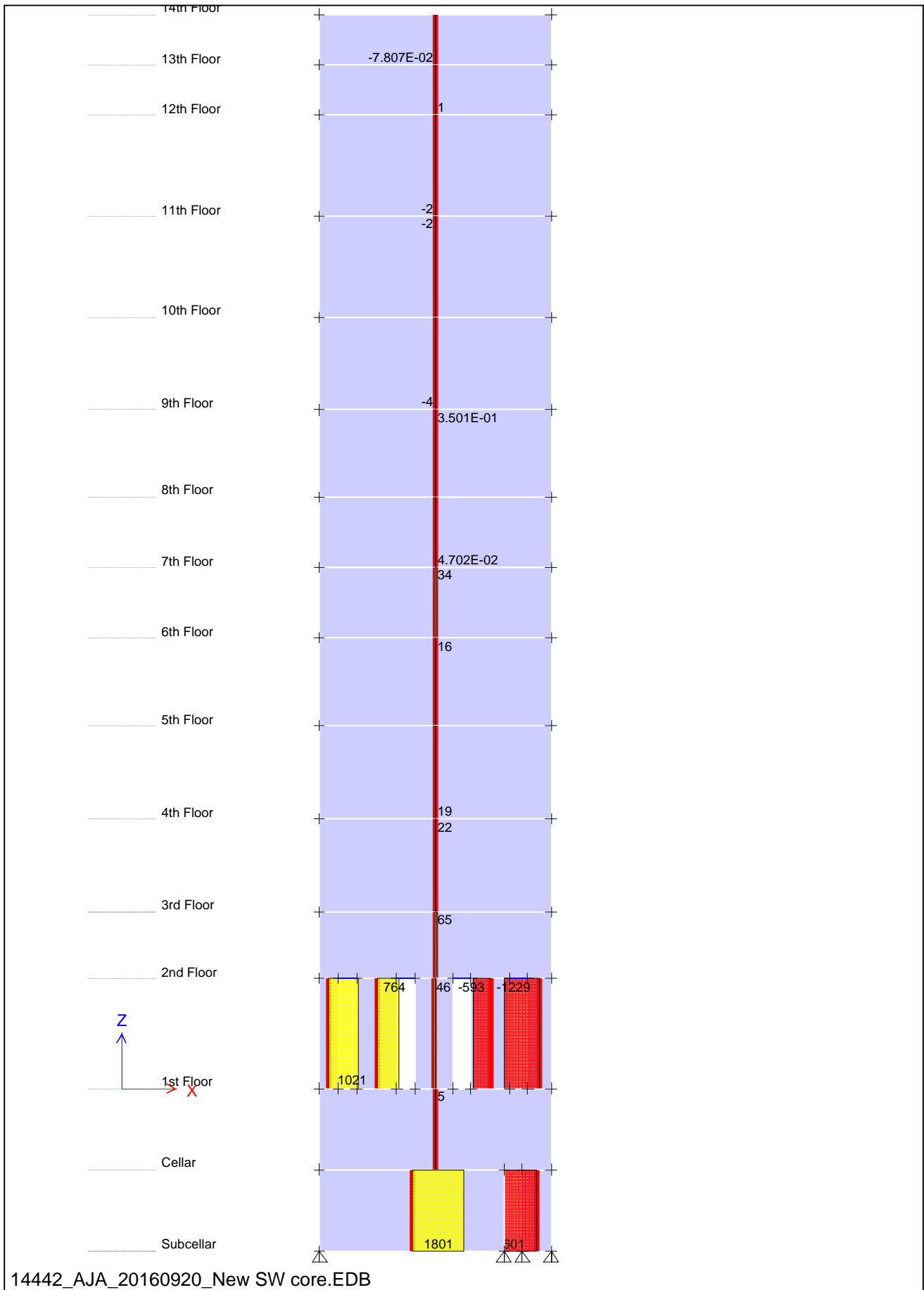
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1568 Broadway

Structural Calculations

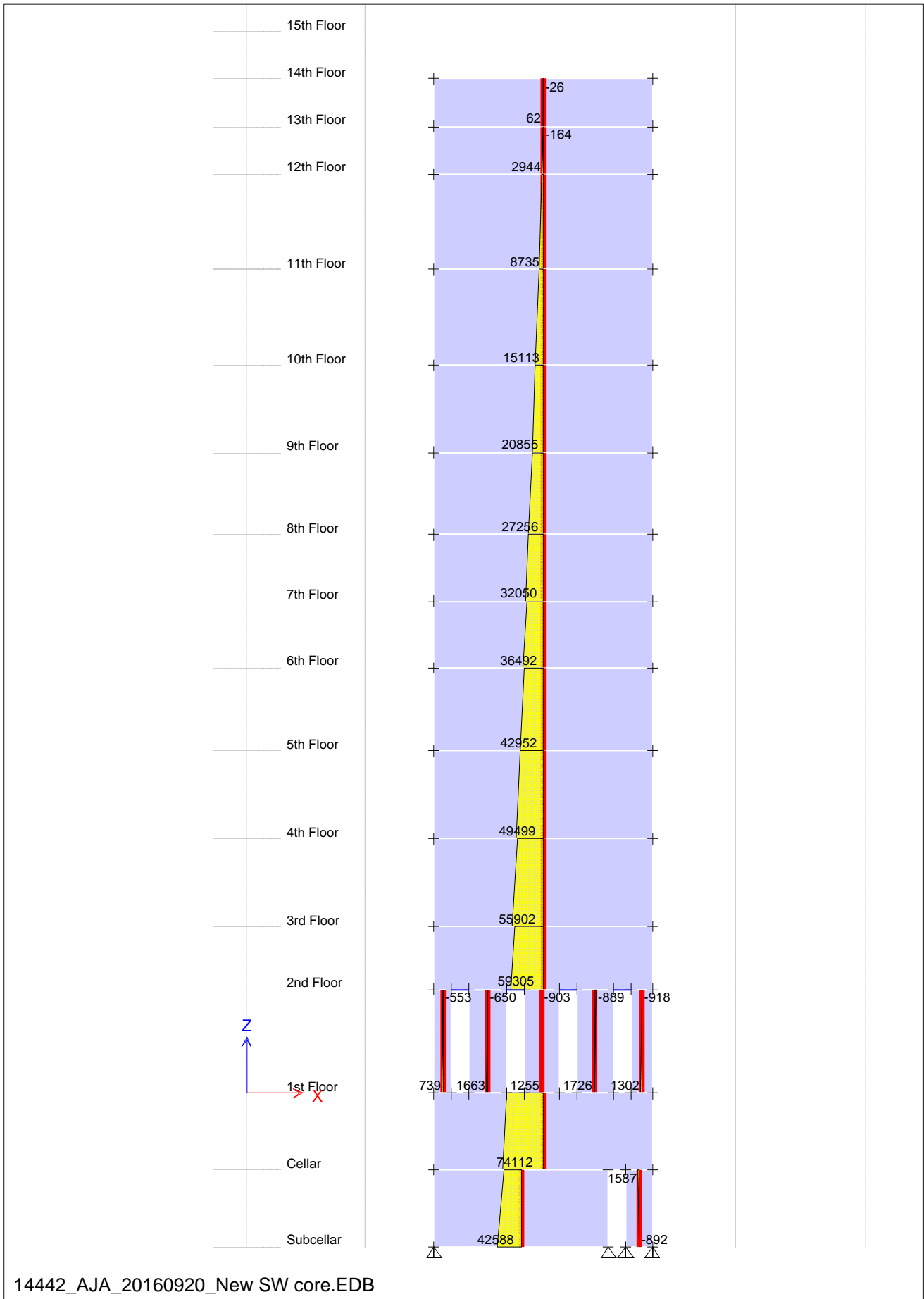
# **CHAPTER 14**

## **ETABS Shear Wall 3 Forces**



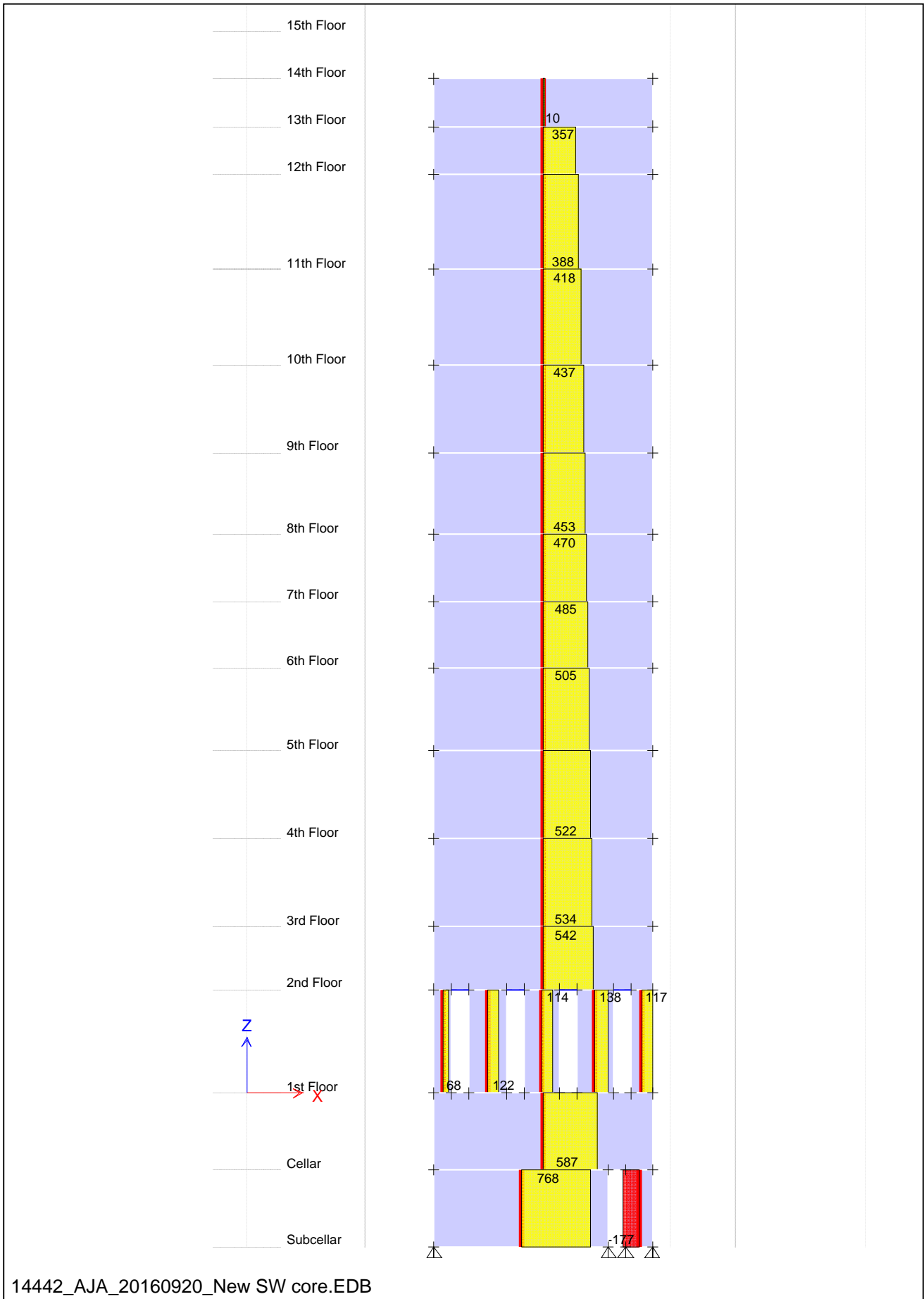
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ Y=76.2505 ft Axial Force Diagram (Wind X) [kip]



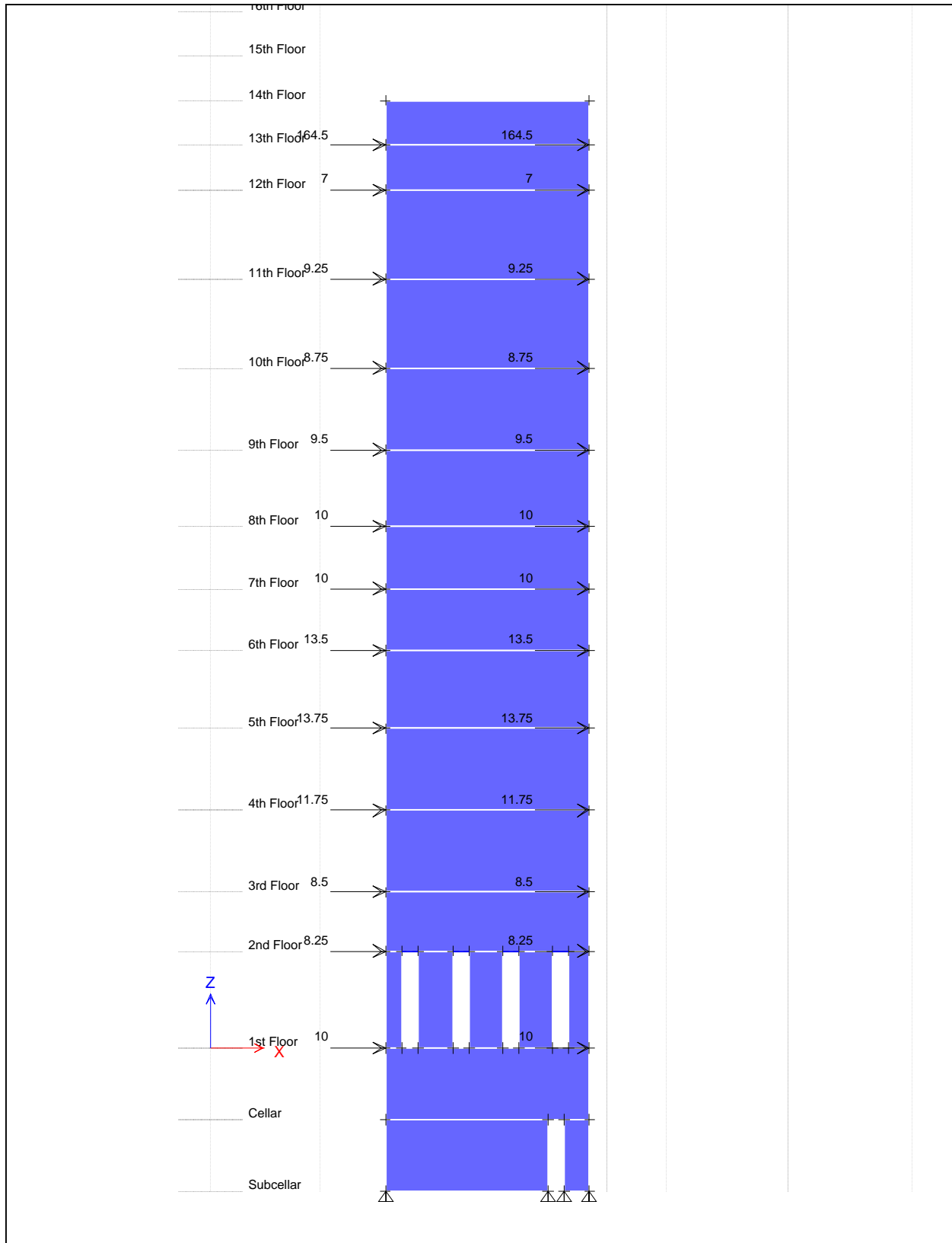
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ Y=76.2505 ft Moment 3-3 Diagram (Wind X) [kip-ft]

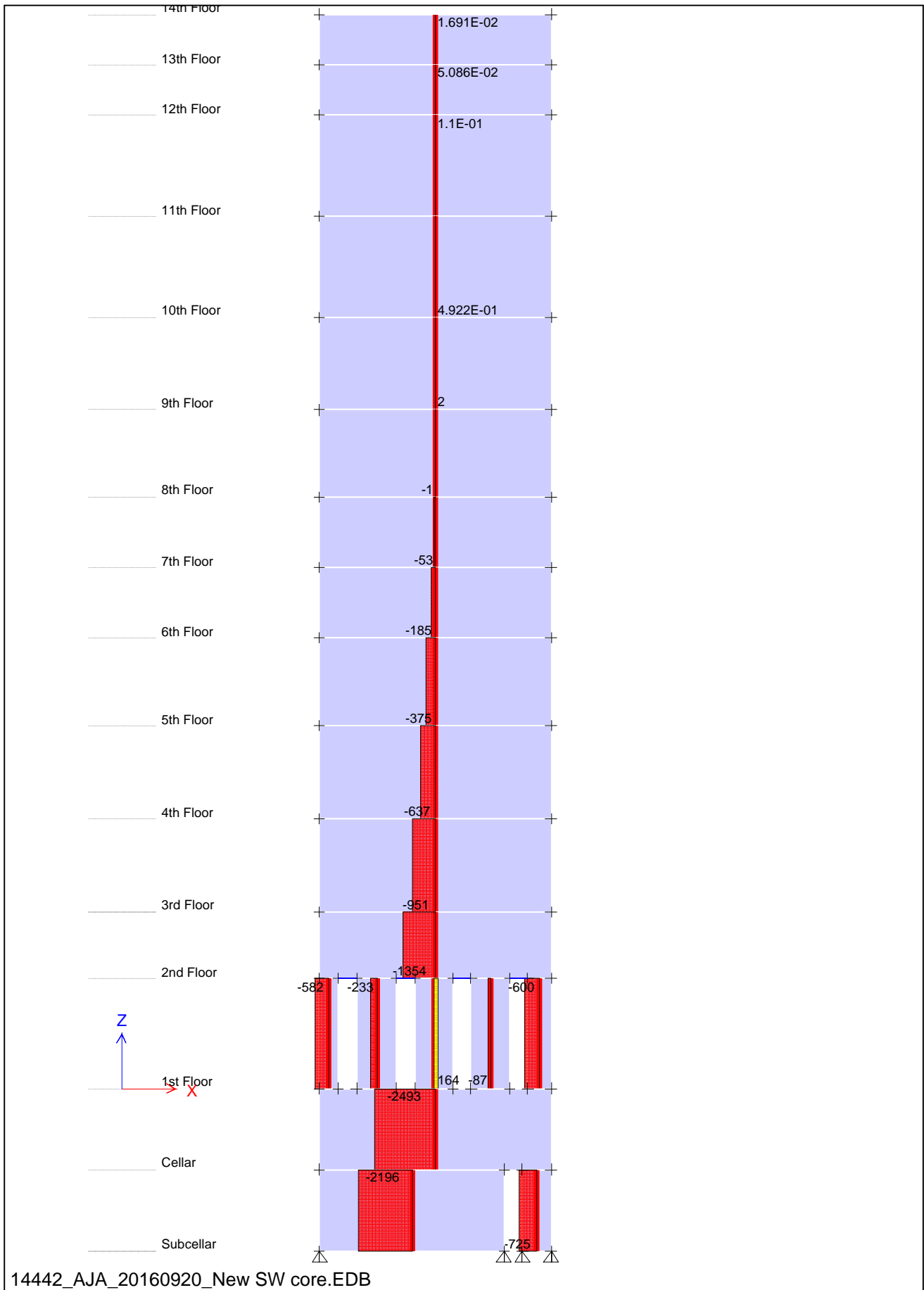


14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ Y=76.2505 ft Shear Force 2-2 Diagram (Wind X) [kip]

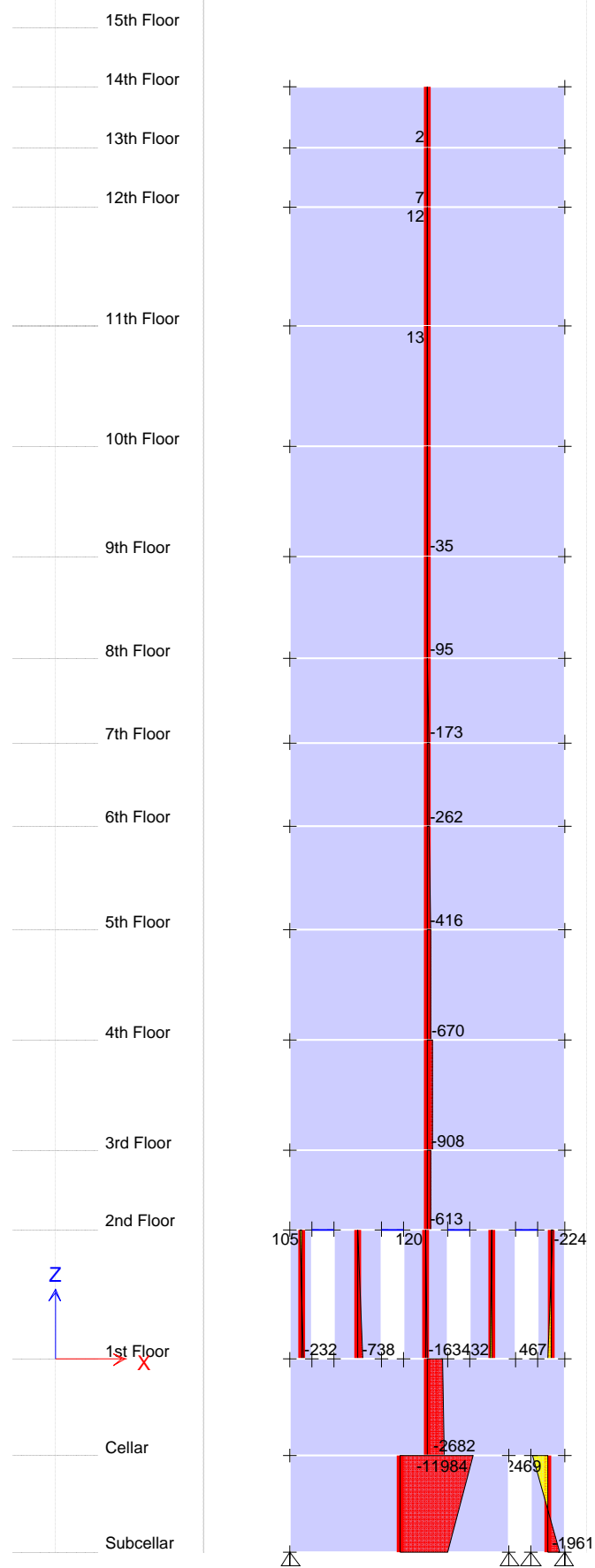


14442\_AJA\_20160920 Elevation View - EOB @ Y=76.2505 ft Joint Loads (Wind X)



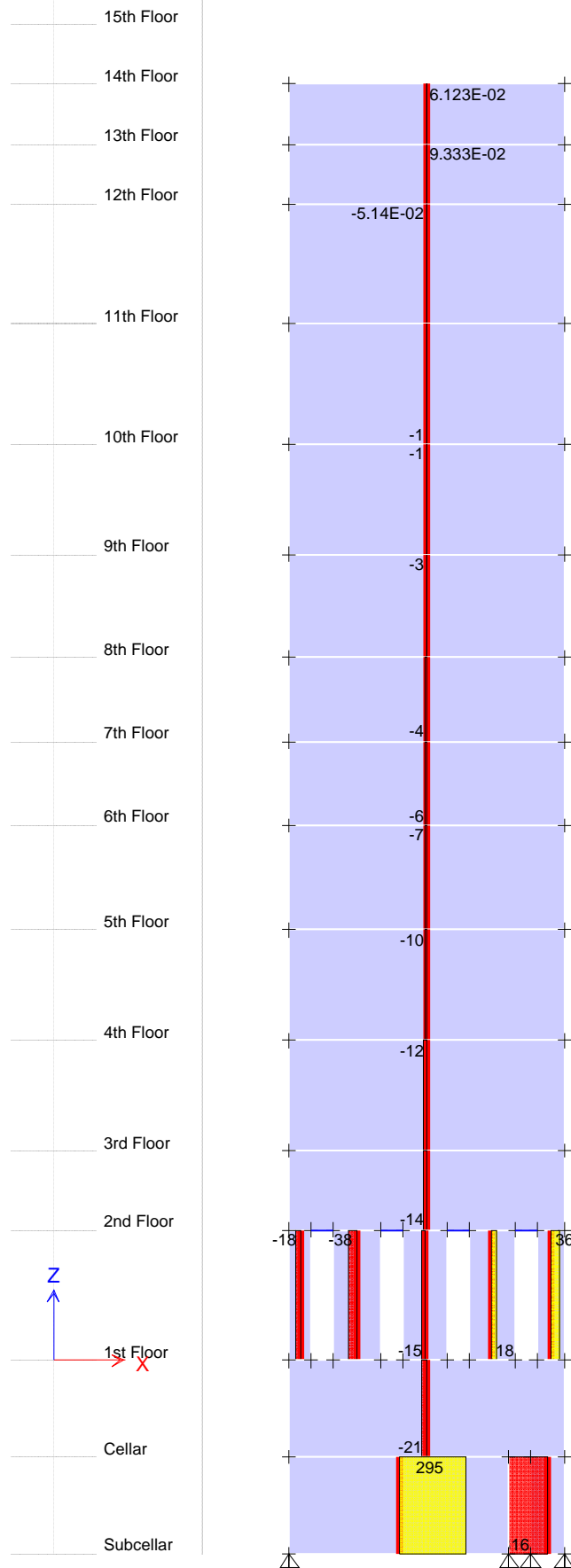
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ Y=76.2505 ft Axial Force Diagram (Wind Y) [kip]



14442\_AJA\_20160920\_New SW core.EDB

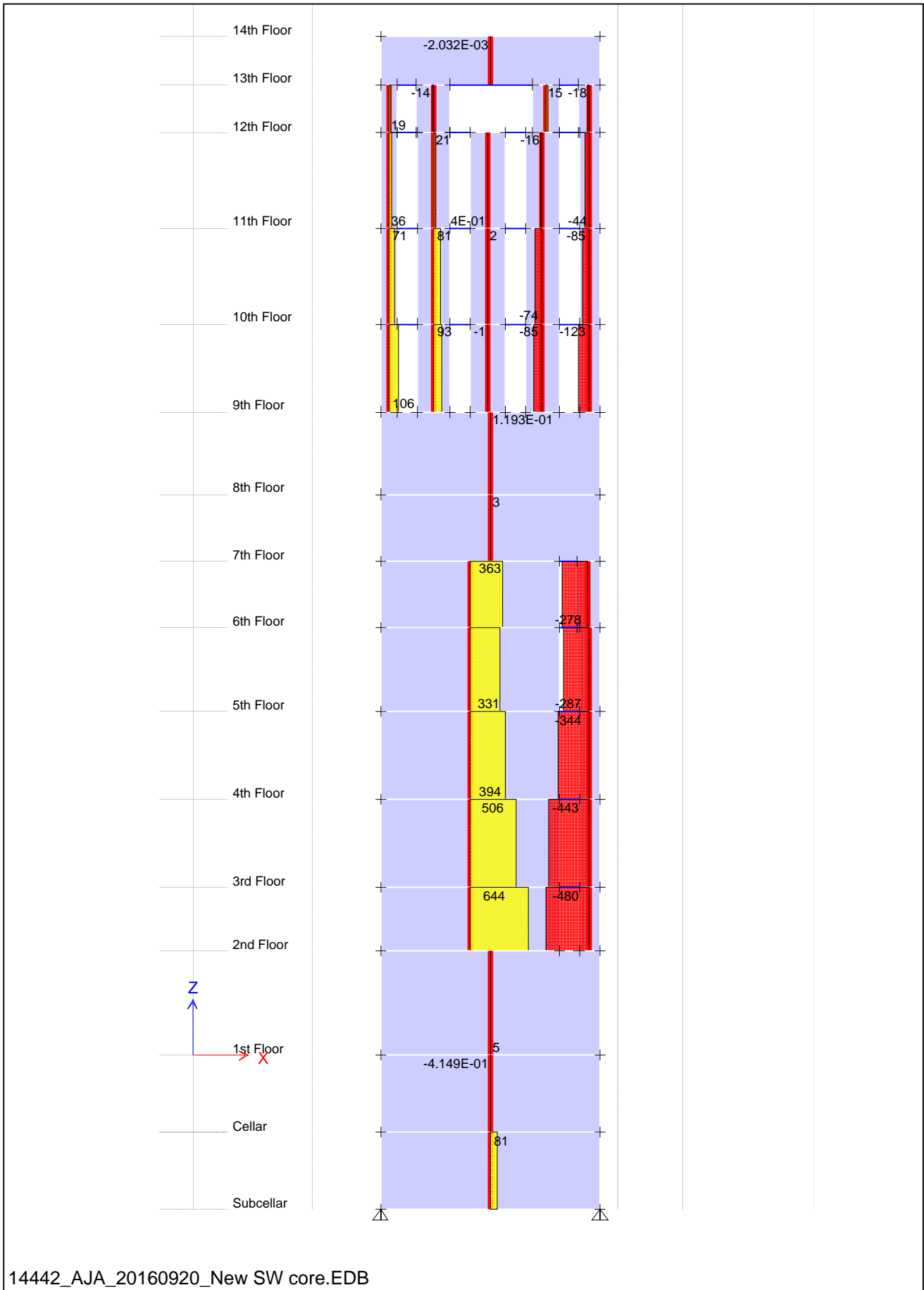
Elevation View - G1 @ Y=76.2505 ft Moment 3-3 Diagram (Wind Y) [kip-ft]



14442\_AJA\_20160920\_New SW core.EDB

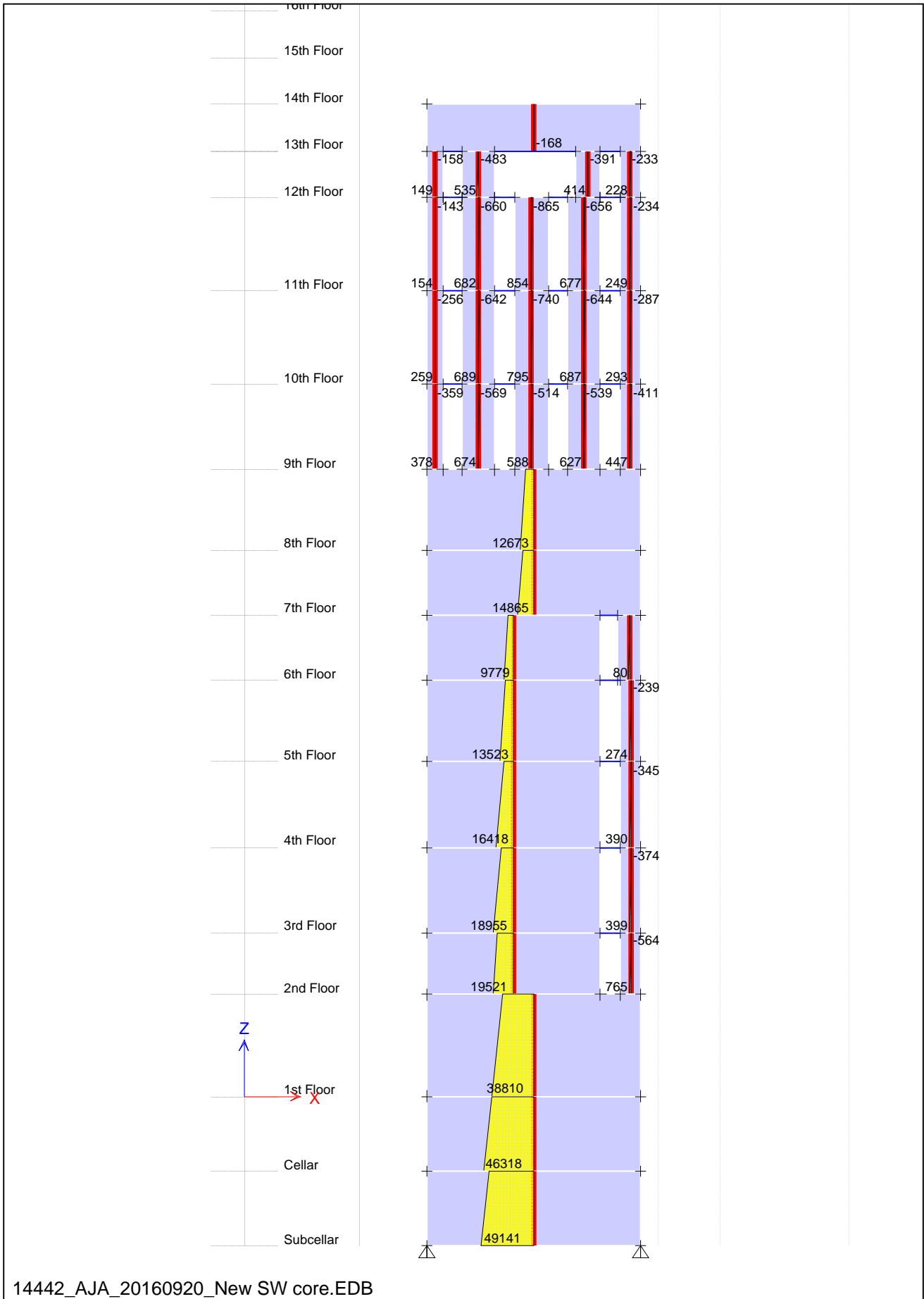
Elevation View - G1 @ Y=76.2505 ft Shear Force 2-2 Diagram (Wind Y) [kip]





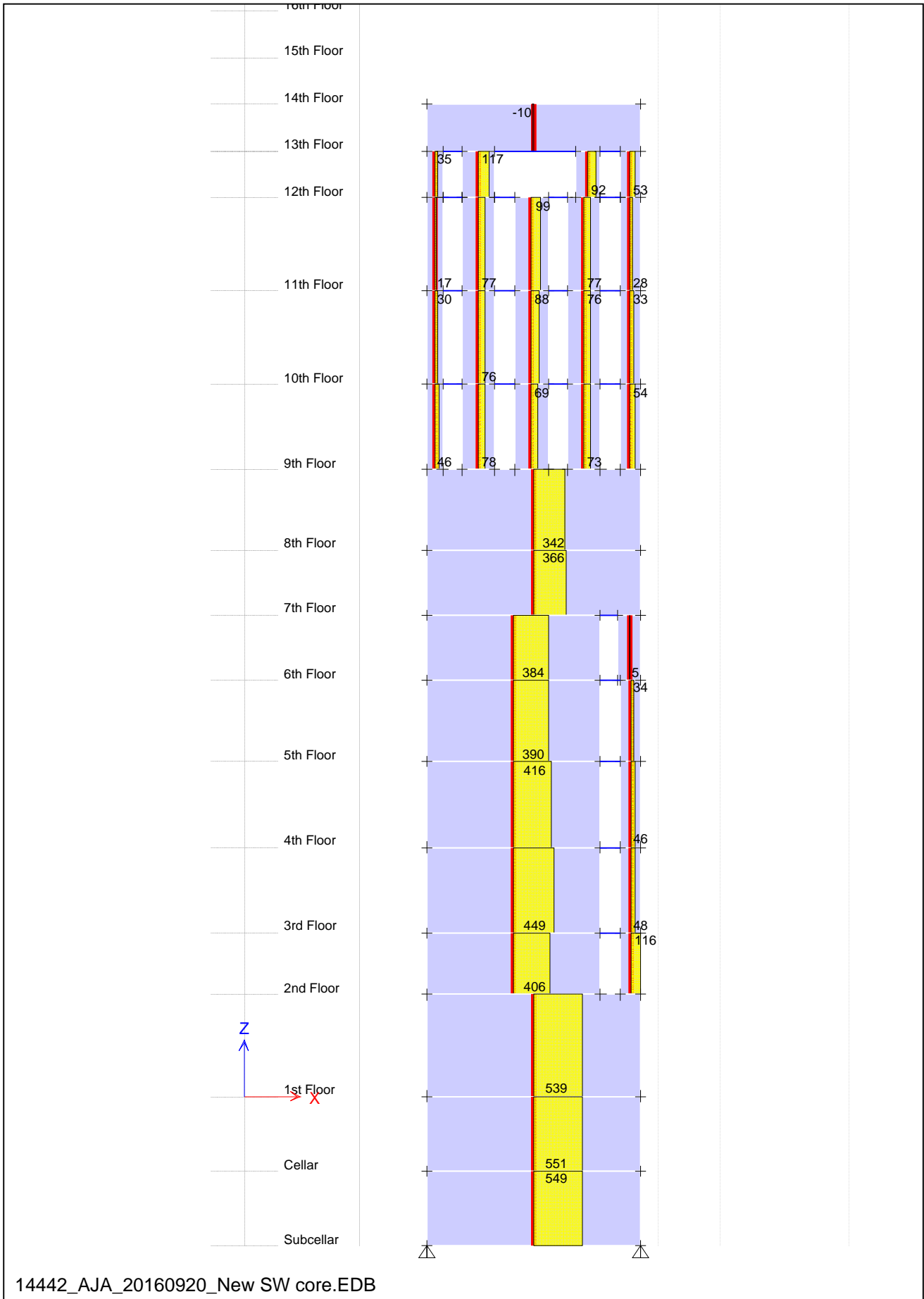
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ Y=67.386 ft Axial Force Diagram (Wind X) [kip]



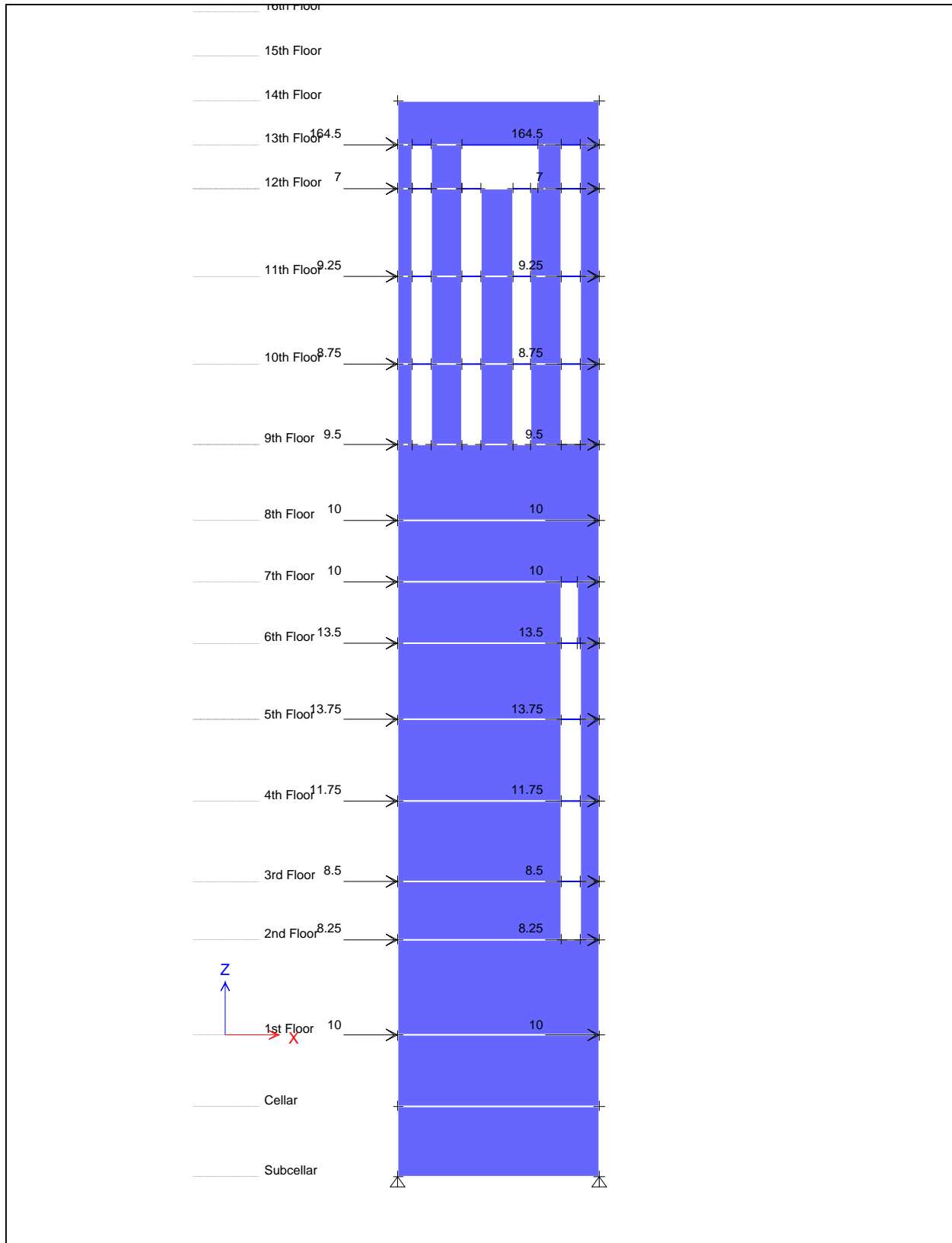
14442\_AJA\_20160920\_New SW core.EDB

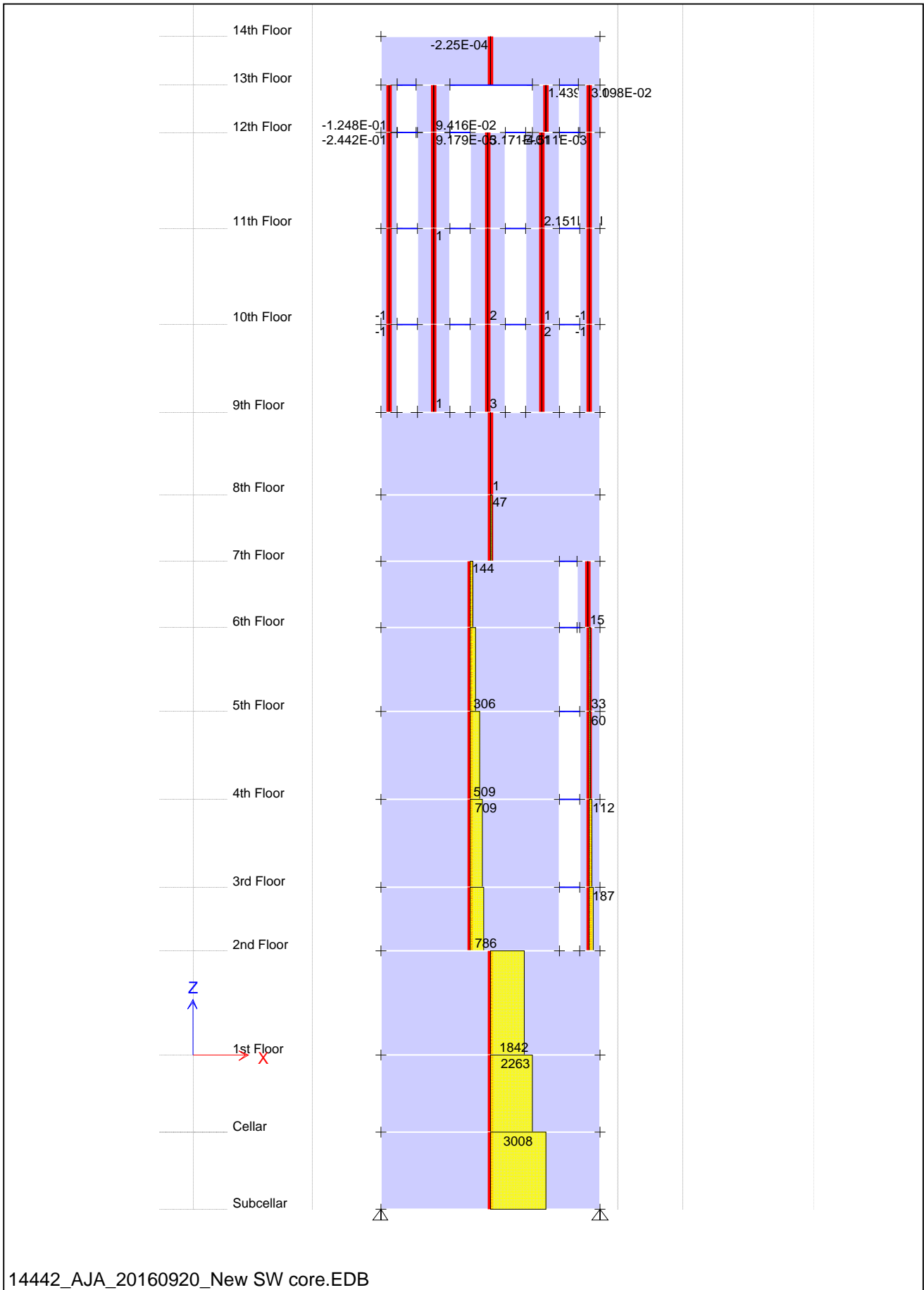
Elevation View - G1 @ Y=67.386 ft Moment 3-3 Diagram (Wind X) [kip-ft]



14442\_AJA\_20160920\_New SW core.EDB

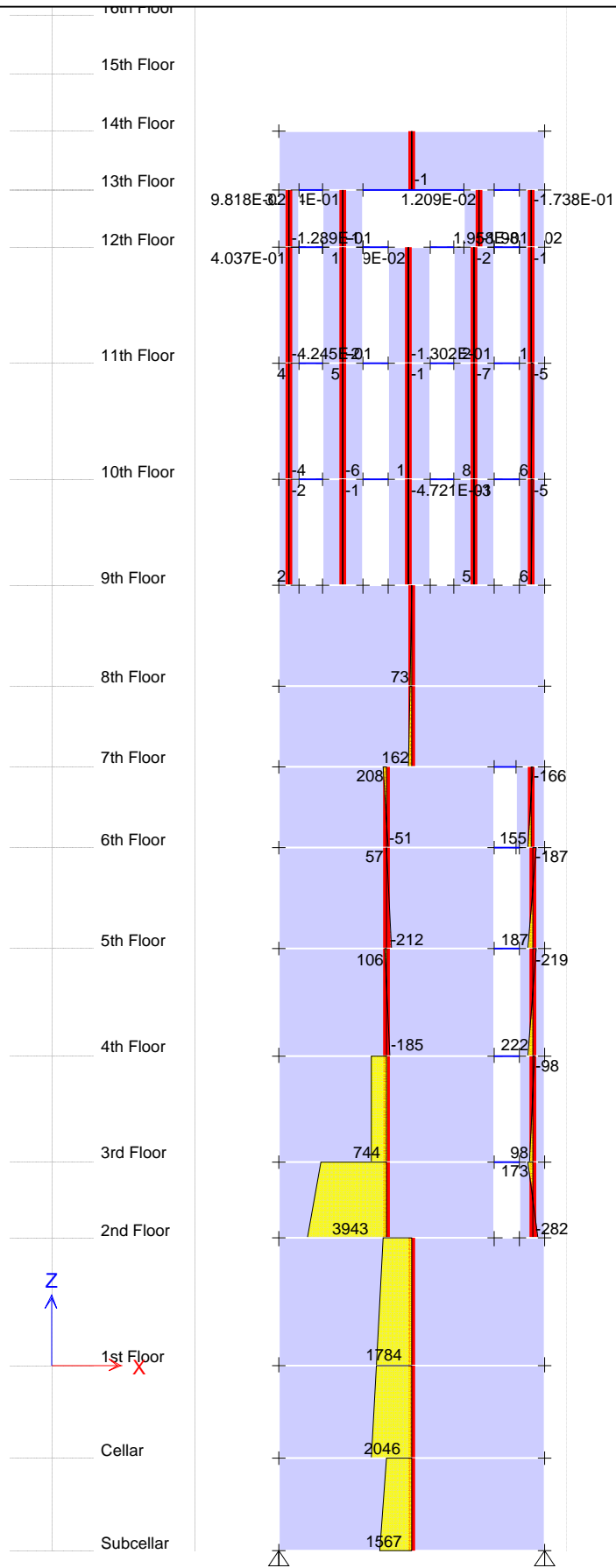
Elevation View - G1 @ Y=67.386 ft Shear Force 2-2 Diagram (Wind X) [kip]





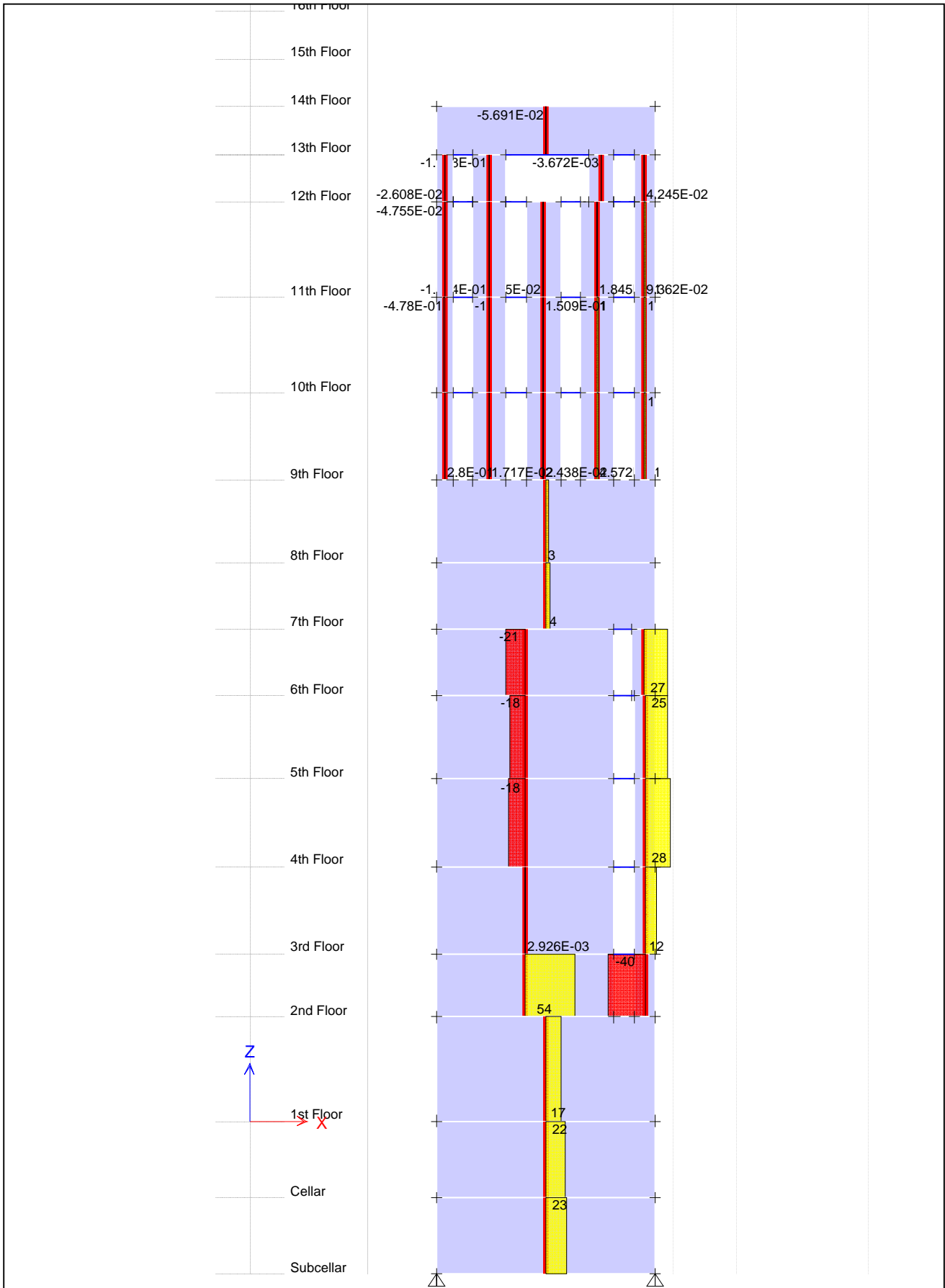
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ Y=67.386 ft Axial Force Diagram (Wind Y) [kip]



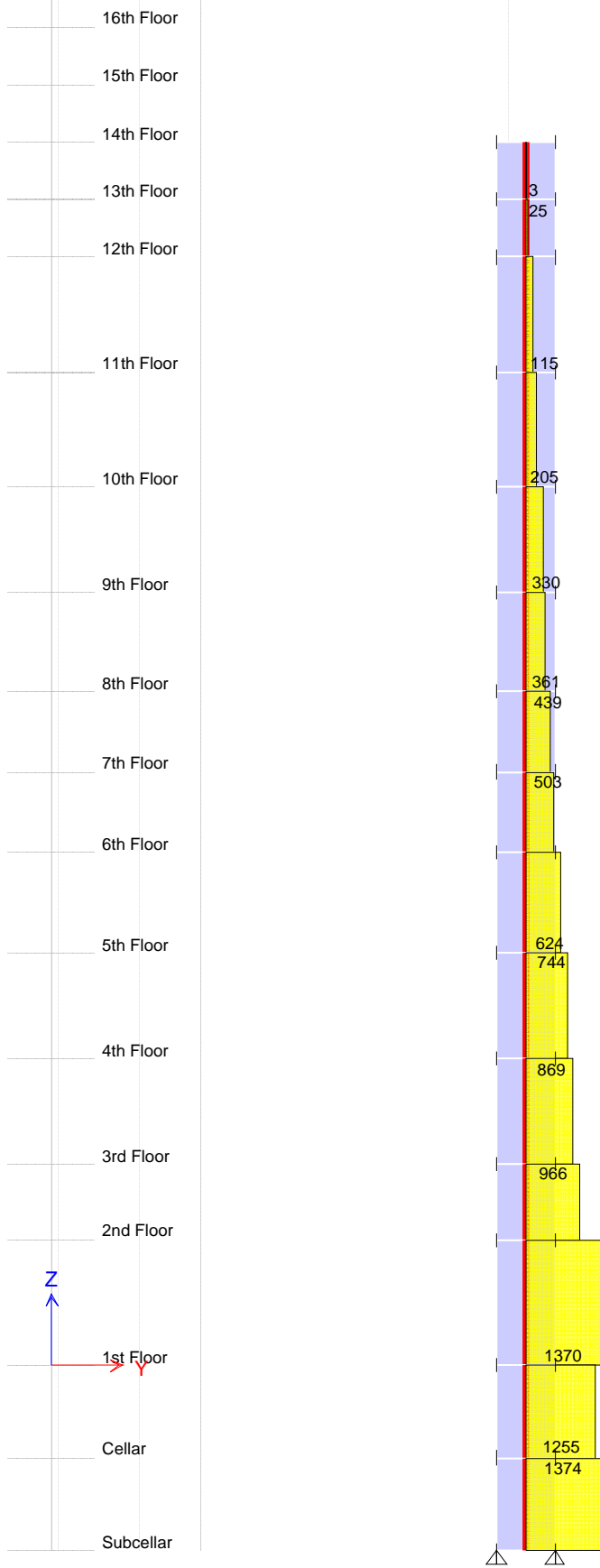
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ Y=67.386 ft Moment 3-3 Diagram (Wind Y) [kip-ft]



14442\_AJA\_20160920\_New SW core.EDB

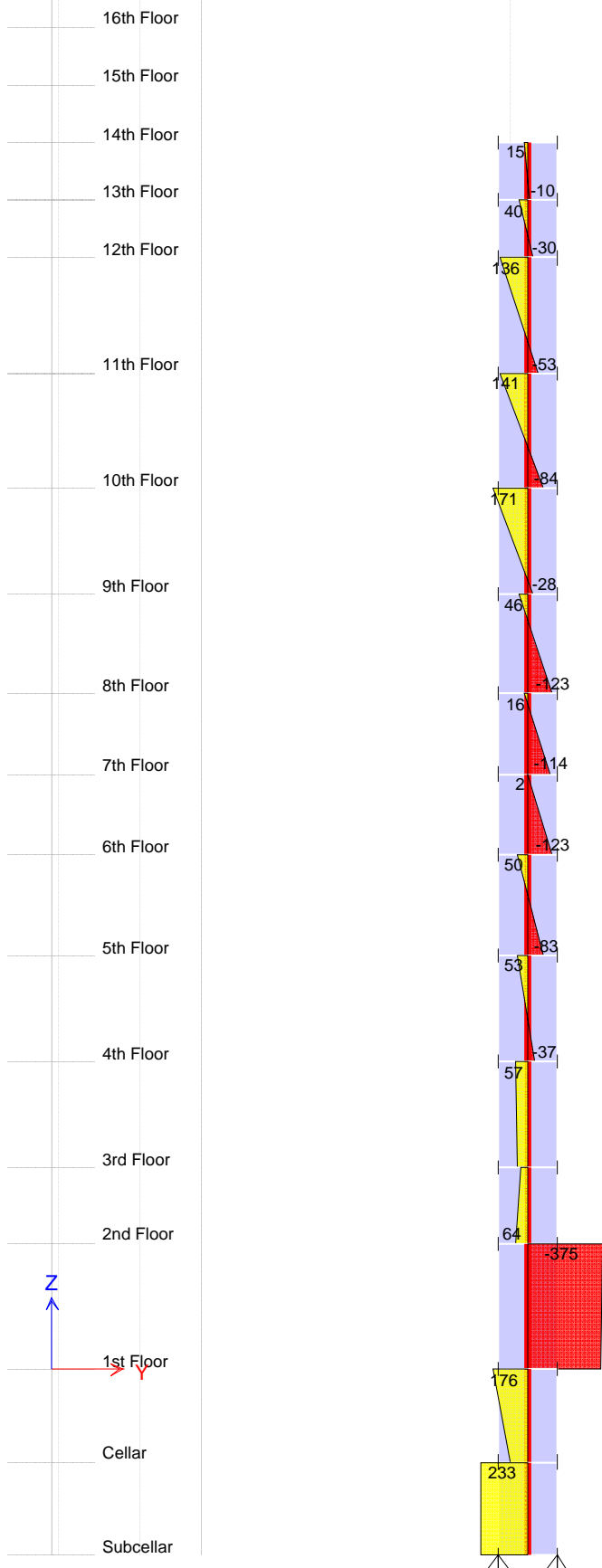
Elevation View - G1 @ Y=67.386 ft Shear Force 2-2 Diagram (Wind Y) [kip]



14442\_AJA\_20160920\_New SW core.EDB

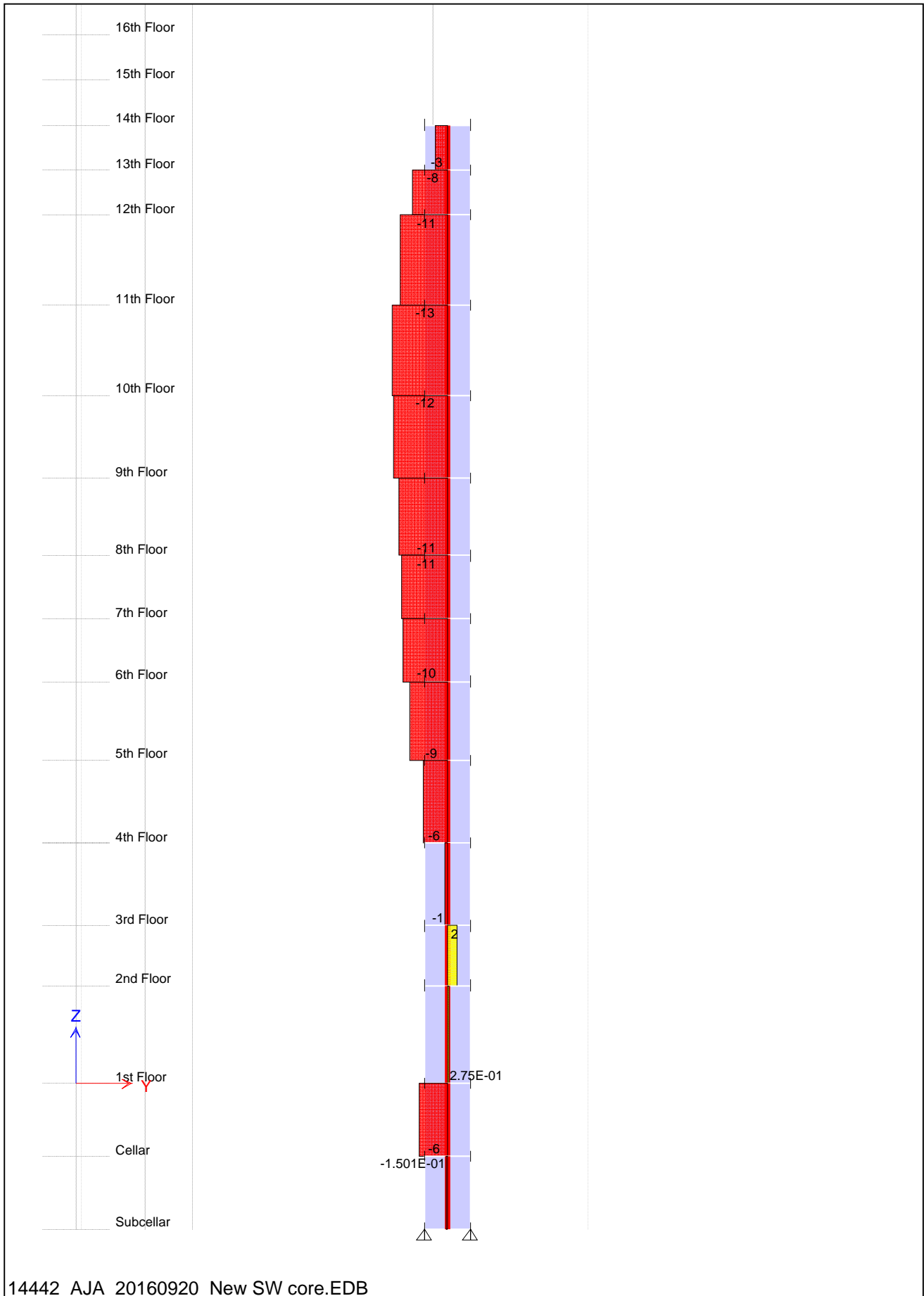
Elevation View - G1 @ X=34.1796 ft Axial Force Diagram (Wind X) [kip]





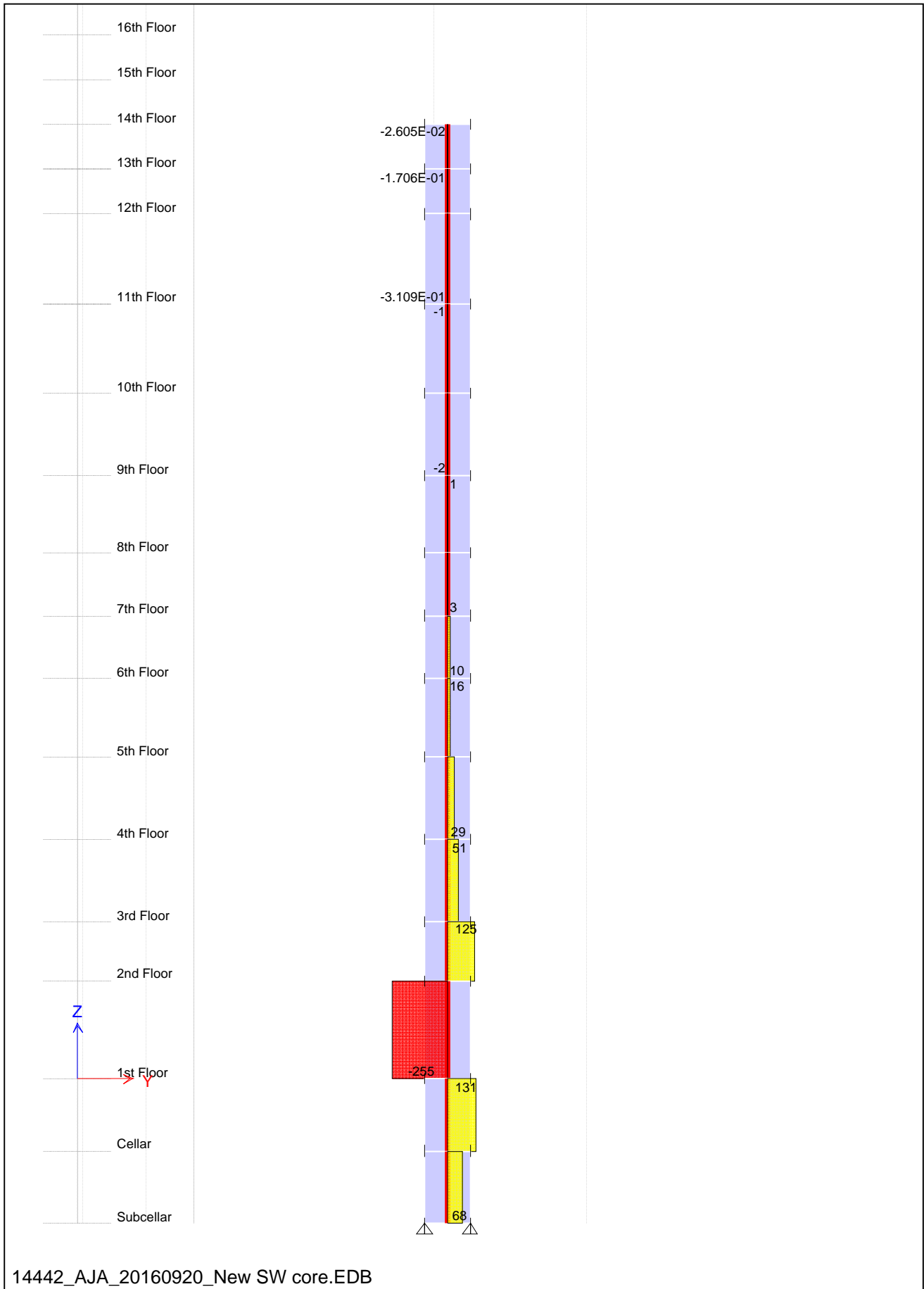
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ X=34.1796 ft Moment 3-3 Diagram (Wind X) [kip-ft]



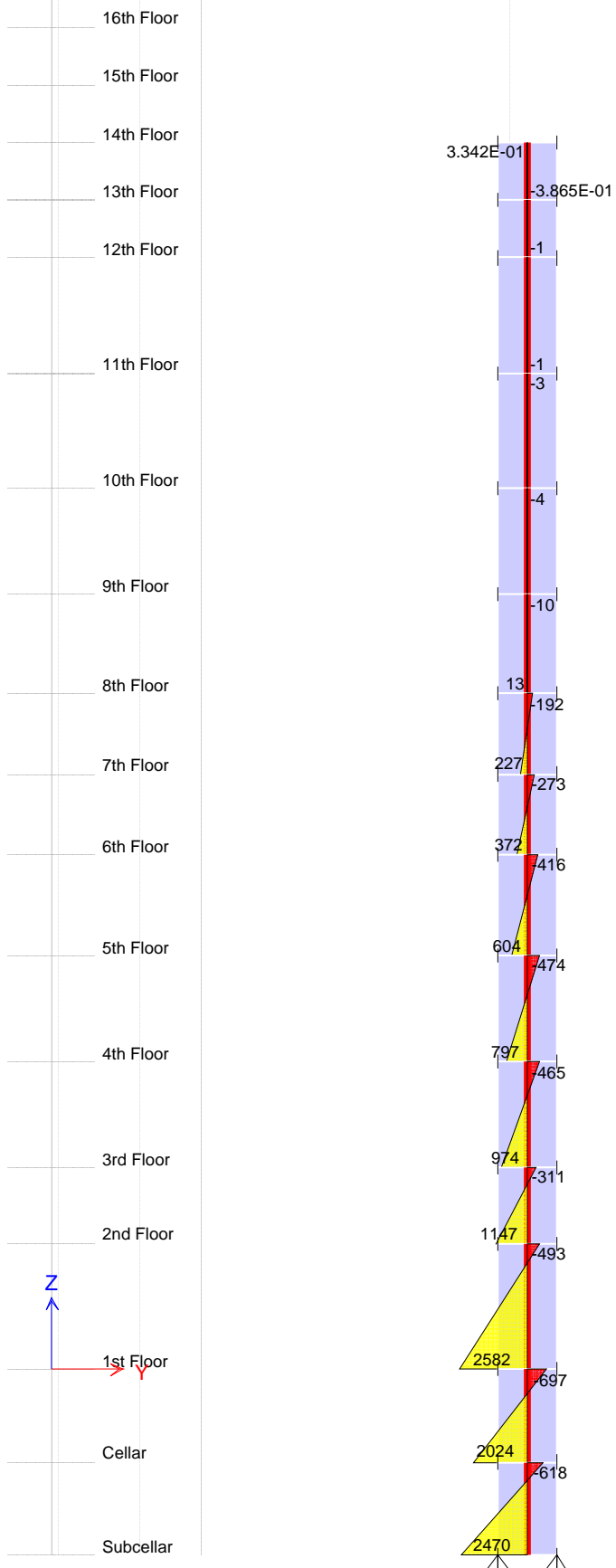
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ X=34.1796 ft Shear Force 2-2 Diagram (Wind X) [kip]



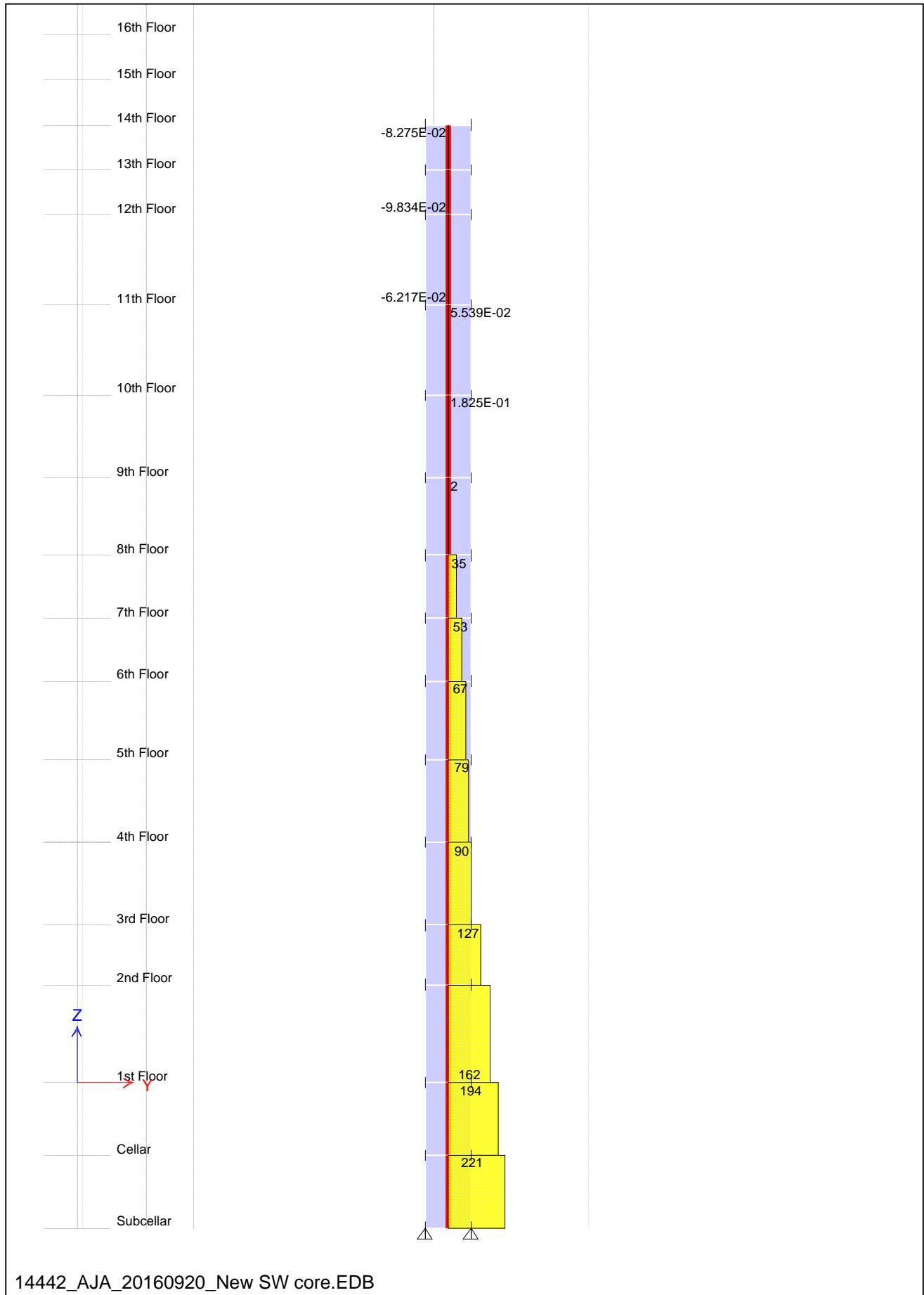
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ X=34.1796 ft Axial Force Diagram (Wind Y) [kip]



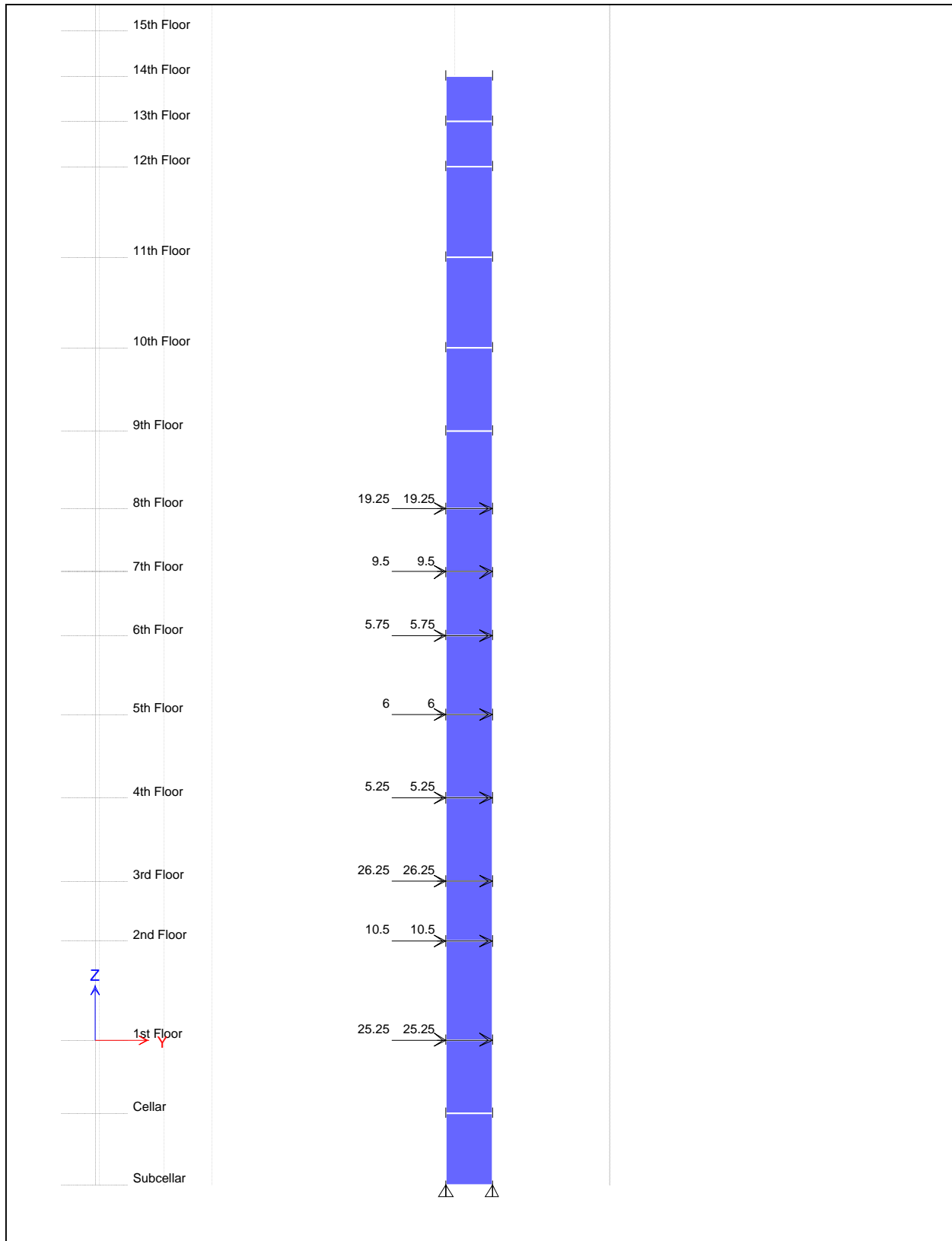
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ X=34.1796 ft Moment 3-3 Diagram (Wind Y) [kip-ft]

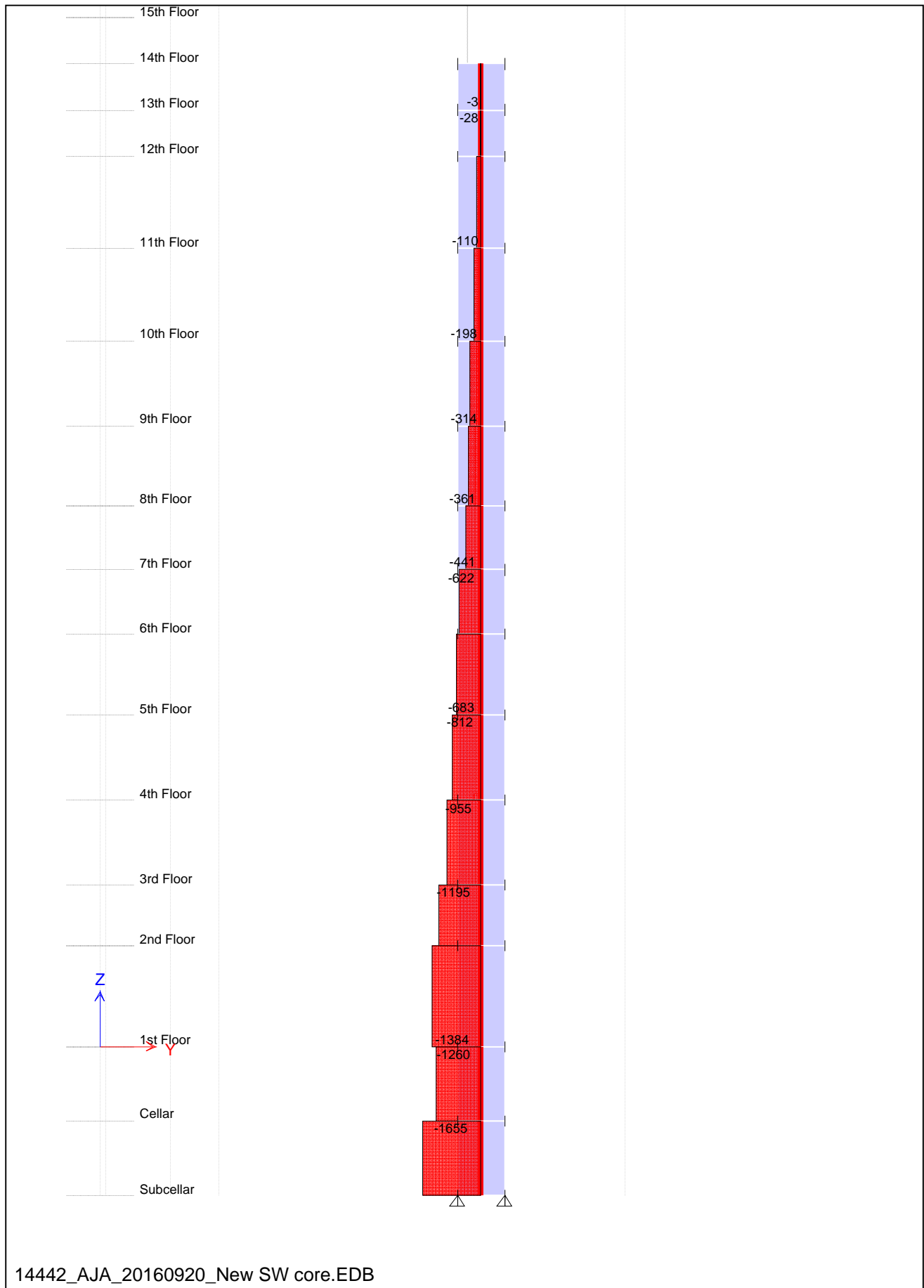


14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ X=34.1796 ft Shear Force 2-2 Diagram (Wind Y) [kip]

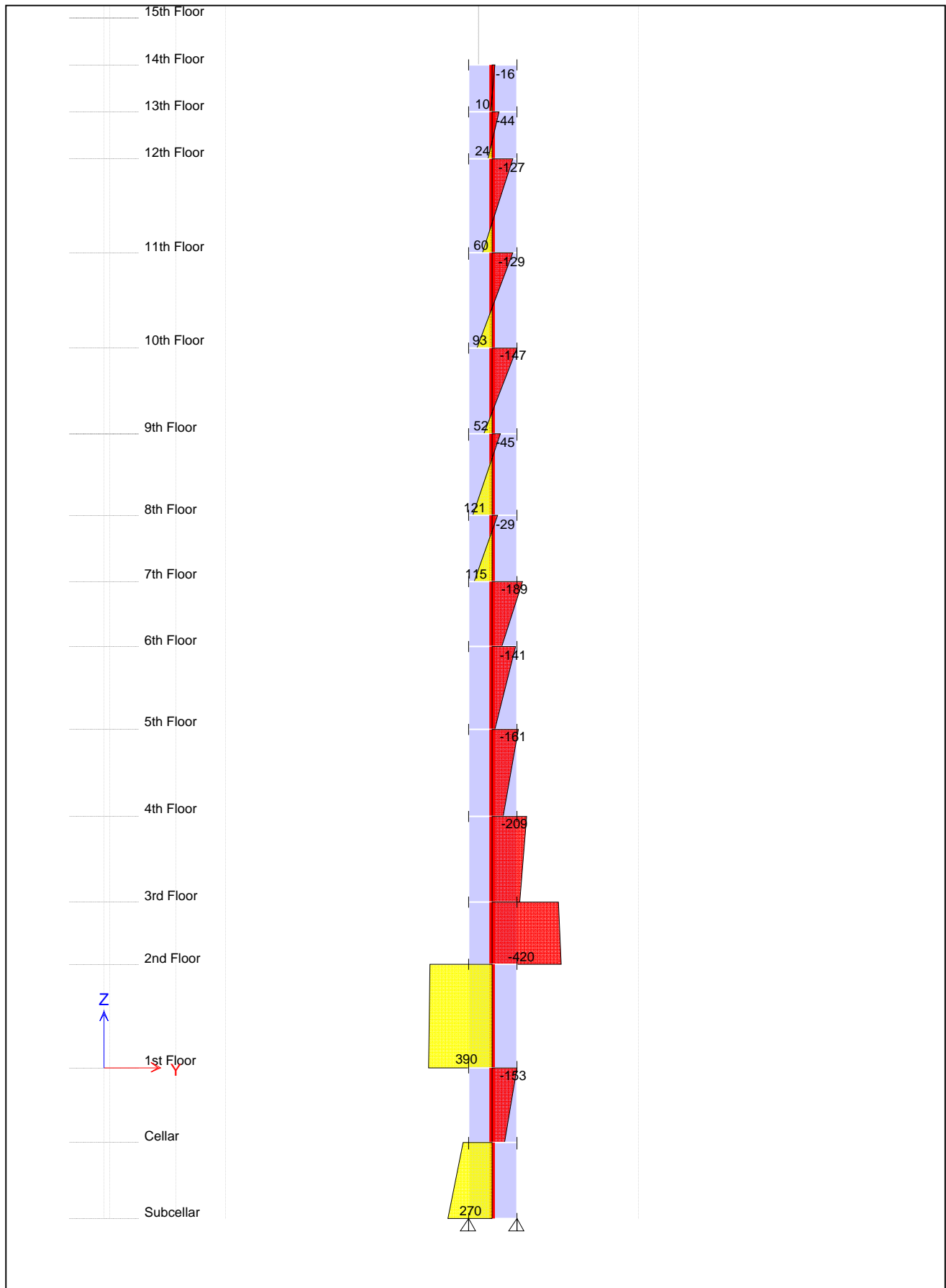


14442\_AJA\_20160920 Elevation View - EGB @ X=34.1796 ft Joint Loads (Wind Y)



14442\_AJA\_20160920\_New SW core.EDB

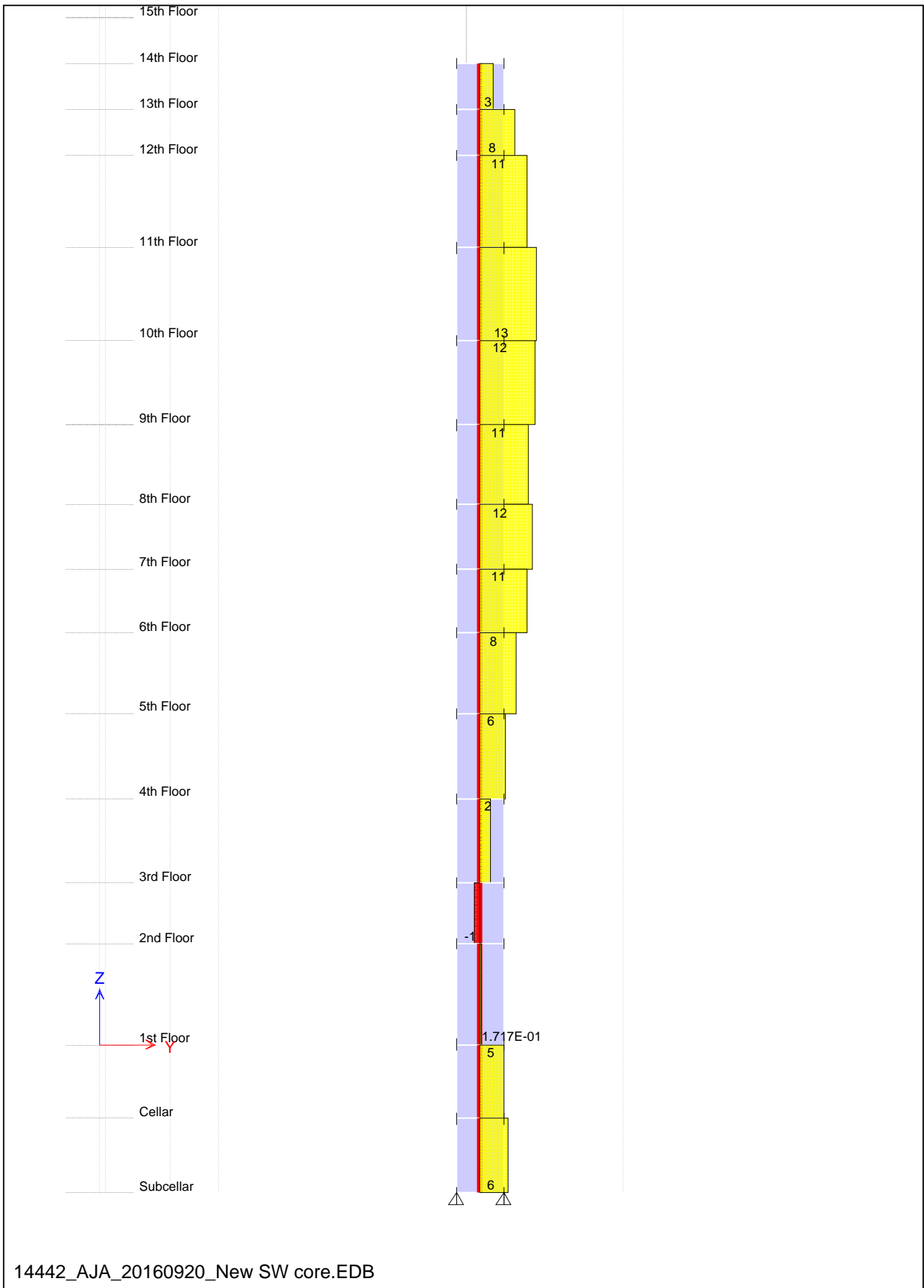
Elevation View - G1 @ X=74.0963 ft Axial Force Diagram (Wind X) [kip]



14442\_AJA\_20160920\_New SW core.EDB

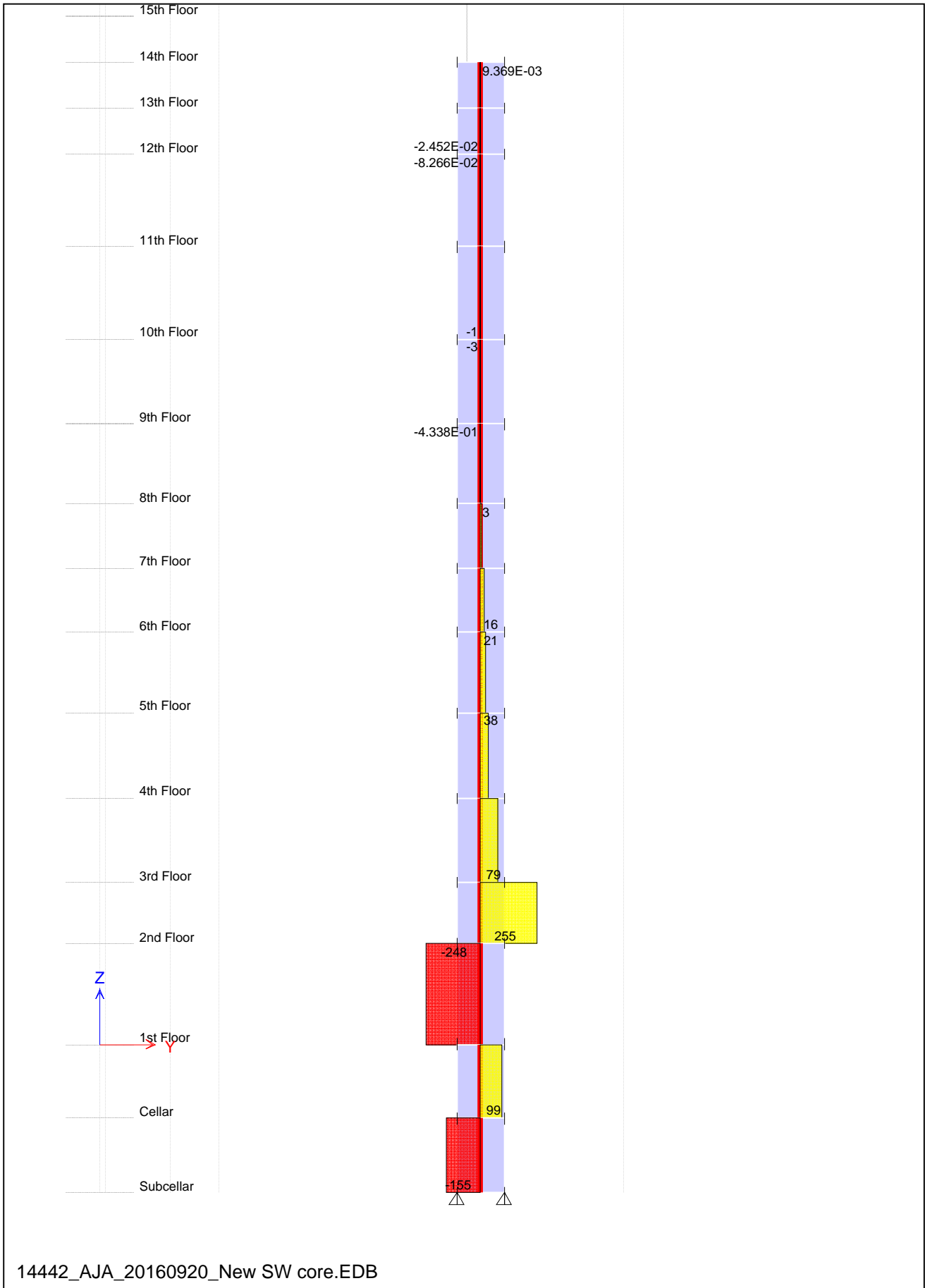
Elevation View - G1 @ X=74.0963 ft Moment 3-3 Diagram (Wind X) [kip-ft]





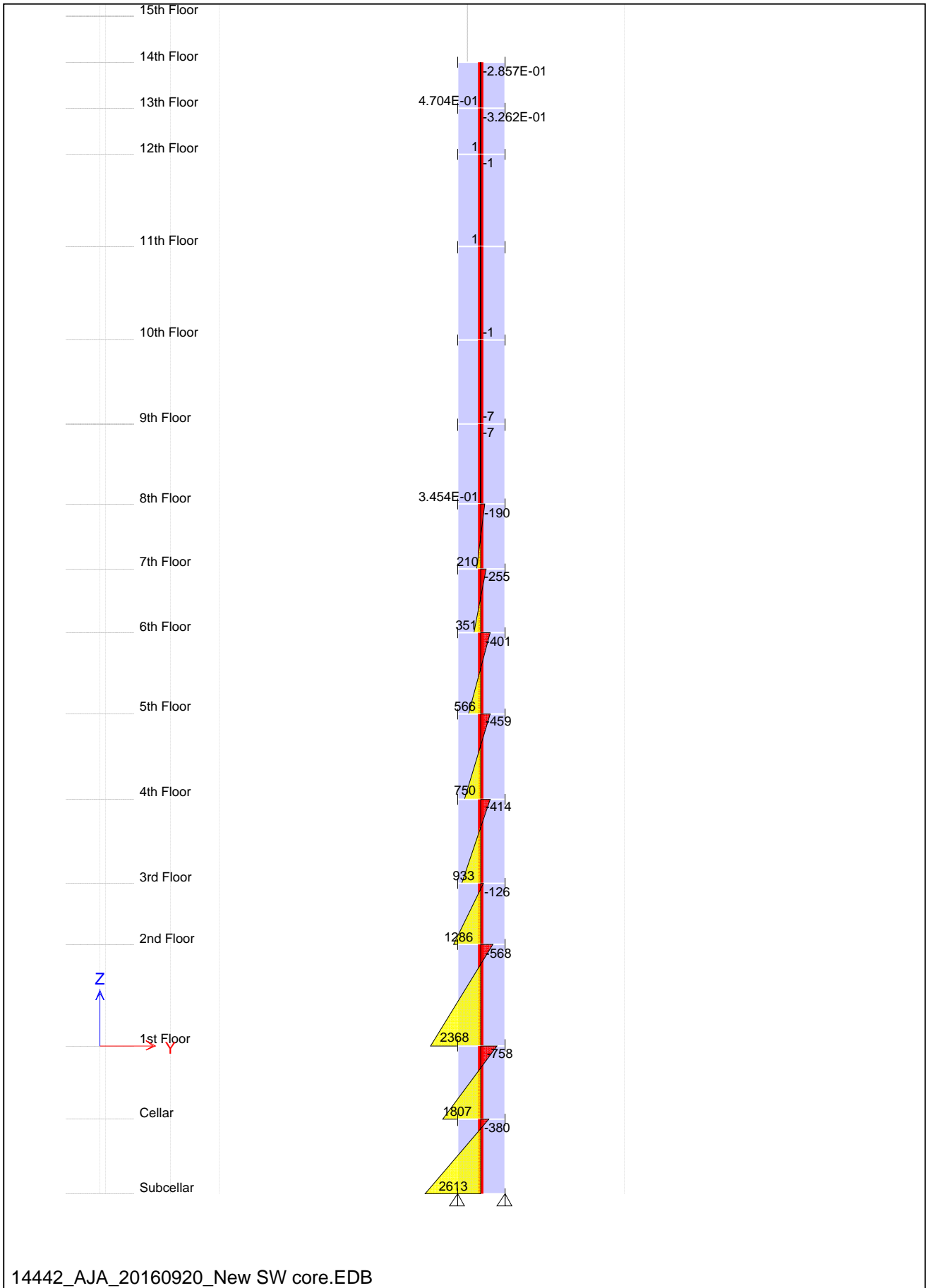
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ X=74.0963 ft Shear Force 2-2 Diagram (Wind X) [kip]



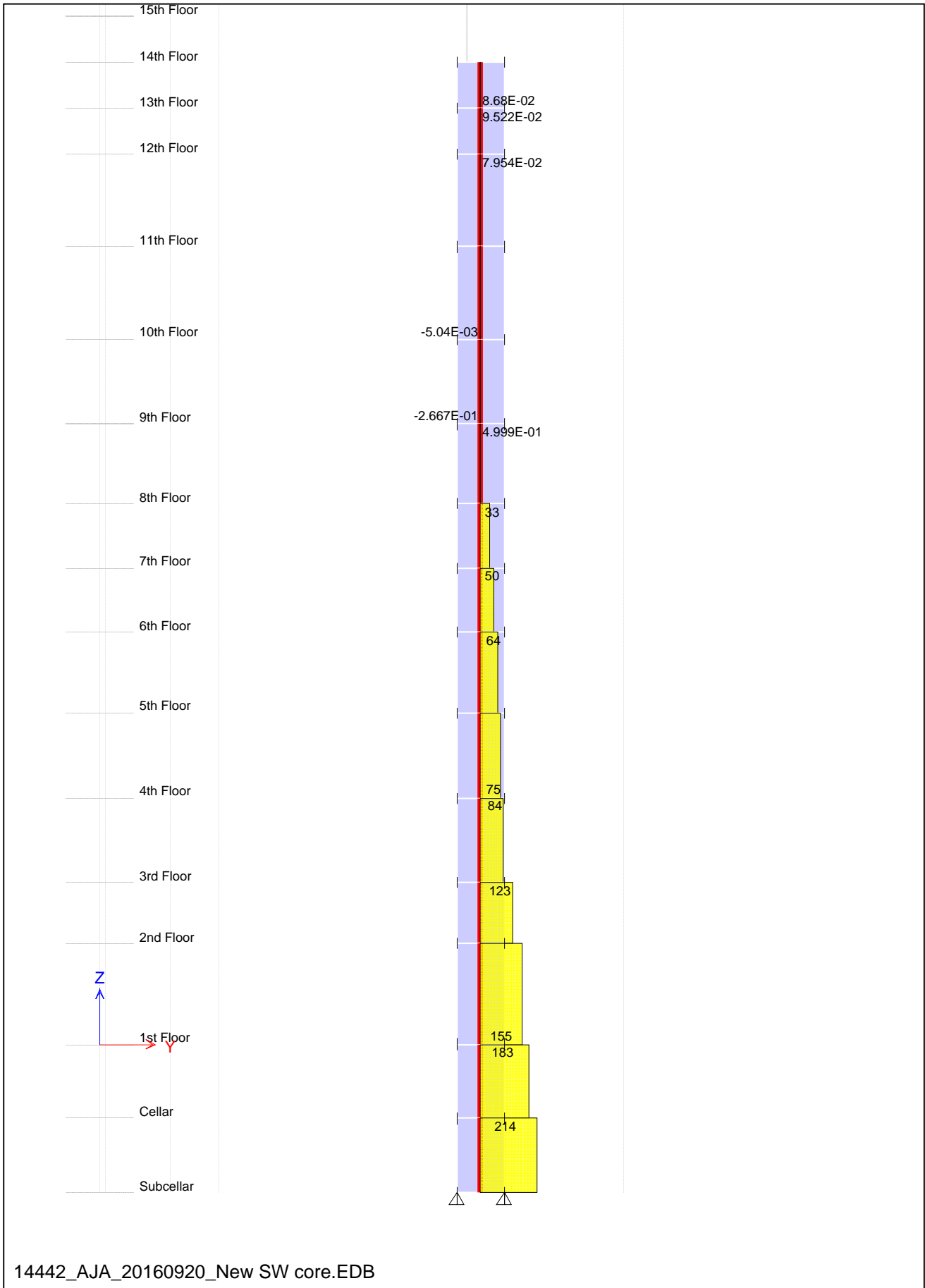
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ X=74.0963 ft Axial Force Diagram (Wind Y) [kip]



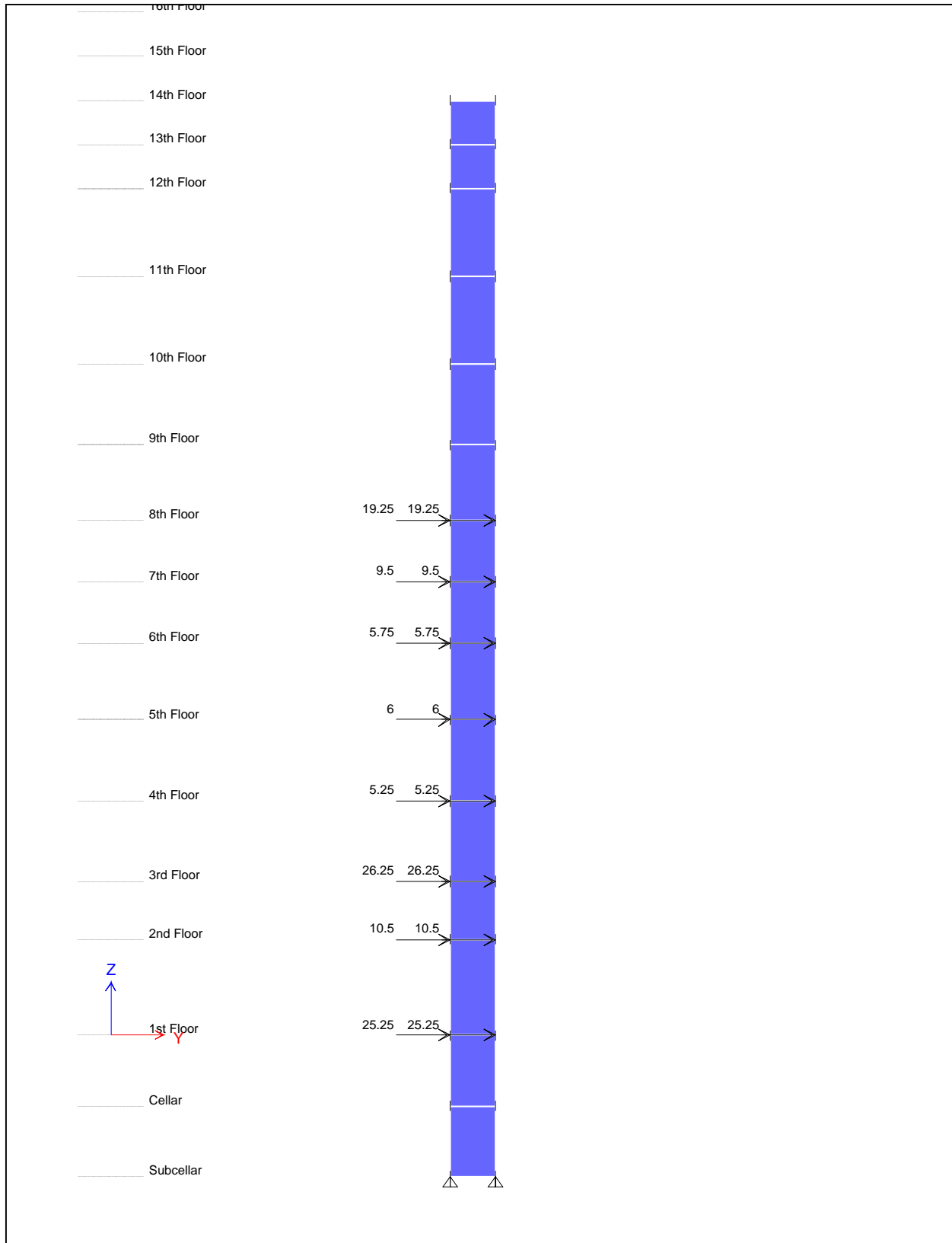
14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ X=74.0963 ft Moment 3-3 Diagram (Wind Y) [kip-ft]



14442\_AJA\_20160920\_New SW core.EDB

Elevation View - G1 @ X=74.0963 ft Shear Force 2-2 Diagram (Wind Y) [kip]



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1568 Broadway

Structural Calculations

# **CHAPTER 15**

## **Shear Wall 3 Reinforcement**

Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/14/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 1.1** Level **Sub Cellar**

f'c **12000** psi  
 fy **60000** psi  
 hw **14** ft  
 lw **32.8** ft  
 h **24** in

Mu **42245** ft-kips  
 Vu **793.0** kips  
 Pu **6938** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#7**  
 Spacing **12** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **6208.8** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **3089.6** kips  
 $\Phi V_c$  **1803.5** kips  
 =====  
 $\Phi V_c$  **1803.5** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **1039.104** kips  
 $\Phi V_n$  **2842.62** kips **OK**  
 $\rho_h$  **0.0031** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **18** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0031**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0031**  
 $\rho_v$  **0.0042** **OK**  
 $s_p, max$  **18** in **OK**

Project 1568 Broadway  
 Project No. -14442  
 Engr AJA  
 Date 10/14/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier Wall 1.2 Level Subcellar

f'c 12000 psi  
 fy 60000 psi  
 hw 14 ft  
 lw 4.92 ft  
 h 24 in  
 Mu 2640 ft-kips  
 Vu 337.0 kips  
 Pu 1123 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #11  
 Spacing 6 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #6  
 Spacing 6 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  931.3 kips OK

Shear Strength Provided by Concrete  
 $\Phi V_c$  475.8 kips  
 $\Phi V_c$  285.8 kips  
 =====  
 $\Phi V_c$  285.8 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  311.7312 kips  
 $\Phi V_n$  597.57 kips OK  
 $\rho_h$  0.0061 OK  
 $\rho_{h,min}$  0.0025  
 $s_p, max$  11.808 in OK

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0019  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0025  
 $\rho_v$  0.0217 OK  
 $s_p, max$  18 in OK



Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2** Level **Subcellar**

f'c 12000 psi  
 fy 60000 psi  
 hw 14 ft  
 lw 40 ft  
 h 12 in  
 Mu 49238 ft-kips  
 Vu 549.0 kips  
 Pu 3844 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #7  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #5  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  3785.9 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  1825.9 kips  
 $\Phi V_c$  763.6 kips  
 =====  
 $\Phi V_c$  763.6 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  892.8 kips  
 $\Phi V_n$  1656.36 kips **OK**  
 $\rho_h$  0.0043 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0044  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0044  
 $\rho_v$  0.0083 **OK**  
 sp, max 18 in **OK**

Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/17/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 3** Level **Subcellar**

f'c 12000 psi  
 fy 60000 psi  
 hw 14 ft  
 lw 10 ft  
 h 12 in

Mu 2208 ft-kips  
 Vu 212.0 kips  
 Pu 1010 kips (Negative for Tension)

Vertical Steel - Concentrated

Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed

Quantity 2  
 Bar Size #7  
 Spacing 12 in, oc

Horizontal Steel

Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  463.8 kips  
 $\Phi V_c$  499.1 kips  
 =====  
 $\Phi V_c$  463.8 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  607.83 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0083 **OK**  
 sp, max 18 in **OK**

Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/17/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 3** Level **1st Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 14 ft  
 lw 10 ft  
 h 12 in  
 Mu 2508 ft-kips  
 Vu 157.0 kips  
 Pu 1176 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #7  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  488.7 kips  
 $\Phi V_c$  293.2 kips  
 =====  
 $\Phi V_c$  293.2 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  437.18 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0083 **OK**  
 sp, max 18 in **OK**

Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/17/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 4** Level **1st Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 14 ft  
 lw 10 ft  
 h 12 in  
 Mu 2465 ft-kips  
 Vu 160.0 kips  
 Pu 976 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #7  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  458.7 kips  
 $\Phi V_c$  283.0 kips  
 =====  
 $\Phi V_c$  283.0 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  427.03 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0083 **OK**  
 sp, max 18 in **OK**

Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/17/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 4** Level **Subcellar**

f'c **12000** psi  
 fy **60000** psi  
 hw **14** ft  
 lw **10** ft  
 h **12** in  
 Mu **2212** ft-kips  
 Vu **214.0** kips  
 Pu **1009** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#7**  
 Spacing **12** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **946.5** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **463.7** kips  
 $\Phi V_c$  **505.4** kips  
 =====  
 $\Phi V_c$  **463.7** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **144** kips  
 $\Phi V_n$  **607.68** kips **OK**  
 $\rho_h$  **0.0028** **OK**  
 $\rho_{h,min}$  **0.0025**  
 sp, max **18** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0027**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0027**  
 $\rho_v$  **0.0083** **OK**  
 sp, max **18** in **OK**

Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/14/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 1.1** Level **1st Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **19** ft  
 lw **3.7** ft  
 h **24** in  
 Mu **1435.2** ft-kips  
 Vu **132.8** kips  
 Pu **873** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **700.4** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **362.1** kips  
 $\Phi V_c$  **121.5** kips  
 =====  
 $\Phi V_c$  **121.5** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **106.56** kips  
 $\Phi V_n$  **228.02** kips **OK**  
 $\rho_h$  **0.0028** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **8.88** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0021**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0061** **OK**  
 $s_p, max$  **14.8** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 1.2** Level **1st Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **19** ft  
 lw **6.95** ft  
 h **24** in  
 Mu **1943** ft-kips  
 Vu **145.0** kips  
 Pu **1963** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **1315.6** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **728.6** kips  
 $\Phi V_c$  **359.0** kips  
 =====  
 $\Phi V_c$  **359.0** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **220.176** kips  
 $\Phi V_n$  **579.22** kips **OK**  
 $\rho_h$  **0.0031** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **16.68** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0024**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0061** **OK**  
 $s_p, max$  **18** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 1.3** Level **1st Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **19** ft  
 lw **6.5** ft  
 h **24** in  
 Mu **1363** ft-kips  
 Vu **128.0** kips  
 Pu **1773** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **1230.4** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **672.0** kips  
 $\Phi V_c$  **395.9** kips  
 =====  
 $\Phi V_c$  **395.9** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **205.92** kips  
 $\Phi V_n$  **601.79** kips **OK**  
 $\rho_h$  **0.0031** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **15.6** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0024**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0061** **OK**  
 $s_p, max$  **18** in **OK**



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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 1.4** Level **1st Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **19** ft  
 lw **6.58** ft  
 h **24** in  
 Mu **1668** ft-kips  
 Vu **132.0** kips  
 Pu **1788** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#6**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **1245.5** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **679.2** kips  
 $\Phi V_c$  **335.4** kips  
 =====  
 $\Phi V_c$  **335.4** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **208.4544** kips  
 $\Phi V_n$  **543.85** kips **OK**  
 $\rho_h$  **0.0031** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **15.792** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0024**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0061** **OK**  
 $s_p, max$  **18** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier Wall 1.5 Level 1st Floor

f'c 12000 psi  
 fy 60000 psi  
 hw 19 ft  
 lw 4.5 ft  
 h 24 in  
 Mu 1811 ft-kips  
 Vu 156.8 kips  
 Pu 925.2 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #6  
 Spacing 6 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 6 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  851.8 kips OK

Shear Strength Provided by Concrete  
 $\Phi V_c$  419.9 kips  
 $\Phi V_c$  156.4 kips  
 =====  
 $\Phi V_c$  156.4 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  129.6 kips  
 $\Phi V_n$  285.95 kips OK  
 $\rho_h$  0.0028 OK  
 $\rho_{h,min}$  0.0025  
 $s_p, max$  10.8 in OK

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0023  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0025  
 $\rho_v$  0.0061 OK  
 $s_p, max$  18 in OK

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2** Level **1st Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 19 ft  
 lw 40 ft  
 h 12 in  
 Mu 59598 ft-kips  
 Vu 817.6 kips  
 Pu 2979 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #7  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  3785.9 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  1696.2 kips  
 $\Phi V_c$  855.4 kips  
 =====  
 $\Phi V_c$  855.4 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  576 kips  
 $\Phi V_n$  1431.36 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0028  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0028  
 $\rho_v$  0.0083 **OK**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 1** Level **2nd Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 11.5 ft  
 lw 40 ft  
 h 24 in  
 Mu 95726 ft-kips  
 Vu 899.0 kips  
 Pu 6881 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #6  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #6  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  7571.7 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  3530.8 kips  
 $\Phi V_c$  1274.0 kips  
 =====  
 $\Phi V_c$  1274.0 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  1267.2 kips  
 $\Phi V_n$  2541.19 kips **OK**  
 $\rho_h$  0.0031 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0031  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0031  
 $\rho_v$  0.0031 **NG**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier Wall 2.1 Level 2nd Floor

f'c 12000 psi  
 fy 60000 psi  
 hw 11.5 ft  
 lw 32.95 ft  
 h 12 in  
 Mu 30430 ft-kips  
 Vu 613.0 kips  
 Pu 1909 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  3118.6 kips OK

Shear Strength Provided by Concrete  
 $\Phi V_c$  1315.5 kips  
 $\Phi V_c$  802.0 kips  
 =====  
 $\Phi V_c$  802.0 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  474.48 kips  
 $\Phi V_n$  1276.47 kips OK  
 $\rho_h$  0.0028 OK  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in OK

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0028  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0028  
 $\rho_v$  0.0028 NG  
 sp, max 18 in OK

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.2** Level **2nd Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 11.5 ft  
 lw 4.3 ft  
 h 12 in  
 Mu 1288 ft-kips  
 Vu 192.0 kips  
 Pu 342 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #6  
 Spacing 6 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 6 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  407.0 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  185.6 kips  
 $\Phi V_c$  111.1 kips  
 =====  
 $\Phi V_c$  111.1 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  123.84 kips  
 $\Phi V_n$  234.96 kips **OK**  
 $\rho_h$  0.0056 **OK**  
 $\rho_{h,min}$  0.0025  
 $s_p, max$  10.32 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0022  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0025  
 $\rho_v$  0.0122 **OK**  
 $s_p, max$  17.2 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 3** Level **2nd Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 11.5 ft  
 lw 10 ft  
 h 12 in  
 Mu 1122 ft-kips  
 Vu 124.0 kips  
 Pu 1095 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  476.6 kips  
 $\Phi V_c$  673.6 kips  
 =====  
 $\Phi V_c$  476.6 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  620.58 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0028 **OK**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 4** Level **2nd Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 11.5 ft  
 lw 10 ft  
 h 12 in  
 Mu 1368 ft-kips  
 Vu 127.0 kips  
 Pu 938 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  453.0 kips  
 $\Phi V_c$  456.8 kips  
 =====  
 $\Phi V_c$  453.0 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  597.03 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0028 **OK**  
 sp, max 18 in **OK**



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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 1** Level **8th Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 12 ft  
 lw 40 ft  
 h 24 in  
 Mu 51072 ft-kips  
 Vu 750.4 kips  
 Pu 6368 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #6  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #6  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  7571.7 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  3453.9 kips  
 $\Phi V_c$  1878.1 kips  
 =====  
 $\Phi V_c$  1878.1 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  1267.2 kips  
 $\Phi V_n$  3145.25 kips **OK**  
 $\rho_h$  0.0031 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0031  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0031  
 $\rho_v$  0.0031 **NG**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2** Level **8th Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 12 ft  
 lw 40 ft  
 h 12 in  
 Mu 14969 ft-kips  
 Vu 367.0 kips  
 Pu 1849 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check  
 Maximum Shear Permitted  
 $\Phi V_n$  3785.9 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  1526.7 kips  
 $\Phi V_c$  1564.7 kips  
 =====  
 $\Phi V_c$  1526.7 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  576 kips  
 $\Phi V_n$  2102.68 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0028  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0028  
 $\rho_v$  0.0028 **NG**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 3** Level **8th Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 12 ft  
 lw 10 ft  
 h 12 in  
 Mu 234 ft-kips  
 Vu 35.0 kips  
 Pu 816 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  434.7 kips  
 $\Phi V_c$  1339.5 kips  
 =====  
 $\Phi V_c$  434.7 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  578.73 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0028 **OK**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 4** Level **8th Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 12 ft  
 lw 10 ft  
 h 12 in

Mu 206 ft-kips  
 Vu 33.0 kips  
 Pu 501 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  946.5 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  387.5 kips  
 $\Phi V_c$  1492.9 kips  
 =====  
 $\Phi V_c$  387.5 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  144 kips  
 $\Phi V_n$  531.48 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 sp, max 18 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0027  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0027  
 $\rho_v$  0.0028 **OK**  
 sp, max 18 in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.1** Level **10th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **16** ft  
 lw **3.42** ft  
 h **12** in

Mu **617.6** ft-kips  
 Vu **75.2** kips  
 Pu **184.5** kips (Negative for Tension)

Vertical Steel - Concentrated

Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed

Quantity **2**  
 Bar Size **#6**  
 Spacing **6** in, oc

Horizontal Steel

Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **323.7** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **134.5** kips  
 $\Phi V_c$  **52.3** kips  
 =====  
 $\Phi V_c$  **52.3** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **98.496** kips  
 $\Phi V_n$  **150.84** kips **OK**  
 $\rho_h$  **0.0056** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **8.208** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **-0.0008**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0122** **OK**  
 $s_p, max$  **13.68** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.2** Level **10th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **16** ft  
 lw **6.1** ft  
 h **12** in

Mu **1088** ft-kips  
 Vu **124.8** kips  
 Pu **343.8** kips (Negative for Tension)

Vertical Steel - Concentrated

Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed

Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel

Quantity **2**  
 Bar Size **#4**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **577.3** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **242.1** kips  
 $\Phi V_c$  **156.7** kips  
 =====  
 $\Phi V_c$  **156.7** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **87.84** kips  
 $\Phi V_n$  **244.55** kips **OK**  
 $\rho_h$  **0.0028** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **14.64** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0025**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **18** in **OK**

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Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.3** Level **10th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **16** ft  
 lw **6.31** ft  
 h **12** in  
 Mu **937.6** ft-kips  
 Vu **108.8** kips  
 Pu **351** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **597.2** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **249.7** kips  
 $\Phi V_c$  **170.7** kips  
 =====  
 $\Phi V_c$  **170.7** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **90.864** kips  
 $\Phi V_n$  **261.58** kips **OK**  
 $\rho_h$  **0.0028** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **15.144** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0025**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **18** in **OK**

Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/14/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.4** Level **10th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **16** ft  
 lw **6.31** ft  
 h **12** in

Mu **937.6** ft-kips  
 Vu **108.8** kips  
 Pu **351** kips (Negative for Tension)

Vertical Steel - Concentrated

Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed

Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel

Quantity **2**  
 Bar Size **#4**  
 Spacing **12** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **597.2** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **249.7** kips  
 $\Phi V_c$  **170.7** kips  
 =====  
 $\Phi V_c$  **170.7** kips

Horizontal Shear Reinforcement

$\Phi V_s$  **90.864** kips  
 $\Phi V_n$  **261.58** kips **OK**  
 $\rho_h$  **0.0028** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **15.144** in **OK**

Vertical Shear Reinforcement

$\rho_{v,r}$  **0.0025**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **18** in **OK**



Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/14/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.5** Level **10th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **16** ft  
 lw **4.3** ft  
 h **12** in  
  
 Mu **723.2** ft-kips  
 Vu **86.4** kips  
 Pu **219.6** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **407.0** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **167.2** kips  
 $\Phi V_c$  **77.8** kips  
 =====  
 $\Phi V_c$  **77.8** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **123.84** kips  
 $\Phi V_n$  **201.64** kips **OK**  
 $\rho_h$  **0.0056** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **10.32** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0006**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **17.2** in **OK**

Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/14/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.1** Level **13th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **9** ft  
 lw **3.42** ft  
 h **12** in  
 Mu **312** ft-kips  
 Vu **72.0** kips  
 Pu **189** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **323.7** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **135.2** kips  
 $\Phi V_c$  **101.7** kips  
 =====  
 $\Phi V_c$  **101.7** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **98.496** kips  
 $\Phi V_n$  **200.23** kips **OK**  
 $\rho_h$  **0.0056** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **8.208** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0023**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0025**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **13.68** in **OK**

Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/14/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.2** Level **13th Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 9 ft  
 lw 6 ft  
 h 12 in  
 Mu 777.6 ft-kips  
 Vu 171.2 kips  
 Pu 556.2 kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed  
 Quantity 2  
 Bar Size #4  
 Spacing 6 in, oc

Horizontal Steel  
 Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  567.9 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  270.8 kips  
 $\Phi V_c$  570.0 kips  
 =====  
 $\Phi V_c$  270.8 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  86.4 kips  
 $\Phi V_n$  357.23 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 $s_p, max$  14.4 in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0026  
 $\rho_{v, min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0026  
 $\rho_v$  0.0056 **OK**  
 $s_p, max$  18 in **OK**

Project 15688 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/14/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.3** Level **13th Floor**

f'c 12000 psi  
 fy 60000 psi  
 hw 9 ft  
 lw 4.68 ft  
 h 12 in

Mu 627.2 ft-kips  
 Vu 140.8 kips  
 Pu 508.5 kips (Negative for Tension)

Vertical Steel - Concentrated

Quantity 0 Each End  
 Bar Size #8

Vertical Steel - Distributed

Quantity 2  
 Bar Size #4  
 Spacing 6 in, oc

Horizontal Steel

Quantity 2  
 Bar Size #4  
 Spacing 12 in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  442.9 kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  222.4 kips  
 $\Phi V_c$  284.2 kips  
 =====  
 $\Phi V_c$  222.4 kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  67.392 kips  
 $\Phi V_n$  289.84 kips **OK**  
 $\rho_h$  0.0028 **OK**  
 $\rho_{h,min}$  0.0025  
 $s_p, max$  11.232 in **NG**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  0.0026  
 $\rho_{v,min}$  0.0025  
 =====  
 $\rho_{v,r}$  0.0026  
 $\rho_v$  0.0056 **OK**  
 $s_p, max$  18 in **OK**

Project 1568 Broadway  
 Project No. 14442  
 Engr AJA  
 Date 10/14/2016

Shear Wall Reinforcing Steel Worksheet - Ordinary

Wall ID Pier **Wall 2.4** Level **13th Floor**

f'c **12000** psi  
 fy **60000** psi  
 hw **9** ft  
 lw **4.3** ft  
 h **12** in  
 Mu **402** ft-kips  
 Vu **91.2** kips  
 Pu **189** kips (Negative for Tension)

Vertical Steel - Concentrated  
 Quantity **0** Each End  
 Bar Size **#8**

Vertical Steel - Distributed  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Horizontal Steel  
 Quantity **2**  
 Bar Size **#4**  
 Spacing **6** in, oc

Shear Check

Maximum Shear Permitted  
 $\Phi V_n$  **407.0** kips **OK**

Shear Strength Provided by Concrete  
 $\Phi V_c$  **162.7** kips  
 $\Phi V_c$  **164.5** kips  
 =====  
 $\Phi V_c$  **162.7** kips

Horizontal Shear Reinforcement  
 $\Phi V_s$  **123.84** kips  
 $\Phi V_n$  **286.49** kips **OK**  
 $\rho_h$  **0.0056** **OK**  
 $\rho_{h,min}$  **0.0025**  
 $s_p, max$  **10.32** in **OK**

Vertical Shear Reinforcement  
 $\rho_{v,r}$  **0.0031**  
 $\rho_{v,min}$  **0.0025**  
 =====  
 $\rho_{v,r}$  **0.0031**  
 $\rho_v$  **0.0056** **OK**  
 $s_p, max$  **17.2** in **OK**

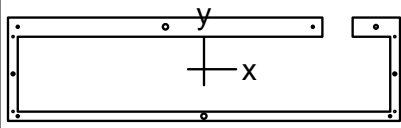
**Severud Associates**

1568 Broadway

Structural Calculations

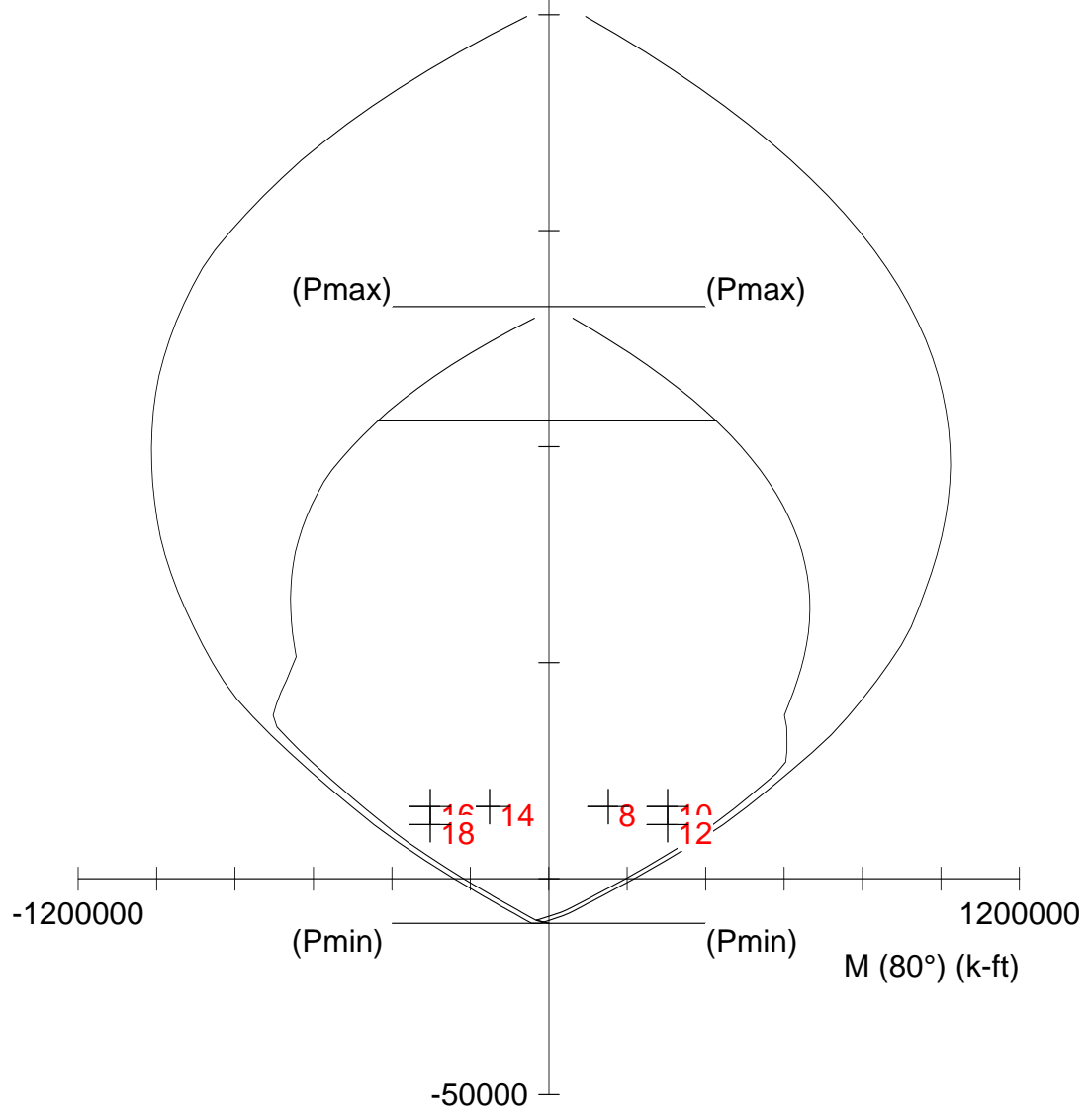
# **CHAPTER 16**

## **Shear Wall 3 SP Column Results**



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/13/16  
 Time: 17:43:48



STRUCTUREPOINT - spColumn v5.10 (TM). Licensed to: Severud Associates Consulting Engineers P.C.. License ID: 65661-1053340-4-2C47C-231

File: S:\14442-01\SPCo\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_subcellar C wall.col

Project:

Column:

f'c = 12 ksi  
 Ec = 6244 ksi  
 fc = 10.2 ksi  
 e\_u = 0.003 in/in  
 Beta1 = 0.65  
 Confinement: Tied  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Engineer:

Ag = 19034.6 in^2  
 As = 191.96 in^2  
 Xo = -8.03 in  
 Yo = 11.35 in  
 Min clear spacing = 5.54 in  
 Clear cover = N/A

13 bars  
 rho = 1.01%  
 lx = 5.13426e+007 in^4  
 ly = 4.58528e+008 in^4



DEPT OF BLDGS121191236 Job Number



ES847338162 Scan Code

```

          oooooo          o
         oo   oo          oo
ooooo   oooooo   oo   oooooo   oo   oo   o oooooo   o ooooo
oo   o   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
ooooo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
o   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
ooooo   oo   oooooo   oooooo   ooo   oooooo o   oo   oo   oo   oo (TM)

```

```

=====
                        spColumn v5.10 (TM)
Computer program for the Strength Design of Reinforced Concrete Sections
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```

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S:\14442-01\SPCol\Shear



DEPT OF BLDGS 121191236

Job Number



ES753310986

Scan Code

General Information:

File Name: S:\14442-01\SPCol\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_subcellar C wall.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: Biaxial Column Type: Structural

Material Properties:

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:

Exterior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | 186.6  | 65.2   | 2   | 245.6  | 65.2   | 3   | 245.6  | -65.2  |
| 4   | -245.6 | -65.2  | 5   | -245.6 | 65.2   | 6   | 148.6  | 65.2   |
| 7   | 148.6  | 41.2   | 8   | -233.6 | 41.2   | 9   | -233.6 | -53.2  |
| 10  | 233.6  | -53.2  | 11  | 233.6  | 41.2   | 12  | 186.6  | 41.2   |

Gross section area, Ag = 19034.6 in^2  
 Ix = 5.13426e+007 in^4 Iy = 4.58528e+008 in^4  
 rx = 51.9358 in ry = 155.207 in  
 Xo = -8.02867 in Yo = 11.3518 in

Reinforcement:

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 191.96 in^2 at rho = 1.01%  
 Minimum clear spacing = 5.54 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 38.40     | -48.5  | 53.2   | 48.00     | 0.0    | -59.2  | 12.50     | -239.6 | -6.0   |
| 12.50     | 239.6  | -6.0   | 9.60      | -233.6 | 53.2   | 3.10      | -239.6 | 41.2   |
| 24.96     | 216.1  | 53.2   | 3.10      | 239.6  | 41.2   | 12.00     | -233.6 | -59.2  |
| 3.10      | -239.6 | -53.2  | 12.00     | 233.6  | -59.2  | 3.10      | 239.6  | -53.2  |
| 9.60      | 136.6  | 53.2   |           |        |        |           |        |        |

Service Loads:

| No. | Load Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|-----------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead      | 13924.00       | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 31600.00      | -31600.00     | 186575.00     | -186575.00    |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |

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DEPT OF BLDGS121191236 Job Number

ES422881603

Scan Code

Sustained Load Factors:

```

=====
Load      Factor
Case      (%)
-----
Dead      100
Live      0
Wind      0
EQ        0
Snow      0

```

Load Combinations:

- ```

=====
U1 = 1.400*Dead + 0.000*Live + 0.000*Wind + 0.000*EarthQuake + 0.000*Snow
U2 = 1.200*Dead + 1.600*Live + 0.000*Wind + 0.000*EarthQuake + 0.500*Snow
U3 = 1.200*Dead + 1.000*Live + 0.000*Wind + 0.000*EarthQuake + 1.600*Snow
U4 = 1.200*Dead + 0.000*Live + 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U5 = 1.200*Dead + 1.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U6 = 0.900*Dead + 0.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U7 = 1.200*Dead + 0.000*Live - 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U8 = 1.200*Dead + 1.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U9 = 0.900*Dead + 0.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U10 = 1.200*Dead + 1.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.200*Snow
U11 = 0.900*Dead + 0.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.000*Snow
U12 = 1.200*Dead + 1.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.200*Snow
U13 = 0.900*Dead + 0.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.000*Snow

```

Factored Loads and Moments with Corresponding Capacities:

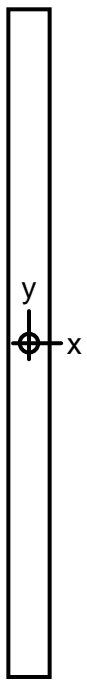
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=====
NOTE: Each loading combination includes the following cases:
First line - at column top
Second line - at column bottom

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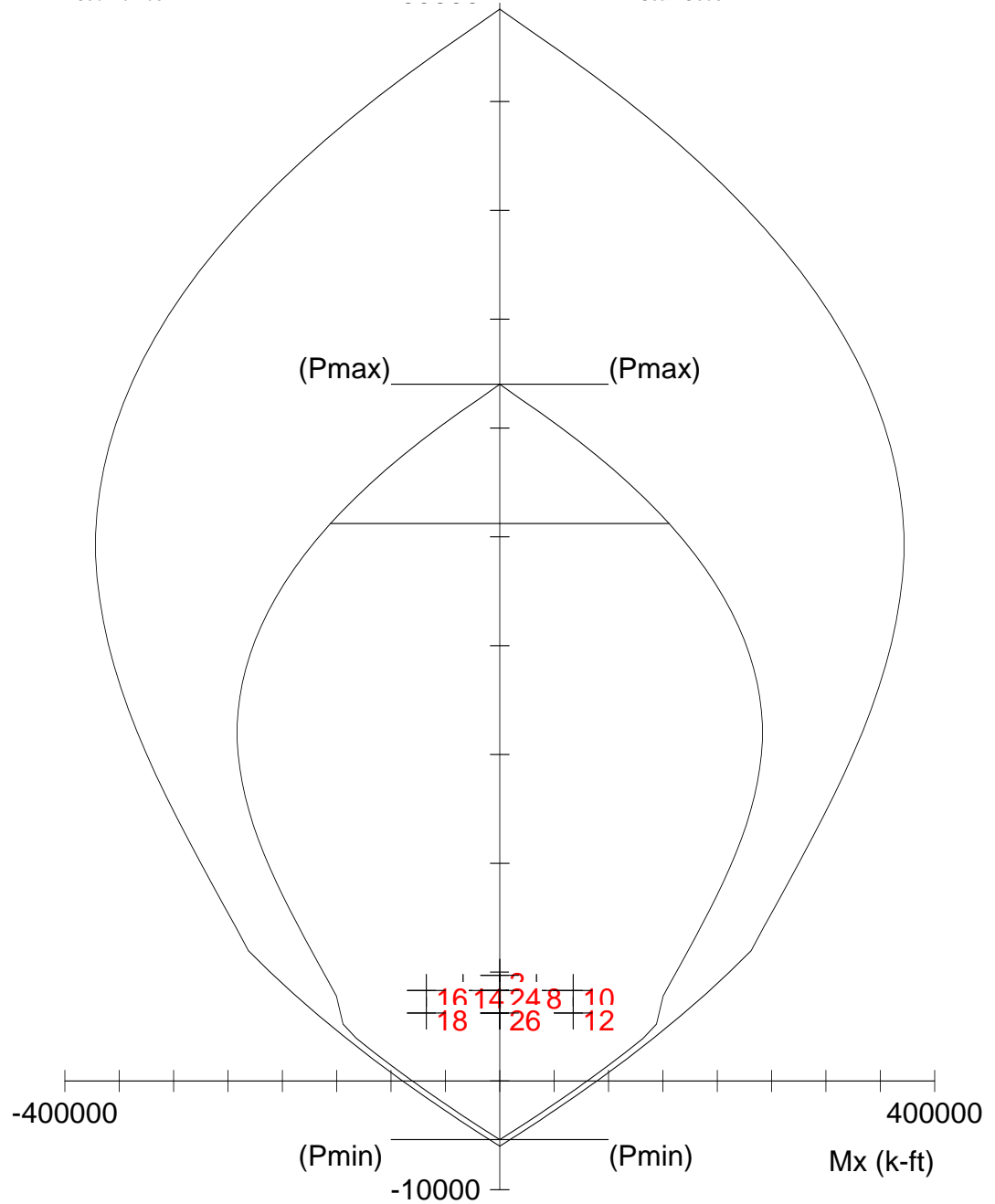
| No. | Load Combo | Pu kip   | Mux k-ft  | Muy k-ft   | PhiMnx k-ft | PhiMny k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|----------|-----------|------------|-------------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 19493.60 | 0.00      | 0.00       | 171909.03   | 0.00        | 999.999  | 8.49        | 118.70      | 0.03972 | 0.900 |
| 2   |            | 19493.60 | -0.00     | -0.00      | 171909.03   | 0.00        | 999.999  | 8.49        | 118.70      | 0.03972 | 0.900 |
| 3   | 1 U2       | 16708.80 | 0.00      | 0.00       | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 4   |            | 16708.80 | -0.00     | -0.00      | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 5   | 1 U3       | 16708.80 | 0.00      | 0.00       | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 6   |            | 16708.80 | -0.00     | -0.00      | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 7   | 1 U4       | 16708.80 | 25280.00  | 149260.00  | 80405.45    | 474735.75   | 3.181    | 118.47      | 420.03      | 0.00763 | 0.900 |
| 8   |            | 16708.80 | 25280.00  | 149260.00  | 80405.45    | 474735.75   | 3.181    | 118.47      | 420.03      | 0.00763 | 0.900 |
| 9   | 1 U5       | 16708.80 | 50560.00  | 298520.00  | 80405.45    | 474735.75   | 1.590    | 118.47      | 420.03      | 0.00763 | 0.900 |
| 10  |            | 16708.80 | 50560.00  | 298520.00  | 80405.45    | 474735.75   | 1.590    | 118.47      | 420.03      | 0.00763 | 0.900 |
| 11  | 1 U6       | 12531.60 | 50560.00  | 298520.00  | 70363.65    | 415446.22   | 1.392    | 103.09      | 425.63      | 0.00939 | 0.900 |
| 12  |            | 12531.60 | 50560.00  | 298520.00  | 70363.65    | 415446.22   | 1.392    | 103.09      | 425.63      | 0.00939 | 0.900 |
| 13  | 1 U7       | 16708.80 | -25280.00 | -149260.00 | -79871.08   | -471580.97  | 3.159    | 91.14       | 387.02      | 0.00973 | 0.900 |
| 14  |            | 16708.80 | -25280.00 | -149260.00 | -79871.08   | -471580.97  | 3.159    | 91.14       | 387.02      | 0.00973 | 0.900 |
| 15  | 1 U8       | 16708.80 | -50560.00 | -298520.00 | -79871.08   | -471580.97  | 1.580    | 91.14       | 387.02      | 0.00973 | 0.900 |
| 16  |            | 16708.80 | -50560.00 | -298520.00 | -79871.08   | -471580.97  | 1.580    | 91.14       | 387.02      | 0.00973 | 0.900 |
| 17  | 1 U9       | 12531.60 | -50560.00 | -298520.00 | -70463.04   | -416033.31  | 1.394    | 81.38       | 391.63      | 0.01143 | 0.900 |
| 18  |            | 12531.60 | -50560.00 | -298520.00 | -70463.04   | -416033.31  | 1.394    | 81.38       | 391.63      | 0.01143 | 0.900 |
| 19  | 1 U10      | 16708.80 | 0.00      | 0.00       | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 20  |            | 16708.80 | -0.00     | -0.00      | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 21  | 1 U11      | 12531.60 | 0.00      | 0.00       | 130398.54   | 0.00        | 999.999  | 6.82        | 119.27      | 0.05227 | 0.900 |
| 22  |            | 12531.60 | -0.00     | -0.00      | 130398.54   | 0.00        | 999.999  | 6.82        | 119.27      | 0.05227 | 0.900 |
| 23  | 1 U12      | 16708.80 | 0.00      | 0.00       | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 24  |            | 16708.80 | 0.00      | 0.00       | 155440.59   | 0.00        | 999.999  | 7.58        | 118.53      | 0.04424 | 0.900 |
| 25  | 1 U13      | 12531.60 | 0.00      | 0.00       | 130398.54   | 0.00        | 999.999  | 6.82        | 119.27      | 0.05227 | 0.900 |
| 26  |            | 12531.60 | 0.00      | 0.00       | 130398.54   | 0.00        | 999.999  | 6.82        | 119.27      | 0.05227 | 0.900 |

\*\*\* End of output \*\*\*



24 x 382 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:10:04



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File: S:\14442-01\SPCo\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_Wall 1.1 subcellar.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_{1} = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 9168$  in<sup>2</sup>  
 $A_s = 100.00$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 0.00$  in  
 Min clear spacing = 181.65 in  
 Clear cover = 2.50 in

1 bars  
 $\rho = 1.09\%$   
 $I_x = 1.11486e+008$  in<sup>4</sup>  
 $I_y = 440064$  in<sup>4</sup>



DEPT OF BLDGS 121191236

Job Number



ES646512347

Scan Code

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                        spColumn v5.10 (TM)
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DEPT OF BLDGS 121191236

Job Number



ES502183357

Scan Code

General Information:

File Name: S:\14442-01\SPCol\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_Wall 1.1 subcellar.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:

Rectangular: Width = 24 in Depth = 382 in  
Gross section area, Ag = 9168 in^2  
Ix = 1.11486e+008 in^4 Iy = 440064 in^4  
rx = 110.274 in ry = 6.9282 in  
Xo = 0 in Yo = 0 in

Reinforcement:

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 100.00 in^2 at rho = 1.09%  
Minimum clear spacing = 181.65 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 100.00    | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 6938.00             | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 42245.00      | -42245.00     | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



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Job Number



ES803858968

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

=====

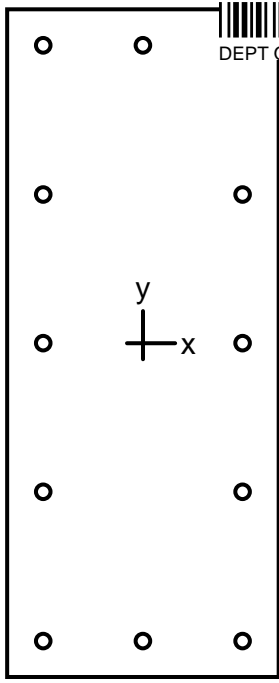
NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

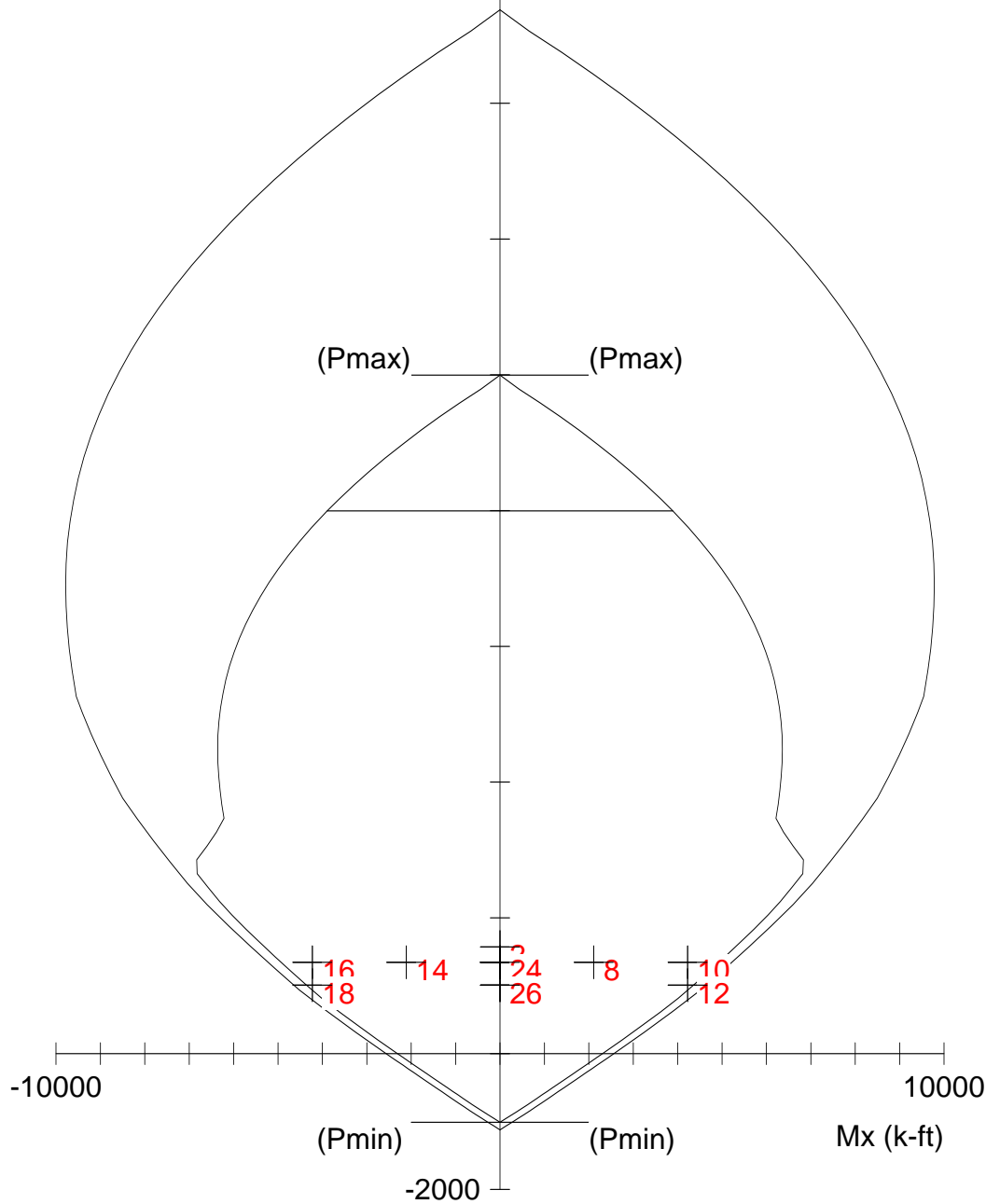
| No. | Load Combo | Pu kip  | Mux k-ft  | PhiMnx k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|---------|-----------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 9713.20 | 0.00      | 160752.86   | 999.999  | 123.68      | 191.00      | 0.00163 | 0.650 |
| 2   |            | 9713.20 | -0.00     | 160752.86   | 999.999  | 123.68      | 191.00      | 0.00163 | 0.650 |
| 3   | 1 U2       | 8325.60 | 0.00      | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 4   |            | 8325.60 | -0.00     | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 5   | 1 U3       | 8325.60 | 0.00      | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 6   |            | 8325.60 | -0.00     | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 7   | 1 U4       | 8325.60 | 33796.00  | 153184.31   | 4.533    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 8   |            | 8325.60 | 33796.00  | 153184.31   | 4.533    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 9   | 1 U5       | 8325.60 | 67592.00  | 153184.31   | 2.266    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 10  |            | 8325.60 | 67592.00  | 153184.31   | 2.266    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 11  | 1 U6       | 6244.20 | 67592.00  | 146630.36   | 2.169    | 88.80       | 191.00      | 0.00345 | 0.768 |
| 12  |            | 6244.20 | 67592.00  | 146630.36   | 2.169    | 88.80       | 191.00      | 0.00345 | 0.768 |
| 13  | 1 U7       | 8325.60 | -33796.00 | -153184.31  | 4.533    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 14  |            | 8325.60 | -33796.00 | -153184.31  | 4.533    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 15  | 1 U8       | 8325.60 | -67592.00 | -153184.31  | 2.266    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 16  |            | 8325.60 | -67592.00 | -153184.31  | 2.266    | 115.91      | 191.00      | 0.00194 | 0.650 |
| 17  | 1 U9       | 6244.20 | -67592.00 | -146630.36  | 2.169    | 88.80       | 191.00      | 0.00345 | 0.768 |
| 18  |            | 6244.20 | -67592.00 | -146630.36  | 2.169    | 88.80       | 191.00      | 0.00345 | 0.768 |
| 19  | 1 U10      | 8325.60 | 0.00      | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 20  |            | 8325.60 | -0.00     | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 21  | 1 U11      | 6244.20 | 0.00      | 146630.36   | 999.999  | 88.80       | 191.00      | 0.00345 | 0.768 |
| 22  |            | 6244.20 | -0.00     | 146630.36   | 999.999  | 88.80       | 191.00      | 0.00345 | 0.768 |
| 23  | 1 U12      | 8325.60 | 0.00      | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 24  |            | 8325.60 | 0.00      | 153184.31   | 999.999  | 115.91      | 191.00      | 0.00194 | 0.650 |
| 25  | 1 U13      | 6244.20 | 0.00      | 146630.36   | 999.999  | 88.80       | 191.00      | 0.00345 | 0.768 |
| 26  |            | 6244.20 | 0.00      | 146630.36   | 999.999  | 88.80       | 191.00      | 0.00345 | 0.768 |

\*\*\* End of output \*\*\*



24 x 59 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:16:35



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File: S:\14442-01\SPCo\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_Wall 1.2 subcellar.col

Project:

Column:

$f'_c = 12$  ksi

$E_c = 6244$  ksi

$f_c = 10.2$  ksi

$e_u = 0.003$  in/in

Beta1 = 0.65

Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 1416$  in<sup>2</sup>

$A_s = 18.72$  in<sup>2</sup>

$X_o = 0.00$  in

$Y_o = 0.00$  in

Min clear spacing = 7.39 in

12 #11 bars

$\rho = 1.32\%$

$I_x = 410758$  in<sup>4</sup>

$I_y = 67968$  in<sup>4</sup>

Clear cover = 2.50 in



DEPT OF BLDGS121191236 Job Number



ES938810629

Scan Code

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S:\14442-01\SPCol\Shear



DEPT OF BLDGS121191236

Job Number



ES160217098

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\SubCellar\14442-01\_aja\_2016-10-03\_Wall 1.2 subcellar.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:  
=====

Rectangular: Width = 24 in Depth = 59 in  
Gross section area, Ag = 1416 in^2  
Ix = 410758 in^4 Iy = 67968 in^4  
rx = 17.0318 in ry = 6.9282 in  
Xo = 0 in Yo = 0 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Layout: Rectangular  
Pattern: Equal Bar Spacing (Cover to transverse reinforcement)  
Total steel area: As = 18.72 in^2 at rho = 1.32%  
Minimum clear spacing = 7.39 in

12 #11 Cover = 2 in

Service Loads:  
=====

| No. | Case | Load | Axial Load | Mx @ Top | Mx @ Bot | My @ Top | My @ Bot |
|-----|------|------|------------|----------|----------|----------|----------|
|     |      |      | kip        | k-ft     | k-ft     | k-ft     | k-ft     |
| 1   | Dead |      | 1123.00    | 0.00     | 0.00     | 0.00     | 0.00     |
|     | Live |      | 0.00       | 0.00     | 0.00     | 0.00     | 0.00     |
|     | Wind |      | 0.00       | 2640.00  | -2640.00 | 0.00     | 0.00     |
|     | EQ   |      | 0.00       | 0.00     | 0.00     | 0.00     | 0.00     |
|     | Snow |      | 0.00       | 0.00     | 0.00     | 0.00     | 0.00     |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
=====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow

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DEPT OF BLDGS121191236

Job Number



ES374253648

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

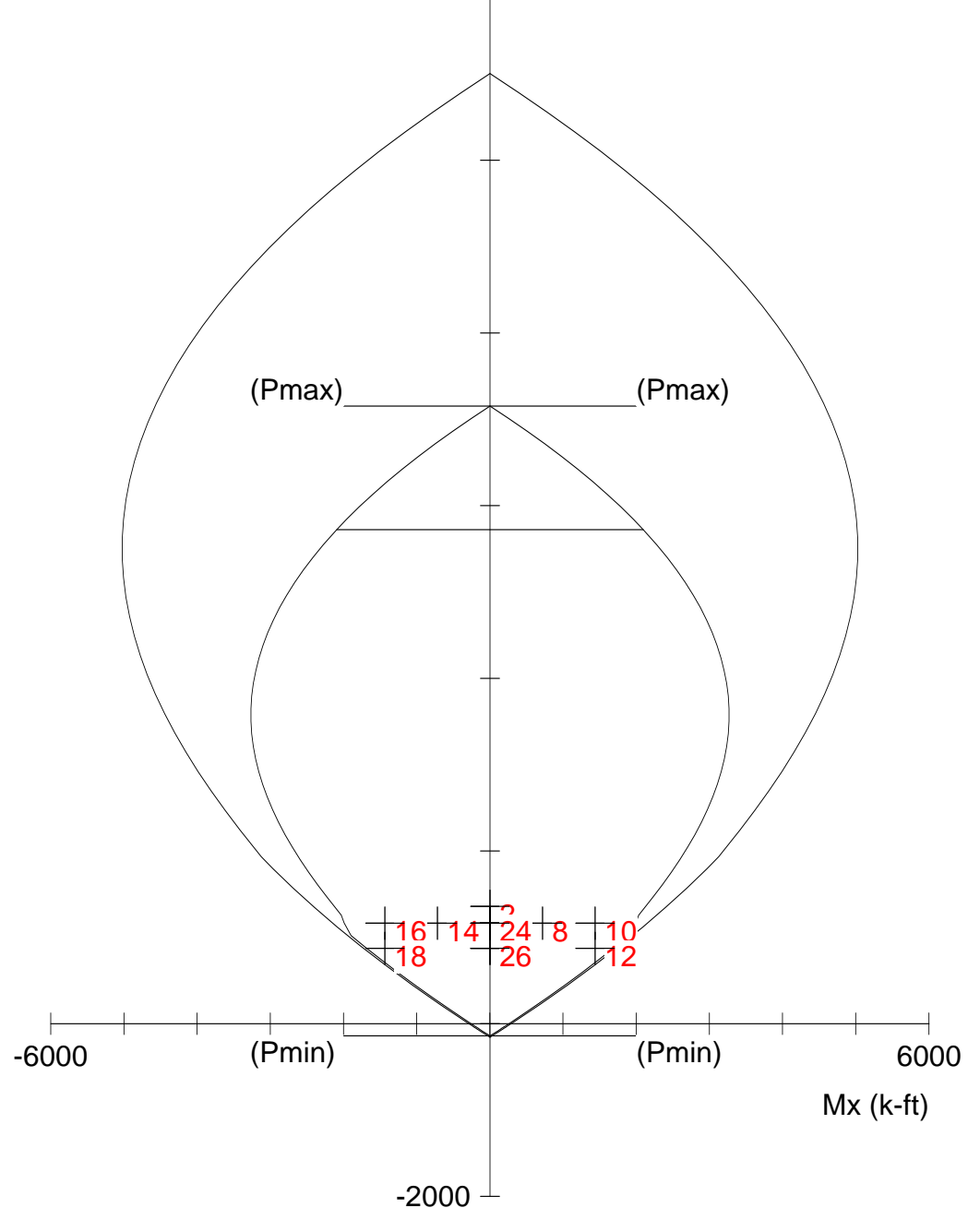
| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 1572.20 | 0.00     | 5302.49     | 999.999  |    | 13.93    |    | 55.79    | 0.00902 | 0.900 |
| 2   |            | 1572.20 | -0.00    | 5302.49     | 999.999  |    | 13.93    |    | 55.79    | 0.00902 | 0.900 |
| 3   | 1 U2       | 1347.60 | 0.00     | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 4   |            | 1347.60 | -0.00    | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 5   | 1 U3       | 1347.60 | 0.00     | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 6   |            | 1347.60 | -0.00    | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 7   | 1 U4       | 1347.60 | 2112.00  | 4931.39     | 2.335    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 8   |            | 1347.60 | 2112.00  | 4931.39     | 2.335    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 9   | 1 U5       | 1347.60 | 4224.00  | 4931.39     | 1.167    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 10  |            | 1347.60 | 4224.00  | 4931.39     | 1.167    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 11  | 1 U6       | 1010.70 | 4224.00  | 4357.68     | 1.032    |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 12  |            | 1010.70 | 4224.00  | 4357.68     | 1.032    |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 13  | 1 U7       | 1347.60 | -2112.00 | -4931.39    | 2.335    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 14  |            | 1347.60 | -2112.00 | -4931.39    | 2.335    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 15  | 1 U8       | 1347.60 | -4224.00 | -4931.39    | 1.167    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 16  |            | 1347.60 | -4224.00 | -4931.39    | 1.167    |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 17  | 1 U9       | 1010.70 | -4224.00 | -4357.68    | 1.032    |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 18  |            | 1010.70 | -4224.00 | -4357.68    | 1.032    |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 19  | 1 U10      | 1347.60 | 0.00     | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 20  |            | 1347.60 | -0.00    | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 21  | 1 U11      | 1010.70 | 0.00     | 4357.68     | 999.999  |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 22  |            | 1010.70 | -0.00    | 4357.68     | 999.999  |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 23  | 1 U12      | 1347.60 | 0.00     | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 24  |            | 1347.60 | 0.00     | 4931.39     | 999.999  |    | 12.58    |    | 55.79    | 0.01031 | 0.900 |
| 25  | 1 U13      | 1010.70 | 0.00     | 4357.68     | 999.999  |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |
| 26  |            | 1010.70 | 0.00     | 4357.68     | 999.999  |    | 10.63    |    | 55.79    | 0.01275 | 0.900 |

\*\*\* End of output \*\*\*



24 x 44.4 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:40:26



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.1 1st Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_{1} = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 1065.6$  in<sup>2</sup>  
 $A_s = 2.64$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 0.00$  in  
 Min clear spacing = -0.92 in  
 Clear cover = 11.08 in

1 bars  
 $\rho = 0.25\%$   
 $I_x = 175057$  in<sup>4</sup>  
 $I_y = 51148.8$  in<sup>4</sup>



DEPT OF BLDGS 121191236 Job Number



ES329626252 Scan Code

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spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.1 1st Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 24 in Depth = 44.4 in  
 Gross section area, Ag = 1065.6 in^2  
 Ix = 175057 in^4 Iy = 51148.8 in^4  
 rx = 12.8172 in ry = 6.9282 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 2.64 in^2 at rho = 0.25% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.92 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 2.64      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 970.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 897.00        | -897.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES107345265

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

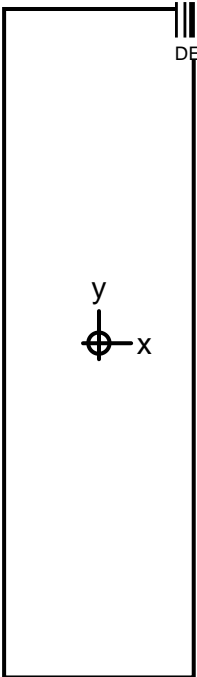
Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

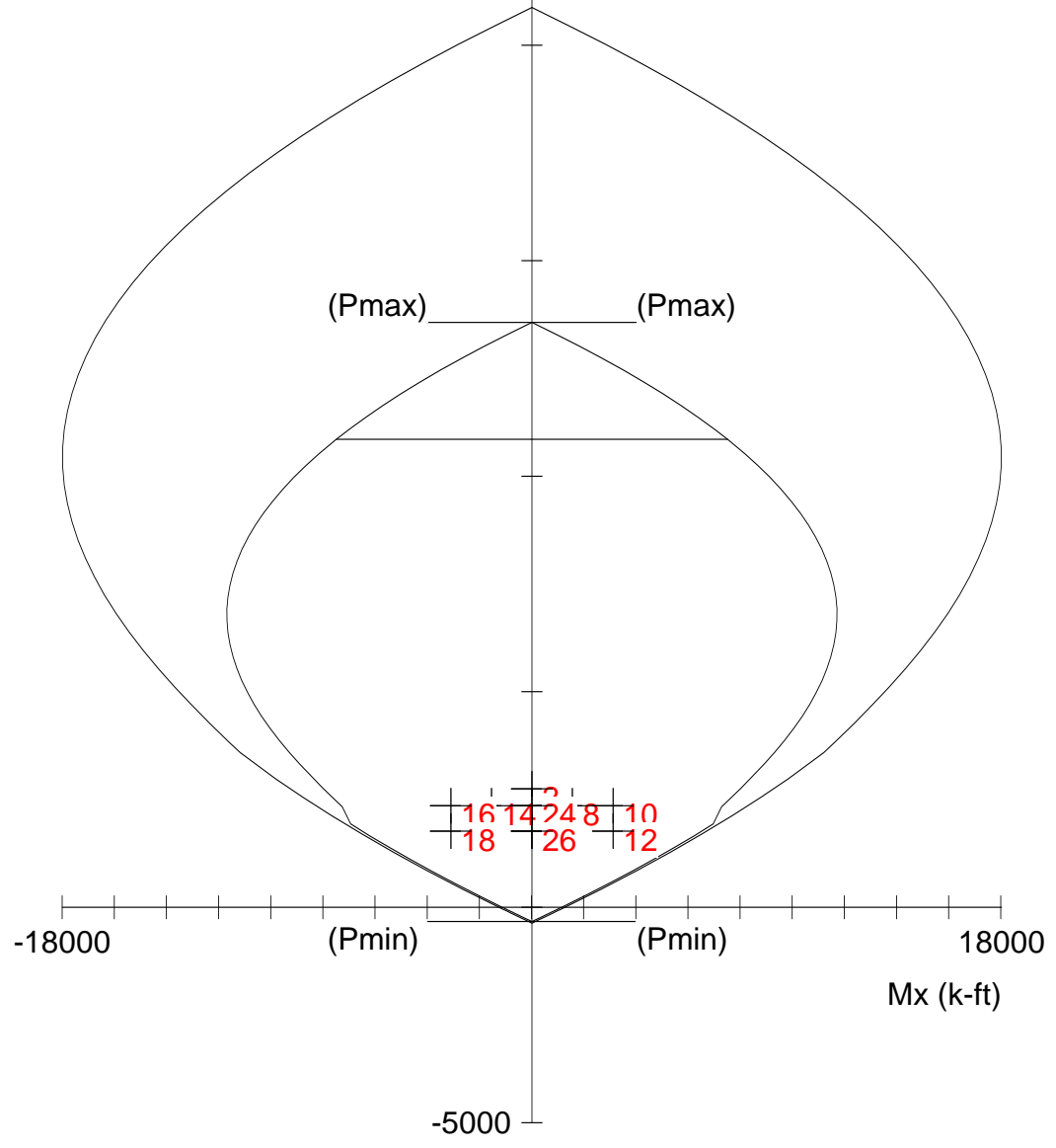
| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 1358.00 | 0.00     | 2127.38     | 999.999  |    | 13.98    |    | 22.20    | 0.00176 | 0.650 |
| 2   |            | 1358.00 | -0.00    | 2127.38     | 999.999  |    | 13.98    |    | 22.20    | 0.00176 | 0.650 |
| 3   | 1 U2       | 1164.00 | 0.00     | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 4   |            | 1164.00 | -0.00    | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 5   | 1 U3       | 1164.00 | 0.00     | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 6   |            | 1164.00 | -0.00    | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 7   | 1 U4       | 1164.00 | 717.60   | 1992.14     | 2.776    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 8   |            | 1164.00 | 717.60   | 1992.14     | 2.776    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 9   | 1 U5       | 1164.00 | 1435.20  | 1992.14     | 1.388    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 10  |            | 1164.00 | 1435.20  | 1992.14     | 1.388    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 11  | 1 U6       | 873.00  | 1435.20  | 1683.74     | 1.173    |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 12  |            | 873.00  | 1435.20  | 1683.74     | 1.173    |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 13  | 1 U7       | 1164.00 | -717.60  | -1992.14    | 2.776    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 14  |            | 1164.00 | -717.60  | -1992.14    | 2.776    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 15  | 1 U8       | 1164.00 | -1435.20 | -1992.14    | 1.388    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 16  |            | 1164.00 | -1435.20 | -1992.14    | 1.388    |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 17  | 1 U9       | 873.00  | -1435.20 | -1683.74    | 1.173    |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 18  |            | 873.00  | -1435.20 | -1683.74    | 1.173    |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 19  | 1 U10      | 1164.00 | 0.00     | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 20  |            | 1164.00 | -0.00    | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 21  | 1 U11      | 873.00  | 0.00     | 1683.74     | 999.999  |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 22  |            | 873.00  | -0.00    | 1683.74     | 999.999  |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 23  | 1 U12      | 1164.00 | 0.00     | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 24  |            | 1164.00 | 0.00     | 1992.14     | 999.999  |    | 10.89    |    | 22.20    | 0.00311 | 0.739 |
| 25  | 1 U13      | 873.00  | 0.00     | 1683.74     | 999.999  |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |
| 26  |            | 873.00  | 0.00     | 1683.74     | 999.999  |    | 7.09     |    | 22.20    | 0.00639 | 0.900 |

\*\*\* End of output \*\*\*



24 x 84 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:48:31



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.2 1st Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_1 = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 2016$  in<sup>2</sup>  
 $A_s = 6.16$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 0.00$  in  
 Min clear spacing = -1.40 in  
 1 bars  
 $\rho = 0.31\%$   
 $I_x = 1.18541e+006$  in<sup>4</sup>  
 $I_y = 96768$  in<sup>4</sup>  
 Clear cover = 10.60 in



DEPT OF BLDGS121191236 Job Number



ES988016535

Scan Code

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    Computer program for the Strength Design of Reinforced Concrete Sections
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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.2 1st Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 24 in Depth = 84 in  
 Gross section area, Ag = 2016 in^2  
 Ix = 1.18541e+006 in^4 Iy = 96768 in^4  
 rx = 24.2487 in ry = 6.9282 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 6.16 in^2 at rho = 0.31% (Note: rho < 0.50%)  
 Minimum clear spacing = -1.40 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 6.16      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 1963.00             | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 1943.00       | -1943.00      | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES730357575

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

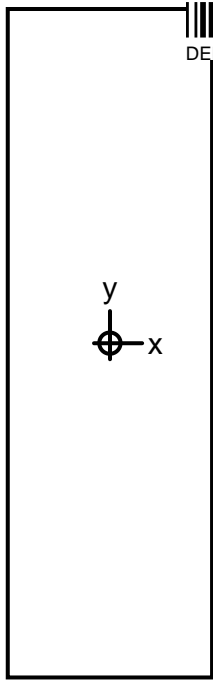
Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

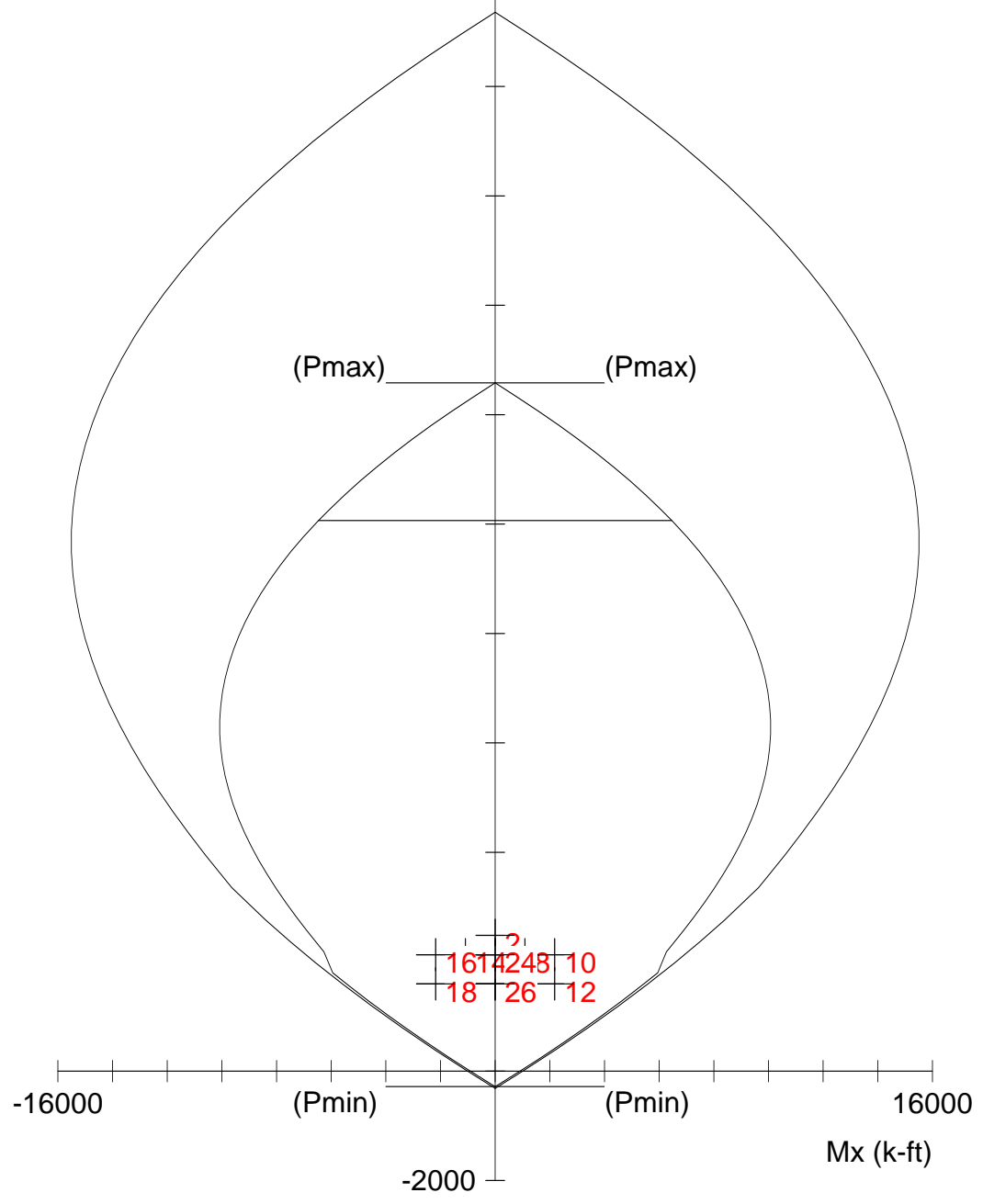
| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 2748.20 | 0.00     | 7984.09     | 999.999  |    | 28.22    |    | 42.00    | 0.00147 | 0.650 |
| 2   |            | 2748.20 | -0.00    | 7984.09     | 999.999  |    | 28.22    |    | 42.00    | 0.00147 | 0.650 |
| 3   | 1 U2       | 2355.60 | 0.00     | 7311.07     | 999.999  |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 4   |            | 2355.60 | -0.00    | 7311.07     | 999.999  |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 5   | 1 U3       | 2355.60 | 0.00     | 7311.07     | 999.999  |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 6   |            | 2355.60 | -0.00    | 7311.07     | 999.999  |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 7   | 1 U4       | 2355.60 | 1554.40  | 7311.07     | 4.703    |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 8   |            | 2355.60 | 1554.40  | 7311.07     | 4.703    |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 9   | 1 U5       | 2355.60 | 3108.80  | 7311.07     | 2.352    |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 10  |            | 2355.60 | 3108.80  | 7311.07     | 2.352    |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 11  | 1 U6       | 1766.70 | 3108.80  | 6514.20     | 2.095    |    | 14.66    |    | 42.00    | 0.00560 | 0.900 |
| 12  |            | 1766.70 | 3108.80  | 6514.20     | 2.095    |    | 14.66    |    | 42.00    | 0.00560 | 0.900 |
| 13  | 1 U7       | 2355.60 | -1554.40 | -7311.07    | 4.703    |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 14  |            | 2355.60 | -1554.40 | -7311.07    | 4.703    |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 15  | 1 U8       | 2355.60 | -3108.80 | -7311.07    | 2.352    |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 16  |            | 2355.60 | -3108.80 | -7311.07    | 2.352    |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 17  | 1 U9       | 1766.70 | -3108.80 | -6514.20    | 2.095    |    | 14.66    |    | 42.00    | 0.00560 | 0.900 |
| 18  |            | 1766.70 | -3108.80 | -6514.20    | 2.095    |    | 14.66    |    | 42.00    | 0.00560 | 0.900 |
| 19  | 1 U10      | 2355.60 | 0.00     | 7311.07     | 999.999  |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 20  |            | 2355.60 | -0.00    | 7311.07     | 999.999  |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 21  | 1 U11      | 1766.70 | 0.00     | 6514.20     | 999.999  |    | 14.66    |    | 42.00    | 0.00560 | 0.900 |
| 22  |            | 1766.70 | -0.00    | 6514.20     | 999.999  |    | 14.66    |    | 42.00    | 0.00560 | 0.900 |
| 23  | 1 U12      | 2355.60 | 0.00     | 7311.07     | 999.999  |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 24  |            | 2355.60 | 0.00     | 7311.07     | 999.999  |    | 25.05    |    | 42.00    | 0.00203 | 0.650 |
| 25  | 1 U13      | 1766.70 | 0.00     | 6514.20     | 999.999  |    | 14.66    |    | 42.00    | 0.00560 | 0.900 |
| 26  |            | 1766.70 | 0.00     | 6514.20     | 999.999  |    | 14.66    |    | 42.00    | 0.00560 | 0.900 |

\*\*\* End of output \*\*\*



24 x 78 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:24:59



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.3 1st Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 Beta1 = 0.65  
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 1872$  in<sup>2</sup>  
 $A_s = 5.28$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 0.00$  in  
 Min clear spacing = -1.30 in  
 Clear cover = 10.70 in

1 bars  
 $\rho = 0.28\%$   
 $I_x = 949104$  in<sup>4</sup>  
 $I_y = 89856$  in<sup>4</sup>



DEPT OF BLDGS 121191236

Job Number



ES263518754

Scan Code

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                oo   oo          oo
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    oooooo   oo   oo   oo          oo   oo   oo   oo   oo   oo   oo   oo
o   oo   oo   oo          oo   oo   oo   oo   oo   oo   oo   oo   oo
    oooooo   oo          oooooo   oooooo   ooo   oooooo o   oo   oo   oo   oo (TM)

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spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.3 1st Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Betal = 0.65

Section:  
 =====

Rectangular: Width = 24 in Depth = 78 in  
 Gross section area, Ag = 1872 in^2  
 Ix = 949104 in^4 Iy = 89856 in^4  
 rx = 22.5167 in ry = 6.9282 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 5.28 in^2 at rho = 0.28% (Note: rho < 0.50%)  
 Minimum clear spacing = -1.30 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 5.28      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 1773.00             | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 1363.00       | -1363.00      | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES197236985

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

=====

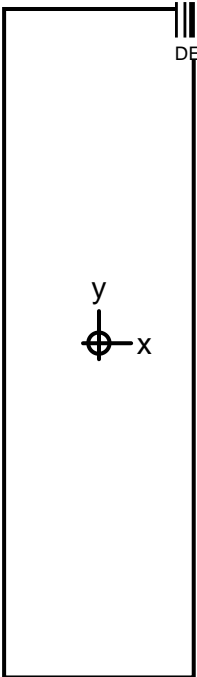
NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

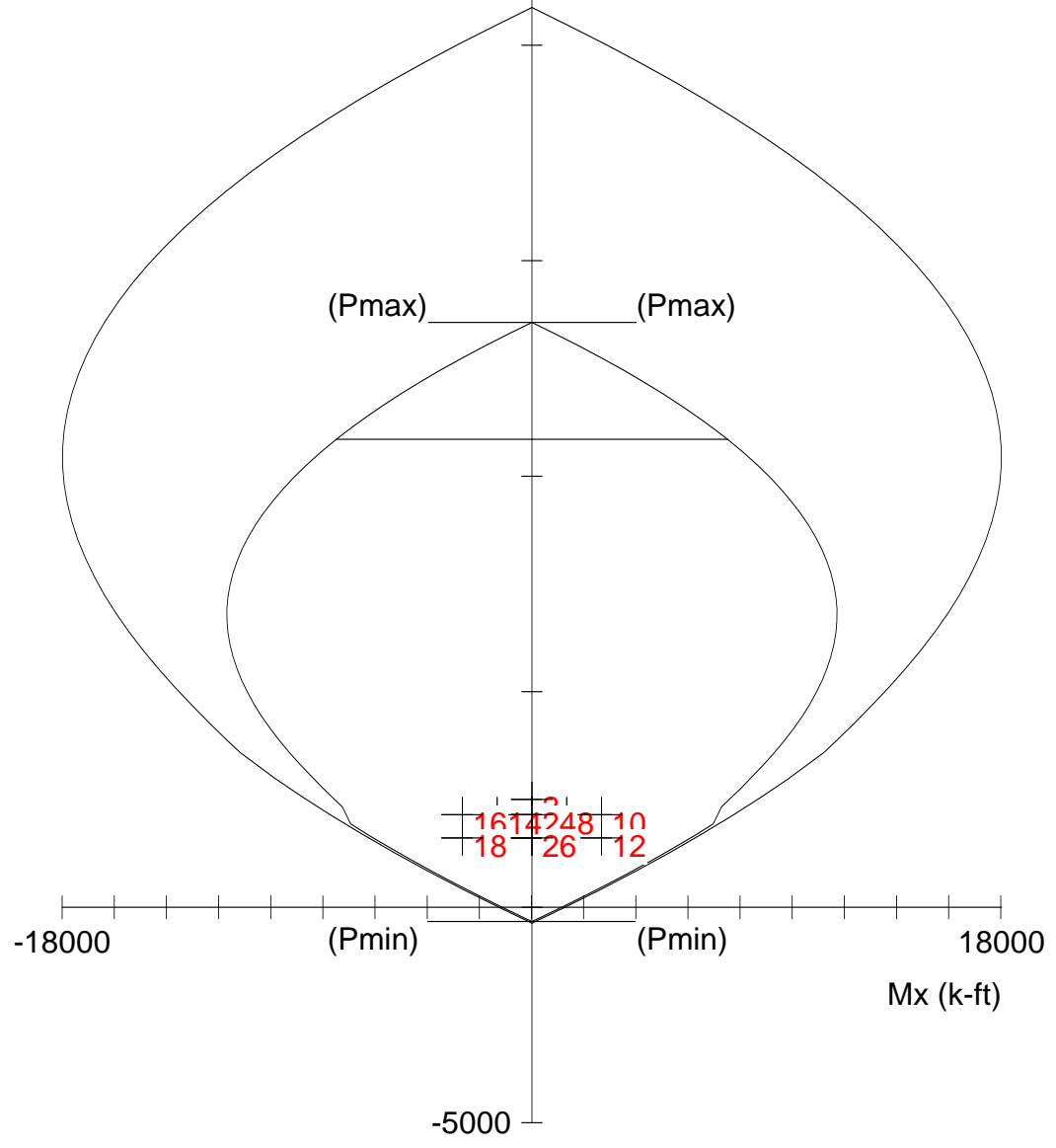
| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 2482.20 | 0.00     | 6754.69     | 999.999  |    | 25.52    |    | 39.00    | 0.00158 | 0.650 |
| 2   |            | 2482.20 | -0.00    | 6754.69     | 999.999  |    | 25.52    |    | 39.00    | 0.00158 | 0.650 |
| 3   | 1 U2       | 2127.60 | 0.00     | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 4   |            | 2127.60 | -0.00    | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 5   | 1 U3       | 2127.60 | 0.00     | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 6   |            | 2127.60 | -0.00    | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 7   | 1 U4       | 2127.60 | 1090.40  | 6230.24     | 5.714    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 8   |            | 2127.60 | 1090.40  | 6230.24     | 5.714    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 9   | 1 U5       | 2127.60 | 2180.80  | 6230.24     | 2.857    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 10  |            | 2127.60 | 2180.80  | 6230.24     | 2.857    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 11  | 1 U6       | 1595.70 | 2180.80  | 5443.66     | 2.496    |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 12  |            | 1595.70 | 2180.80  | 5443.66     | 2.496    |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 13  | 1 U7       | 2127.60 | -1090.40 | -6230.24    | 5.714    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 14  |            | 2127.60 | -1090.40 | -6230.24    | 5.714    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 15  | 1 U8       | 2127.60 | -2180.80 | -6230.24    | 2.857    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 16  |            | 2127.60 | -2180.80 | -6230.24    | 2.857    |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 17  | 1 U9       | 1595.70 | -2180.80 | -5443.66    | 2.496    |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 18  |            | 1595.70 | -2180.80 | -5443.66    | 2.496    |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 19  | 1 U10      | 2127.60 | 0.00     | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 20  |            | 2127.60 | -0.00    | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 21  | 1 U11      | 1595.70 | 0.00     | 5443.66     | 999.999  |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 22  |            | 1595.70 | -0.00    | 5443.66     | 999.999  |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 23  | 1 U12      | 2127.60 | 0.00     | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 24  |            | 2127.60 | 0.00     | 6230.24     | 999.999  |    | 21.77    |    | 39.00    | 0.00237 | 0.676 |
| 25  | 1 U13      | 1595.70 | 0.00     | 5443.66     | 999.999  |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |
| 26  |            | 1595.70 | 0.00     | 5443.66     | 999.999  |    | 13.13    |    | 39.00    | 0.00591 | 0.900 |

\*\*\* End of output \*\*\*



24 x 84 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:30:12



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.4 1st Floor.col

Project:

|                   |                         |                              |                        |
|-------------------|-------------------------|------------------------------|------------------------|
| Column:           | Engineer:               |                              |                        |
| f'c = 12 ksi      | fy = 60 ksi             | Ag = 2016 in^2               | 1 bars                 |
| Ec = 6244 ksi     | Es = 29000 ksi          | As = 6.16 in^2               | rho = 0.31%            |
| fc = 10.2 ksi     | e_yt = 0.00206897 in/in | Xo = 0.00 in                 | lx = 1.18541e+006 in^4 |
| e_u = 0.003 in/in |                         | Yo = 0.00 in                 | ly = 96768 in^4        |
| Beta1 = 0.65      |                         | Min clear spacing = -1.40 in | Clear cover = 10.60 in |

Confinement: Tied

phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65



DEPT OF BLDGS121191236 Job Number



ES131617826 Scan Code

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S:\14442-01\SPCol\Sh



DEPT OF BLDGS121191236 Job Number

ES261343812

Scan Code

General Information:

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.4 1st Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:

Rectangular: Width = 24 in Depth = 84 in  
 Gross section area, Ag = 2016 in^2  
 Ix = 1.18541e+006 in^4 Iy = 96768 in^4  
 rx = 24.2487 in ry = 6.9282 in  
 Xo = 0 in Yo = 0 in

Reinforcement:

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 6.16 in^2 at rho = 0.31% (Note: rho < 0.50%)  
 Minimum clear spacing = -1.40 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 6.16      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 1788.00             | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 1668.00       | -1668.00      | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES958394891

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

=====

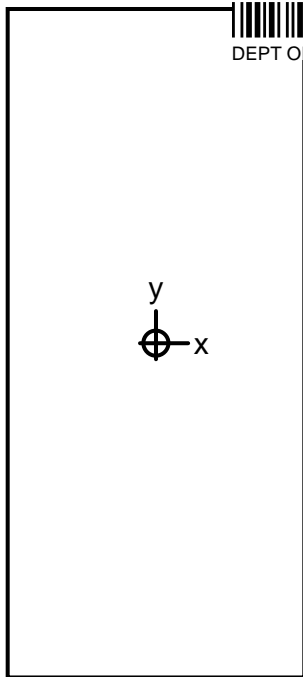
NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

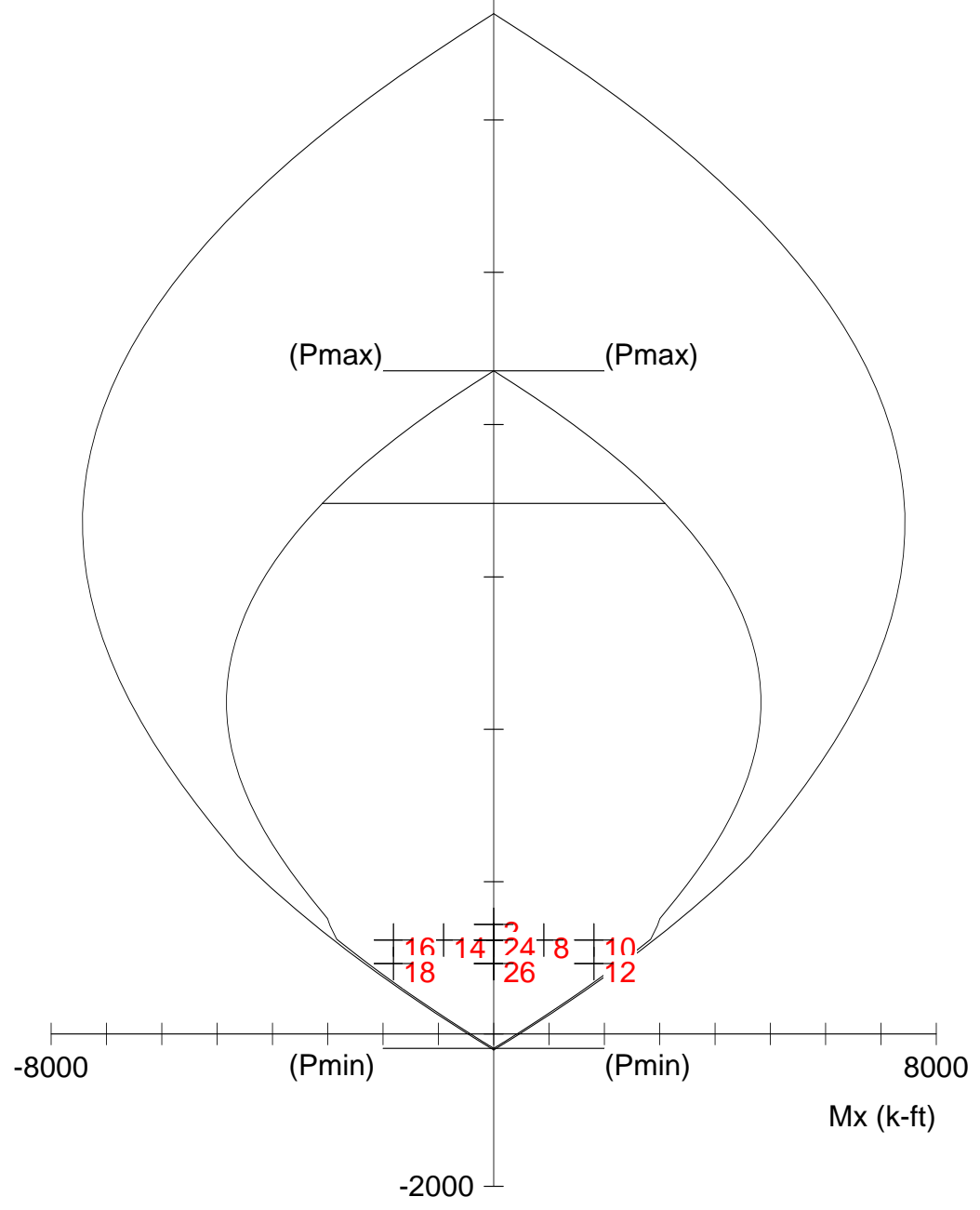
| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 2503.20 | 0.00     | 7567.56     | 999.999  |    | 26.23    |    | 42.00    | 0.00180 | 0.650 |
| 2   |            | 2503.20 | -0.00    | 7567.56     | 999.999  |    | 26.23    |    | 42.00    | 0.00180 | 0.650 |
| 3   | 1 U2       | 2145.60 | 0.00     | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 4   |            | 2145.60 | -0.00    | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 5   | 1 U3       | 2145.60 | 0.00     | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 6   |            | 2145.60 | -0.00    | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 7   | 1 U4       | 2145.60 | 1334.40  | 7126.32     | 5.340    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 8   |            | 2145.60 | 1334.40  | 7126.32     | 5.340    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 9   | 1 U5       | 2145.60 | 2668.80  | 7126.32     | 2.670    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 10  |            | 2145.60 | 2668.80  | 7126.32     | 2.670    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 11  | 1 U6       | 1609.20 | 2668.80  | 6083.32     | 2.279    |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 12  |            | 1609.20 | 2668.80  | 6083.32     | 2.279    |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 13  | 1 U7       | 2145.60 | -1334.40 | -7126.32    | 5.340    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 14  |            | 2145.60 | -1334.40 | -7126.32    | 5.340    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 15  | 1 U8       | 2145.60 | -2668.80 | -7126.32    | 2.670    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 16  |            | 2145.60 | -2668.80 | -7126.32    | 2.670    |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 17  | 1 U9       | 1609.20 | -2668.80 | -6083.32    | 2.279    |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 18  |            | 1609.20 | -2668.80 | -6083.32    | 2.279    |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 19  | 1 U10      | 2145.60 | 0.00     | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 20  |            | 2145.60 | -0.00    | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 21  | 1 U11      | 1609.20 | 0.00     | 6083.32     | 999.999  |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 22  |            | 1609.20 | -0.00    | 6083.32     | 999.999  |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 23  | 1 U12      | 2145.60 | 0.00     | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 24  |            | 2145.60 | 0.00     | 7126.32     | 999.999  |    | 20.50    |    | 42.00    | 0.00315 | 0.742 |
| 25  | 1 U13      | 1609.20 | 0.00     | 6083.32     | 999.999  |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |
| 26  |            | 1609.20 | 0.00     | 6083.32     | 999.999  |    | 13.56    |    | 42.00    | 0.00629 | 0.900 |

\*\*\* End of output \*\*\*



24 x 54 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:42:51



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.5 1st Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 Beta1 = 0.65  
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 1296$  in<sup>2</sup>  
 $A_s = 3.52$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 0.00$  in  
 Min clear spacing = -1.06 in  
 1 bars  
 $\rho = 0.27\%$   
 $I_x = 314928$  in<sup>4</sup>  
 $I_y = 62208$  in<sup>4</sup>  
 Clear cover = 10.94 in



DEPT OF BLDGS121191236 Job Number



ES507060118 Scan Code

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spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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S:\14442-01\SPCol\Sh



DEPT OF BLDGS 121191236

Job Number



ES354921227

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall 1.5 1st Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:  
=====

Rectangular: Width = 24 in Depth = 54 in  
Gross section area, Ag = 1296 in^2  
Ix = 314928 in^4 Iy = 62208 in^4  
rx = 15.5885 in ry = 6.9282 in  
Xo = 0 in Yo = 0 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 3.52 in^2 at rho = 0.27% (Note: rho < 0.50%)  
Minimum clear spacing = -1.06 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 3.52      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
=====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 1028.00             | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 1132.00       | -1132.00      | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
=====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



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Job Number



ES662339692

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

=====

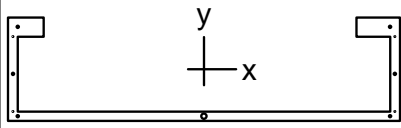
NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

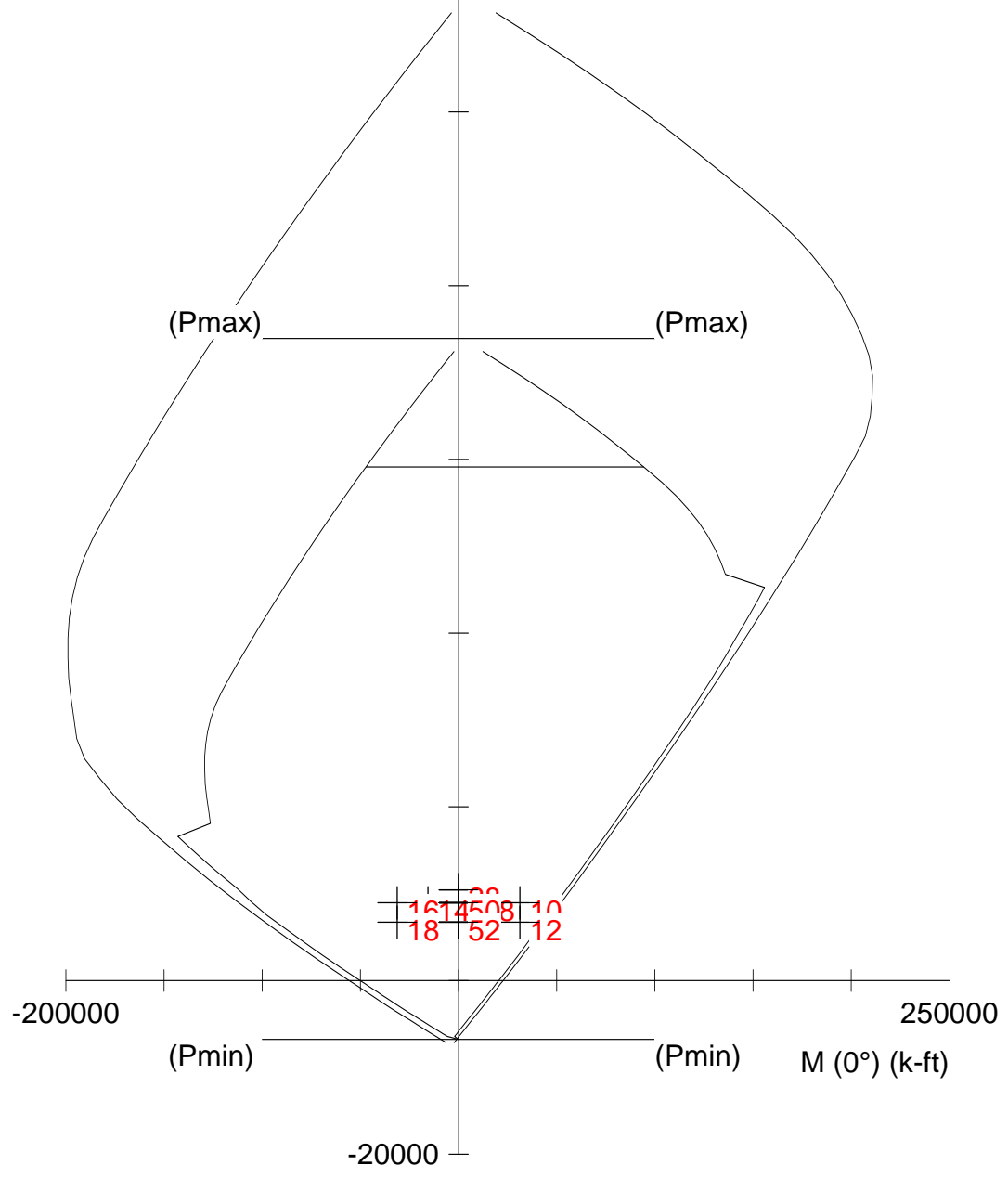
| No. | Load Combo | Pu kip  | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|---------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 1439.20 | 0.00     | 2966.46     | 999.999  |    | 14.13    |    | 27.00    | 0.00273 | 0.707 |
| 2   |            | 1439.20 | -0.00    | 2966.46     | 999.999  |    | 14.13    |    | 27.00    | 0.00273 | 0.707 |
| 3   | 1 U2       | 1233.60 | 0.00     | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 4   |            | 1233.60 | -0.00    | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 5   | 1 U3       | 1233.60 | 0.00     | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 6   |            | 1233.60 | -0.00    | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 7   | 1 U4       | 1233.60 | 905.60   | 2819.96     | 3.114    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 8   |            | 1233.60 | 905.60   | 2819.96     | 3.114    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 9   | 1 U5       | 1233.60 | 1811.20  | 2819.96     | 1.557    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 10  |            | 1233.60 | 1811.20  | 2819.96     | 1.557    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 11  | 1 U6       | 925.20  | 1811.20  | 2274.14     | 1.256    |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 12  |            | 925.20  | 1811.20  | 2274.14     | 1.256    |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 13  | 1 U7       | 1233.60 | -905.60  | -2819.96    | 3.114    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 14  |            | 1233.60 | -905.60  | -2819.96    | 3.114    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 15  | 1 U8       | 1233.60 | -1811.20 | -2819.96    | 1.557    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 16  |            | 1233.60 | -1811.20 | -2819.96    | 1.557    |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 17  | 1 U9       | 925.20  | -1811.20 | -2274.14    | 1.256    |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 18  |            | 925.20  | -1811.20 | -2274.14    | 1.256    |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 19  | 1 U10      | 1233.60 | 0.00     | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 20  |            | 1233.60 | -0.00    | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 21  | 1 U11      | 925.20  | 0.00     | 2274.14     | 999.999  |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 22  |            | 925.20  | -0.00    | 2274.14     | 999.999  |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 23  | 1 U12      | 1233.60 | 0.00     | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 24  |            | 1233.60 | 0.00     | 2819.96     | 999.999  |    | 9.94     |    | 27.00    | 0.00515 | 0.900 |
| 25  | 1 U13      | 925.20  | 0.00     | 2274.14     | 999.999  |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |
| 26  |            | 925.20  | 0.00     | 2274.14     | 999.999  |    | 7.79     |    | 27.00    | 0.00740 | 0.900 |

\*\*\* End of output \*\*\*



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:35:23



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall C 1st Floor.col

Project:

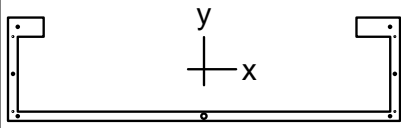
Column:

f'c = 12 ksi  
 Ec = 6244 ksi  
 fc = 10.2 ksi  
 e\_u = 0.003 in/in  
 Beta1 = 0.65  
 Confinement: Tied  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Engineer:

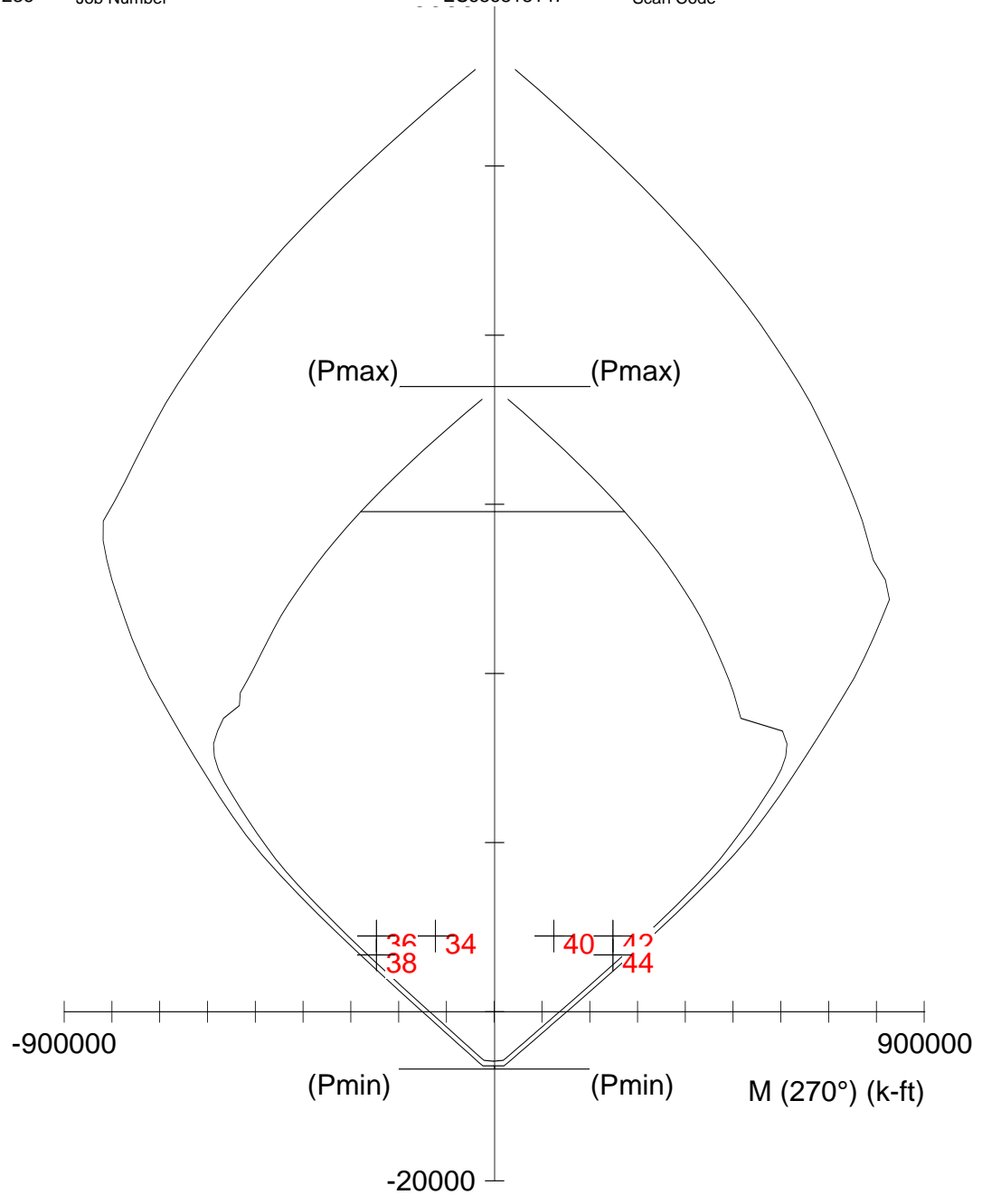
Ag = 10532.5 in^2  
 As = 125.60 in^2  
 Xo = 4.50 in  
 Yo = -22.43 in  
 Min clear spacing = 5.55 in  
 Clear cover = N/A

11 bars  
 rho = 1.19%  
 lx = 2.40229e+007 in^4  
 ly = 3.6431e+008 in^4



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 09:35:38



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File: S:\14442-01\SPCo\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall C 1st Floor.col

Project:

Column:

f'c = 12 ksi  
 Ec = 6244 ksi  
 fc = 10.2 ksi  
 e\_u = 0.003 in/in  
 Beta1 = 0.65  
 Confinement: Tied  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Engineer:

Ag = 10532.5 in^2  
 As = 125.60 in^2  
 Xo = 4.50 in  
 Yo = -22.43 in  
 Min clear spacing = 5.55 in  
 11 bars  
 rho = 1.19%  
 lx = 2.40229e+007 in^4  
 ly = 3.6431e+008 in^4  
 Clear cover = N/A





DEPT OF BLDGS 121191236 Job Number



ES203482904 Scan Code

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spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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S:\14442-01\SPCol\Shear



General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\1st Floor\14442-01\_aja\_20160926\_Wall C 1st Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: Biaxial Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:  
=====

Exterior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | -233.6 | 41.2   | 2   | -201.2 | 41.2   | 3   | -201.2 | 65.2   |
| 4   | -245.6 | 65.2   | 5   | -245.6 | -65.2  | 6   | 245.6  | -65.2  |
| 7   | 245.6  | 65.2   | 8   | 191.1  | 65.2   | 9   | 191.1  | 41.2   |
| 10  | 233.6  | 41.2   | 11  | 233.6  | -53.2  | 12  | -233.6 | -53.2  |

Gross section area, Ag = 10532.5 in^2  
Ix = 2.40229e+007 in^4 Iy = 3.6431e+008 in^4  
rx = 47.7582 in ry = 185.982 in  
Xo = 4.50488 in Yo = -22.4311 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 125.60 in^2 at rho = 1.19%  
Minimum clear spacing = 5.55 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 48.00     | 0.0    | -59.2  | 12.00     | -239.6 | -6.0   | 12.00     | 239.6  | -6.0   |
| 8.80      | -233.6 | 53.2   | 3.00      | -239.6 | 41.2   | 8.80      | 233.6  | 53.2   |
| 3.00      | 239.6  | 41.2   | 12.00     | -233.6 | -59.2  | 3.00      | -239.6 | -53.2  |
| 12.00     | 233.6  | -59.2  | 3.00      | 239.6  | -53.2  |           |        |        |

Service Loads:  
=====

| No. | Load Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|-----------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead      | 7460.00        | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 19529.00      | -19529.00     | 0.00          | 0.00          |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
| 2   | Dead      | 7460.00        | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 0.00          | 0.00          | 154683.00     | -154683.00    |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |



DEPT OF BLDGS 121191236

Job Number



ES645412037

Scan Code

Sustained Load Factors:

```

=====
Load      Factor
Case      (%)
-----
Dead      100
Live      0
Wind      0
EQ        0
Snow      0

```

Load Combinations:

- ```

=====
U1 = 1.400*Dead + 0.000*Live + 0.000*Wind + 0.000*EarthQuake + 0.000*Snow
U2 = 1.200*Dead + 1.600*Live + 0.000*Wind + 0.000*EarthQuake + 0.500*Snow
U3 = 1.200*Dead + 1.000*Live + 0.000*Wind + 0.000*EarthQuake + 1.600*Snow
U4 = 1.200*Dead + 0.000*Live + 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U5 = 1.200*Dead + 1.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U6 = 0.900*Dead + 0.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U7 = 1.200*Dead + 0.000*Live - 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U8 = 1.200*Dead + 1.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U9 = 0.900*Dead + 0.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U10 = 1.200*Dead + 1.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.200*Snow
U11 = 0.900*Dead + 0.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.000*Snow
U12 = 1.200*Dead + 1.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.200*Snow
U13 = 0.900*Dead + 0.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.000*Snow

```

Factored Loads and Moments with Corresponding Capacities:

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load Combo | Pu kip   | Mux k-ft  | Muy k-ft   | PhiMnx k-ft | PhiMny k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|----------|-----------|------------|-------------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 10444.00 | 0.00      | 0.00       | 54728.48    | 0.00        | 999.999  | 5.48        | 119.66      | 0.06780 | 0.900 |
| 2   |            | 10444.00 | -0.00     | -0.00      | 54728.48    | 0.00        | 999.999  | 5.48        | 119.66      | 0.06780 | 0.900 |
| 3   | 1 U2       | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 4   |            | 8952.00  | -0.00     | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 5   | 1 U3       | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 6   |            | 8952.00  | -0.00     | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 7   | 1 U4       | 8952.00  | 15623.20  | 0.00       | 49939.65    | 0.00        | 3.197    | 5.07        | 119.55      | 0.07307 | 0.900 |
| 8   |            | 8952.00  | 15623.20  | -0.00      | 49939.65    | 0.00        | 3.197    | 5.07        | 119.55      | 0.07307 | 0.900 |
| 9   | 1 U5       | 8952.00  | 31246.40  | 0.00       | 49939.65    | 0.00        | 1.598    | 5.07        | 119.55      | 0.07307 | 0.900 |
| 10  |            | 8952.00  | 31246.40  | -0.00      | 49939.65    | 0.00        | 1.598    | 5.07        | 119.55      | 0.07307 | 0.900 |
| 11  | 1 U6       | 6714.00  | 31246.40  | 0.00       | 42741.97    | 0.00        | 1.368    | 4.49        | 119.36      | 0.08197 | 0.900 |
| 12  |            | 6714.00  | 31246.40  | -0.00      | 42741.97    | 0.00        | 1.368    | 4.49        | 119.36      | 0.08197 | 0.900 |
| 13  | 1 U7       | 8952.00  | -15623.20 | 0.00       | -104988.91  | -0.01       | 6.720    | 28.91       | 130.18      | 0.01211 | 0.900 |
| 14  |            | 8952.00  | -15623.20 | -0.00      | -104988.91  | -0.01       | 6.720    | 28.91       | 130.18      | 0.01211 | 0.900 |
| 15  | 1 U8       | 8952.00  | -31246.40 | 0.00       | -104988.91  | -0.01       | 3.360    | 28.91       | 130.18      | 0.01211 | 0.900 |
| 16  |            | 8952.00  | -31246.40 | -0.00      | -104988.91  | -0.01       | 3.360    | 28.91       | 130.18      | 0.01211 | 0.900 |
| 17  | 1 U9       | 6714.00  | -31246.40 | 0.00       | -92762.08   | -0.01       | 2.969    | 22.99       | 129.62      | 0.01492 | 0.900 |
| 18  |            | 6714.00  | -31246.40 | -0.00      | -92762.08   | -0.01       | 2.969    | 22.99       | 129.62      | 0.01492 | 0.900 |
| 19  | 1 U10      | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 20  |            | 8952.00  | -0.00     | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 21  | 1 U11      | 6714.00  | 0.00      | 0.00       | 42741.97    | 0.00        | 999.999  | 4.49        | 119.36      | 0.08197 | 0.900 |
| 22  |            | 6714.00  | -0.00     | -0.00      | 42741.97    | 0.00        | 999.999  | 4.49        | 119.36      | 0.08197 | 0.900 |
| 23  | 1 U12      | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 24  |            | 8952.00  | 0.00      | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 25  | 1 U13      | 6714.00  | 0.00      | 0.00       | 42741.97    | 0.00        | 999.999  | 4.49        | 119.36      | 0.08197 | 0.900 |
| 26  |            | 6714.00  | 0.00      | -0.00      | 42741.97    | 0.00        | 999.999  | 4.49        | 119.36      | 0.08197 | 0.900 |
| 27  | 2 U1       | 10444.00 | 0.00      | 0.00       | 54728.48    | 0.00        | 999.999  | 5.48        | 119.66      | 0.06780 | 0.900 |
| 28  |            | 10444.00 | -0.00     | -0.00      | 54728.48    | 0.00        | 999.999  | 5.48        | 119.66      | 0.06780 | 0.900 |
| 29  | 2 U2       | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 30  |            | 8952.00  | -0.00     | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 31  | 2 U3       | 8952.00  | 0.00      | 0.00       | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 32  |            | 8952.00  | -0.00     | -0.00      | 49939.65    | 0.00        | 999.999  | 5.07        | 119.55      | 0.07307 | 0.900 |
| 33  | 2 U4       | 8952.00  | 0.00      | 123746.40  | -0.01       | 306598.22   | 2.478    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 34  |            | 8952.00  | -0.00     | 123746.40  | -0.01       | 306598.22   | 2.478    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 35  | 2 U5       | 8952.00  | 0.00      | 247492.80  | -0.01       | 306598.22   | 1.239    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 36  |            | 8952.00  | -0.00     | 247492.80  | -0.01       | 306598.22   | 1.239    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 37  | 2 U6       | 6714.00  | 0.00      | 247492.80  | -0.01       | 265049.19   | 1.071    | 38.72       | 494.63      | 0.03691 | 0.900 |
| 38  |            | 6714.00  | -0.00     | 247492.80  | -0.01       | 265049.19   | 1.071    | 38.72       | 494.63      | 0.03691 | 0.900 |
| 39  | 2 U7       | 8952.00  | 0.00      | -123746.40 | 0.00        | -313319.50  | 2.532    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 40  |            | 8952.00  | -0.00     | -123746.40 | 0.00        | -313319.50  | 2.532    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 41  | 2 U8       | 8952.00  | 0.00      | -247492.80 | 0.00        | -313319.50  | 1.266    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 42  |            | 8952.00  | -0.00     | -247492.80 | 0.00        | -313319.50  | 1.266    | 53.00       | 492.79      | 0.02548 | 0.900 |
| 43  | 2 U9       | 6714.00  | 0.00      | -247492.80 | 0.00        | -270090.16  | 1.091    | 38.72       | 494.63      | 0.03691 | 0.900 |
| 44  |            | 6714.00  | -0.00     | -247492.80 | 0.00        | -270090.16  | 1.091    | 38.72       | 494.63      | 0.03691 | 0.900 |



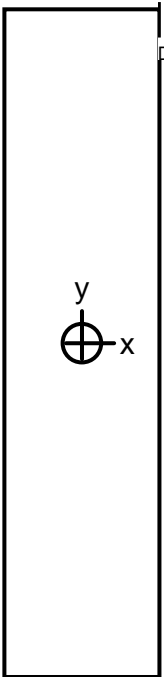
DEPT OF BLDGS121191236 Job Number



ES532243828 Scan Code

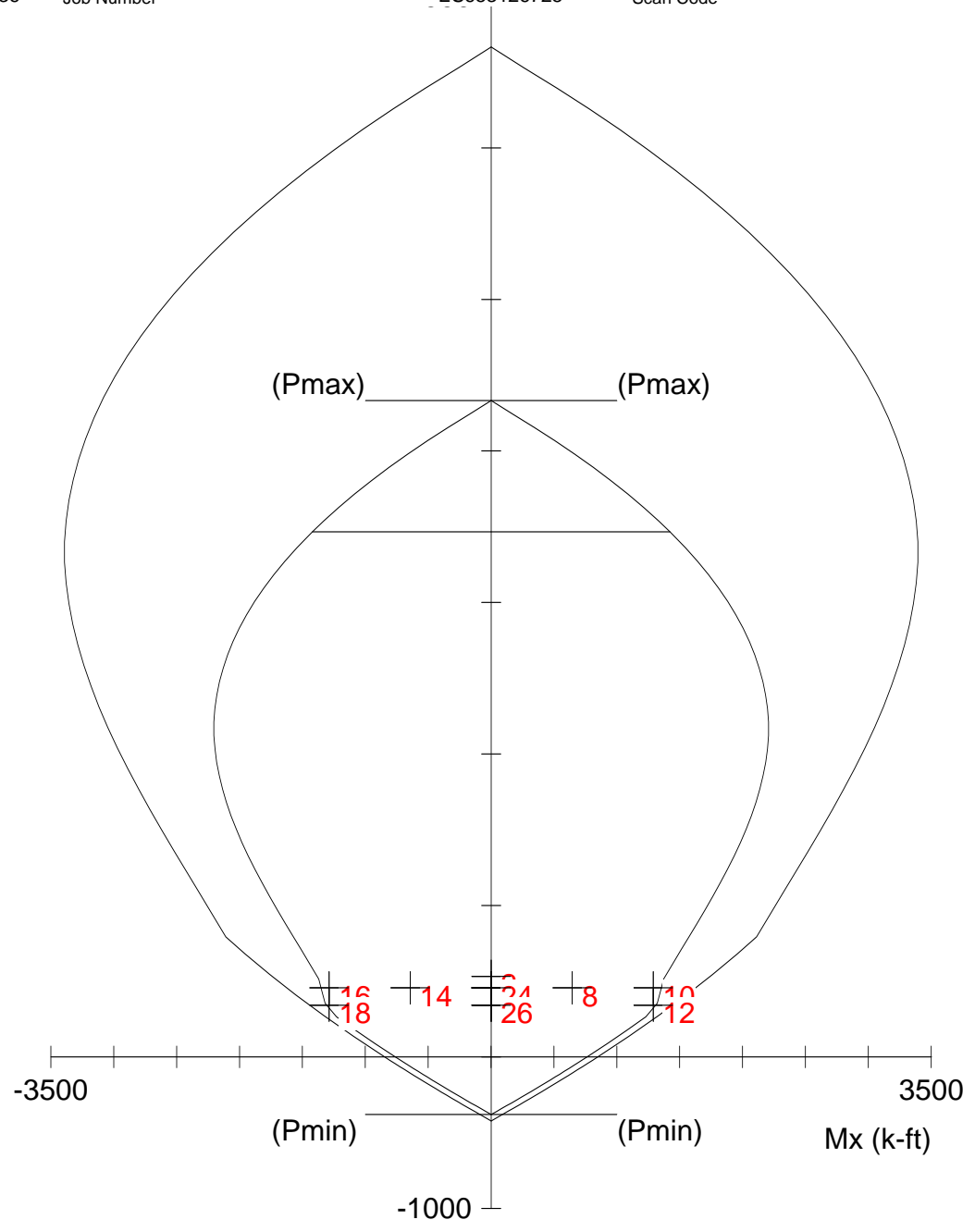
|    |       |         |       |       |          |      |         |      |        |         |       |
|----|-------|---------|-------|-------|----------|------|---------|------|--------|---------|-------|
| 45 | 2 U10 | 8952.00 | 0.00  | 0.00  | 49939.65 | 0.00 | 999.999 | 5.07 | 119.55 | 0.07307 | 0.900 |
| 46 |       | 8952.00 | -0.00 | -0.00 | 49939.65 | 0.00 | 999.999 | 5.07 | 119.55 | 0.07307 | 0.900 |
| 47 | 2 U11 | 6714.00 | 0.00  | 0.00  | 42741.97 | 0.00 | 999.999 | 4.49 | 119.36 | 0.08197 | 0.900 |
| 48 |       | 6714.00 | -0.00 | -0.00 | 42741.97 | 0.00 | 999.999 | 4.49 | 119.36 | 0.08197 | 0.900 |
| 49 | 2 U12 | 8952.00 | 0.00  | 0.00  | 49939.65 | 0.00 | 999.999 | 5.07 | 119.55 | 0.07307 | 0.900 |
| 50 |       | 8952.00 | -0.00 | 0.00  | 49939.65 | 0.00 | 999.999 | 5.07 | 119.55 | 0.07307 | 0.900 |
| 51 | 2 U13 | 6714.00 | 0.00  | 0.00  | 42741.97 | 0.00 | 999.999 | 4.49 | 119.36 | 0.08197 | 0.900 |
| 52 |       | 6714.00 | -0.00 | 0.00  | 42741.97 | 0.00 | 999.999 | 4.49 | 119.36 | 0.08197 | 0.900 |

\*\*\* End of output \*\*\*



12 x 51.6 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:48:54



STRUCTUREPOINT - spColumn v5.10 (TM). Licensed to: Severud Associates Consulting Engineers P.C.. License ID: 65661-1053340-4-2C47C-231

File: S:\14442-01\SPCo\ShearWall\SW3\2nd Floor\14442-01\_aja\_20160926\_Wall 2.2 2nd Floor.col

Project:

|   |                              |
|---|------------------------------|
| Column:                                   | Engineer:                    |
| f'c = 12 ksi                              | fy = 60 ksi                  |
| Ec = 6244 ksi                             | Ag = 619.2 in <sup>2</sup>   |
| fc = 10.2 ksi                             | As = 7.04 in <sup>2</sup>    |
| e_u = 0.003 in/in                         | rho = 1.14%                  |
| Beta1 = 0.65                              | Xo = 0.00 in                 |
| Confinement: Tied                         | Yo = 0.00 in                 |
| phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65 | Min clear spacing = -1.50 in |
|   | Clear cover = 4.50 in        |



DEPT OF BLDGS 121191236 Job Number



ES986191104 Scan Code

```

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                oo   oo          oo
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oooooo  oo          ooooooo  oooooo  ooo  oooooo o  oo  oo  oo  oo  oo (TM)

```

=====

spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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License to: Severud

S:\14442-01\SPCol\Sh



DEPT OF BLDGS 121191236

Job Number



ES712641737

Scan Code

General Information:

File Name: S:\14442-01\SPCol\ShearWall\SW3\2nd Floor\14442-01\_aja\_20160926\_Wall 2.2 2nd Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:

Rectangular: Width = 12 in Depth = 51.6 in  
 Gross section area, Ag = 619.2 in^2  
 Ix = 137388 in^4 Iy = 7430.4 in^4  
 rx = 14.8956 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 7.04 in^2 at rho = 1.14%  
 Minimum clear spacing = -1.50 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 7.04      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 380.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 805.00        | -805.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow

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DEPT OF BLDGS121191236

Job Number



ES472536440

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

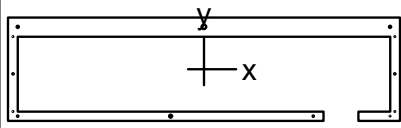
NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load<br>Combo | Pu<br>kip | Mux<br>k-ft | PhiMnx<br>k-ft | PhiMn/Mu | NA | depth<br>in | Dt | depth<br>in | eps_t   | Phi   |
|-----|---------------|-----------|-------------|----------------|----------|----|-------------|----|-------------|---------|-------|
| 1   | 1 U1          | 532.00    | 0.00        | 1383.29        | 999.999  |    | 15.45       |    | 25.80       | 0.00201 | 0.650 |
| 2   |               | 532.00    | -0.00       | 1383.29        | 999.999  |    | 15.45       |    | 25.80       | 0.00201 | 0.650 |
| 3   | 1 U2          | 456.00    | 0.00        | 1352.92        | 999.999  |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 4   |               | 456.00    | -0.00       | 1352.92        | 999.999  |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 5   | 1 U3          | 456.00    | 0.00        | 1352.92        | 999.999  |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 6   |               | 456.00    | -0.00       | 1352.92        | 999.999  |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 7   | 1 U4          | 456.00    | 644.00      | 1352.92        | 2.101    |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 8   |               | 456.00    | 644.00      | 1352.92        | 2.101    |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 9   | 1 U5          | 456.00    | 1288.00     | 1352.92        | 1.050    |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 10  |               | 456.00    | 1288.00     | 1352.92        | 1.050    |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 11  | 1 U6          | 342.00    | 1288.00     | 1316.78        | 1.022    |    | 10.33       |    | 25.80       | 0.00450 | 0.857 |
| 12  |               | 342.00    | 1288.00     | 1316.78        | 1.022    |    | 10.33       |    | 25.80       | 0.00450 | 0.857 |
| 13  | 1 U7          | 456.00    | -644.00     | -1352.92       | 2.101    |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 14  |               | 456.00    | -644.00     | -1352.92       | 2.101    |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 15  | 1 U8          | 456.00    | -1288.00    | -1352.92       | 1.050    |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 16  |               | 456.00    | -1288.00    | -1352.92       | 1.050    |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 17  | 1 U9          | 342.00    | -1288.00    | -1316.78       | 1.022    |    | 10.33       |    | 25.80       | 0.00450 | 0.857 |
| 18  |               | 342.00    | -1288.00    | -1316.78       | 1.022    |    | 10.33       |    | 25.80       | 0.00450 | 0.857 |
| 19  | 1 U10         | 456.00    | 0.00        | 1352.92        | 999.999  |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 20  |               | 456.00    | -0.00       | 1352.92        | 999.999  |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 21  | 1 U11         | 342.00    | 0.00        | 1316.78        | 999.999  |    | 10.33       |    | 25.80       | 0.00450 | 0.857 |
| 22  |               | 342.00    | -0.00       | 1316.78        | 999.999  |    | 10.33       |    | 25.80       | 0.00450 | 0.857 |
| 23  | 1 U12         | 456.00    | 0.00        | 1352.92        | 999.999  |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 24  |               | 456.00    | 0.00        | 1352.92        | 999.999  |    | 13.36       |    | 25.80       | 0.00279 | 0.712 |
| 25  | 1 U13         | 342.00    | 0.00        | 1316.78        | 999.999  |    | 10.33       |    | 25.80       | 0.00450 | 0.857 |
| 26  |               | 342.00    | 0.00        | 1316.78        | 999.999  |    | 10.33       |    | 25.80       | 0.00450 | 0.857 |

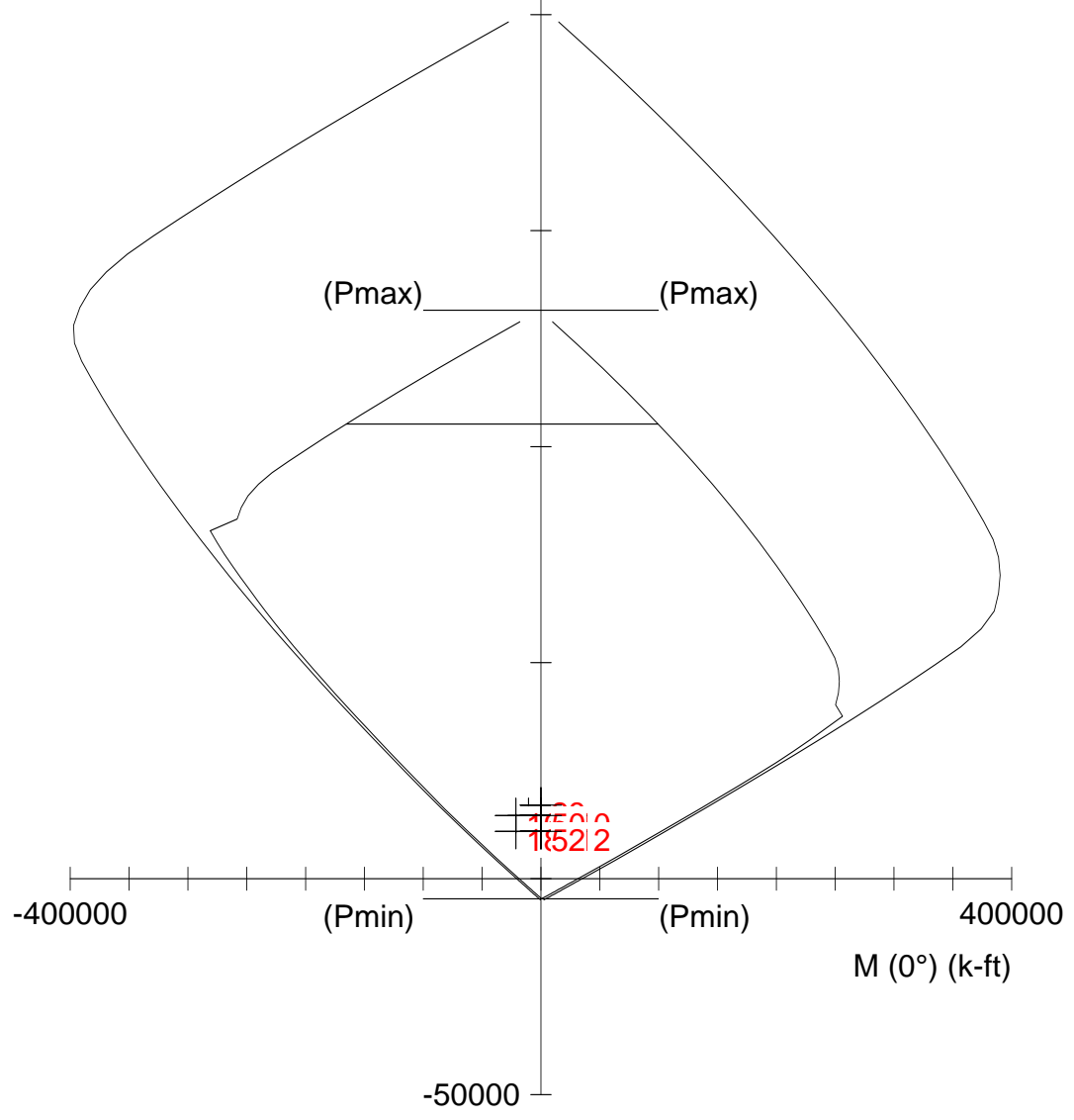
\*\*\* End of output \*\*\*





491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:44:53



STRUCTUREPOINT - spColumn v5.10 (TM). Licensed to: Severud Associates Consulting Engineers P.C.. License ID: 65661-1053340-4-2C47C-231

File: S:\14442-01\SPCo\ShearWall\SW3\2nd Floor\14442-01\_aja\_20160926\_Wall Full 2nd Floor.col

Project:

Column:

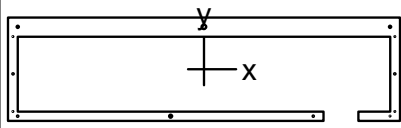
$f'_c = 12$  ksi       $f_y = 60$  ksi  
 $E_c = 6244$  ksi       $E_s = 29000$  ksi  
 $f_c = 10.2$  ksi       $e_{yt} = 0.00206897$  in/in  
 $e_u = 0.003$  in/in  
 Beta1 = 0.65

Engineer:

$A_g = 19418.6$  in<sup>2</sup>      13 bars  
 $A_s = 86.48$  in<sup>2</sup>       $\rho = 0.45\%$   
 $X_o = -4.68$  in       $I_x = 5.00562e+007$  in<sup>4</sup>  
 $Y_o = 15.24$  in       $I_y = 4.69348e+008$  in<sup>4</sup>  
 Min clear spacing = 6.91 in      Clear cover = N/A

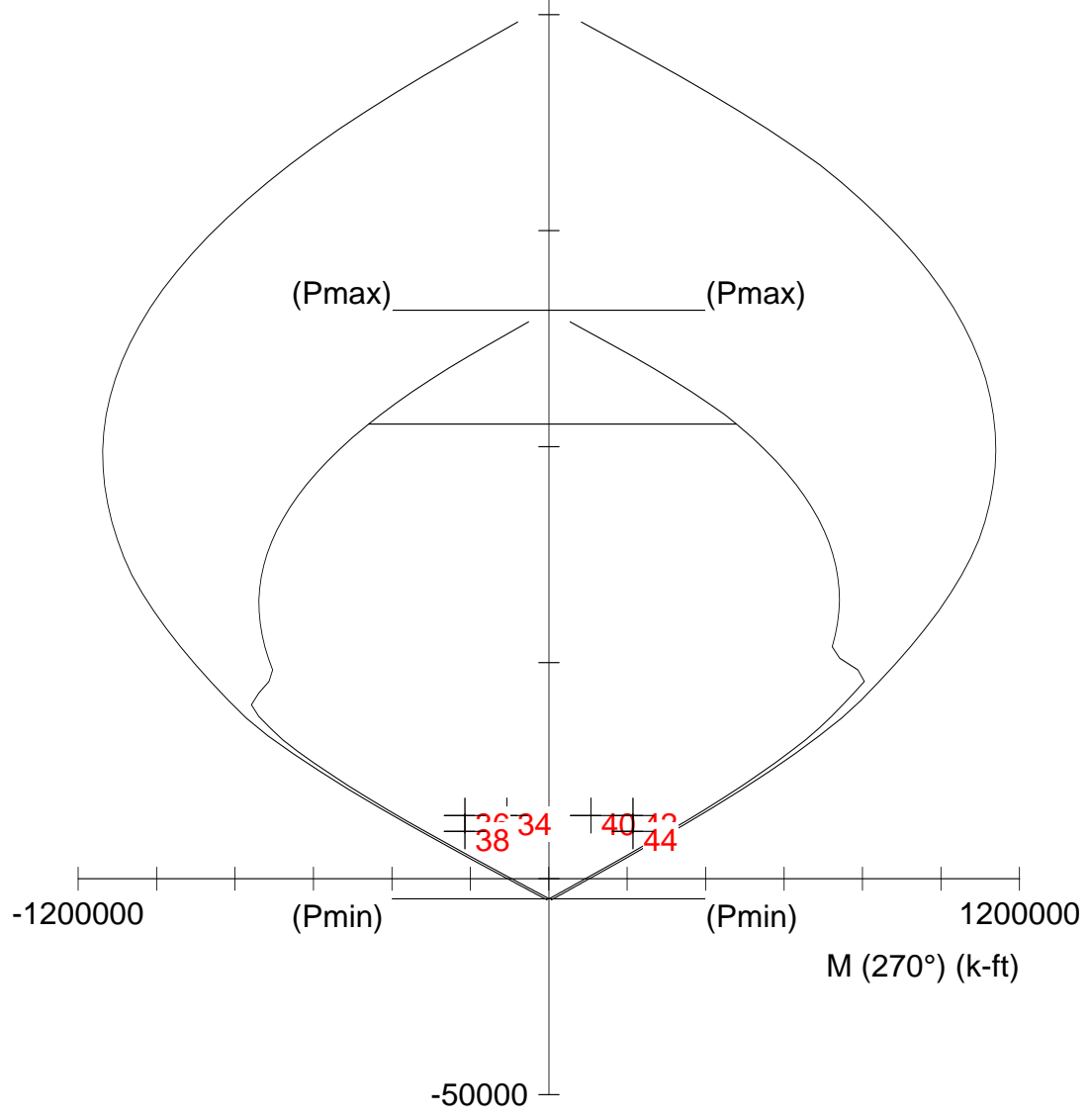
Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:45:17



STRUCTUREPOINT - spColumn v5.10 (TM). Licensed to: Severud Associates Consulting Engineers P.C.. License ID: 65661-1053340-4-2C47C-231

File: S:\14442-01\SPCo\ShearWall\SW3\2nd Floor\14442-01\_aja\_20160926\_Wall Full 2nd Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_{1} = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 19418.6$  in<sup>2</sup>  
 $A_s = 86.48$  in<sup>2</sup>  
 $X_o = -4.68$  in  
 $Y_o = 15.24$  in  
 Min clear spacing = 6.91 in  
 13 bars  
 $\rho = 0.45\%$   
 $I_x = 5.00562e+007$  in<sup>4</sup>  
 $I_y = 4.69348e+008$  in<sup>4</sup>  
 Clear cover = N/A



DEPT OF BLDGS121191236 Job Number



ES975997026

Scan Code

```

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                oo   oo          oo
oooooo  oooooo  oo          oo  oo  o ooooooooooooo  o ooooo
oo   o  oo  oo  oo          oo  oo  oo          oo  oo  oo  oo  oo  oo
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oooooo  oo          ooooooo  oooooo  ooo  oooooo o  oo  oo  oo  oo  oo (TM)

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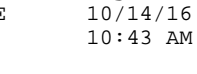
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=====
                        spColumn v5.10 (TM)
Computer program for the Strength Design of Reinforced Concrete Sections
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=====

```

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License to: Severud  
S:\14442-01\SPCol\Shear



General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\2nd Floor\14442-01\_aja\_20160926\_Wall Full 2nd Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: Biaxial Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Beta1 = 0.65

Section:  
=====

Exterior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | 194.0  | -53.2  | 2   | 194.0  | -65.2  | 3   | 245.6  | -65.2  |
| 4   | 245.6  | 65.2   | 5   | -245.6 | 65.2   | 6   | -245.6 | -65.2  |
| 7   | 150.0  | -65.2  | 8   | 150.0  | -53.2  | 9   | -233.6 | -53.2  |
| 10  | -233.6 | 41.2   | 11  | 233.6  | 41.2   | 12  | 233.6  | -53.2  |

Gross section area, Ag = 19418.6 in^2  
Ix = 5.00562e+007 in^4 Iy = 4.69348e+008 in^4  
rx = 50.7714 in ry = 155.467 in  
Xo = -4.67589 in Yo = 15.2357 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 86.48 in^2 at rho = 0.45% (Note: rho < 0.50%)  
Minimum clear spacing = 6.91 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 35.20     | 0.0    | 53.2   | 12.80     | -41.8  | -59.2  | 4.00      | -239.6 | -6.0   |
| 4.00      | 239.6  | -6.0   | 8.80      | -233.6 | 53.2   | 1.00      | -239.6 | 41.2   |
| 8.80      | 233.6  | 53.2   | 1.00      | 239.6  | 41.2   | 3.20      | -233.6 | -59.2  |
| 1.00      | -239.6 | -53.2  | 2.48      | 233.6  | -59.2  | 1.00      | 239.6  | -53.2  |
| 3.20      | 137.4  | -59.2  |           |        |        |           |        |        |

Service Loads:  
=====

| No. | Load Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|-----------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead      | 12179.00       | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 13266.00      | -13266.00     | 0.00          | 0.00          |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
| 2   | Dead      | 12179.00       | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 0.00          | 0.00          | 133825.00     | -133825.00    |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |



DEPT OF BLDGS 121191236

Job Number



ES995038040

Scan Code

Sustained Load Factors:

```

=====
Load      Factor
Case      (%)
-----
Dead      100
Live      0
Wind      0
EQ        0
Snow      0

```

Load Combinations:

- ```

=====
U1 = 1.400*Dead + 0.000*Live + 0.000*Wind + 0.000*EarthQuake + 0.000*Snow
U2 = 1.200*Dead + 1.600*Live + 0.000*Wind + 0.000*EarthQuake + 0.500*Snow
U3 = 1.200*Dead + 1.000*Live + 0.000*Wind + 0.000*EarthQuake + 1.600*Snow
U4 = 1.200*Dead + 0.000*Live + 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U5 = 1.200*Dead + 1.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U6 = 0.900*Dead + 0.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U7 = 1.200*Dead + 0.000*Live - 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U8 = 1.200*Dead + 1.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U9 = 0.900*Dead + 0.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U10 = 1.200*Dead + 1.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.200*Snow
U11 = 0.900*Dead + 0.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.000*Snow
U12 = 1.200*Dead + 1.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.200*Snow
U13 = 0.900*Dead + 0.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.000*Snow

```

Factored Loads and Moments with Corresponding Capacities:

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load Combo | Pu kip   | Mux k-ft  | Muy k-ft   | PhiMnx k-ft | PhiMny k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|----------|-----------|------------|-------------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 17050.60 | 0.00      | 0.00       | 140439.31   | 0.00        | 999.999  | 11.63       | 124.49      | 0.04117 | 0.900 |
| 2   |            | 17050.60 | -0.00     | -0.00      | 140439.31   | 0.00        | 999.999  | 11.63       | 124.49      | 0.04117 | 0.900 |
| 3   | 1 U2       | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 4   |            | 14614.80 | -0.00     | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 5   | 1 U3       | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 6   |            | 14614.80 | -0.00     | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 7   | 1 U4       | 14614.80 | 10612.80  | 0.00       | 125214.59   | 0.00        | 11.798   | 10.31       | 124.20      | 0.04683 | 0.900 |
| 8   |            | 14614.80 | 10612.80  | -0.00      | 125214.59   | 0.00        | 11.798   | 10.31       | 124.20      | 0.04683 | 0.900 |
| 9   | 1 U5       | 14614.80 | 21225.60  | 0.00       | 125214.59   | 0.00        | 5.899    | 10.31       | 124.20      | 0.04683 | 0.900 |
| 10  |            | 14614.80 | 21225.60  | -0.00      | 125214.59   | 0.00        | 5.899    | 10.31       | 124.20      | 0.04683 | 0.900 |
| 11  | 1 U6       | 10961.10 | 21225.60  | 0.00       | 102167.91   | 0.00        | 4.813    | 8.45        | 123.82      | 0.05830 | 0.900 |
| 12  |            | 10961.10 | 21225.60  | -0.00      | 102167.91   | 0.00        | 4.813    | 8.45        | 123.82      | 0.05830 | 0.900 |
| 13  | 1 U7       | 14614.80 | -10612.80 | 0.00       | -76001.05   | -0.01       | 7.161    | 7.32        | 126.24      | 0.05279 | 0.900 |
| 14  |            | 14614.80 | -10612.80 | -0.00      | -76001.05   | -0.01       | 7.161    | 7.32        | 126.24      | 0.05279 | 0.900 |
| 15  | 1 U8       | 14614.80 | -21225.60 | 0.00       | -76001.05   | -0.01       | 3.581    | 7.32        | 126.24      | 0.05279 | 0.900 |
| 16  |            | 14614.80 | -21225.60 | -0.00      | -76001.05   | -0.01       | 3.581    | 7.32        | 126.24      | 0.05279 | 0.900 |
| 17  | 1 U9       | 10961.10 | -21225.60 | 0.00       | -62036.01   | -0.01       | 2.923    | 5.97        | 126.13      | 0.06586 | 0.900 |
| 18  |            | 10961.10 | -21225.60 | -0.00      | -62036.01   | -0.01       | 2.923    | 5.97        | 126.13      | 0.06586 | 0.900 |
| 19  | 1 U10      | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 20  |            | 14614.80 | -0.00     | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 21  | 1 U11      | 10961.10 | 0.00      | 0.00       | 102167.91   | 0.00        | 999.999  | 8.45        | 123.82      | 0.05830 | 0.900 |
| 22  |            | 10961.10 | -0.00     | -0.00      | 102167.91   | 0.00        | 999.999  | 8.45        | 123.82      | 0.05830 | 0.900 |
| 23  | 1 U12      | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 24  |            | 14614.80 | 0.00      | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 25  | 1 U13      | 10961.10 | 0.00      | 0.00       | 102167.91   | 0.00        | 999.999  | 8.45        | 123.82      | 0.05830 | 0.900 |
| 26  |            | 10961.10 | 0.00      | -0.00      | 102167.91   | 0.00        | 999.999  | 8.45        | 123.82      | 0.05830 | 0.900 |
| 27  | 2 U1       | 17050.60 | 0.00      | 0.00       | 140439.31   | 0.00        | 999.999  | 11.63       | 124.49      | 0.04117 | 0.900 |
| 28  |            | 17050.60 | -0.00     | -0.00      | 140439.31   | 0.00        | 999.999  | 11.63       | 124.49      | 0.04117 | 0.900 |
| 29  | 2 U2       | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 30  |            | 14614.80 | -0.00     | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 31  | 2 U3       | 14614.80 | 0.00      | 0.00       | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 32  |            | 14614.80 | -0.00     | -0.00      | 125214.59   | 0.00        | 999.999  | 10.31       | 124.20      | 0.04683 | 0.900 |
| 33  | 2 U4       | 14614.80 | 0.00      | 107060.00  | -0.02       | 386009.91   | 3.606    | 50.03       | 497.98      | 0.02728 | 0.900 |
| 34  |            | 14614.80 | -0.00     | 107060.00  | -0.02       | 386009.91   | 3.606    | 50.03       | 497.98      | 0.02728 | 0.900 |
| 35  | 2 U5       | 14614.80 | 0.00      | 214120.00  | -0.02       | 386009.91   | 1.803    | 50.03       | 497.98      | 0.02728 | 0.900 |
| 36  |            | 14614.80 | -0.00     | 214120.00  | -0.02       | 386009.91   | 1.803    | 50.03       | 497.98      | 0.02728 | 0.900 |
| 37  | 2 U6       | 10961.10 | 0.00      | 214120.00  | -0.01       | 315583.91   | 1.474    | 34.98       | 496.43      | 0.04238 | 0.900 |
| 38  |            | 10961.10 | -0.00     | 214120.00  | -0.01       | 315583.91   | 1.474    | 34.98       | 496.43      | 0.04238 | 0.900 |
| 39  | 2 U7       | 14614.80 | 0.00      | -107060.00 | 0.00        | -372211.69  | 3.477    | 50.07       | 497.95      | 0.02729 | 0.900 |
| 40  |            | 14614.80 | -0.00     | -107060.00 | 0.00        | -372211.69  | 3.477    | 50.07       | 497.95      | 0.02729 | 0.900 |
| 41  | 2 U8       | 14614.80 | 0.00      | -214120.00 | 0.00        | -372211.69  | 1.738    | 50.07       | 497.95      | 0.02729 | 0.900 |
| 42  |            | 14614.80 | -0.00     | -214120.00 | 0.00        | -372211.69  | 1.738    | 50.07       | 497.95      | 0.02729 | 0.900 |
| 43  | 2 U9       | 10961.10 | 0.00      | -214120.00 | 0.00        | -304654.44  | 1.423    | 35.07       | 496.55      | 0.04213 | 0.900 |
| 44  |            | 10961.10 | -0.00     | -214120.00 | 0.00        | -304654.44  | 1.423    | 35.07       | 496.55      | 0.04213 | 0.900 |



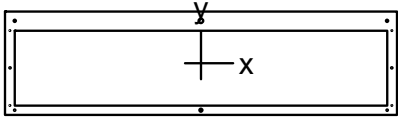
DEPT OF BLDGS121191236 Job Number



ES987544022 Scan Code

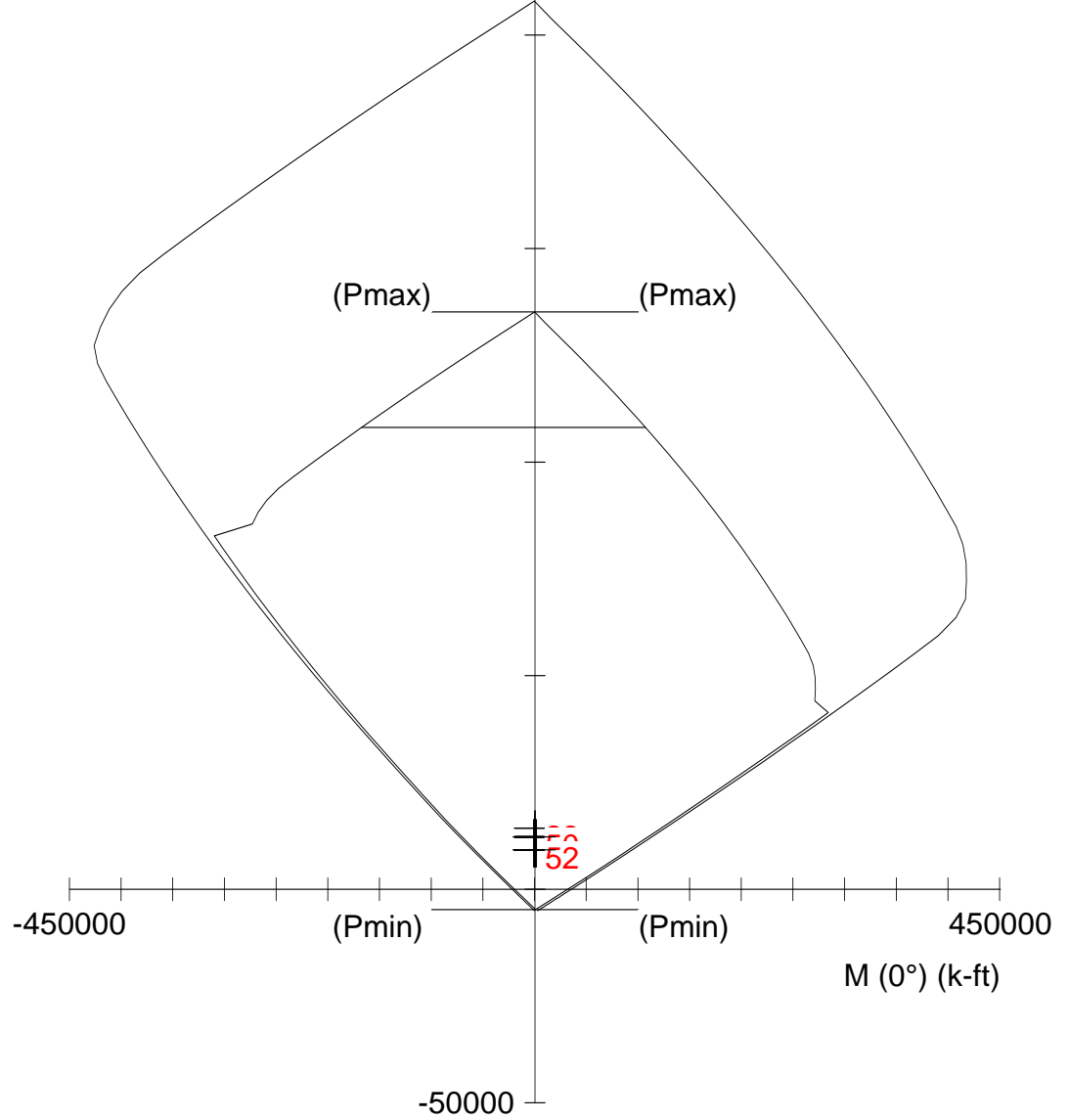
|    |   |     |          |       |       |           |      |         |       |        |         |       |
|----|---|-----|----------|-------|-------|-----------|------|---------|-------|--------|---------|-------|
| 45 | 2 | U10 | 14614.80 | 0.00  | 0.00  | 125214.59 | 0.00 | 999.999 | 10.31 | 124.20 | 0.04683 | 0.900 |
| 46 |   |     | 14614.80 | -0.00 | -0.00 | 125214.59 | 0.00 | 999.999 | 10.31 | 124.20 | 0.04683 | 0.900 |
| 47 | 2 | U11 | 10961.10 | 0.00  | 0.00  | 102167.91 | 0.00 | 999.999 | 8.45  | 123.82 | 0.05830 | 0.900 |
| 48 |   |     | 10961.10 | -0.00 | -0.00 | 102167.91 | 0.00 | 999.999 | 8.45  | 123.82 | 0.05830 | 0.900 |
| 49 | 2 | U12 | 14614.80 | 0.00  | 0.00  | 125214.59 | 0.00 | 999.999 | 10.31 | 124.20 | 0.04683 | 0.900 |
| 50 |   |     | 14614.80 | -0.00 | 0.00  | 125214.59 | 0.00 | 999.999 | 10.31 | 124.20 | 0.04683 | 0.900 |
| 51 | 2 | U13 | 10961.10 | 0.00  | 0.00  | 102167.91 | 0.00 | 999.999 | 8.45  | 123.82 | 0.05830 | 0.900 |
| 52 |   |     | 10961.10 | -0.00 | 0.00  | 102167.91 | 0.00 | 999.999 | 8.45  | 123.82 | 0.05830 | 0.900 |

\*\*\* End of output \*\*\*



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:52:49



STRUCTUREPOINT - spColumn v5.10 (TM). Licensed to: Severud Associates Consulting Engineers P.C.. License ID: 65661-1053340-4-2C47C-231

File: S:\14442-01\SPCo\ShearWall\SW3\8th Floor\14442-01\_aja\_20160926\_Wall Full 8th Floor.col

Project:

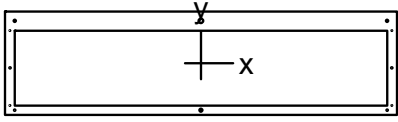
Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_{1} = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

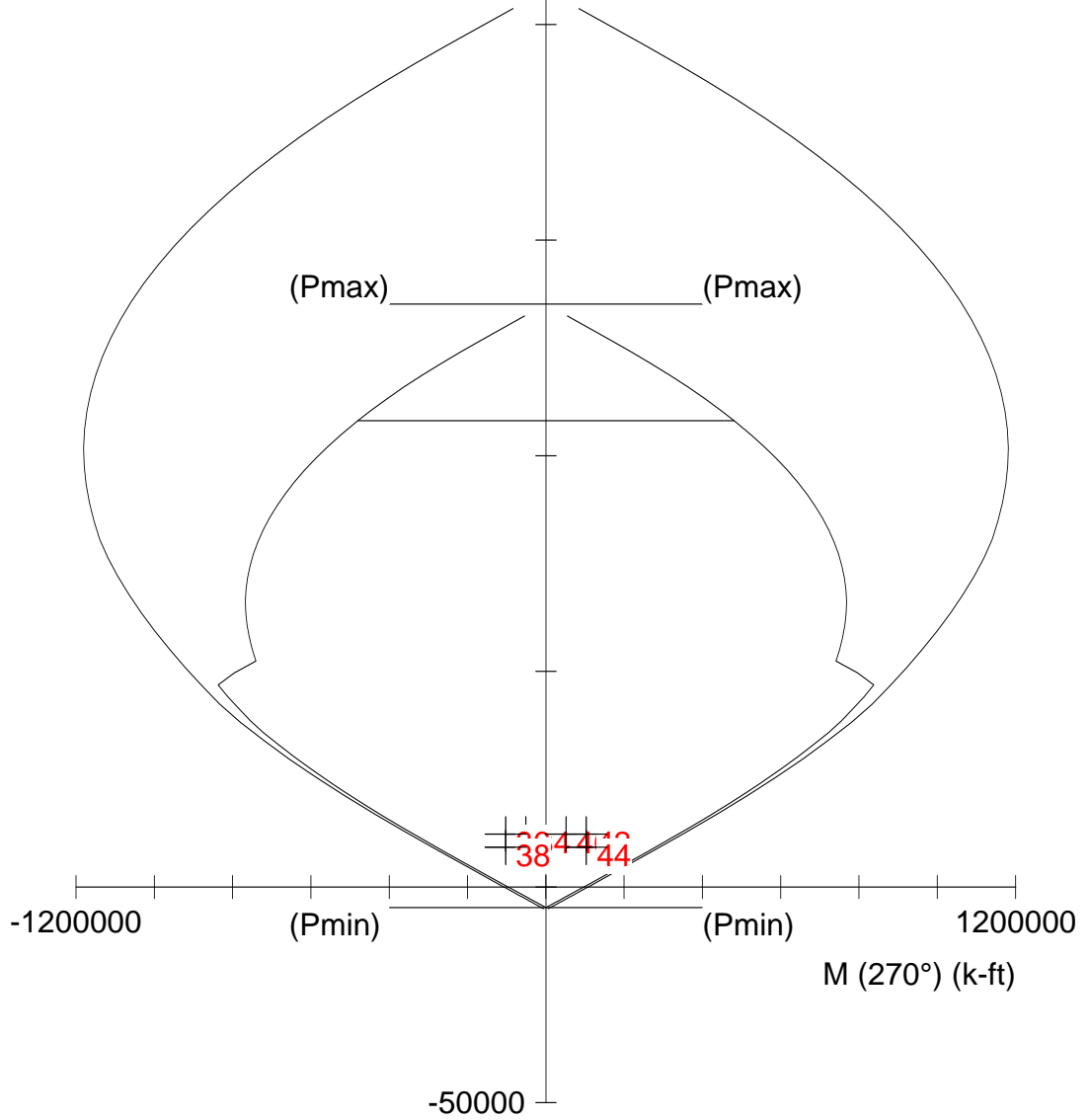
$A_g = 19946.6$  in<sup>2</sup>  
 $A_s = 88.80$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 13.27$  in  
 Min clear spacing = 6.79 in  
 Clear cover = N/A

12 bars  
 $\rho = 0.45\%$   
 $I_x = 5.29107e+007$  in<sup>4</sup>  
 $I_y = 4.85473e+008$  in<sup>4</sup>



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: Biaxial  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:53:51



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File: S:\14442-01\SPCo\ShearWall\SW3\8th Floor\14442-01\_aja\_20160926\_Wall Full 8th Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_1 = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 19946.6$  in<sup>2</sup>  
 $A_s = 88.80$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 13.27$  in  
 Min clear spacing = 6.79 in  
 Clear cover = N/A

12 bars  
 $\rho = 0.45\%$   
 $I_x = 5.29107e+007$  in<sup>4</sup>  
 $I_y = 4.85473e+008$  in<sup>4</sup>





DEPT OF BLDGS121191236 Job Number



ES472661762

Scan Code

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                        spColumn v5.10 (TM)
Computer program for the Strength Design of Reinforced Concrete Sections
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S:\14442-01\SPCol\Shear



DEPT OF BLDGS 121191236 Job Number

ES645746277

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\8th Floor\14442-01\_aja\_20160926\_Wall Full 8th Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: Biaxial Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Beta1 = 0.65

Section:  
=====

Exterior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | -245.6 | 65.2   | 2   | -245.6 | -65.2  | 3   | 245.6  | -65.2  |
| 4   | 245.6  | 65.2   |     |        |        |     |        |        |

Interior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | -233.6 | 41.2   | 2   | -233.6 | -53.2  | 3   | 233.6  | -53.2  |
| 4   | 233.6  | 41.2   |     |        |        |     |        |        |

Gross section area, Ag = 19946.6 in^2  
Ix = 5.29107e+007 in^4 Iy = 4.85473e+008 in^4  
rx = 51.5035 in ry = 156.008 in  
Xo = 0 in Yo = 13.2653 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 88.80 in^2 at rho = 0.45% (Note: rho < 0.50%)  
Minimum clear spacing = 6.79 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 35.20     | 0.0    | 53.2   | 16.00     | 0.0    | -59.2  | 4.00      | -239.6 | -6.0   |
| 4.00      | 239.6  | -6.0   | 8.80      | -233.6 | 53.2   | 1.00      | -239.6 | 41.2   |
| 8.80      | 233.6  | 53.2   | 1.00      | 239.6  | 41.2   | 4.00      | -233.6 | -59.2  |
| 1.00      | -239.6 | -53.2  | 4.00      | 233.6  | -59.2  | 1.00      | 239.6  | -53.2  |

Service Loads:  
=====

| No. | Load Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|-----------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead      | 10242.00       | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 935.00        | -935.00       | 0.00          | 0.00          |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
| 2   | Dead      | 10242.00       | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 0.00          | 0.00          | 64491.00      | -64491.00     |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |



DEPT OF BLDGS 121191236

Job Number



ES26999803

Scan Code

Sustained Load Factors:

```

=====
Load      Factor
Case      (%)
-----
Dead      100
Live      0
Wind      0
EQ        0
Snow      0

```

Load Combinations:

- ```

=====
U1 = 1.400*Dead + 0.000*Live + 0.000*Wind + 0.000*EarthQuake + 0.000*Snow
U2 = 1.200*Dead + 1.600*Live + 0.000*Wind + 0.000*EarthQuake + 0.500*Snow
U3 = 1.200*Dead + 1.000*Live + 0.000*Wind + 0.000*EarthQuake + 1.600*Snow
U4 = 1.200*Dead + 0.000*Live + 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U5 = 1.200*Dead + 1.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U6 = 0.900*Dead + 0.000*Live + 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U7 = 1.200*Dead + 0.000*Live - 0.800*Wind + 0.000*EarthQuake + 1.600*Snow
U8 = 1.200*Dead + 1.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.500*Snow
U9 = 0.900*Dead + 0.000*Live - 1.600*Wind + 0.000*EarthQuake + 0.000*Snow
U10 = 1.200*Dead + 1.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.200*Snow
U11 = 0.900*Dead + 0.000*Live + 0.000*Wind + 1.000*EarthQuake + 0.000*Snow
U12 = 1.200*Dead + 1.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.200*Snow
U13 = 0.900*Dead + 0.000*Live + 0.000*Wind - 1.000*EarthQuake + 0.000*Snow

```

Factored Loads and Moments with Corresponding Capacities:

```

=====
NOTE: Each loading combination includes the following cases:
First line - at column top
Second line - at column bottom

```

| No. | Load Combo | Pu kip   | Mux k-ft | Muy k-ft   | PhiMnx k-ft | PhiMny k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|----------|----------|------------|-------------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 14338.80 | 0.00     | 0.00       | 122144.78   | 0.00        | 999.999  | 6.08        | 118.40      | 0.05544 | 0.900 |
| 2   |            | 14338.80 | -0.00    | -0.00      | 122144.78   | 0.00        | 999.999  | 6.08        | 118.40      | 0.05544 | 0.900 |
| 3   | 1 U2       | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 4   |            | 12290.40 | -0.00    | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 5   | 1 U3       | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 6   |            | 12290.40 | -0.00    | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 7   | 1 U4       | 12290.40 | 748.00   | 0.00       | 109430.86   | 0.00        | 146.298  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 8   |            | 12290.40 | 748.00   | -0.00      | 109430.86   | 0.00        | 146.298  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 9   | 1 U5       | 12290.40 | 1496.00  | 0.00       | 109430.86   | 0.00        | 73.149   | 5.45        | 118.40      | 0.06215 | 0.900 |
| 10  |            | 12290.40 | 1496.00  | -0.00      | 109430.86   | 0.00        | 73.149   | 5.45        | 118.40      | 0.06215 | 0.900 |
| 11  | 1 U6       | 9217.80  | 1496.00  | 0.00       | 90266.19    | 0.00        | 60.338   | 4.54        | 118.40      | 0.07516 | 0.900 |
| 12  |            | 9217.80  | 1496.00  | -0.00      | 90266.19    | 0.00        | 60.338   | 4.54        | 118.40      | 0.07516 | 0.900 |
| 13  | 1 U7       | 12290.40 | -748.00  | 0.00       | -70627.40   | -0.01       | 94.422   | 5.83        | 124.40      | 0.06101 | 0.900 |
| 14  |            | 12290.40 | -748.00  | -0.00      | -70627.40   | -0.01       | 94.422   | 5.83        | 124.40      | 0.06101 | 0.900 |
| 15  | 1 U8       | 12290.40 | -1496.00 | 0.00       | -70627.40   | -0.01       | 47.211   | 5.83        | 124.40      | 0.06101 | 0.900 |
| 16  |            | 12290.40 | -1496.00 | -0.00      | -70627.40   | -0.01       | 47.211   | 5.83        | 124.40      | 0.06101 | 0.900 |
| 17  | 1 U9       | 9217.80  | -1496.00 | 0.00       | -58212.13   | -0.01       | 38.912   | 4.78        | 124.40      | 0.07505 | 0.900 |
| 18  |            | 9217.80  | -1496.00 | -0.00      | -58212.13   | -0.01       | 38.912   | 4.78        | 124.40      | 0.07505 | 0.900 |
| 19  | 1 U10      | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 20  |            | 12290.40 | -0.00    | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 21  | 1 U11      | 9217.80  | 0.00     | 0.00       | 90266.19    | 0.00        | 999.999  | 4.54        | 118.40      | 0.07516 | 0.900 |
| 22  |            | 9217.80  | -0.00    | -0.00      | 90266.19    | 0.00        | 999.999  | 4.54        | 118.40      | 0.07516 | 0.900 |
| 23  | 1 U12      | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 24  |            | 12290.40 | 0.00     | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 25  | 1 U13      | 9217.80  | 0.00     | 0.00       | 90266.19    | 0.00        | 999.999  | 4.54        | 118.40      | 0.07516 | 0.900 |
| 26  |            | 9217.80  | 0.00     | -0.00      | 90266.19    | 0.00        | 999.999  | 4.54        | 118.40      | 0.07516 | 0.900 |
| 27  | 2 U1       | 14338.80 | 0.00     | 0.00       | 122144.78   | 0.00        | 999.999  | 6.08        | 118.40      | 0.05544 | 0.900 |
| 28  |            | 14338.80 | -0.00    | -0.00      | 122144.78   | 0.00        | 999.999  | 6.08        | 118.40      | 0.05544 | 0.900 |
| 29  | 2 U2       | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 30  |            | 12290.40 | -0.00    | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 31  | 2 U3       | 12290.40 | 0.00     | 0.00       | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 32  |            | 12290.40 | -0.00    | -0.00      | 109430.86   | 0.00        | 999.999  | 5.45        | 118.40      | 0.06215 | 0.900 |
| 33  | 2 U4       | 12290.40 | 0.00     | 51592.80   | -0.01       | 338342.84   | 6.558    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 34  |            | 12290.40 | -0.00    | 51592.80   | -0.01       | 338342.84   | 6.558    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 35  | 2 U5       | 12290.40 | 0.00     | 103185.60  | -0.01       | 338342.84   | 3.279    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 36  |            | 12290.40 | -0.00    | 103185.60  | -0.01       | 338342.84   | 3.279    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 37  | 2 U6       | 9217.80  | 0.00     | 103185.60  | -0.01       | 278866.19   | 2.703    | 28.00       | 493.60      | 0.05714 | 0.900 |
| 38  |            | 9217.80  | -0.00    | 103185.60  | -0.01       | 278866.19   | 2.703    | 28.00       | 493.60      | 0.05714 | 0.900 |
| 39  | 2 U7       | 12290.40 | 0.00     | -51592.80  | 0.00        | -338342.75  | 6.558    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 40  |            | 12290.40 | -0.00    | -51592.80  | 0.00        | -338342.75  | 6.558    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 41  | 2 U8       | 12290.40 | 0.00     | -103185.60 | 0.00        | -338342.75  | 3.279    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 42  |            | 12290.40 | -0.00    | -103185.60 | 0.00        | -338342.75  | 3.279    | 38.44       | 496.63      | 0.03703 | 0.900 |
| 43  | 2 U9       | 9217.80  | 0.00     | -103185.60 | 0.00        | -278866.50  | 2.703    | 28.00       | 493.60      | 0.05714 | 0.900 |
| 44  |            | 9217.80  | -0.00    | -103185.60 | 0.00        | -278866.50  | 2.703    | 28.00       | 493.60      | 0.05714 | 0.900 |



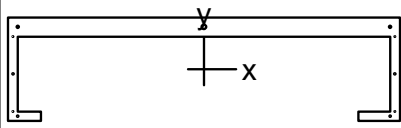
DEPT OF BLDGS121191236 Job Number



ES844258045 Scan Code

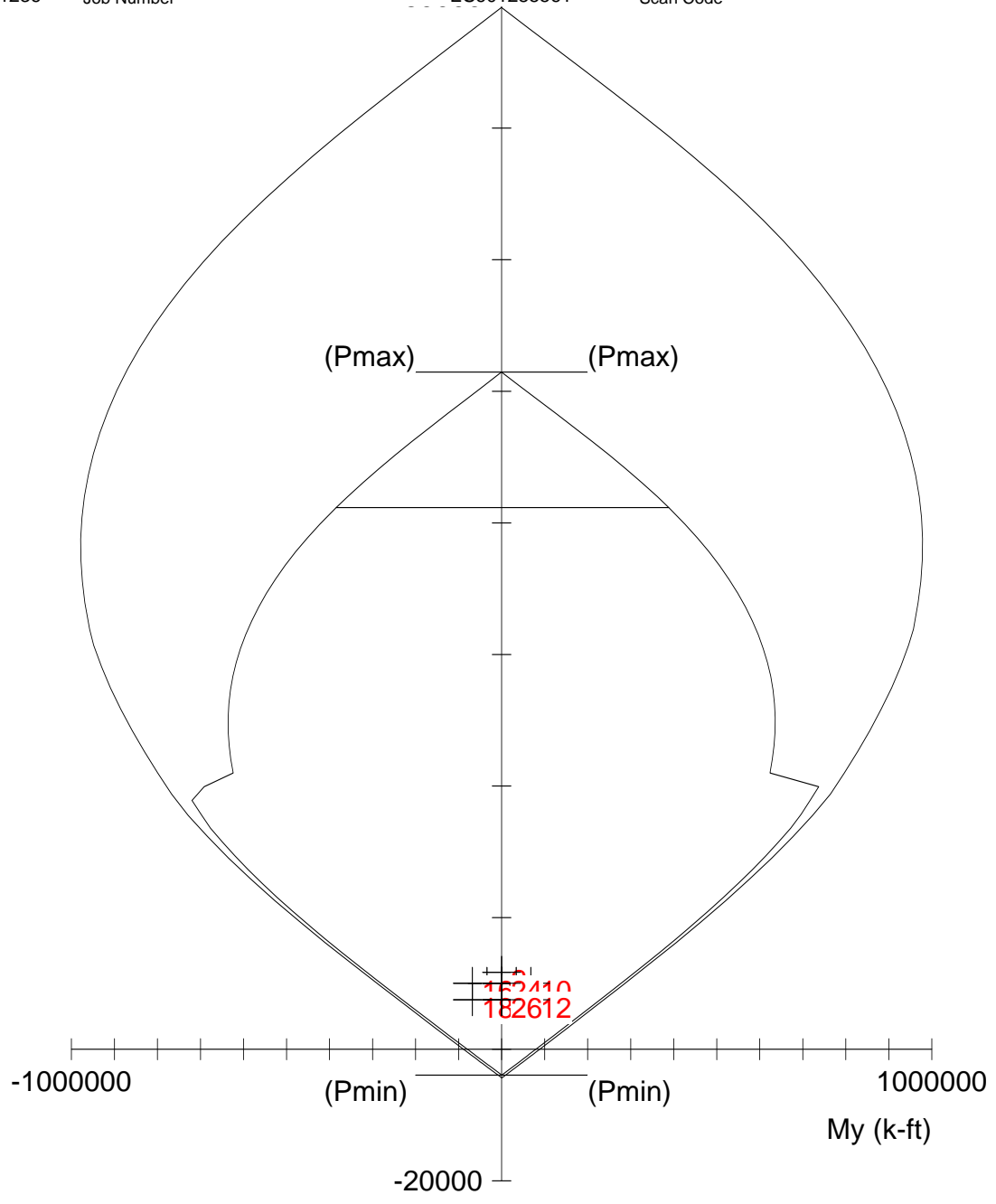
|    |       |          |       |       |           |      |         |      |        |         |       |
|----|-------|----------|-------|-------|-----------|------|---------|------|--------|---------|-------|
| 45 | 2 U10 | 12290.40 | 0.00  | 0.00  | 109430.86 | 0.00 | 999.999 | 5.45 | 118.40 | 0.06215 | 0.900 |
| 46 |       | 12290.40 | -0.00 | -0.00 | 109430.86 | 0.00 | 999.999 | 5.45 | 118.40 | 0.06215 | 0.900 |
| 47 | 2 U11 | 9217.80  | 0.00  | 0.00  | 90266.19  | 0.00 | 999.999 | 4.54 | 118.40 | 0.07516 | 0.900 |
| 48 |       | 9217.80  | -0.00 | -0.00 | 90266.19  | 0.00 | 999.999 | 4.54 | 118.40 | 0.07516 | 0.900 |
| 49 | 2 U12 | 12290.40 | 0.00  | 0.00  | 109430.86 | 0.00 | 999.999 | 5.45 | 118.40 | 0.06215 | 0.900 |
| 50 |       | 12290.40 | -0.00 | 0.00  | 109430.86 | 0.00 | 999.999 | 5.45 | 118.40 | 0.06215 | 0.900 |
| 51 | 2 U13 | 9217.80  | 0.00  | 0.00  | 90266.19  | 0.00 | 999.999 | 4.54 | 118.40 | 0.07516 | 0.900 |
| 52 |       | 9217.80  | -0.00 | 0.00  | 90266.19  | 0.00 | 999.999 | 4.54 | 118.40 | 0.07516 | 0.900 |

\*\*\* End of output \*\*\*



491.137 x 130.404 in

Code: ACI 318-14  
 Units: English  
 Run axis: About Y-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 10:56:23



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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Full Wall C 10th Floor.col

Project:

|                              |   |
|------------------------------|---|
| Column:                      | Engineer:                                 |
| f'c = 12 ksi                 | fy = 60 ksi                               |
| Ec = 6244 ksi                | Es = 29000 ksi                            |
| fc = 10.2 ksi                | e <sub>yt</sub> = 0.00206897 in/in        |
| e <sub>u</sub> = 0.003 in/in | Beta1 = 0.65                              |
| Confinement: Tied            | phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65 |

|                              |                                   |
|------------------------------|-----------------------------------|
| Ag = 15166.1 in <sup>2</sup> | 11 bars                           |
| As = 72.80 in <sup>2</sup>   | rho = 0.48%                       |
| Xo = 1.65 in                 | lx = 1.9835e+007 in <sup>4</sup>  |
| Yo = 36.11 in                | ly = 4.22077e+008 in <sup>4</sup> |
| Min clear spacing = 6.79 in  | Clear cover = N/A                 |



DEPT OF BLDGS 121191236 Job Number



ES985723833 Scan Code

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oooooo  oo          ooooooo  oooooo  ooo  oooooo o  oo  oo  oo  oo  oo (TM)

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spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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S:\14442-01\SPCol\Shear



General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\10th ... \14442-01\_aja\_20160926\_Full Wall C 10th Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: Y-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:  
=====

Exterior Points

| No. | X (in) | Y (in) | No. | X (in) | Y (in) | No. | X (in) | Y (in) |
|-----|--------|--------|-----|--------|--------|-----|--------|--------|
| 1   | 194.0  | -53.2  | 2   | 194.0  | -65.2  | 3   | 245.6  | -65.2  |
| 4   | 245.6  | 65.2   | 5   | -245.6 | 65.2   | 6   | -245.6 | -65.2  |
| 7   | -204.4 | -65.2  | 8   | -204.4 | -53.2  | 9   | -233.6 | -53.2  |
| 10  | -233.6 | 41.2   | 11  | 233.6  | 41.2   | 12  | 233.6  | -53.2  |

Gross section area, Ag = 15166.1 in^2  
Ix = 1.9835e+007 in^4 Iy = 4.22077e+008 in^4  
rx = 36.1642 in ry = 166.824 in  
Xo = 1.6454 in Yo = 36.1078 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 72.80 in^2 at rho = 0.48% (Note: rho < 0.50%)  
Minimum clear spacing = 6.79 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 35.20     | 0.0    | 53.2   | 4.00      | -239.6 | -6.0   | 4.00      | 239.6  | -6.0   |
| 8.80      | -233.6 | 53.2   | 1.00      | -239.6 | 41.2   | 8.80      | 233.6  | 53.2   |
| 1.00      | 239.6  | 41.2   | 4.00      | -233.6 | -59.2  | 1.00      | -239.6 | -53.2  |
| 4.00      | 233.6  | -59.2  | 1.00      | 239.6  | -53.2  |           |        |        |

Service Loads:  
=====

| No. | Load Case | Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|-----------|----------------|---------------|---------------|---------------|---------------|
| 1   | Dead      | 8362.00        | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind      | 0.00           | 0.00          | 0.00          | 42397.00      | -42397.00     |
|     | EQ        | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow      | 0.00           | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |



DEPT OF BLDGS 121191236

Job Number



ES173107793

Scan Code

Load Combinations:

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow
- U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow
- U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow
- U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

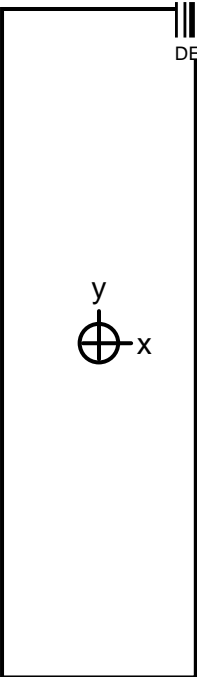
NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load Combo | Pu kip   | Muy k-ft  | PhiMny k-ft | PhiMn/Mu | NA depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|----------|-----------|-------------|----------|-------------|-------------|---------|-------|
| 1   | 1 U1       | 11706.80 | 0.00      | 310244.38   | 999.999  | 18.03       | 485.14      | 0.07772 | 0.900 |
| 2   |            | 11706.80 | -0.00     | 310244.38   | 999.999  | 18.03       | 485.14      | 0.07772 | 0.900 |
| 3   | 1 U2       | 10034.40 | 0.00      | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 4   |            | 10034.40 | -0.00     | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 5   | 1 U3       | 10034.40 | 0.00      | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 6   |            | 10034.40 | -0.00     | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 7   | 1 U4       | 10034.40 | 33917.60  | 277788.69   | 8.190    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 8   |            | 10034.40 | 33917.60  | 277788.69   | 8.190    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 9   | 1 U5       | 10034.40 | 67835.20  | 277788.69   | 4.095    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 10  |            | 10034.40 | 67835.20  | 277788.69   | 4.095    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 11  | 1 U6       | 7525.80  | 67835.20  | 228797.00   | 3.373    | 13.06       | 485.14      | 0.10845 | 0.900 |
| 12  |            | 7525.80  | 67835.20  | 228797.00   | 3.373    | 13.06       | 485.14      | 0.10845 | 0.900 |
| 13  | 1 U7       | 10034.40 | -33917.60 | -280540.47  | 8.271    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 14  |            | 10034.40 | -33917.60 | -280540.47  | 8.271    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 15  | 1 U8       | 10034.40 | -67835.20 | -280540.47  | 4.136    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 16  |            | 10034.40 | -67835.20 | -280540.47  | 4.136    | 16.01       | 485.14      | 0.08789 | 0.900 |
| 17  | 1 U9       | 7525.80  | -67835.20 | -230860.47  | 3.403    | 13.06       | 485.14      | 0.10845 | 0.900 |
| 18  |            | 7525.80  | -67835.20 | -230860.47  | 3.403    | 13.06       | 485.14      | 0.10845 | 0.900 |
| 19  | 1 U10      | 10034.40 | 0.00      | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 20  |            | 10034.40 | -0.00     | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 21  | 1 U11      | 7525.80  | 0.00      | 228797.00   | 999.999  | 13.06       | 485.14      | 0.10845 | 0.900 |
| 22  |            | 7525.80  | -0.00     | 228797.00   | 999.999  | 13.06       | 485.14      | 0.10845 | 0.900 |
| 23  | 1 U12      | 10034.40 | 0.00      | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 24  |            | 10034.40 | 0.00      | 277788.69   | 999.999  | 16.01       | 485.14      | 0.08789 | 0.900 |
| 25  | 1 U13      | 7525.80  | 0.00      | 228797.00   | 999.999  | 13.06       | 485.14      | 0.10845 | 0.900 |
| 26  |            | 7525.80  | 0.00      | 228797.00   | 999.999  | 13.06       | 485.14      | 0.10845 | 0.900 |

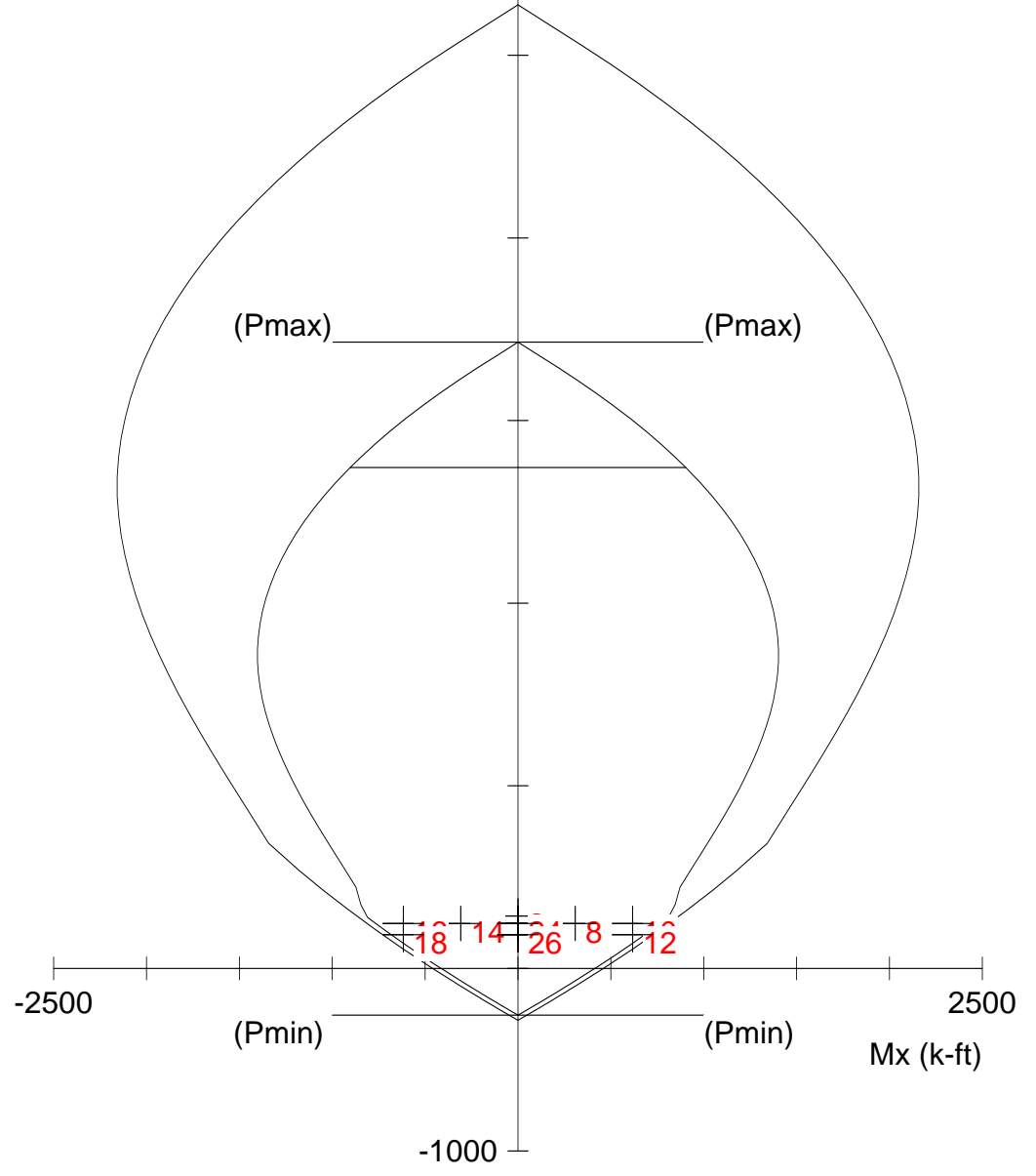
\*\*\* End of output \*\*\*





12 x 41.16 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 11:11:01



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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.1 10th Floor.col

Project:

Column:

$f'_c = 12$  ksi

$E_c = 6244$  ksi

$f_c = 10.2$  ksi

$e_u = 0.003$  in/in

Beta1 = 0.65

Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 493.92$  in<sup>2</sup>

$A_s = 4.74$  in<sup>2</sup>

$X_o = 0.00$  in

$Y_o = 0.00$  in

Min clear spacing = -1.23 in

1 bars

$\rho = 0.96\%$

$I_x = 69731$  in<sup>4</sup>

$I_y = 5927.04$  in<sup>4</sup>

Clear cover = 4.77 in



DEPT OF BLDGS 121191236 Job Number



ES782349992 Scan Code

```

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                oo   oo          oo
oooooo  oooooo  oo          oo  oo  ooooooooooooo  oooooo
oo   o  oo  oo  oo          oo  oo  oo          oo  oo  oo  oo  oo
oo          oo  oo  oo          oo  oo  oo          oo  oo  oo  oo  oo
oooooo  oo  oo  oo          oo  oo  oo          oo  oo  oo  oo  oo
o   oo  oo  oo          oo  oo  oo  o  oo  oo  oo  oo  oo  oo  oo
oooooo  oo          ooooooo  oooooo  ooo  oooooo o  oo  oo  oo  oo  oo (TM)

```

=====

spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.1 10th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 41.16 in  
 Gross section area, Ag = 493.92 in^2  
 Ix = 69731 in^4 Iy = 5927.04 in^4  
 rx = 11.8819 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 4.74 in^2 at rho = 0.96% (Note: rho < 1.0%)  
 Minimum clear spacing = -1.23 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 4.74      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 205.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 386.00        | -386.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES733723327

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

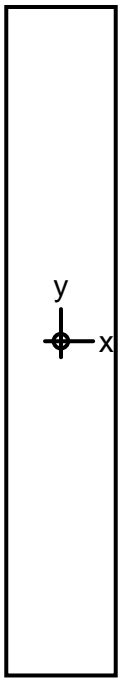
Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

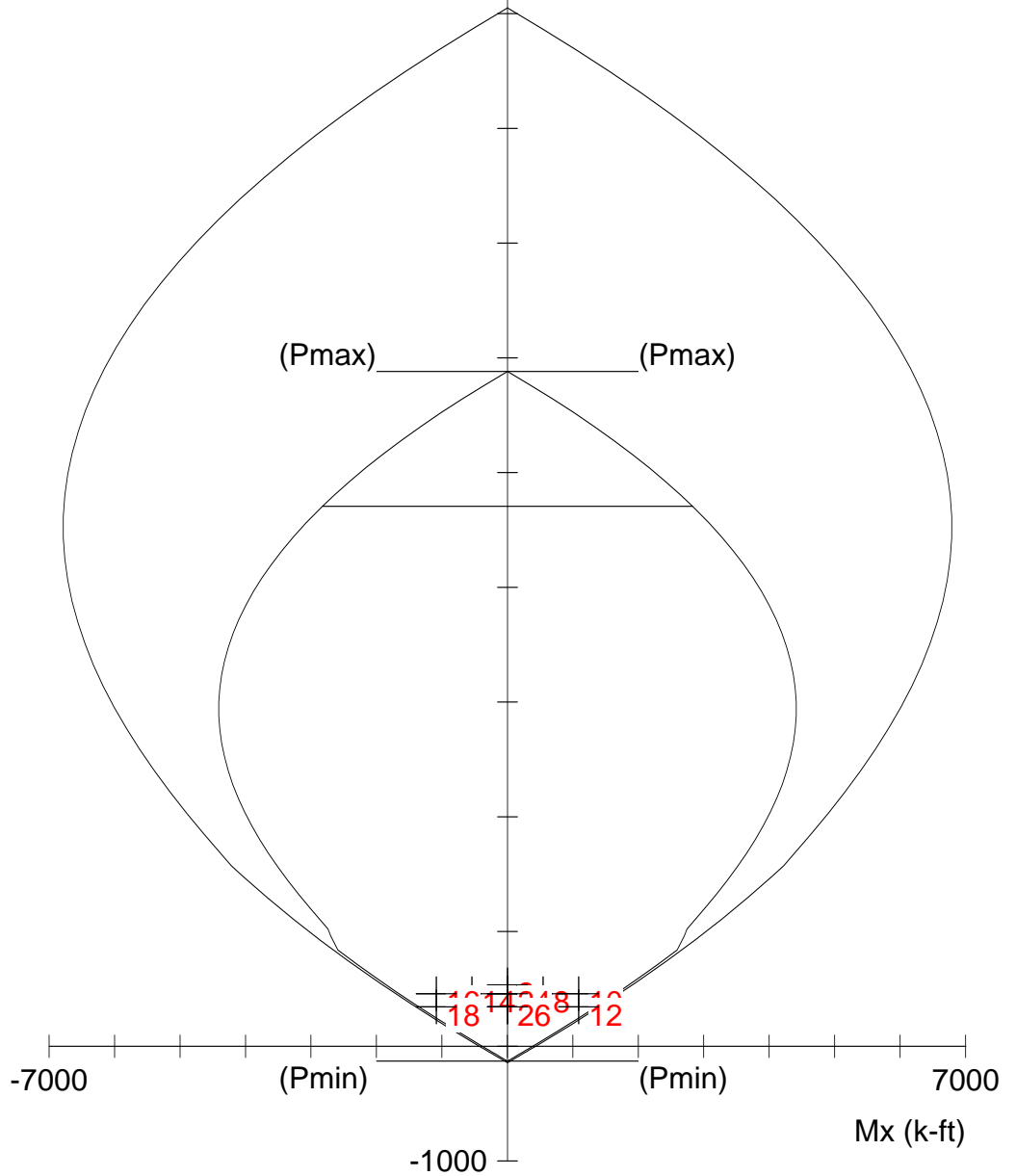
| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 287.00 | 0.00     | 819.67      | 999.999  |    | 7.58     |    | 20.58    | 0.00514 | 0.900 |
| 2   |            | 287.00 | -0.00    | 819.67      | 999.999  |    | 7.58     |    | 20.58    | 0.00514 | 0.900 |
| 3   | 1 U2       | 246.00 | 0.00     | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 4   |            | 246.00 | -0.00    | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 5   | 1 U3       | 246.00 | 0.00     | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 6   |            | 246.00 | -0.00    | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 7   | 1 U4       | 246.00 | 308.80   | 765.56      | 2.479    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 8   |            | 246.00 | 308.80   | 765.56      | 2.479    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 9   | 1 U5       | 246.00 | 617.60   | 765.56      | 1.240    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 10  |            | 246.00 | 617.60   | 765.56      | 1.240    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 11  | 1 U6       | 184.50 | 617.60   | 682.01      | 1.104    |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 12  |            | 184.50 | 617.60   | 682.01      | 1.104    |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 13  | 1 U7       | 246.00 | -308.80  | -765.56     | 2.479    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 14  |            | 246.00 | -308.80  | -765.56     | 2.479    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 15  | 1 U8       | 246.00 | -617.60  | -765.56     | 1.240    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 16  |            | 246.00 | -617.60  | -765.56     | 1.240    |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 17  | 1 U9       | 184.50 | -617.60  | -682.01     | 1.104    |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 18  |            | 184.50 | -617.60  | -682.01     | 1.104    |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 19  | 1 U10      | 246.00 | 0.00     | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 20  |            | 246.00 | -0.00    | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 21  | 1 U11      | 184.50 | 0.00     | 682.01      | 999.999  |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 22  |            | 184.50 | -0.00    | 682.01      | 999.999  |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 23  | 1 U12      | 246.00 | 0.00     | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 24  |            | 246.00 | 0.00     | 765.56      | 999.999  |    | 7.01     |    | 20.58    | 0.00581 | 0.900 |
| 25  | 1 U13      | 184.50 | 0.00     | 682.01      | 999.999  |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |
| 26  |            | 184.50 | 0.00     | 682.01      | 999.999  |    | 6.15     |    | 20.58    | 0.00704 | 0.900 |

\*\*\* End of output \*\*\*



12 x 72.96 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 13:55:54



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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.2 10th Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_{1} = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 875.52$  in<sup>2</sup>  
 $A_s = 2.40$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 0.00$  in  
 Min clear spacing = -0.87 in  
 Clear cover = 5.13 in

1 bars

$\rho = 0.27\%$

$I_x = 388378$  in<sup>4</sup>

$I_y = 10506.2$  in<sup>4</sup>



DEPT OF BLDGS 121191236 Job Number



ES206448804 Scan Code

```

          oooooo          o
          oo   oo          oo
ooooo   oooooo   oo   oooooo   oo   oo   o oooooo   o ooooo
oo   o   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
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ooooo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
o   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
ooooo   oo   oooooo   oooooo   ooo   oooooo o   oo   oo   oo   oo (TM)

```

=====  
spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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=====

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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.2 10th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 72.96 in  
 Gross section area, Ag = 875.52 in^2  
 Ix = 388378 in^4 Iy = 10506.2 in^4  
 rx = 21.0617 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 2.40 in^2 at rho = 0.27% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.87 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 2.40      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 382.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 680.00        | -680.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES640044143

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

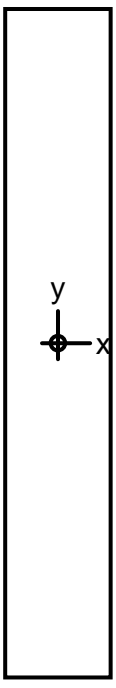
NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|-------------|---------|-------|
| 1   | 1 U1       | 534.80 | 0.00     | 1852.81     | 999.999  |    | 9.28     | 36.48       | 0.00879 | 0.900 |
| 2   |            | 534.80 | -0.00    | 1852.81     | 999.999  |    | 9.28     | 36.48       | 0.00879 | 0.900 |
| 3   | 1 U2       | 458.40 | 0.00     | 1656.75     | 999.999  |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 4   |            | 458.40 | -0.00    | 1656.75     | 999.999  |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 5   | 1 U3       | 458.40 | 0.00     | 1656.75     | 999.999  |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 6   |            | 458.40 | -0.00    | 1656.75     | 999.999  |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 7   | 1 U4       | 458.40 | 544.00   | 1656.75     | 3.045    |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 8   |            | 458.40 | 544.00   | 1656.75     | 3.045    |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 9   | 1 U5       | 458.40 | 1088.00  | 1656.75     | 1.523    |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 10  |            | 458.40 | 1088.00  | 1656.75     | 1.523    |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 11  | 1 U6       | 343.80 | 1088.00  | 1354.37     | 1.245    |    | 6.61     | 36.48       | 0.01355 | 0.900 |
| 12  |            | 343.80 | 1088.00  | 1354.37     | 1.245    |    | 6.61     | 36.48       | 0.01355 | 0.900 |
| 13  | 1 U7       | 458.40 | -544.00  | -1656.75    | 3.045    |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 14  |            | 458.40 | -544.00  | -1656.75    | 3.045    |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 15  | 1 U8       | 458.40 | -1088.00 | -1656.75    | 1.523    |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 16  |            | 458.40 | -1088.00 | -1656.75    | 1.523    |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 17  | 1 U9       | 343.80 | -1088.00 | -1354.37    | 1.245    |    | 6.61     | 36.48       | 0.01355 | 0.900 |
| 18  |            | 343.80 | -1088.00 | -1354.37    | 1.245    |    | 6.61     | 36.48       | 0.01355 | 0.900 |
| 19  | 1 U10      | 458.40 | 0.00     | 1656.75     | 999.999  |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 20  |            | 458.40 | -0.00    | 1656.75     | 999.999  |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 21  | 1 U11      | 343.80 | 0.00     | 1354.37     | 999.999  |    | 6.61     | 36.48       | 0.01355 | 0.900 |
| 22  |            | 343.80 | -0.00    | 1354.37     | 999.999  |    | 6.61     | 36.48       | 0.01355 | 0.900 |
| 23  | 1 U12      | 458.40 | 0.00     | 1656.75     | 999.999  |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 24  |            | 458.40 | 0.00     | 1656.75     | 999.999  |    | 8.21     | 36.48       | 0.01033 | 0.900 |
| 25  | 1 U13      | 343.80 | 0.00     | 1354.37     | 999.999  |    | 6.61     | 36.48       | 0.01355 | 0.900 |
| 26  |            | 343.80 | 0.00     | 1354.37     | 999.999  |    | 6.61     | 36.48       | 0.01355 | 0.900 |

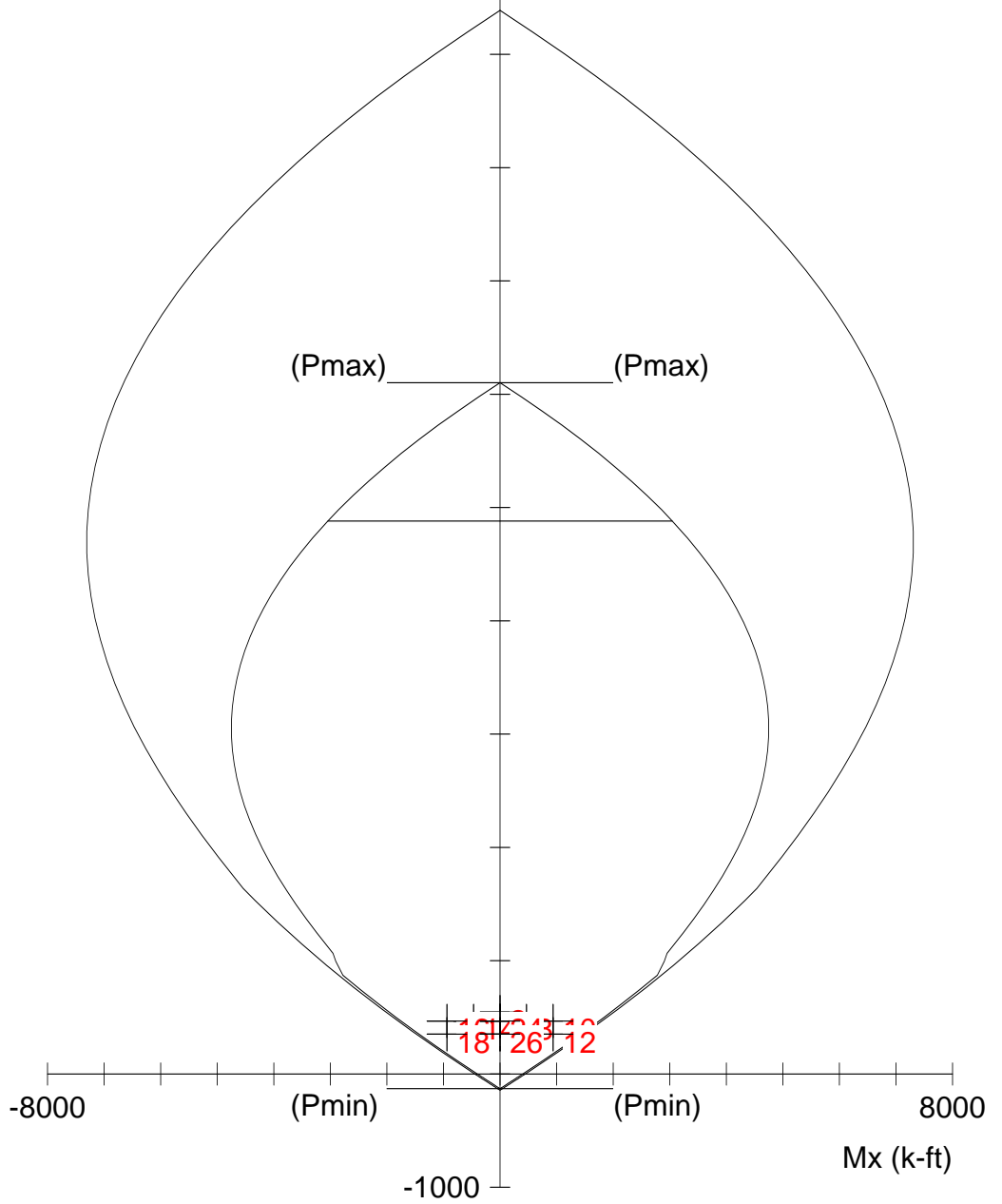
\*\*\* End of output \*\*\*





12 x 75.72 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 14:07:23



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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.3 10th Floor.col

Project:

Column:

$f'_c = 12$  ksi

$E_c = 6244$  ksi

$f_c = 10.2$  ksi

$e_u = 0.003$  in/in

Beta1 = 0.65

Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 908.64$  in<sup>2</sup>

$A_s = 2.40$  in<sup>2</sup>

$X_o = 0.00$  in

$Y_o = 0.00$  in

Min clear spacing = -0.87 in

1 bars

$\rho = 0.26\%$

$I_x = 434142$  in<sup>4</sup>

$I_y = 10903.7$  in<sup>4</sup>

Clear cover = 5.13 in



```

                oooooo          o
                oo   oo          oo
    oooooo   oooooo   oo          oooooo   oo   oo   ooooooooooooo   o oooooo
oo   o   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
    oooooo   oo   oo   oo          oo   oo   oo   oo   oo   oo   oo   oo   oo
o   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
    oooooo   oo          oooooo   oooooo   ooo   oooooo o   oo   oo   oo   oo   oo (TM)

```

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=====
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    Computer program for the Strength Design of Reinforced Concrete Sections
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=====

```

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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.3 10th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 75.72 in  
 Gross section area, Ag = 908.64 in^2  
 Ix = 434142 in^4 Iy = 10903.7 in^4  
 rx = 21.8585 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 2.40 in^2 at rho = 0.26% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.87 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 2.40      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 390.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 586.00        | -586.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES503901207

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

=====

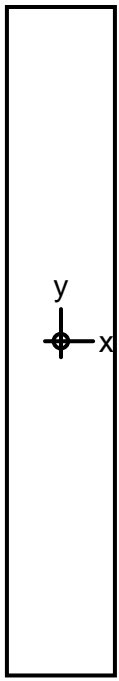
NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

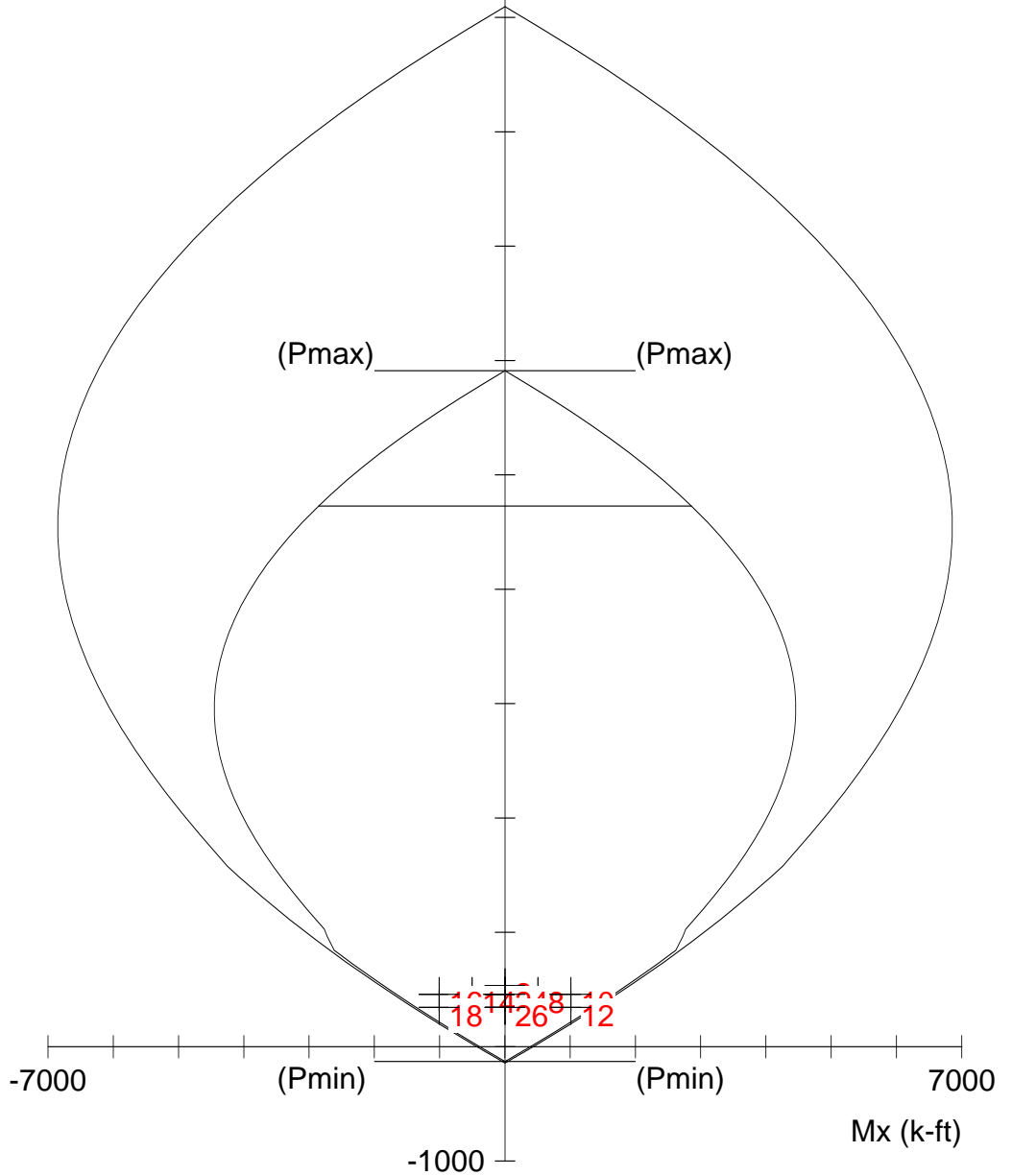
| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|-------------|---------|-------|
| 1   | 1 U1       | 546.00 | 0.00     | 1958.88     | 999.999  |    | 9.44     | 37.86       | 0.00904 | 0.900 |
| 2   |            | 546.00 | -0.00    | 1958.88     | 999.999  |    | 9.44     | 37.86       | 0.00904 | 0.900 |
| 3   | 1 U2       | 468.00 | 0.00     | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 4   |            | 468.00 | -0.00    | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 5   | 1 U3       | 468.00 | 0.00     | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 6   |            | 468.00 | -0.00    | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 7   | 1 U4       | 468.00 | 468.80   | 1750.35     | 3.734    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 8   |            | 468.00 | 468.80   | 1750.35     | 3.734    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 9   | 1 U5       | 468.00 | 937.60   | 1750.35     | 1.867    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 10  |            | 468.00 | 937.60   | 1750.35     | 1.867    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 11  | 1 U6       | 351.00 | 937.60   | 1428.93     | 1.524    |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 12  |            | 351.00 | 937.60   | 1428.93     | 1.524    |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 13  | 1 U7       | 468.00 | -468.80  | -1750.35    | 3.734    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 14  |            | 468.00 | -468.80  | -1750.35    | 3.734    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 15  | 1 U8       | 468.00 | -937.60  | -1750.35    | 1.867    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 16  |            | 468.00 | -937.60  | -1750.35    | 1.867    |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 17  | 1 U9       | 351.00 | -937.60  | -1428.93    | 1.524    |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 18  |            | 351.00 | -937.60  | -1428.93    | 1.524    |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 19  | 1 U10      | 468.00 | 0.00     | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 20  |            | 468.00 | -0.00    | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 21  | 1 U11      | 351.00 | 0.00     | 1428.93     | 999.999  |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 22  |            | 351.00 | -0.00    | 1428.93     | 999.999  |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 23  | 1 U12      | 468.00 | 0.00     | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 24  |            | 468.00 | 0.00     | 1750.35     | 999.999  |    | 8.35     | 37.86       | 0.01061 | 0.900 |
| 25  | 1 U13      | 351.00 | 0.00     | 1428.93     | 999.999  |    | 6.71     | 37.86       | 0.01392 | 0.900 |
| 26  |            | 351.00 | 0.00     | 1428.93     | 999.999  |    | 6.71     | 37.86       | 0.01392 | 0.900 |

\*\*\* End of output \*\*\*



12 x 73.32 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 14:13:48



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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.4 10th Floor.col

Project:

Column:

f'c = 12 ksi

Ec = 6244 ksi

fc = 10.2 ksi

e\_u = 0.003 in/in

Beta1 = 0.65

Confinement: Tied

phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Engineer:

Ag = 879.84 in^2

As = 2.40 in^2

Xo = 0.00 in

Yo = 0.00 in

Min clear spacing = -0.87 in

1 bars

rho = 0.27%

Ix = 394155 in^4

Iy = 10558.1 in^4

Clear cover = 5.13 in



DEPT OF BLDGS121191236 Job Number



ES943764388 Scan Code

```

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                        spColumn v5.10 (TM)
Computer program for the Strength Design of Reinforced Concrete Sections
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=====

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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.4 10th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 73.32 in  
 Gross section area, Ag = 879.84 in^2  
 Ix = 394155 in^4 Iy = 10558.1 in^4  
 rx = 21.1657 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 2.40 in^2 at rho = 0.27% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.87 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 2.40      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 382.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 631.00        | -631.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES935323684

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

=====

NOTE: Each loading combination includes the following cases:

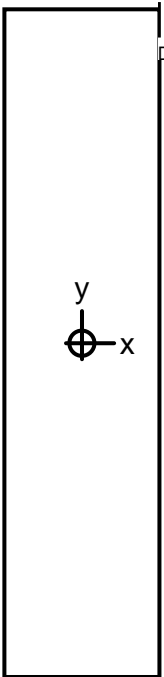
First line - at column top

Second line - at column bottom

| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|-------------|---------|-------|
| 1   | 1 U1       | 534.80 | 0.00     | 1862.78     | 999.999  |    | 9.28     | 36.66       | 0.00885 | 0.900 |
| 2   |            | 534.80 | -0.00    | 1862.78     | 999.999  |    | 9.28     | 36.66       | 0.00885 | 0.900 |
| 3   | 1 U2       | 458.40 | 0.00     | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 4   |            | 458.40 | -0.00    | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 5   | 1 U3       | 458.40 | 0.00     | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 6   |            | 458.40 | -0.00    | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 7   | 1 U4       | 458.40 | 504.80   | 1665.57     | 3.299    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 8   |            | 458.40 | 504.80   | 1665.57     | 3.299    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 9   | 1 U5       | 458.40 | 1009.60  | 1665.57     | 1.650    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 10  |            | 458.40 | 1009.60  | 1665.57     | 1.650    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 11  | 1 U6       | 343.80 | 1009.60  | 1361.47     | 1.349    |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 12  |            | 343.80 | 1009.60  | 1361.47     | 1.349    |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 13  | 1 U7       | 458.40 | -504.80  | -1665.57    | 3.299    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 14  |            | 458.40 | -504.80  | -1665.57    | 3.299    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 15  | 1 U8       | 458.40 | -1009.60 | -1665.57    | 1.650    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 16  |            | 458.40 | -1009.60 | -1665.57    | 1.650    |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 17  | 1 U9       | 343.80 | -1009.60 | -1361.47    | 1.349    |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 18  |            | 343.80 | -1009.60 | -1361.47    | 1.349    |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 19  | 1 U10      | 458.40 | 0.00     | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 20  |            | 458.40 | -0.00    | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 21  | 1 U11      | 343.80 | 0.00     | 1361.47     | 999.999  |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 22  |            | 343.80 | -0.00    | 1361.47     | 999.999  |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 23  | 1 U12      | 458.40 | 0.00     | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 24  |            | 458.40 | 0.00     | 1665.57     | 999.999  |    | 8.21     | 36.66       | 0.01039 | 0.900 |
| 25  | 1 U13      | 343.80 | 0.00     | 1361.47     | 999.999  |    | 6.61     | 36.66       | 0.01363 | 0.900 |
| 26  |            | 343.80 | 0.00     | 1361.47     | 999.999  |    | 6.61     | 36.66       | 0.01363 | 0.900 |

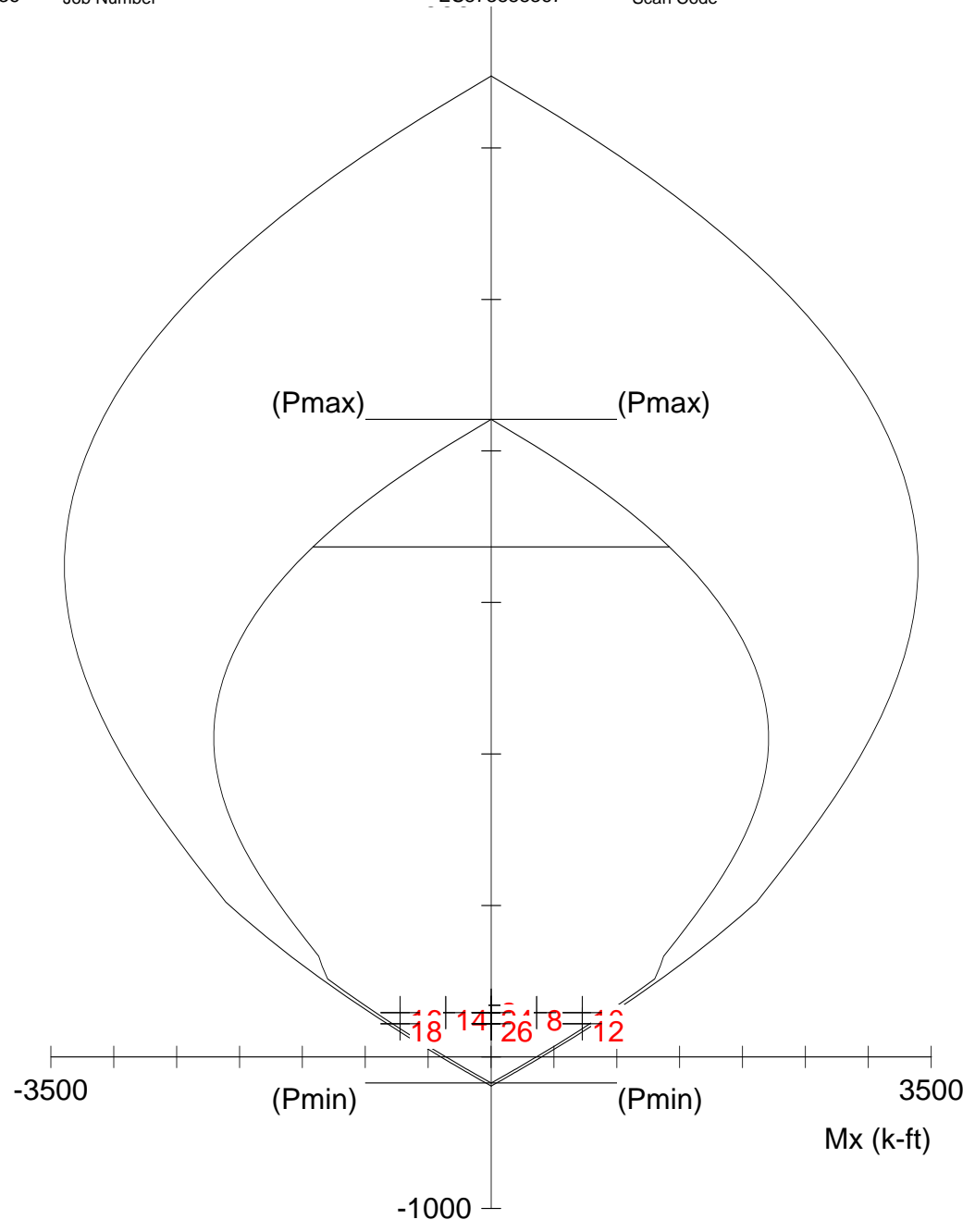
\*\*\* End of output \*\*\*





12 x 51.6 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 14:26:45



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File: S:\14442-01\SPCo\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.5 10th Floor.col

Project:

|   |                              |
|---|------------------------------|
| Column:                                   | Engineer:                    |
| f'c = 12 ksi                              | fy = 60 ksi                  |
| Ec = 6244 ksi                             | Ag = 619.2 in <sup>2</sup>   |
| fc = 10.2 ksi                             | As = 3.20 in <sup>2</sup>    |
| e_u = 0.003 in/in                         | Xo = 0.00 in                 |
| Beta1 = 0.65                              | Yo = 0.00 in                 |
| Confinement: Tied                         | Min clear spacing = -1.01 in |
| phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65 | Clear cover = 4.99 in        |



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oooooo  oo          ooooooo  oooooo  ooo  oooooo  o  oo  oo  oo  oo  oo (TM)

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Computer program for the Strength Design of Reinforced Concrete Sections
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License to: Severud  
S:\14442-01\SPCol\Sh



DEPT OF BLDGS121191236 Job Number

ES045242932

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\10th Floor\14442-01\_aja\_20160926\_Wall 2.5 10th Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:  
=====

Rectangular: Width = 12 in Depth = 51.6 in  
Gross section area, Ag = 619.2 in^2  
Ix = 137388 in^4 Iy = 7430.4 in^4  
rx = 14.8956 in ry = 3.4641 in  
Xo = 0 in Yo = 0 in

Reinforcement:  
=====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 3.20 in^2 at rho = 0.52% (Note: rho < 1.0%)  
Minimum clear spacing = -1.01 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 3.20      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
=====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 244.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 452.00        | -452.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
=====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES498108607

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

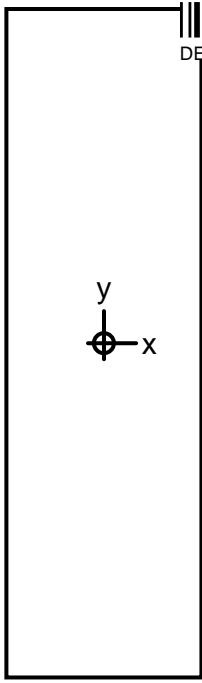
NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

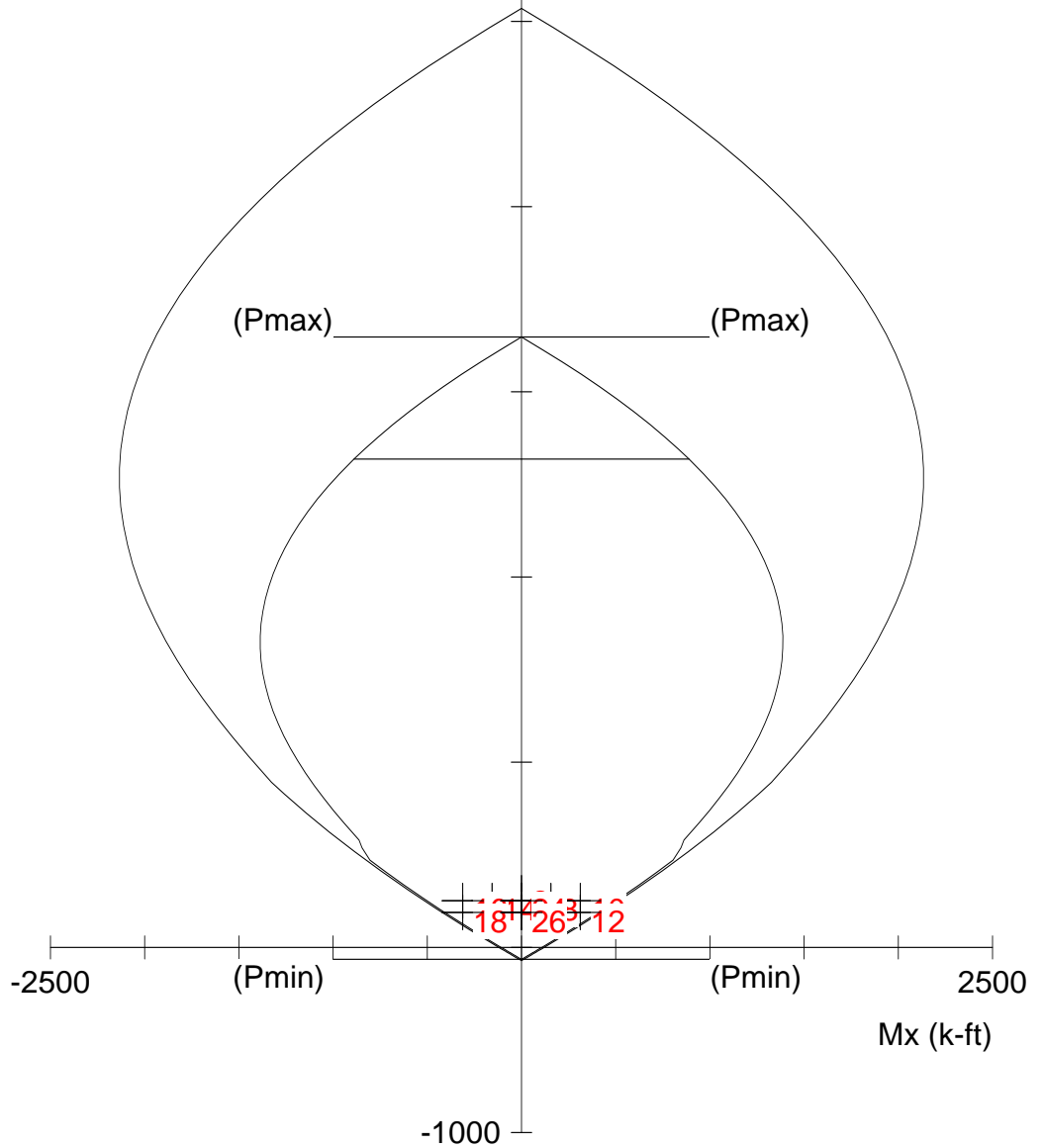
| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 341.60 | 0.00     | 1005.88     | 999.999  |    | 7.18     |    | 25.80    | 0.00777 | 0.900 |
| 2   |            | 341.60 | -0.00    | 1005.88     | 999.999  |    | 7.18     |    | 25.80    | 0.00777 | 0.900 |
| 3   | 1 U2       | 292.80 | 0.00     | 919.04      | 999.999  |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 4   |            | 292.80 | -0.00    | 919.04      | 999.999  |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 5   | 1 U3       | 292.80 | 0.00     | 919.04      | 999.999  |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 6   |            | 292.80 | -0.00    | 919.04      | 999.999  |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 7   | 1 U4       | 292.80 | 361.60   | 919.04      | 2.542    |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 8   |            | 292.80 | 361.60   | 919.04      | 2.542    |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 9   | 1 U5       | 292.80 | 723.20   | 919.04      | 1.271    |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 10  |            | 292.80 | 723.20   | 919.04      | 1.271    |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 11  | 1 U6       | 219.60 | 723.20   | 785.42      | 1.086    |    | 5.48     |    | 25.80    | 0.01112 | 0.900 |
| 12  |            | 219.60 | 723.20   | 785.42      | 1.086    |    | 5.48     |    | 25.80    | 0.01112 | 0.900 |
| 13  | 1 U7       | 292.80 | -361.60  | -919.04     | 2.542    |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 14  |            | 292.80 | -361.60  | -919.04     | 2.542    |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 15  | 1 U8       | 292.80 | -723.20  | -919.04     | 1.271    |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 16  |            | 292.80 | -723.20  | -919.04     | 1.271    |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 17  | 1 U9       | 219.60 | -723.20  | -785.42     | 1.086    |    | 5.48     |    | 25.80    | 0.01112 | 0.900 |
| 18  |            | 219.60 | -723.20  | -785.42     | 1.086    |    | 5.48     |    | 25.80    | 0.01112 | 0.900 |
| 19  | 1 U10      | 292.80 | 0.00     | 919.04      | 999.999  |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 20  |            | 292.80 | -0.00    | 919.04      | 999.999  |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 21  | 1 U11      | 219.60 | 0.00     | 785.42      | 999.999  |    | 5.48     |    | 25.80    | 0.01112 | 0.900 |
| 22  |            | 219.60 | -0.00    | 785.42      | 999.999  |    | 5.48     |    | 25.80    | 0.01112 | 0.900 |
| 23  | 1 U12      | 292.80 | 0.00     | 919.04      | 999.999  |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 24  |            | 292.80 | 0.00     | 919.04      | 999.999  |    | 6.50     |    | 25.80    | 0.00890 | 0.900 |
| 25  | 1 U13      | 219.60 | 0.00     | 785.42      | 999.999  |    | 5.48     |    | 25.80    | 0.01112 | 0.900 |
| 26  |            | 219.60 | 0.00     | 785.42      | 999.999  |    | 5.48     |    | 25.80    | 0.01112 | 0.900 |

\*\*\* End of output \*\*\*



12 x 40.92 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 14:51:02



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File: S:\14442-01\SPCo\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.1 13th Floor.col

Project:

Column:

$f'_c = 12$  ksi

$E_c = 6244$  ksi

$f_c = 10.2$  ksi

$e_u = 0.003$  in/in

Beta1 = 0.65

Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 491.04$  in<sup>2</sup>

$A_s = 1.20$  in<sup>2</sup>

$X_o = 0.00$  in

$Y_o = 0.00$  in

Min clear spacing = -0.62 in

1 bars

$\rho = 0.24\%$

$I_x = 68518.3$  in<sup>4</sup>

$I_y = 5892.48$  in<sup>4</sup>

Clear cover = 5.38 in



DEPT OF BLDGS 121191236 Job Number



ES993699886 Scan Code

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                oo   oo          oo
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oo   o  oo oo oo  oo          oo oo  oo          oo oo  oo oo oo oo
oo          oo oo  oo          oo oo  oo          oo oo  oo oo oo
ooooo  oo oo oo  oo          oo oo  oo          oo oo  oo oo oo
o   oo  oo          oo   oo  oo oo  oo  oo  oo  oo  oo  oo  oo
ooooo  oo          oooooo  oooooo  ooo  oooooo o  oo  oo  oo  oo  oo (TM)

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=====

spColumn v5.10 (TM)

Computer program for the Strength Design of Reinforced Concrete Sections  
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Licensed to: Severud

S:\14442-01\SPCol\Sh



DEPT OF BLDGS121191236

Job Number



ES072242190

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.1 13th Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Beta1 = 0.65

Section:  
=====

Rectangular: Width = 12 in Depth = 40.92 in  
Gross section area, Ag = 491.04 in^2  
Ix = 68518.3 in^4 Iy = 5892.48 in^4  
rx = 11.8126 in ry = 3.4641 in  
Xo = 0 in Yo = 0 in

Reinforcement:  
=====

Bar Set: ASTM A615  
Size Diam (in) Area (in^2) Size Diam (in) Area (in^2) Size Diam (in) Area (in^2)  
# 3 0.38 0.11 # 4 0.50 0.20 # 5 0.63 0.31  
# 6 0.75 0.44 # 7 0.88 0.60 # 8 1.00 0.79  
# 9 1.13 1.00 # 10 1.27 1.27 # 11 1.41 1.56  
# 14 1.69 2.25 # 18 2.26 4.00

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 1.20 in^2 at rho = 0.24% (Note: rho < 0.50%)  
Minimum clear spacing = -0.62 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 1.20      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
=====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 210.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 195.00        | -195.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
=====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES804335251

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:

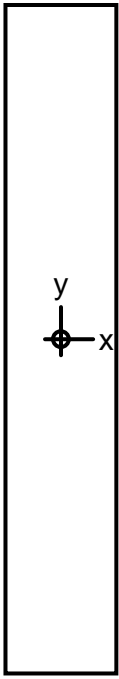
NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 294.00 | 0.00     | 563.06      | 999.999  |    | 5.01     |    | 20.46    | 0.00925 | 0.900 |
| 2   |            | 294.00 | -0.00    | 563.06      | 999.999  |    | 5.01     |    | 20.46    | 0.00925 | 0.900 |
| 3   | 1 U2       | 252.00 | 0.00     | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 4   |            | 252.00 | -0.00    | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 5   | 1 U3       | 252.00 | 0.00     | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 6   |            | 252.00 | -0.00    | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 7   | 1 U4       | 252.00 | 156.00   | 502.18      | 3.219    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 8   |            | 252.00 | 156.00   | 502.18      | 3.219    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 9   | 1 U5       | 252.00 | 312.00   | 502.18      | 1.610    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 10  |            | 252.00 | 312.00   | 502.18      | 1.610    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 11  | 1 U6       | 189.00 | 312.00   | 408.36      | 1.309    |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 12  |            | 189.00 | 312.00   | 408.36      | 1.309    |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 13  | 1 U7       | 252.00 | -156.00  | -502.18     | 3.219    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 14  |            | 252.00 | -156.00  | -502.18     | 3.219    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 15  | 1 U8       | 252.00 | -312.00  | -502.18     | 1.610    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 16  |            | 252.00 | -312.00  | -502.18     | 1.610    |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 17  | 1 U9       | 189.00 | -312.00  | -408.36     | 1.309    |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 18  |            | 189.00 | -312.00  | -408.36     | 1.309    |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 19  | 1 U10      | 252.00 | 0.00     | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 20  |            | 252.00 | -0.00    | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 21  | 1 U11      | 189.00 | 0.00     | 408.36      | 999.999  |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 22  |            | 189.00 | -0.00    | 408.36      | 999.999  |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 23  | 1 U12      | 252.00 | 0.00     | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 24  |            | 252.00 | 0.00     | 502.18      | 999.999  |    | 4.42     |    | 20.46    | 0.01087 | 0.900 |
| 25  | 1 U13      | 189.00 | 0.00     | 408.36      | 999.999  |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |
| 26  |            | 189.00 | 0.00     | 408.36      | 999.999  |    | 3.54     |    | 20.46    | 0.01432 | 0.900 |

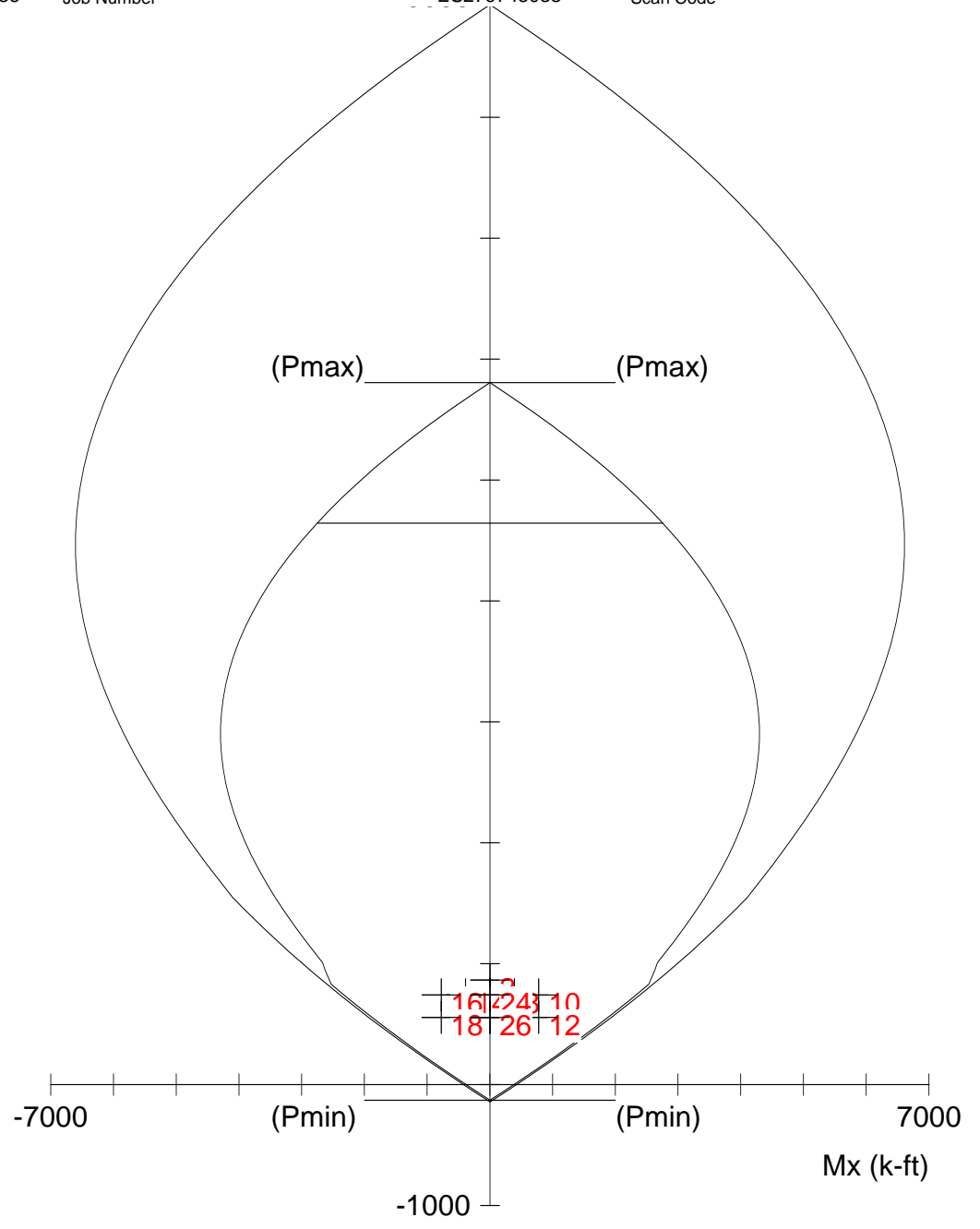
\*\*\* End of output \*\*\*





12 x 72 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 16:03:00



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File: S:\14442-01\SPCo\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.2 13th Floor.col

Project:

|   |                              |
|---|------------------------------|
| Column:                                   | Engineer:                    |
| f'c = 12 ksi                              | fy = 60 ksi                  |
| Ec = 6244 ksi                             | Ag = 864 in^2                |
| fc = 10.2 ksi                             | As = 2.40 in^2               |
| e_u = 0.003 in/in                         | rho = 0.28%                  |
| Beta1 = 0.65                              | Yo = 0.00 in                 |
| Confinement: Tied                         | ly = 10368 in^4              |
| phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65 | Min clear spacing = -0.87 in |
|   | Clear cover = 5.13 in        |



DEPT OF BLDGS121191236 Job Number



ES623479272 Scan Code

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         oo   oo
ooooo  oooooo  oo          ooooo  oo   oo   o oooooooo  o ooooo
oo   o  oo oo  oo          oo oo  oo   oo oo  oo   oo oo  oo
oo          oo  oo  oo          oo oo  oo   oo oo  oo   oo oo
ooooo  oo oo  oo  oo          oo oo  oo   oo oo  oo   oo oo
o   oo  oo oooooo  oo          oo oo  oo   oo oo  oo   oo oo
o   oo  oo oo   oo  oo oo oo  oo   oo oo  oo   oo oo  oo   oo oo
ooooo  oo          oooooo  ooooo  ooo  ooooo o  oo  oo  oo   oo oo (TM)

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                        spColumn v5.10 (TM)
Computer program for the Strength Design of Reinforced Concrete Sections
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=====

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S:\14442-01\SPCol\Sh



DEPT OF BLDGS121191236

Job Number



ES779812750

Scan Code

General Information:  
=====

File Name: S:\14442-01\SPCol\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.2 13th Floor.col  
Project:  
Column: Engineer:  
Code: ACI 318-14 Units: English  
Run Option: Investigation Slenderness: Not considered  
Run Axis: X-axis Column Type: Structural

Material Properties:  
=====

Concrete: Standard Steel: Standard  
f'c = 12 ksi fy = 60 ksi  
Ec = 6244.04 ksi Es = 29000 ksi  
fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
Eps\_u = 0.003 in/in  
Betal = 0.65

Section:  
=====

Rectangular: Width = 12 in Depth = 72 in  
Gross section area, Ag = 864 in^2  
Ix = 373248 in^4 Iy = 10368 in^4  
rx = 20.7846 in ry = 3.4641 in  
Xo = 0 in Yo = 0 in

Reinforcement:  
=====

Bar Set: ASTM A615  
Size Diam (in) Area (in^2) Size Diam (in) Area (in^2) Size Diam (in) Area (in^2)  
# 3 0.38 0.11 # 4 0.50 0.20 # 5 0.63 0.31  
# 6 0.75 0.44 # 7 0.88 0.60 # 8 1.00 0.79  
# 9 1.13 1.00 # 10 1.27 1.27 # 11 1.41 1.56  
# 14 1.69 2.25 # 18 2.26 4.00

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
Total steel area: As = 2.40 in^2 at rho = 0.28% (Note: rho < 0.50%)  
Minimum clear spacing = -0.87 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 2.40      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
=====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 618.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 486.00        | -486.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
=====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
=====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES279193970

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

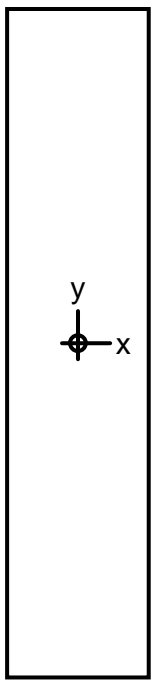
Factored Loads and Moments with Corresponding Capacities:

NOTE: Each loading combination includes the following cases:

First line - at column top  
Second line - at column bottom

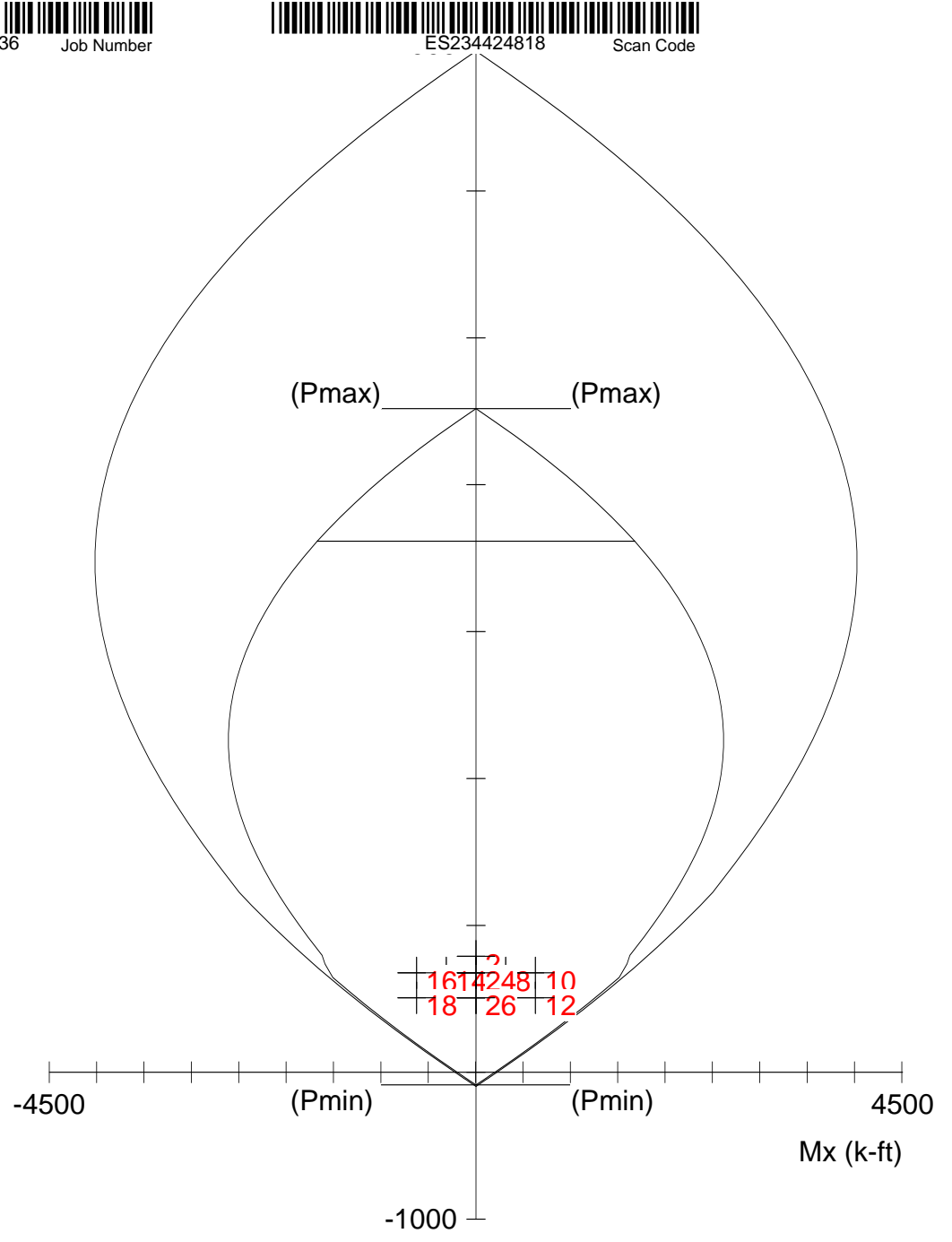
| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 865.20 | 0.00     | 2568.69     | 999.999  |    | 14.67    |    | 36.00    | 0.00436 | 0.845 |
| 2   |            | 865.20 | -0.00    | 2568.69     | 999.999  |    | 14.67    |    | 36.00    | 0.00436 | 0.845 |
| 3   | 1 U2       | 741.60 | 0.00     | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 4   |            | 741.60 | -0.00    | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 5   | 1 U3       | 741.60 | 0.00     | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 6   |            | 741.60 | -0.00    | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 7   | 1 U4       | 741.60 | 388.80   | 2326.52     | 5.984    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 8   |            | 741.60 | 388.80   | 2326.52     | 5.984    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 9   | 1 U5       | 741.60 | 777.60   | 2326.52     | 2.992    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 10  |            | 741.60 | 777.60   | 2326.52     | 2.992    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 11  | 1 U6       | 556.20 | 777.60   | 1879.51     | 2.417    |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 12  |            | 556.20 | 777.60   | 1879.51     | 2.417    |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 13  | 1 U7       | 741.60 | -388.80  | -2326.52    | 5.984    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 14  |            | 741.60 | -388.80  | -2326.52    | 5.984    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 15  | 1 U8       | 741.60 | -777.60  | -2326.52    | 2.992    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 16  |            | 741.60 | -777.60  | -2326.52    | 2.992    |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 17  | 1 U9       | 556.20 | -777.60  | -1879.51    | 2.417    |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 18  |            | 556.20 | -777.60  | -1879.51    | 2.417    |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 19  | 1 U10      | 741.60 | 0.00     | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 20  |            | 741.60 | -0.00    | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 21  | 1 U11      | 556.20 | 0.00     | 1879.51     | 999.999  |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 22  |            | 556.20 | -0.00    | 1879.51     | 999.999  |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 23  | 1 U12      | 741.60 | 0.00     | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 24  |            | 741.60 | 0.00     | 2326.52     | 999.999  |    | 12.17    |    | 36.00    | 0.00588 | 0.900 |
| 25  | 1 U13      | 556.20 | 0.00     | 1879.51     | 999.999  |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |
| 26  |            | 556.20 | 0.00     | 1879.51     | 999.999  |    | 9.58     |    | 36.00    | 0.00828 | 0.900 |

\*\*\* End of output \*\*\*



12 x 56.15 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 16:06:18



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File: S:\14442-01\SPCo\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.3 13th Floor.col

Project:

Column:

$f'_c = 12$  ksi  
 $E_c = 6244$  ksi  
 $f_c = 10.2$  ksi  
 $e_u = 0.003$  in/in  
 $\beta_1 = 0.65$   
 Confinement: Tied  
 $\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 673.8$  in<sup>2</sup>  
 $A_s = 1.60$  in<sup>2</sup>  
 $X_o = 0.00$  in  
 $Y_o = 0.00$  in  
 Min clear spacing = -0.71 in  
 1 bars  
 $\rho = 0.24\%$   
 $I_x = 177031$  in<sup>4</sup>  
 $I_y = 8085.6$  in<sup>4</sup>  
 Clear cover = 5.29 in



```

          oooooo          o
          oo   oo          oo
oooooo  oooooo  oo      oooooo  oo  oo  o oooooo  oo  oooooo
oo   o  oo oo oo  oo      oo oo  oo      oo oo  oo oo oo oo
oo      oo oo oo  oo      oo oo  oo      oo oo  oo oo oo oo
ooooo  oo oo oo  oo      oo oo  oo      oo oo  oo oo oo oo
o   oo  oo      oo   oo  oo oo  oo  oo  oo oo  oo oo oo oo
ooooo  oo      oooooo  oooooo  ooo  oooooo o  oo  oo  oo  oo oo (TM)

```

```

=====
                        spColumn v5.10 (TM)
Computer program for the Strength Design of Reinforced Concrete Sections
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=====

```

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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.3 13th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 56.15 in  
 Gross section area, Ag = 673.8 in^2  
 Ix = 177031 in^4 Iy = 8085.6 in^4  
 rx = 16.2091 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 1.60 in^2 at rho = 0.24% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.71 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 1.60      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 564.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 392.00        | -392.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236 Job Number

ES100171050

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

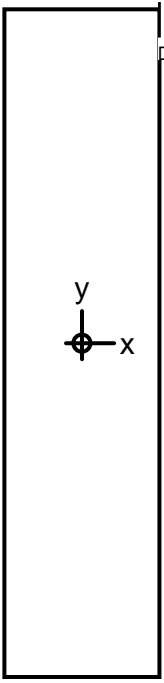
NOTE: Each loading combination includes the following cases:

First line - at column top  
 Second line - at column bottom

| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 789.60 | 0.00     | 1620.15     | 999.999  |    | 16.25    |    | 28.08    | 0.00218 | 0.660 |
| 2   |            | 789.60 | -0.00    | 1620.15     | 999.999  |    | 16.25    |    | 28.08    | 0.00218 | 0.660 |
| 3   | 1 U2       | 676.80 | 0.00     | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 4   |            | 676.80 | -0.00    | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 5   | 1 U3       | 676.80 | 0.00     | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 6   |            | 676.80 | -0.00    | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 7   | 1 U4       | 676.80 | 313.60   | 1554.79     | 4.958    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 8   |            | 676.80 | 313.60   | 1554.79     | 4.958    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 9   | 1 U5       | 676.80 | 627.20   | 1554.79     | 2.479    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 10  |            | 676.80 | 627.20   | 1554.79     | 2.479    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 11  | 1 U6       | 507.60 | 627.20   | 1256.26     | 2.003    |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 12  |            | 507.60 | 627.20   | 1256.26     | 2.003    |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 13  | 1 U7       | 676.80 | -313.60  | -1554.79    | 4.958    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 14  |            | 676.80 | -313.60  | -1554.79    | 4.958    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 15  | 1 U8       | 676.80 | -627.20  | -1554.79    | 2.479    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 16  |            | 676.80 | -627.20  | -1554.79    | 2.479    |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 17  | 1 U9       | 507.60 | -627.20  | -1256.26    | 2.003    |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 18  |            | 507.60 | -627.20  | -1256.26    | 2.003    |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 19  | 1 U10      | 676.80 | 0.00     | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 20  |            | 676.80 | -0.00    | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 21  | 1 U11      | 507.60 | 0.00     | 1256.26     | 999.999  |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 22  |            | 507.60 | -0.00    | 1256.26     | 999.999  |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 23  | 1 U12      | 676.80 | 0.00     | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 24  |            | 676.80 | 0.00     | 1554.79     | 999.999  |    | 10.93    |    | 28.08    | 0.00471 | 0.875 |
| 25  | 1 U13      | 507.60 | 0.00     | 1256.26     | 999.999  |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |
| 26  |            | 507.60 | 0.00     | 1256.26     | 999.999  |    | 8.30     |    | 28.08    | 0.00715 | 0.900 |

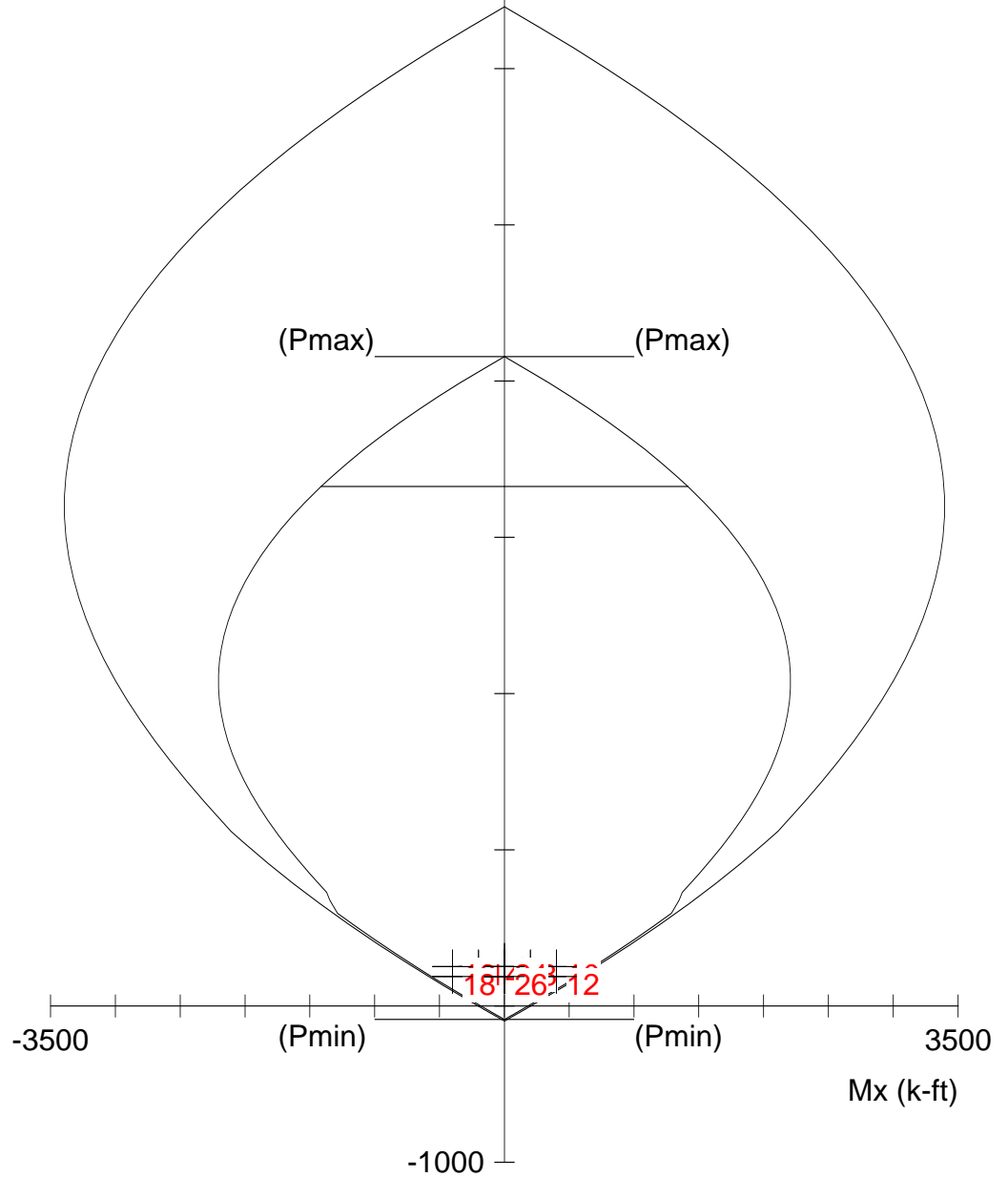
\*\*\* End of output \*\*\*





12 x 51.6 in

Code: ACI 318-14  
 Units: English  
 Run axis: About X-axis  
 Run option: Investigation  
 Slenderness: Not considered  
 Column type: Structural  
 Bars: ASTM A615  
 Date: 10/14/16  
 Time: 16:08:38



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File: S:\14442-01\SPCo\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.4 13th Floor.col

Project:

Column:

$f'_c = 12$  ksi

$E_c = 6244$  ksi

$f_c = 10.2$  ksi

$e_u = 0.003$  in/in

Beta1 = 0.65

Confinement: Tied

$\phi(a) = 0.8, \phi(b) = 0.9, \phi(c) = 0.65$

Engineer:

$A_g = 619.2$  in<sup>2</sup>

$A_s = 1.60$  in<sup>2</sup>

$X_o = 0.00$  in

$Y_o = 0.00$  in

Min clear spacing = -0.71 in

1 bars

$\rho = 0.26\%$

$I_x = 137388$  in<sup>4</sup>

$I_y = 7430.4$  in<sup>4</sup>

Clear cover = 5.29 in



DEPT OF BLDGS121191236 Job Number



ES278858794

Scan Code

```

          oooooo          o
          oo   oo          oo
ooooo   oooooo   oo   oooooo   oo   oo   o oooooo   o ooooo
oo   o   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
ooooo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
o   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo   oo
ooooo   oo   oooooo   oooooo   ooo   oooooo o   oo   oo   oo   oo (TM)

```

```

=====
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Computer program for the Strength Design of Reinforced Concrete Sections
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=====

```

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General Information:  
 =====

File Name: S:\14442-01\SPCol\ShearWall\SW3\13th Floor\14442-01\_aja\_20160926\_Wall 2.4 13th Floor.col  
 Project:  
 Column: Engineer:  
 Code: ACI 318-14 Units: English  
 Run Option: Investigation Slenderness: Not considered  
 Run Axis: X-axis Column Type: Structural

Material Properties:  
 =====

Concrete: Standard Steel: Standard  
 f'c = 12 ksi fy = 60 ksi  
 Ec = 6244.04 ksi Es = 29000 ksi  
 fc = 10.2 ksi Eps\_yt = 0.00206897 in/in  
 Eps\_u = 0.003 in/in  
 Beta1 = 0.65

Section:  
 =====

Rectangular: Width = 12 in Depth = 51.6 in  
 Gross section area, Ag = 619.2 in^2  
 Ix = 137388 in^4 Iy = 7430.4 in^4  
 rx = 14.8956 in ry = 3.4641 in  
 Xo = 0 in Yo = 0 in

Reinforcement:  
 =====

Bar Set: ASTM A615

| Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) | Size | Diam (in) | Area (in^2) |
|------|-----------|-------------|------|-----------|-------------|------|-----------|-------------|
| # 3  | 0.38      | 0.11        | # 4  | 0.50      | 0.20        | # 5  | 0.63      | 0.31        |
| # 6  | 0.75      | 0.44        | # 7  | 0.88      | 0.60        | # 8  | 1.00      | 0.79        |
| # 9  | 1.13      | 1.00        | # 10 | 1.27      | 1.27        | # 11 | 1.41      | 1.56        |
| # 14 | 1.69      | 2.25        | # 18 | 2.26      | 4.00        |      |           |             |

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.  
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular  
 Total steel area: As = 1.60 in^2 at rho = 0.26% (Note: rho < 0.50%)  
 Minimum clear spacing = -0.71 in

| Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) | Area in^2 | X (in) | Y (in) |
|-----------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| 1.60      | 0.0    | 0.0    |           |        |        |           |        |        |

Service Loads:  
 =====

| No. | Case | Load Axial Load kip | Mx @ Top k-ft | Mx @ Bot k-ft | My @ Top k-ft | My @ Bot k-ft |
|-----|------|---------------------|---------------|---------------|---------------|---------------|
| 1   | Dead | 210.00              | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Live | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Wind | 0.00                | 251.00        | -251.00       | 0.00          | 0.00          |
|     | EQ   | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |
|     | Snow | 0.00                | 0.00          | 0.00          | 0.00          | 0.00          |

Sustained Load Factors:  
 =====

| Load Case | Factor (%) |
|-----------|------------|
| Dead      | 100        |
| Live      | 0          |
| Wind      | 0          |
| EQ        | 0          |
| Snow      | 0          |

Load Combinations:  
 =====

- U1 = 1.400\*Dead + 0.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U2 = 1.200\*Dead + 1.600\*Live + 0.000\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U3 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U4 = 1.200\*Dead + 0.000\*Live + 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U5 = 1.200\*Dead + 1.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow
- U6 = 0.900\*Dead + 0.000\*Live + 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow
- U7 = 1.200\*Dead + 0.000\*Live - 0.800\*Wind + 0.000\*EarthQuake + 1.600\*Snow
- U8 = 1.200\*Dead + 1.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.500\*Snow



DEPT OF BLDGS121191236

Job Number



ES912267457

Scan Code

U9 = 0.900\*Dead + 0.000\*Live - 1.600\*Wind + 0.000\*EarthQuake + 0.000\*Snow  
 U10 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.200\*Snow  
 U11 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind + 1.000\*EarthQuake + 0.000\*Snow  
 U12 = 1.200\*Dead + 1.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.200\*Snow  
 U13 = 0.900\*Dead + 0.000\*Live + 0.000\*Wind - 1.000\*EarthQuake + 0.000\*Snow

Factored Loads and Moments with Corresponding Capacities:  
 =====

NOTE: Each loading combination includes the following cases:

First line - at column top

Second line - at column bottom

| No. | Load Combo | Pu kip | Mux k-ft | PhiMnx k-ft | PhiMn/Mu | NA | depth in | Dt | depth in | eps_t   | Phi   |
|-----|------------|--------|----------|-------------|----------|----|----------|----|----------|---------|-------|
| 1   | 1 U1       | 294.00 | 0.00     | 763.13      | 999.999  |    | 5.31     |    | 25.80    | 0.01157 | 0.900 |
| 2   |            | 294.00 | -0.00    | 763.13      | 999.999  |    | 5.31     |    | 25.80    | 0.01157 | 0.900 |
| 3   | 1 U2       | 252.00 | 0.00     | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 4   |            | 252.00 | -0.00    | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 5   | 1 U3       | 252.00 | 0.00     | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 6   |            | 252.00 | -0.00    | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 7   | 1 U4       | 252.00 | 200.80   | 684.25      | 3.408    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 8   |            | 252.00 | 200.80   | 684.25      | 3.408    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 9   | 1 U5       | 252.00 | 401.60   | 684.25      | 1.704    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 10  |            | 252.00 | 401.60   | 684.25      | 1.704    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 11  | 1 U6       | 189.00 | 401.60   | 563.42      | 1.403    |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 12  |            | 189.00 | 401.60   | 563.42      | 1.403    |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 13  | 1 U7       | 252.00 | -200.80  | -684.25     | 3.408    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 14  |            | 252.00 | -200.80  | -684.25     | 3.408    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 15  | 1 U8       | 252.00 | -401.60  | -684.25     | 1.704    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 16  |            | 252.00 | -401.60  | -684.25     | 1.704    |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 17  | 1 U9       | 189.00 | -401.60  | -563.42     | 1.403    |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 18  |            | 189.00 | -401.60  | -563.42     | 1.403    |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 19  | 1 U10      | 252.00 | 0.00     | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 20  |            | 252.00 | -0.00    | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 21  | 1 U11      | 189.00 | 0.00     | 563.42      | 999.999  |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 22  |            | 189.00 | -0.00    | 563.42      | 999.999  |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 23  | 1 U12      | 252.00 | 0.00     | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 24  |            | 252.00 | 0.00     | 684.25      | 999.999  |    | 4.73     |    | 25.80    | 0.01338 | 0.900 |
| 25  | 1 U13      | 189.00 | 0.00     | 563.42      | 999.999  |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |
| 26  |            | 189.00 | 0.00     | 563.42      | 999.999  |    | 3.85     |    | 25.80    | 0.01712 | 0.900 |

\*\*\* End of output \*\*\*



CONSULTING ENGINEERS  
& SCIENTISTS



DEPT OF BLDGS 121191236 Job Number

Tel: 519.823.1311  
Fax: 519.823.1316

Rowan Williams Davies & Irwin Inc.  
600 Southgate Drive  
Guelph, Ontario, Canada  
N1G 4P6



ES022155967 Scan Code

1568 Broadway  
New York, NY

# Report

## Wind-Induced Structural Responses

RWDI # 1601798  
January 16, 2017

### SUBMITTED TO

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### SUBMITTED BY

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DEPT OF BLDGS 121191236 Job Number  
300 Briguway - New York, NY

Wind-Induced Structural Responses  
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# 1. INTRODUCTION

Rowan Williams Davies & Irwin Inc. (RWDI) was retained by CFMDC BWAY Hotel Acquisition LP to study the wind loading on the proposed 1568 Broadway Development, in New York, New York. It is our understanding that the project involves proposed changes to the existing structure and the addition of several floors to the top of the tower.

The objectives of this study were:

- i. to provide wind loading information for the overall structural design of the tower; and,
- ii. to determine the wind-induced accelerations at the uppermost occupied floors.

The following table summarizes relevant information about the design team, methods used, results of the study and the governing parameters:

| Project Details:  |   |  |
|---|---|--|
| Structural Engineer                                       | Severud Associates Consulting Engineers, New York, New York |  |
| Architect   | PBDW Architects, New York, New York                         |  |
| Measurement Technique                                     | High Frequency Pressure Integration (HFPI)                  |  |
| Key Results and Recommendations:                          |   |  |
| Coordinate System for Structural Wind Loading Application | Figures 4a-4b   |  |
| Summary of Predicted Peak Overall Structural Wind Loads   | Tables 2a and 2b  |  |
| Effective Static Floor-by-Floor Wind Loads                | Tables 3a (i), 3a (ii), 3b (i) and 3b (ii)                  |  |
| Recommended Wind Load Combination Factors                 | Tables 4a (i) and 4b (i)                                    |  |
| Predicted Peak Accelerations at Top Occupied Floor        | see Figures 6a and 6b                                       |  |
| Selected Analysis Parameters:                             |   |  |
| Design Wind Speed per New York City Building Code 2014    | 98 mph 3-second Gust Speed at 33 ft in open terrain         |  |
| Importance Factor on Wind Pressure                        | 1.0   |  |

The wind tunnel test procedures met or exceeded the requirements set out in Section 31.2 of the ASCE 7-10 Standard. The following sections outline the test methodology for the current study, and discuss the results and recommendations. Appendix A provides additional background information on the testing and analysis procedures for this type of study. For detailed explanations of the procedures and underlying theory, refer to RWDI's Technical Reference Document - Wind Tunnel Studies for Buildings (RD2-2000.1), which is available upon request.

## 2. WIND TUNNEL TESTS

### 2.1 Study Model and Surroundings

A 1:400 scale model of the proposed development was constructed using the architectural drawings listed in Table 1. The model was tested in the presence of all surroundings within a full-scale radius of 1600 ft, in RWDI's 12 ft × 7 ft boundary layer wind tunnel facility in Guelph, Ontario.

Photographs of the wind tunnel study model are shown in Figure 1. An orientation plan showing the location of the study site is given in Figure 2.

### 2.2 Upwind Profiles

Beyond the modelled area, the influence of the upwind terrain on the planetary boundary layer was simulated in the testing by appropriate roughness on the wind tunnel floor and flow conditioning spires at the upwind end of the working section for each wind direction. This simulation, and subsequent analysis of the data from the model, was targeted to represent the following upwind terrain conditions. Wind direction is defined as the direction from which the wind blows, measured clockwise from true north.

| Upwind Terrain                   | Wind Directions (Inclusive) |
|----------------------------------|-----------------------------|
| Urban – heavily built-up terrain | 10° to 360°                 |

## 3. WIND CLIMATE

In order to predict the full-scale structural responses as a function of return period, the wind tunnel data were combined with a statistical model of the local wind climate. The wind climate model was based on local surface wind measurements taken at JFK International Airport, Newark Liberty International Airport, LaGuardia International Airport and a computer simulation of hurricanes. The hurricane simulation was provided by Applied Research Associates, Raleigh, NC using the Monte Carlo Technique. Over 100,000 years of tropical storms were simulated to account for the variability of hurricane wind speed with direction.

Figure 3 shows a comparison of strength and directionality of the Hurricane, Extra-tropical and Extra-tropical + Hurricane wind climate for New York. These plots are illustrative only and are not to be used directly for predictions of wind loads. The upper two plots show the directionality of common winds on the left and extreme winds on the right. Since Extra-tropical + Hurricane are extreme events, they are only included on the right plot. It can be seen that for the extreme events, the winds from the Northwest are the strongest. The lower plot shows the wind speeds from each data set as a function of return period. It is clear from the plot that the common events (i.e., lower return periods) are dictated by the extra-tropical winds whereas at longer return periods, the hurricanes generate the most significant wind speeds for strength design.





The design wind speed for New York, as specified in the NYCBC 2014, is a 3-second gust wind speed of 98 mph at a height of 33 ft in open terrain. This wind speed is also shown in Figure 3. For the wind loading predictions for strength design, the wind climate model was scaled to match the design wind speed at the 50-year return period. For the determination of the 10-year return period loads, the ASCE 7-10 code recommended 3-second gust wind basic wind speed of 76 mph at a height of 33 ft in open terrain was used. For the prediction of wind-induced accelerations, it is common practice to consider a more representative wind climate, therefore the code wind speed matching approach was not used for the acceleration predictions.

## 4. RESULTS AND RECOMMENDATIONS

### 4.1 Predicted Peak Shear Forces and Moments

The reference axes systems used to define the forces and moments are illustrated in Figure 4a. The overall wind-induced overturning moments, shear forces and torsional moments acting at level 'Fground' have been predicted for the two return periods and are presented in Tables 2a and 2b, for 50-year and 10-year return periods, respectively.

The loads were determined using the fundamental building vibration frequencies listed in Tables 2a and 2b, and the corresponding mode shapes provided by the structural engineer on November 22, 2016. Appendix B contains a summary of the provided dynamic properties. The damping ratios were taken as 2% of critical for the 50-year return period strength design as requested by the structural engineer. For the determination of the 10-year return period wind loads a damping ratio of 1.5% of critical was used which was considered representative for the building's structural system for serviceability design.

In addition to the wind tunnel predicted wind loads, estimated ASCE peak loads for Exposure Category B are also provided in Table 2a for the 50-year return period 3-second gust wind speed of 98 mph. This calculation includes a directionality factor of  $K_d = 0.85$ . From Tables 2a, the wind tunnel predicted base overturning moment  $M_y$  is in line with the 2014 NYC Building Code 1609.1.1.2.1 provision for lower limits on main wind-force resisting system. However, the wind tunnel predicted base overturning moment of  $M_x$  is below the lower limit of 80% of the design base overturning moment determined in accordance with Section 6.5 of ASCE 7 Standard. Therefore, an upward adjustment of the wind tunnel predicted  $M_x$  overturning moment will be required to satisfy the above NYC Building Code provision. However, as requested by the structural engineer, the wind loads presented in this report correspond to the wind tunnel predicted loads with no adjustment to satisfy the code minimum loading requirement.

For illustrative purposes, the overall wind-induced loads for each wind direction are presented in Figure 5 for 50- and 10-year return periods. The loads in this figure are the values based on the design wind speed, assuming this wind speed applies equally to all directions. In other words, there is no allowance for the relative probability that the design wind speed will occur from different directions. This information simply illustrates the raw source data used in predicting the peak design loads.



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Effective static wind loads that correspond to the predicted overall moments and shears are provided on a floor-by-floor basis in Tables 3a (i) and 3b (i) for 50- and 10-year return period respectively. To account for the simultaneous action of the x, y, and torsional components in Tables 3a (i) and 3b (i), recommended wind load combination factors are provided in Tables 4a (i) and 4b (i). There are 24 basic combinations in these tables, representing each of eight possible sign sets (+++, ++-, +-+, etc.) with each of  $F_x$ ,  $F_y$  and  $M_z$  reaching their individual maximum percentages for that sign set. As an example of applying the combination factors, let us consider Load Case 1 of Table 4a (i). This load case requires the application of +100% of the  $F_x$ , +45% of the  $F_y$ , and +45% of the  $M_z$  floor-by-floor loads from Table 3a (i). **It is recommended that all load cases be considered for overall structural design.**

An alternative presentation of the effective static floor-by-floor loads are presented in Tables 3a (ii) and 3b (ii) for the 50-year and 10-year return period loads, respectively. The loads in these table are presented in the form of a resultant force 'FR' applied to the structure at an angle ' $\theta$ ' (measured in the anticlockwise direction from X-axis) and acting at a perpendicular distance of d (x, y) from the structural origin (0,0). The coordinate system for this presentation of the loading is shown in Figure 4b. Similar to the loads presented in Tables 3a (i) and 3b (i) the loads presented in Tables 3a (ii) and 3b (ii) include 24 load distributions that correspond to the 24 load combination presented in Tables 4a (i) and 4b (i). **It is recommended that all load cases be considered for overall structural design.**

**The wind loads provided in this report include the effects of directionality in the local wind climate. These loads do not contain safety or load factors and are to be applied to the building's structural system in the same manner as would wind loads calculated by code analytical methods.**

## 4.2 Deflections

Deflections have not been specifically evaluated in this study. Normally the structural engineer evaluates floor-to-floor and overall deflections by applying the wind load distributions derived from the wind tunnel tests to a structural computer model of the building. These deflections may then be reviewed by the structural engineer to assess the potential for excessive shearing in wall systems and partitions.

## 4.3 Accelerations

The predicted wind-induced accelerations at the top occupied floor, taken as Level 'F45' (493.3 ft above 'Fground'), are summarized in Figures 6a and 6b for 1.5% and 1.0% of critical damping ratios, respectively. In addition to the peak values shown in the plot, the peak X, Y and torsional components are also tabulated. The peak accelerations were determined as a function of return period for the provided frequencies, and overall damping ratios of 1.5% and 1.0% of critical which were considered as representative upper and lower bounds of damping for the building's structural system for serviceability considerations. The torsional component, which was included in the total acceleration predictions, was calculated at a representative distance of 52 ft, based on the radius of gyration, from the reference z-axis (given in Figure 4a). Results were evaluated both with and without the influence of hurricanes in the wind climate model. As discussed in Appendix A, occupant comfort is assessed at shorter return periods when hurricanes are included in the



analysis since, for stronger hurricanes, occupants who choose to remain should not expect normal conditions to prevail.

Figures 6a and 6b also presents acceleration criteria from the International Organization for Standardization (ISO 10137:2007(E)), and RWDI's suggested criteria based on different occupancies. In all cases, 10-year criteria apply to non-hurricane winds only.

From Figure 6a, it can be seen that the predicted peak accelerations for 1- and 10-year return period are within the ISO and RWDI based residential criteria respectively for 1.5% inherent damping ratio.

For the lower bound of inherent structural damping assumed as 1% of critical (Figure 6b), predicted peak acceleration for the 1-year return period satisfies the ISO motion comfort criteria for a residential occupancy. However, the predicted 10-year peak acceleration is marginally above the RWDI criteria of 15 to 18 milli-g for a residential tower. Since the predicted wind motions for more frequent wind events satisfy the 1-year ISO comfort criteria, the marginal exceedance of the 10-year criteria is less of a concern. Therefore, it is our opinion that the predicted accelerations are acceptable for human comfort in a residential building. It should be noted that building accelerations are a serviceability issue and typically not a safety issue, provided the associated deflections are accounted for in the structural design and the cladding/glazing system design.

#### 4.4 Torsional Velocities

Also of interest for occupant comfort are the peak torsional velocities. The Council on Tall Buildings and Urban Habitat (CTBUH) have suggested torsional velocity limits for the 1- and 10-year return periods. As with the accelerations, the 10-year predictions are only of practical concern during non-hurricane winds. **Note that these guidelines are tentative and based on limited research which is still ongoing.** The predicted torsional velocities at the top occupied floor are also shown along with the tentative criteria in Figures 6a and 6b. It can be seen that the predicted torsional velocities are at or within the criteria for the 1- and 10-year return period. Therefore, in our opinion the torsional velocities are acceptable for human comfort.

#### 4.5 Parametric Studies

A sensitivity study was conducted to quantify the sensitivity of the loads and accelerations to variations from the baseline dynamic structural properties. The base moments are affected by changes in period and damping, while accelerations are impacted by mass as well. The impact of mass on loading is only in changing the building period. In other words, a change in mass accompanied by changes in stiffness to maintain the same period will result in no change to the base loads.

Note that changes to the mode shapes – i.e., curvature and/or coupling – would cause additional changes to the responses beyond what is shown. For these simple parametric studies, it has been assumed that the baseline mode shapes are unchanged. Clearly, the larger the change in mass and stiffness in particular, the more likely it is that some change in mode shape will occur.

Parametric plots for the 50-year return period base moments are given in Figure 7 and the accelerations are shown in Figures 8 and 9 for the 1- and 10-year accelerations, respectively. The plots generally show that lengthening the periods in general will increase the response, which is as expected.

## 5. APPLICABILITY OF RESULTS

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### 5.1 The Proximity Model

The structural wind loads and building motions determined by the wind tunnel tests and the associated analysis are applicable for the particular configuration of surrounding buildings modelled. City development over time can cause changes in the surroundings from those tested, resulting in loads and accelerations that could differ from those predicted in this report.

Changes in surroundings can be divided into two categories:

- a) addition or demolition of buildings far upwind, having the effect of changing the roughness of the earth's surface and thereby changing the general wind exposure of the site; and
- b) addition or demolition of buildings close to the site, which can cause changes in the local flow patterns about the study building.

Based on the past history of city developments it appears that, with respect to Category (a), development over time is far more likely to increase rather than reduce building density. This implies that the development over time would more likely diminish loads on the study building rather than increase them. With respect to Category (b), the wind tunnel tests were conducted to represent the current state of the development of the nearby surroundings. If, at a later date, additional buildings besides those considered in the tested configuration are constructed near the project site, then some load changes could occur. Unless, however, a building of unusual stature is constructed nearby, the normal use of safety or load factors can be expected to cover the potential increases in structural loads. The consequence of increased motion, should it occur, is that a greater percentage of the occupants would notice the motions or find them objectionable.

### 5.2 Study Model and Structural Properties Information

The results presented in this report pertain to 1) the structural properties, as shown in Appendix B; and, 2) the scale model of the proposed development, constructed using the architectural information listed in Table 1. Should there be any design changes that deviate substantially from the above information, the results for the revised design may differ from those presented in this report. Therefore, if the design changes, RWDI should be contacted and requested to review the impact on the wind loads and building responses.

# TABLES

## TABLE 1: DRAWING LIST FOR MODEL CONSTRUCTION

The drawings and information listed below were received from Severud Associates Consulting Engineers, PC and were used to construct the scale model of the proposed 1568 Broadway. Should there be any design changes that deviate from this list of drawings, the results may change. Therefore, if changes in the design are made, it is recommended that RWDI be contacted and requested to review their potential effects on the wind-induced structural responses presented in this report.

| File Name  | File Type | Date Received (dd/mm/yyyy) |
|--|-----------|----------------------------|
| 1568 Broadway Arch Model.rvt                           | Revit     | 21/10/2013                 |
| 1568 Broadway FACADE MODEL.rvt                         | Revit     | 21/10/2016                 |
| 14442-01_S-MODEL_2016.rvt                              | Revit     | 21/10/2016                 |
| Pages from Ext. Envelop Design Assist Pkg_Combined.pdf | Pdf       | 07/11/2016                 |



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Table 2a: Summary of Predicted Peak Overall Structural Wind Loads – 50-year Return Period

| Loading Types                              | Moments         |                 |                 | Shears          |                 |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
|  | My (lb-ft)      | Mx (lb-ft)      | Mz (lb-ft)      | Fx (lb)         | Fy (lb)         |
| <b>WT Predicted Response</b>               | <b>2.66E+08</b> | <b>4.08E+08</b> | <b>2.42E+07</b> | <b>7.67E+05</b> | <b>1.24E+06</b> |
| ASCE PEAK - Exposure B - $K_d=0.85$        | 3.33E+08        | 9.62E+08        | -               | 1.23E+06        | 3.46E+06        |
| 80% of ASCE PEAK - Exposure B - $K_d=0.85$ | 2.67E+08        | 7.70E+08        | -               | 9.83E+05        | 2.77E+06        |

Notes:

- The above loads are the cumulative summation of the wind-induced loads at the structural level 'Fground' (i.e. grade) centered about the reference axis shown in Figure 4a, exclusive of combination factors.
- A total damping ratio of 2.0% of critical was used for structural load calculations.
- The above loads are based on the structural properties as provided on November 17, 2016 and updated mode shapes and building frequencies provided on November 22, 2016. The natural building frequencies were as follows:
  - Mode 1: 0.2096 Hz (primarily Y coupled with X)
  - Mode 2: 0.2367 Hz (primarily X coupled with Torsion and Y)
  - Mode 3: 0.3933 Hz (primarily Torsion coupled with X and Y)
- The above loads correspond to a 50-year return period basic wind speed (3-second gust) of 98 mph.
- The ASCE code estimates are also based on a 50-year return period basic wind speed of 98 mph (3-second gust) and include a directionality factor  $K_d = 0.85$ .



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Table 2b: Summary of Predicted Peak Overall Structural Wind Loads – 10-year Return Period

| Loading Type          | Moments    |            |            | Shears   |          |
|-----------------------|------------|------------|------------|----------|----------|
|                       | My (lb-ft) | Mx (lb-ft) | Mz (lb-ft) | Fx (lb)  | Fy (lb)  |
| WT Predicted Response | 1.48E+08   | 2.31E+08   | 1.37E+07   | 4.32E+05 | 7.13E+05 |

Notes:

1. The above loads are the cumulative summation of the wind-induced loads at the structural level 'Fground' (i.e. grade) centered about the reference axis shown in Figure 4a, exclusive of combination factors.
2. A total damping ratio of 1.5% of critical was used for structural load calculations.
3. The above loads are based on the structural properties as provided on November 17, 2016 and updated mode shapes and building frequencies provided on November 22, 2016. The natural building frequencies were as follows:

- Mode 1: 0.2096 Hz (primarily Y coupled with X)
- Mode 2: 0.2367 Hz (primarily X coupled with Torsion and X)
- Mode 3: 0.3933 Hz (primarily Torsion coupled with X and Y)

4. The above loads correspond to a 10-year return period basic wind speed (3-second gust) of 76 mph.





**Table 3a (i): Effective Static Floor-by-Floor Wind Loads - 50-year Return Period**

| Floor Level | Height (ft) Above Fground | Fx (lb) | Fy (lb) | Mz (lb-ft) |
|-------------|---------------------------|---------|---------|------------|
| Fground     | 0                         | 6200    | 13200   | 43000      |
| F2          | 18.48                     | 11200   | 21700   | 125000     |
| F3          | 30.5                      | 11200   | 20700   | 420000     |
| F4          | 46.48                     | 12800   | 24600   | 143000     |
| F5          | 62.52                     | 12500   | 24000   | 157000     |
| F6          | 77.72                     | 10900   | 21000   | 143000     |
| F7          | 89.88                     | 9700    | 18700   | 136000     |
| F8          | 102.04                    | 10900   | 20900   | 196000     |
| F9          | 117.04                    | 10700   | 21900   | 269000     |
| F10         | 133.04                    | 7900    | 15300   | 184000     |
| F9demo      | 141.75                    | 4400    | 10600   | 60000      |
| F11         | 150.46                    | 6500    | 11500   | 145000     |
| F11demo     | 159.16                    | 4600    | 11500   | 73000      |
| F12         | 167.87                    | 7800    | 15100   | 199000     |
| F13         | 176.58                    | 6900    | 13200   | 161000     |
| F14         | 185.29                    | 7900    | 16600   | 248000     |
| F15         | 194                       | 7700    | 17100   | 265000     |
| F16         | 202.71                    | 7600    | 17600   | 266000     |
| F17         | 212.54                    | 6300    | 11600   | 176000     |
| F18         | 222.37                    | 6700    | 12400   | 191000     |
| F19         | 232.2                     | 7300    | 13200   | 210000     |
| F20         | 242.03                    | 7900    | 14200   | 230000     |
| F21         | 251.86                    | 8600    | 15100   | 252000     |
| F22         | 261.69                    | 9300    | 16200   | 275000     |
| F23         | 271.52                    | 10100   | 17200   | 301000     |
| F24         | 281.35                    | 10900   | 18300   | 328000     |
| F25         | 291.18                    | 11700   | 19500   | 357000     |
| F26         | 301.01                    | 12600   | 20500   | 388000     |
| F27         | 310.84                    | 13500   | 21700   | 420000     |
| F28         | 320.67                    | 14300   | 22800   | 453000     |
| F29         | 330.5                     | 15200   | 24000   | 488000     |
| F30         | 340.33                    | 16200   | 25200   | 525000     |
| F31         | 350.16                    | 17100   | 26400   | 562000     |
| F32         | 359.99                    | 18000   | 27600   | 601000     |
| F33         | 369.82                    | 18900   | 28800   | 641000     |
| F34         | 379.65                    | 19900   | 30000   | 681000     |
| F35         | 389.48                    | 20800   | 31200   | 723000     |

**Table 3a (i): Effective Static Floor-by-Floor Wind Loads - 50-year Return Period**

| Floor Level  | Height (ft) Above Fground | Fx (lb)         | Fy (lb)         | Mz (lb-ft)      |
|--------------|---------------------------|-----------------|-----------------|-----------------|
| F36          | 399.31                    | 21800           | 32400           | 764000          |
| F37          | 409.14                    | 22700           | 33600           | 806000          |
| F38          | 418.97                    | 23700           | 34900           | 854000          |
| F39          | 428.8                     | 24700           | 36100           | 896000          |
| F40          | 438.63                    | 25600           | 37400           | 938000          |
| F41          | 448.46                    | 26500           | 38500           | 980000          |
| F42          | 458.29                    | 28300           | 41000           | 1053000         |
| F43          | 469.96                    | 30000           | 43200           | 1118000         |
| F44          | 481.63                    | 28100           | 40500           | 1030000         |
| F45          | 493.3                     | 29000           | 41800           | 1068000         |
| F46MEP       | 504.97                    | 32700           | 47100           | 1198000         |
| F47roof      | 521.3                     | 44400           | 66100           | 1362000         |
| TO Screening | 544.3                     | 27100           | 38800           | 1079000         |
| <b>Total</b> |                           | <b>7.67E+05</b> | <b>1.24E+06</b> | <b>2.42E+07</b> |

**Notes:**

1. The loads given in this table should be used with the load combination factors given in Table 4a (i).
2. The loads given in this table are centered about the reference axis shown in Figure 4a.
3. The above loads correspond to a 50-year return period Basic Wind Speed (3-second gust) of 98 mph.



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 1</b> |  |                          |              |                 |   |
|--------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>       | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                    |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| Fground            | 0  | 97.76                    | 36.98        | 8600            | 43.77   |
| F2                 | 18.48  | 98.68                    | 35.75        | 14900           | 41.08   |
| F3                 | 30.5   | 104.48                   | 28.65        | 14600           | 39.75   |
| F4                 | 46.48  | 98.69                    | 35.72        | 16900           | 40.85   |
| F5                 | 62.52  | 99.00                    | 35.36        | 16500           | 40.83   |
| F6                 | 77.72  | 99.13                    | 35.22        | 14400           | 40.92   |
| F7                 | 89.88  | 99.33                    | 34.99        | 12800           | 40.94   |
| F8                 | 102.04   | 100.20                   | 33.96        | 14400           | 40.79   |
| F9                 | 117.04   | 101.86                   | 32.46        | 14500           | 42.65   |
| F10                | 133.04   | 101.38                   | 32.66        | 10500           | 41.07   |
| F9demo             | 141.75   | 99.25                    | 35.78        | 6500            | 47.31   |
| F11                | 150.46   | 101.10                   | 32.45        | 8300            | 38.53   |
| F11demo            | 159.16   | 99.76                    | 35.44        | 6900            | 48.37   |
| F12                | 167.87   | 101.91                   | 32.04        | 10300           | 41.06   |
| F13                | 176.58   | 101.39                   | 32.57        | 9100            | 40.72   |
| F14                | 185.29   | 103.23                   | 31.16        | 10900           | 43.40   |
| F15                | 194  | 103.93                   | 30.86        | 10900           | 44.98   |
| F16                | 202.71   | 104.05                   | 31.07        | 11000           | 46.18   |
| F17                | 212.54   | 102.36                   | 31.16        | 8200            | 39.64   |
| F18                | 222.37   | 102.52                   | 31.01        | 8700            | 39.79   |
| F19                | 232.2  | 102.55                   | 30.80        | 9400            | 39.14   |
| F20                | 242.03   | 102.58                   | 30.71        | 10200           | 38.97   |
| F21                | 251.86   | 102.59                   | 30.51        | 11000           | 38.31   |
| F22                | 261.69   | 102.67                   | 30.35        | 11800           | 38.09   |
| F23                | 271.52   | 102.69                   | 30.13        | 12700           | 37.46   |
| F24                | 281.35   | 102.69                   | 30.00        | 13700           | 37.07   |
| F25                | 291.18   | 102.80                   | 29.80        | 14600           | 36.87   |
| F26                | 301.01   | 102.81                   | 29.57        | 15600           | 36.21   |
| F27                | 310.84   | 102.83                   | 29.43        | 16700           | 35.88   |
| F28                | 320.67   | 102.95                   | 29.19        | 17600           | 35.66   |



**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 1</b> |                                 |                   |       |          |                                |
|--------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor              | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                    |                                 | x (ft)            | y(ft) |          |                                |
| F29                | 330.5                           | 103.04            | 28.98 | 18600    | 35.39                          |
| F30                | 340.33                          | 103.04            | 28.83 | 19800    | 34.99                          |
| F31                | 350.16                          | 103.14            | 28.61 | 20800    | 34.79                          |
| F32                | 359.99                          | 103.21            | 28.44 | 21900    | 34.61                          |
| F33                | 369.82                          | 103.32            | 28.21 | 22900    | 34.44                          |
| F34                | 379.65                          | 103.37            | 28.03 | 24000    | 34.15                          |
| F35                | 389.48                          | 103.45            | 27.86 | 25100    | 34.02                          |
| F36                | 399.31                          | 103.50            | 27.69 | 26200    | 33.77                          |
| F37                | 409.14                          | 103.57            | 27.54 | 27300    | 33.67                          |
| F38                | 418.97                          | 103.67            | 27.32 | 28400    | 33.53                          |
| F39                | 428.8                           | 103.69            | 27.22 | 29600    | 33.33                          |
| F40                | 438.63                          | 103.78            | 27.07 | 30600    | 33.32                          |
| F41                | 448.46                          | 103.81            | 26.96 | 31700    | 33.18                          |
| F42                | 458.29                          | 103.86            | 26.86 | 33800    | 33.10                          |
| F43                | 469.96                          | 103.86            | 26.77 | 35700    | 32.94                          |
| F44                | 481.63                          | 103.73            | 26.99 | 33500    | 32.97                          |
| F45                | 493.3                           | 103.76            | 26.95 | 34600    | 32.97                          |
| F46MEP             | 504.97                          | 103.72            | 27.00 | 39000    | 32.95                          |
| F47roof            | 521.3                           | 102.59            | 29.06 | 53400    | 33.82                          |
| TO Screening       | 544.3                           | 104.37            | 25.92 | 32200    | 32.79                          |

| <b>Load Case 2</b> |                                 |                   |       |          |                                |
|--------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor              | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                    |                                 | x (ft)            | y(ft) |          |                                |
| Fground            | 0                               | 94.47             | 40.41 | 8600     | 43.77                          |
| F2                 | 18.48                           | 93.44             | 41.76 | 14900    | 41.08                          |
| F3                 | 30.5                            | 87.00             | 49.66 | 14600    | 39.75                          |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 2</b> |  |                          |              |                 |   |
|--------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>       | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                    |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F4                 | 46.48  | 93.43                    | 41.80        | 16900           | 40.85   |
| F5                 | 62.52  | 93.09                    | 42.20        | 16500           | 40.83   |
| F6                 | 77.72  | 92.95                    | 42.35        | 14400           | 40.92   |
| F7                 | 89.88  | 92.72                    | 42.61        | 12800           | 40.94   |
| F8                 | 102.04   | 91.75                    | 43.75        | 14400           | 40.79   |
| F9                 | 117.04   | 89.92                    | 45.42        | 14500           | 42.65   |
| F10                | 133.04   | 90.44                    | 45.21        | 10500           | 41.07   |
| F9demo             | 141.75   | 92.81                    | 41.73        | 6500            | 47.31   |
| F11                | 150.46   | 90.76                    | 45.43        | 8300            | 38.53   |
| F11demo            | 159.16   | 92.25                    | 42.11        | 6900            | 48.37   |
| F12                | 167.87   | 89.85                    | 45.88        | 10300           | 41.06   |
| F13                | 176.58   | 90.43                    | 45.30        | 9100            | 40.72   |
| F14                | 185.29   | 88.38                    | 46.87        | 10900           | 43.40   |
| F15                | 194  | 87.61                    | 47.20        | 10900           | 44.98   |
| F16                | 202.71   | 87.48                    | 46.97        | 11000           | 46.18   |
| F17                | 212.54   | 89.35                    | 46.86        | 8200            | 39.64   |
| F18                | 222.37   | 89.18                    | 47.03        | 8700            | 39.79   |
| F19                | 232.2  | 89.15                    | 47.26        | 9400            | 39.14   |
| F20                | 242.03   | 89.11                    | 47.37        | 10200           | 38.97   |
| F21                | 251.86   | 89.10                    | 47.59        | 11000           | 38.31   |
| F22                | 261.69   | 89.01                    | 47.77        | 11800           | 38.09   |
| F23                | 271.52   | 88.99                    | 48.01        | 12700           | 37.46   |
| F24                | 281.35   | 88.98                    | 48.15        | 13700           | 37.07   |
| F25                | 291.18   | 88.86                    | 48.38        | 14600           | 36.87   |
| F26                | 301.01   | 88.85                    | 48.63        | 15600           | 36.21   |
| F27                | 310.84   | 88.83                    | 48.79        | 16700           | 35.88   |
| F28                | 320.67   | 88.70                    | 49.06        | 17600           | 35.66   |
| F29                | 330.5  | 88.60                    | 49.29        | 18600           | 35.39   |
| F30                | 340.33   | 88.60                    | 49.46        | 19800           | 34.99   |
| F31                | 350.16   | 88.49                    | 49.69        | 20800           | 34.79   |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 2</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F32                | 359.99                                   | 88.41             | 49.89 | 21900    | 34.61                                   |
| F33                | 369.82                                   | 88.29             | 50.14 | 22900    | 34.44                                   |
| F34                | 379.65                                   | 88.24             | 50.34 | 24000    | 34.15                                   |
| F35                | 389.48                                   | 88.14             | 50.54 | 25100    | 34.02                                   |
| F36                | 399.31                                   | 88.09             | 50.72 | 26200    | 33.77                                   |
| F37                | 409.14                                   | 88.02             | 50.89 | 27300    | 33.67                                   |
| F38                | 418.97                                   | 87.89             | 51.13 | 28400    | 33.53                                   |
| F39                | 428.8                                    | 87.88             | 51.25 | 29600    | 33.33                                   |
| F40                | 438.63                                   | 87.78             | 51.41 | 30600    | 33.32                                   |
| F41                | 448.46                                   | 87.74             | 51.54 | 31700    | 33.18                                   |
| F42                | 458.29                                   | 87.69             | 51.65 | 33800    | 33.10                                   |
| F43                | 469.96                                   | 87.68             | 51.74 | 35700    | 32.94                                   |
| F44                | 481.63                                   | 87.83             | 51.50 | 33500    | 32.97                                   |
| F45                | 493.3                                    | 87.80             | 51.55 | 34600    | 32.97                                   |
| F46MEP             | 504.97                                   | 87.85             | 51.49 | 39000    | 32.95                                   |
| F47roof            | 521.3                                    | 89.10             | 49.19 | 53400    | 33.82                                   |
| TO Screening       | 544.3                                    | 87.13             | 52.68 | 32200    | 32.79                                   |

| <b>Load Case 3</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 94.65             | 37.14 | 9100     | 313.21                                  |
| F2                 | 18.48                                    | 93.69             | 36.01 | 15600    | 315.91                                  |
| F3                 | 30.5                                     | 87.82             | 29.53 | 15300    | 317.26                                  |
| F4                 | 46.48                                    | 93.70             | 35.99 | 17800    | 316.14                                  |
| F5                 | 62.52                                    | 93.37             | 35.65 | 17300    | 316.17                                  |
| F6                 | 77.72                                    | 93.24             | 35.53 | 15100    | 316.07                                  |
| F7                 | 89.88                                    | 93.05             | 35.34 | 13500    | 316.05                                  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 3</b> |  |                          |              |                 |   |
|--------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>       | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                    |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F8                 | 102.04   | 92.16                    | 34.38        | 15100           | 316.21  |
| F9                 | 117.04   | 90.54                    | 33.07        | 15300           | 314.34  |
| F10                | 133.04   | 90.96                    | 33.19        | 11000           | 315.92  |
| F9demo             | 141.75   | 93.19                    | 36.10        | 6900            | 309.70  |
| F11                | 150.46   | 91.23                    | 32.98        | 8700            | 318.50  |
| F11demo            | 159.16   | 92.73                    | 35.83        | 7400            | 308.66  |
| F12                | 167.87   | 90.49                    | 32.70        | 10900           | 315.93  |
| F13                | 176.58   | 90.93                    | 33.09        | 9500            | 316.27  |
| F14                | 185.29   | 89.17                    | 31.91        | 11500           | 313.59  |
| F15                | 194  | 88.49                    | 31.66        | 11500           | 312.01  |
| F16                | 202.71   | 88.39                    | 31.86        | 11600           | 310.82  |
| F17                | 212.54   | 89.96                    | 31.82        | 8600            | 317.37  |
| F18                | 222.37   | 89.79                    | 31.67        | 9100            | 317.22  |
| F19                | 232.2  | 89.73                    | 31.45        | 9800            | 317.88  |
| F20                | 242.03   | 89.67                    | 31.34        | 10600           | 318.05  |
| F21                | 251.86   | 89.64                    | 31.12        | 11400           | 318.72  |
| F22                | 261.69   | 89.59                    | 31.01        | 12300           | 318.95  |
| F23                | 271.52   | 89.60                    | 30.85        | 13300           | 319.59  |
| F24                | 281.35   | 89.52                    | 30.64        | 14200           | 319.99  |
| F25                | 291.18   | 89.43                    | 30.48        | 15200           | 320.19  |
| F26                | 301.01   | 89.40                    | 30.24        | 16200           | 320.87  |
| F27                | 310.84   | 89.36                    | 30.08        | 17300           | 321.21  |
| F28                | 320.67   | 89.26                    | 29.89        | 18300           | 321.44  |
| F29                | 330.5  | 89.19                    | 29.72        | 19400           | 321.71  |
| F30                | 340.33   | 89.12                    | 29.50        | 20500           | 322.13  |
| F31                | 350.16   | 89.05                    | 29.33        | 21600           | 322.33  |
| F32                | 359.99   | 88.95                    | 29.14        | 22700           | 322.52  |
| F33                | 369.82   | 88.85                    | 28.96        | 23800           | 322.70  |
| F34                | 379.65   | 88.79                    | 28.77        | 24900           | 322.99  |
| F35                | 389.48   | 88.69                    | 28.59        | 26000           | 323.13  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 3</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F36                | 399.31                                   | 88.66             | 28.45 | 27200    | 323.38                                  |
| F37                | 409.14                                   | 88.55             | 28.26 | 28200    | 323.50                                  |
| F38                | 418.97                                   | 88.45             | 28.07 | 29400    | 323.64                                  |
| F39                | 428.8                                    | 88.43             | 27.96 | 30600    | 323.84                                  |
| F40                | 438.63                                   | 88.35             | 27.85 | 31700    | 323.85                                  |
| F41                | 448.46                                   | 88.30             | 27.72 | 32800    | 324.00                                  |
| F42                | 458.29                                   | 88.23             | 27.60 | 34900    | 324.08                                  |
| F43                | 469.96                                   | 88.26             | 27.57 | 37000    | 324.25                                  |
| F44                | 481.63                                   | 88.37             | 27.73 | 34600    | 324.22                                  |
| F45                | 493.3                                    | 88.33             | 27.68 | 35700    | 324.22                                  |
| F46MEP             | 504.97                                   | 88.38             | 27.74 | 40300    | 324.24                                  |
| F47roof            | 521.3                                    | 89.59             | 29.73 | 55400    | 323.34                                  |
| TO Screening       | 544.3                                    | 87.71             | 26.74 | 33300    | 324.40                                  |

| <b>Load Case 4</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 97.92             | 40.22 | 9100     | 313.21                                  |
| F2                 | 18.48                                    | 98.99             | 41.48 | 15600    | 315.91                                  |
| F3                 | 30.5                                     | 105.52            | 48.68 | 15300    | 317.26                                  |
| F4                 | 46.48                                    | 98.98             | 41.50 | 17800    | 316.14                                  |
| F5                 | 62.52                                    | 99.34             | 41.87 | 17300    | 316.17                                  |
| F6                 | 77.72                                    | 99.49             | 42.01 | 15100    | 316.07                                  |
| F7                 | 89.88                                    | 99.70             | 42.23 | 13500    | 316.05                                  |
| F8                 | 102.04                                   | 100.69            | 43.28 | 15100    | 316.21                                  |
| F9                 | 117.04                                   | 102.49            | 44.74 | 15300    | 314.34                                  |
| F10                | 133.04                                   | 102.02            | 44.61 | 11000    | 315.92                                  |
| F9demo             | 141.75                                   | 99.55             | 41.38 | 6900     | 309.70                                  |





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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| Load Case 4 |                                 |                   |       |          |                                |
|-------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor       | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|             |                                 | x (ft)            | y(ft) |          |                                |
| F11         | 150.46                          | 101.72            | 44.84 | 8700     | 318.50                         |
| F11demo     | 159.16                          | 100.05            | 41.68 | 7400     | 308.66                         |
| F12         | 167.87                          | 102.55            | 45.16 | 10900    | 315.93                         |
| F13         | 176.58                          | 102.06            | 44.72 | 9500     | 316.27                         |
| F14         | 185.29                          | 104.01            | 46.03 | 11500    | 313.59                         |
| F15         | 194                             | 104.76            | 46.31 | 11500    | 312.01                         |
| F16         | 202.71                          | 104.88            | 46.09 | 11600    | 310.82                         |
| F17         | 212.54                          | 103.13            | 46.13 | 8600     | 317.37                         |
| F18         | 222.37                          | 103.33            | 46.30 | 9100     | 317.22                         |
| F19         | 232.2                           | 103.39            | 46.55 | 9800     | 317.88                         |
| F20         | 242.03                          | 103.45            | 46.67 | 10600    | 318.05                         |
| F21         | 251.86                          | 103.49            | 46.91 | 11400    | 318.72                         |
| F22         | 261.69                          | 103.54            | 47.03 | 12300    | 318.95                         |
| F23         | 271.52                          | 103.54            | 47.22 | 13300    | 319.59                         |
| F24         | 281.35                          | 103.63            | 47.45 | 14200    | 319.99                         |
| F25         | 291.18                          | 103.72            | 47.62 | 15200    | 320.19                         |
| F26         | 301.01                          | 103.76            | 47.89 | 16200    | 320.87                         |
| F27         | 310.84                          | 103.80            | 48.06 | 17300    | 321.21                         |
| F28         | 320.67                          | 103.92            | 48.28 | 18300    | 321.44                         |
| F29         | 330.5                           | 103.99            | 48.47 | 19400    | 321.71                         |
| F30         | 340.33                          | 104.06            | 48.71 | 20500    | 322.13                         |
| F31         | 350.16                          | 104.15            | 48.90 | 21600    | 322.33                         |
| F32         | 359.99                          | 104.25            | 49.11 | 22700    | 322.52                         |
| F33         | 369.82                          | 104.36            | 49.31 | 23800    | 322.70                         |
| F34         | 379.65                          | 104.43            | 49.52 | 24900    | 322.99                         |
| F35         | 389.48                          | 104.54            | 49.72 | 26000    | 323.13                         |
| F36         | 399.31                          | 104.58            | 49.87 | 27200    | 323.38                         |
| F37         | 409.14                          | 104.70            | 50.09 | 28200    | 323.50                         |
| F38         | 418.97                          | 104.81            | 50.30 | 29400    | 323.64                         |
| F39         | 428.8                           | 104.84            | 50.42 | 30600    | 323.84                         |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 4</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F40                | 438.63                                   | 104.93            | 50.55 | 31700    | 323.85                                  |
| F41                | 448.46                                   | 104.98            | 50.69 | 32800    | 324.00                                  |
| F42                | 458.29                                   | 105.05            | 50.82 | 34900    | 324.08                                  |
| F43                | 469.96                                   | 105.03            | 50.86 | 37000    | 324.25                                  |
| F44                | 481.63                                   | 104.90            | 50.68 | 34600    | 324.22                                  |
| F45                | 493.3                                    | 104.95            | 50.73 | 35700    | 324.22                                  |
| F46MEP             | 504.97                                   | 104.89            | 50.66 | 40300    | 324.24                                  |
| F47roof            | 521.3                                    | 103.54            | 48.46 | 55400    | 323.34                                  |
| TO Screening       | 544.3                                    | 105.63            | 51.77 | 33300    | 324.40                                  |

| <b>Load Case 5</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 97.94             | 40.24 | 8100     | 133.21                                  |
| F2                 | 18.48                                    | 99.00             | 41.49 | 14000    | 135.91                                  |
| F3                 | 30.5                                     | 105.56            | 48.73 | 13700    | 137.26                                  |
| F4                 | 46.48                                    | 98.99             | 41.50 | 16000    | 136.14                                  |
| F5                 | 62.52                                    | 99.34             | 41.87 | 15600    | 136.17                                  |
| F6                 | 77.72                                    | 99.48             | 42.01 | 13600    | 136.07                                  |
| F7                 | 89.88                                    | 99.71             | 42.24 | 12100    | 136.05                                  |
| F8                 | 102.04                                   | 100.69            | 43.28 | 13600    | 136.21                                  |
| F9                 | 117.04                                   | 102.47            | 44.73 | 13800    | 134.34                                  |
| F10                | 133.04                                   | 102.02            | 44.61 | 9900     | 135.92                                  |
| F9demo             | 141.75                                   | 99.55             | 41.38 | 6200     | 129.70                                  |
| F11                | 150.46                                   | 101.74            | 44.87 | 7800     | 138.50                                  |
| F11demo            | 159.16                                   | 100.09            | 41.71 | 6600     | 128.66                                  |
| F12                | 167.87                                   | 102.56            | 45.17 | 9800     | 135.93                                  |
| F13                | 176.58                                   | 102.02            | 44.69 | 8600     | 136.27                                  |



**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| Load Case 5 |                                 |                   |       |          |                                |
|-------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor       | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|             |                                 | x (ft)            | y(ft) |          |                                |
| F14         | 185.29                          | 104.05            | 46.07 | 10300    | 133.59                         |
| F15         | 194                             | 104.72            | 46.27 | 10400    | 132.01                         |
| F16         | 202.71                          | 104.83            | 46.05 | 10500    | 130.82                         |
| F17         | 212.54                          | 103.17            | 46.17 | 7700     | 137.37                         |
| F18         | 222.37                          | 103.32            | 46.29 | 8200     | 137.22                         |
| F19         | 232.2                           | 103.32            | 46.48 | 8900     | 137.88                         |
| F20         | 242.03                          | 103.41            | 46.62 | 9600     | 138.05                         |
| F21         | 251.86                          | 103.46            | 46.87 | 10300    | 138.72                         |
| F22         | 261.69                          | 103.52            | 47.01 | 11100    | 138.95                         |
| F23         | 271.52                          | 103.58            | 47.27 | 11900    | 139.59                         |
| F24         | 281.35                          | 103.61            | 47.43 | 12800    | 139.99                         |
| F25         | 291.18                          | 103.71            | 47.61 | 13700    | 140.19                         |
| F26         | 301.01                          | 103.75            | 47.88 | 14600    | 140.87                         |
| F27         | 310.84                          | 103.79            | 48.04 | 15600    | 141.21                         |
| F28         | 320.67                          | 103.90            | 48.26 | 16500    | 141.44                         |
| F29         | 330.5                           | 104.02            | 48.51 | 17400    | 141.71                         |
| F30         | 340.33                          | 104.04            | 48.68 | 18500    | 142.13                         |
| F31         | 350.16                          | 104.17            | 48.92 | 19400    | 142.33                         |
| F32         | 359.99                          | 104.27            | 49.12 | 20400    | 142.52                         |
| F33         | 369.82                          | 104.37            | 49.32 | 21400    | 142.70                         |
| F34         | 379.65                          | 104.43            | 49.52 | 22400    | 142.99                         |
| F35         | 389.48                          | 104.54            | 49.72 | 23400    | 143.13                         |
| F36         | 399.31                          | 104.60            | 49.91 | 24400    | 143.38                         |
| F37         | 409.14                          | 104.69            | 50.08 | 25400    | 143.50                         |
| F38         | 418.97                          | 104.80            | 50.28 | 26500    | 143.64                         |
| F39         | 428.8                           | 104.85            | 50.44 | 27500    | 143.84                         |
| F40         | 438.63                          | 104.94            | 50.56 | 28500    | 143.85                         |
| F41         | 448.46                          | 104.99            | 50.69 | 29500    | 144.00                         |
| F42         | 458.29                          | 105.02            | 50.78 | 31500    | 144.08                         |
| F43         | 469.96                          | 105.03            | 50.86 | 33300    | 144.25                         |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 5</b> |                                 |                   |       |          |                                |
|--------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor              | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                    |                                 | x (ft)            | y(ft) |          |                                |
| F44                | 481.63                          | 104.89            | 50.65 | 31200    | 144.22                         |
| F45                | 493.3                           | 104.93            | 50.71 | 32200    | 144.22                         |
| F46MEP             | 504.97                          | 104.88            | 50.65 | 36300    | 144.24                         |
| F47roof            | 521.3                           | 103.55            | 48.47 | 49800    | 143.34                         |
| TO Screening       | 544.3                           | 105.62            | 51.76 | 30000    | 144.40                         |

| <b>Load Case 6</b> |                                 |                   |       |          |                                |
|--------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor              | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                    |                                 | x (ft)            | y(ft) |          |                                |
| Fground            | 0                               | 94.27             | 36.78 | 8100     | 133.21                         |
| F2                 | 18.48                           | 93.09             | 35.39 | 14000    | 135.91                         |
| F3                 | 30.5                            | 85.80             | 27.34 | 13700    | 137.26                         |
| F4                 | 46.48                           | 93.10             | 35.38 | 16000    | 136.14                         |
| F5                 | 62.52                           | 92.72             | 34.97 | 15600    | 136.17                         |
| F6                 | 77.72                           | 92.55             | 34.81 | 13600    | 136.07                         |
| F7                 | 89.88                           | 92.30             | 34.55 | 12100    | 136.05                         |
| F8                 | 102.04                          | 91.21             | 33.40 | 13600    | 136.21                         |
| F9                 | 117.04                          | 89.23             | 31.79 | 13800    | 134.34                         |
| F10                | 133.04                          | 89.74             | 31.92 | 9900     | 135.92                         |
| F9demo             | 141.75                          | 92.48             | 35.51 | 6200     | 129.70                         |
| F11                | 150.46                          | 90.04             | 31.64 | 7800     | 138.50                         |
| F11demo            | 159.16                          | 91.88             | 35.15 | 6600     | 128.66                         |
| F12                | 167.87                          | 89.14             | 31.30 | 9800     | 135.93                         |
| F13                | 176.58                          | 89.73             | 31.84 | 8600     | 136.27                         |
| F14                | 185.29                          | 87.48             | 30.30 | 10300    | 133.59                         |
| F15                | 194                             | 86.73             | 30.07 | 10400    | 132.01                         |
| F16                | 202.71                          | 86.61             | 30.32 | 10500    | 130.82                         |
| F17                | 212.54                          | 88.46             | 30.19 | 7700     | 137.37                         |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 6</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F18                | 222.37                                   | 88.29             | 30.05 | 8200     | 137.22                                  |
| F19                | 232.2                                    | 88.29             | 29.85 | 8900     | 137.88                                  |
| F20                | 242.03                                   | 88.19             | 29.69 | 9600     | 138.05                                  |
| F21                | 251.86                                   | 88.13             | 29.41 | 10300    | 138.72                                  |
| F22                | 261.69                                   | 88.06             | 29.26 | 11100    | 138.95                                  |
| F23                | 271.52                                   | 88.00             | 28.97 | 11900    | 139.59                                  |
| F24                | 281.35                                   | 87.96             | 28.79 | 12800    | 139.99                                  |
| F25                | 291.18                                   | 87.86             | 28.59 | 13700    | 140.19                                  |
| F26                | 301.01                                   | 87.81             | 28.29 | 14600    | 140.87                                  |
| F27                | 310.84                                   | 87.77             | 28.11 | 15600    | 141.21                                  |
| F28                | 320.67                                   | 87.64             | 27.87 | 16500    | 141.44                                  |
| F29                | 330.5                                    | 87.51             | 27.59 | 17400    | 141.71                                  |
| F30                | 340.33                                   | 87.49             | 27.40 | 18500    | 142.13                                  |
| F31                | 350.16                                   | 87.35             | 27.13 | 19400    | 142.33                                  |
| F32                | 359.99                                   | 87.24             | 26.91 | 20400    | 142.52                                  |
| F33                | 369.82                                   | 87.12             | 26.69 | 21400    | 142.70                                  |
| F34                | 379.65                                   | 87.05             | 26.46 | 22400    | 142.99                                  |
| F35                | 389.48                                   | 86.93             | 26.24 | 23400    | 143.13                                  |
| F36                | 399.31                                   | 86.86             | 26.03 | 24400    | 143.38                                  |
| F37                | 409.14                                   | 86.76             | 25.85 | 25400    | 143.50                                  |
| F38                | 418.97                                   | 86.65             | 25.62 | 26500    | 143.64                                  |
| F39                | 428.8                                    | 86.59             | 25.45 | 27500    | 143.84                                  |
| F40                | 438.63                                   | 86.49             | 25.31 | 28500    | 143.85                                  |
| F41                | 448.46                                   | 86.44             | 25.16 | 29500    | 144.00                                  |
| F42                | 458.29                                   | 86.39             | 25.06 | 31500    | 144.08                                  |
| F43                | 469.96                                   | 86.39             | 24.98 | 33300    | 144.25                                  |
| F44                | 481.63                                   | 86.55             | 25.21 | 31200    | 144.22                                  |
| F45                | 493.3                                    | 86.50             | 25.15 | 32200    | 144.22                                  |
| F46MEP             | 504.97                                   | 86.56             | 25.21 | 36300    | 144.24                                  |
| F47roof            | 521.3                                    | 88.03             | 27.63 | 49800    | 143.34                                  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 6</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| TO Screening       | 544.3                                    | 85.73             | 23.98 | 30000    | 144.40                                  |

| <b>Load Case 7</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 94.48             | 40.05 | 8600     | 229.79                                  |
| F2                 | 18.48                                    | 93.42             | 41.19 | 14800    | 227.11                                  |
| F3                 | 30.5                                     | 86.80             | 47.76 | 14400    | 225.76                                  |
| F4                 | 46.48                                    | 93.42             | 41.20 | 16900    | 226.88                                  |
| F5                 | 62.52                                    | 93.06             | 41.55 | 16400    | 226.85                                  |
| F6                 | 77.72                                    | 92.93             | 41.65 | 14400    | 226.95                                  |
| F7                 | 89.88                                    | 92.71             | 41.86 | 12800    | 226.96                                  |
| F8                 | 102.04                                   | 91.70             | 42.82 | 14300    | 226.81                                  |
| F9                 | 117.04                                   | 89.97             | 44.08 | 14600    | 228.67                                  |
| F10                | 133.04                                   | 90.37             | 44.02 | 10400    | 227.10                                  |
| F9demo             | 141.75                                   | 92.92             | 41.05 | 6600     | 233.23                                  |
| F11                | 150.46                                   | 90.62             | 44.27 | 8200     | 224.51                                  |
| F11demo            | 159.16                                   | 92.45             | 41.30 | 7100     | 234.25                                  |
| F12                | 167.87                                   | 89.83             | 44.52 | 10300    | 227.08                                  |
| F13                | 176.58                                   | 90.40             | 44.06 | 9100     | 226.74                                  |
| F14                | 185.29                                   | 88.42             | 45.26 | 10900    | 229.42                                  |
| F15                | 194                                      | 87.78             | 45.43 | 11000    | 230.97                                  |
| F16                | 202.71                                   | 87.69             | 45.22 | 11100    | 232.14                                  |
| F17                | 212.54                                   | 89.21             | 45.44 | 8100     | 225.65                                  |
| F18                | 222.37                                   | 89.04             | 45.57 | 8600     | 225.80                                  |
| F19                | 232.2                                    | 89.00             | 45.77 | 9300     | 225.13                                  |
| F20                | 242.03                                   | 88.89             | 45.92 | 10000    | 224.96                                  |
| F21                | 251.86                                   | 88.87             | 46.12 | 10800    | 224.29                                  |

**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 7</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F22                | 261.69                                   | 88.78             | 46.27 | 11600    | 224.06                                  |
| F23                | 271.52                                   | 88.75             | 46.47 | 12500    | 223.41                                  |
| F24                | 281.35                                   | 88.69             | 46.65 | 13400    | 223.01                                  |
| F25                | 291.18                                   | 88.62             | 46.79 | 14400    | 222.80                                  |
| F26                | 301.01                                   | 88.55             | 47.07 | 15300    | 222.11                                  |
| F27                | 310.84                                   | 88.48             | 47.25 | 16300    | 221.76                                  |
| F28                | 320.67                                   | 88.34             | 47.47 | 17200    | 221.53                                  |
| F29                | 330.5                                    | 88.24             | 47.67 | 18200    | 221.26                                  |
| F30                | 340.33                                   | 88.20             | 47.86 | 19300    | 220.83                                  |
| F31                | 350.16                                   | 88.09             | 48.06 | 20300    | 220.62                                  |
| F32                | 359.99                                   | 87.97             | 48.27 | 21300    | 220.43                                  |
| F33                | 369.82                                   | 87.84             | 48.47 | 22300    | 220.25                                  |
| F34                | 379.65                                   | 87.79             | 48.64 | 23400    | 219.95                                  |
| F35                | 389.48                                   | 87.66             | 48.84 | 24400    | 219.81                                  |
| F36                | 399.31                                   | 87.58             | 49.04 | 25400    | 219.55                                  |
| F37                | 409.14                                   | 87.51             | 49.17 | 26500    | 219.43                                  |
| F38                | 418.97                                   | 87.38             | 49.38 | 27600    | 219.29                                  |
| F39                | 428.8                                    | 87.31             | 49.54 | 28600    | 219.08                                  |
| F40                | 438.63                                   | 87.24             | 49.63 | 29700    | 219.06                                  |
| F41                | 448.46                                   | 87.15             | 49.81 | 30600    | 218.91                                  |
| F42                | 458.29                                   | 87.11             | 49.89 | 32700    | 218.83                                  |
| F43                | 469.96                                   | 87.12             | 49.95 | 34600    | 218.66                                  |
| F44                | 481.63                                   | 87.26             | 49.77 | 32400    | 218.68                                  |
| F45                | 493.3                                    | 87.21             | 49.83 | 33400    | 218.69                                  |
| F46MEP             | 504.97                                   | 87.27             | 49.77 | 37700    | 218.67                                  |
| F47roof            | 521.3                                    | 88.67             | 47.70 | 51900    | 219.59                                  |
| TO Screening       | 544.3                                    | 86.51             | 50.78 | 31200    | 218.50                                  |

**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 8</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 98.11             | 36.99 | 8600     | 229.79                                  |
| F2                 | 18.48                                    | 99.29             | 35.73 | 14800    | 227.11                                  |
| F3                 | 30.5                                     | 106.65            | 28.43 | 14400    | 225.76                                  |
| F4                 | 46.48                                    | 99.29             | 35.71 | 16900    | 226.88                                  |
| F5                 | 62.52                                    | 99.69             | 35.33 | 16400    | 226.85                                  |
| F6                 | 77.72                                    | 99.83             | 35.21 | 14400    | 226.95                                  |
| F7                 | 89.88                                    | 100.08            | 34.97 | 12800    | 226.96                                  |
| F8                 | 102.04                                   | 101.20            | 33.91 | 14300    | 226.81                                  |
| F9                 | 117.04                                   | 103.12            | 32.52 | 14600    | 228.67                                  |
| F10                | 133.04                                   | 102.68            | 32.58 | 10400    | 227.10                                  |
| F9demo             | 141.75                                   | 99.84             | 35.88 | 6600     | 233.23                                  |
| F11                | 150.46                                   | 102.40            | 32.29 | 8200     | 224.51                                  |
| F11demo            | 159.16                                   | 100.37            | 35.60 | 7100     | 234.25                                  |
| F12                | 167.87                                   | 103.27            | 32.02 | 10300    | 227.08                                  |
| F13                | 176.58                                   | 102.64            | 32.54 | 9100     | 226.74                                  |
| F14                | 185.29                                   | 104.84            | 31.20 | 10900    | 229.42                                  |
| F15                | 194                                      | 105.56            | 31.02 | 11000    | 230.97                                  |
| F16                | 202.71                                   | 105.66            | 31.25 | 11100    | 232.14                                  |
| F17                | 212.54                                   | 103.97            | 31.01 | 8100     | 225.65                                  |
| F18                | 222.37                                   | 104.16            | 30.86 | 8600     | 225.80                                  |
| F19                | 232.2                                    | 104.20            | 30.63 | 9300     | 225.13                                  |
| F20                | 242.03                                   | 104.33            | 30.46 | 10000    | 224.96                                  |
| F21                | 251.86                                   | 104.35            | 30.25 | 10800    | 224.29                                  |
| F22                | 261.69                                   | 104.44            | 30.08 | 11600    | 224.06                                  |
| F23                | 271.52                                   | 104.47            | 29.85 | 12500    | 223.41                                  |
| F24                | 281.35                                   | 104.55            | 29.65 | 13400    | 223.01                                  |
| F25                | 291.18                                   | 104.62            | 29.50 | 14400    | 222.80                                  |
| F26                | 301.01                                   | 104.70            | 29.19 | 15300    | 222.11                                  |
| F27                | 310.84                                   | 104.78            | 28.99 | 16300    | 221.76                                  |
| F28                | 320.67                                   | 104.93            | 28.74 | 17200    | 221.53                                  |



**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 8</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F29                | 330.5                                    | 105.04            | 28.52 | 18200    | 221.26                                  |
| F30                | 340.33                                   | 105.09            | 28.31 | 19300    | 220.83                                  |
| F31                | 350.16                                   | 105.21            | 28.09 | 20300    | 220.62                                  |
| F32                | 359.99                                   | 105.35            | 27.86 | 21300    | 220.43                                  |
| F33                | 369.82                                   | 105.49            | 27.63 | 22300    | 220.25                                  |
| F34                | 379.65                                   | 105.54            | 27.44 | 23400    | 219.95                                  |
| F35                | 389.48                                   | 105.68            | 27.22 | 24400    | 219.81                                  |
| F36                | 399.31                                   | 105.78            | 27.00 | 25400    | 219.55                                  |
| F37                | 409.14                                   | 105.86            | 26.85 | 26500    | 219.43                                  |
| F38                | 418.97                                   | 106.00            | 26.63 | 27600    | 219.29                                  |
| F39                | 428.8                                    | 106.07            | 26.44 | 28600    | 219.08                                  |
| F40                | 438.63                                   | 106.15            | 26.34 | 29700    | 219.06                                  |
| F41                | 448.46                                   | 106.26            | 26.14 | 30600    | 218.91                                  |
| F42                | 458.29                                   | 106.30            | 26.06 | 32700    | 218.83                                  |
| F43                | 469.96                                   | 106.29            | 25.98 | 34600    | 218.66                                  |
| F44                | 481.63                                   | 106.13            | 26.19 | 32400    | 218.68                                  |
| F45                | 493.3                                    | 106.19            | 26.12 | 33400    | 218.69                                  |
| F46MEP             | 504.97                                   | 106.13            | 26.19 | 37700    | 218.67                                  |
| F47roof            | 521.3                                    | 104.56            | 28.49 | 51900    | 219.59                                  |
| TO Screening       | 544.3                                    | 106.96            | 25.07 | 31200    | 218.50                                  |

| <b>Load Case 9</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 97.28             | 38.35 | 13600    | 76.78                                   |
| F2                 | 18.48                                    | 98.09             | 38.11 | 22400    | 75.53                                   |
| F3                 | 30.5                                     | 102.83            | 36.81 | 21400    | 74.86                                   |
| F4                 | 46.48                                    | 98.11             | 38.10 | 25400    | 75.42                                   |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 9</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F5                 | 62.52                                    | 98.34             | 38.04 | 24800    | 75.40                                   |
| F6                 | 77.72                                    | 98.43             | 38.02 | 21700    | 75.45                                   |
| F7                 | 89.88                                    | 98.59             | 37.98 | 19300    | 75.46                                   |
| F8                 | 102.04                                   | 99.27             | 37.80 | 21600    | 75.38                                   |
| F9                 | 117.04                                   | 100.26            | 37.61 | 22500    | 76.27                                   |
| F10                | 133.04                                   | 100.15            | 37.58 | 15800    | 75.52                                   |
| F9demo             | 141.75                                   | 98.10             | 38.20 | 10800    | 78.27                                   |
| F11                | 150.46                                   | 100.27            | 37.45 | 12000    | 74.22                                   |
| F11demo            | 159.16                                   | 98.34             | 38.17 | 11700    | 78.69                                   |
| F12                | 167.87                                   | 100.52            | 37.48 | 15600    | 75.52                                   |
| F13                | 176.58                                   | 100.21            | 37.55 | 13600    | 75.35                                   |
| F14                | 185.29                                   | 101.14            | 37.42 | 17100    | 76.62                                   |
| F15                | 194                                      | 101.37            | 37.44 | 17500    | 77.31                                   |
| F16                | 202.71                                   | 101.26            | 37.51 | 18000    | 77.82                                   |
| F17                | 212.54                                   | 101.15            | 37.25 | 12000    | 74.81                                   |
| F18                | 222.37                                   | 101.24            | 37.24 | 12800    | 74.88                                   |
| F19                | 232.2                                    | 101.37            | 37.17 | 13700    | 74.54                                   |
| F20                | 242.03                                   | 101.48            | 37.13 | 14700    | 74.46                                   |
| F21                | 251.86                                   | 101.60            | 37.06 | 15700    | 74.10                                   |
| F22                | 261.69                                   | 101.67            | 37.03 | 16900    | 73.98                                   |
| F23                | 271.52                                   | 101.85            | 36.94 | 17900    | 73.64                                   |
| F24                | 281.35                                   | 101.96            | 36.88 | 19100    | 73.42                                   |
| F25                | 291.18                                   | 102.07            | 36.84 | 20400    | 73.30                                   |
| F26                | 301.01                                   | 102.27            | 36.74 | 21400    | 72.92                                   |
| F27                | 310.84                                   | 102.38            | 36.68 | 22700    | 72.72                                   |
| F28                | 320.67                                   | 102.53            | 36.61 | 23900    | 72.59                                   |
| F29                | 330.5                                    | 102.66            | 36.55 | 25200    | 72.43                                   |
| F30                | 340.33                                   | 102.80            | 36.48 | 26500    | 72.18                                   |
| F31                | 350.16                                   | 102.93            | 36.42 | 27800    | 72.05                                   |
| F32                | 359.99                                   | 103.10            | 36.35 | 29000    | 71.94                                   |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 9</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F33                | 369.82                                   | 103.24            | 36.29 | 30300    | 71.83                                   |
| F34                | 379.65                                   | 103.36            | 36.23 | 31600    | 71.65                                   |
| F35                | 389.48                                   | 103.50            | 36.17 | 32900    | 71.57                                   |
| F36                | 399.31                                   | 103.61            | 36.11 | 34200    | 71.41                                   |
| F37                | 409.14                                   | 103.73            | 36.06 | 35500    | 71.34                                   |
| F38                | 418.97                                   | 103.87            | 36.00 | 36900    | 71.25                                   |
| F39                | 428.8                                    | 103.97            | 35.94 | 38200    | 71.11                                   |
| F40                | 438.63                                   | 104.06            | 35.91 | 39500    | 71.11                                   |
| F41                | 448.46                                   | 104.17            | 35.86 | 40700    | 71.01                                   |
| F42                | 458.29                                   | 104.23            | 35.83 | 43400    | 70.96                                   |
| F43                | 469.96                                   | 104.29            | 35.79 | 45700    | 70.85                                   |
| F44                | 481.63                                   | 104.14            | 35.85 | 42900    | 70.87                                   |
| F45                | 493.3                                    | 104.19            | 35.83 | 44200    | 70.87                                   |
| F46MEP             | 504.97                                   | 104.14            | 35.84 | 49900    | 70.86                                   |
| F47roof            | 521.3                                    | 102.68            | 36.42 | 69700    | 71.44                                   |
| TO Screening       | 544.3                                    | 104.87            | 35.57 | 41100    | 70.75                                   |

| <b>Load Case 10</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 94.97             | 38.89 | 13600    | 76.78                                   |
| F2                  | 18.48                                    | 94.04             | 39.16 | 22400    | 75.53                                   |
| F3                  | 30.5                                     | 88.62             | 40.65 | 21400    | 74.86                                   |
| F4                  | 46.48                                    | 94.02             | 39.17 | 25400    | 75.42                                   |
| F5                  | 62.52                                    | 93.75             | 39.24 | 24800    | 75.40                                   |
| F6                  | 77.72                                    | 93.65             | 39.26 | 21700    | 75.45                                   |
| F7                  | 89.88                                    | 93.47             | 39.31 | 19300    | 75.46                                   |
| F8                  | 102.04                                   | 92.69             | 39.52 | 21600    | 75.38                                   |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 10</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F9                  | 117.04                                   | 91.55             | 39.73 | 22500    | 76.27                                   |
| F10                 | 133.04                                   | 91.69             | 39.76 | 15800    | 75.52                                   |
| F9demo              | 141.75                                   | 94.02             | 39.05 | 10800    | 78.27                                   |
| F11                 | 150.46                                   | 91.55             | 39.91 | 12000    | 74.22                                   |
| F11demo             | 159.16                                   | 93.75             | 39.09 | 11700    | 78.69                                   |
| F12                 | 167.87                                   | 91.26             | 39.88 | 15600    | 75.52                                   |
| F13                 | 176.58                                   | 91.62             | 39.80 | 13600    | 75.35                                   |
| F14                 | 185.29                                   | 90.56             | 39.94 | 17100    | 76.62                                   |
| F15                 | 194                                      | 90.29             | 39.93 | 17500    | 77.31                                   |
| F16                 | 202.71                                   | 90.42             | 39.85 | 18000    | 77.82                                   |
| F17                 | 212.54                                   | 90.54             | 40.14 | 12000    | 74.81                                   |
| F18                 | 222.37                                   | 90.44             | 40.16 | 12800    | 74.88                                   |
| F19                 | 232.2                                    | 90.29             | 40.23 | 13700    | 74.54                                   |
| F20                 | 242.03                                   | 90.17             | 40.28 | 14700    | 74.46                                   |
| F21                 | 251.86                                   | 90.03             | 40.36 | 15700    | 74.10                                   |
| F22                 | 261.69                                   | 89.94             | 40.40 | 16900    | 73.98                                   |
| F23                 | 271.52                                   | 89.75             | 40.49 | 17900    | 73.64                                   |
| F24                 | 281.35                                   | 89.62             | 40.56 | 19100    | 73.42                                   |
| F25                 | 291.18                                   | 89.50             | 40.61 | 20400    | 73.30                                   |
| F26                 | 301.01                                   | 89.27             | 40.73 | 21400    | 72.92                                   |
| F27                 | 310.84                                   | 89.13             | 40.80 | 22700    | 72.72                                   |
| F28                 | 320.67                                   | 88.97             | 40.87 | 23900    | 72.59                                   |
| F29                 | 330.5                                    | 88.82             | 40.94 | 25200    | 72.43                                   |
| F30                 | 340.33                                   | 88.66             | 41.02 | 26500    | 72.18                                   |
| F31                 | 350.16                                   | 88.51             | 41.09 | 27800    | 72.05                                   |
| F32                 | 359.99                                   | 88.32             | 41.17 | 29000    | 71.94                                   |
| F33                 | 369.82                                   | 88.16             | 41.24 | 30300    | 71.83                                   |
| F34                 | 379.65                                   | 88.02             | 41.31 | 31600    | 71.65                                   |
| F35                 | 389.48                                   | 87.86             | 41.38 | 32900    | 71.57                                   |
| F36                 | 399.31                                   | 87.73             | 41.45 | 34200    | 71.41                                   |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 10</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| F37                 | 409.14                          | 87.60             | 41.51 | 35500    | 71.34                          |
| F38                 | 418.97                          | 87.43             | 41.58 | 36900    | 71.25                          |
| F39                 | 428.8                           | 87.32             | 41.64 | 38200    | 71.11                          |
| F40                 | 438.63                          | 87.21             | 41.68 | 39500    | 71.11                          |
| F41                 | 448.46                          | 87.09             | 41.73 | 40700    | 71.01                          |
| F42                 | 458.29                          | 87.03             | 41.77 | 43400    | 70.96                          |
| F43                 | 469.96                          | 86.96             | 41.81 | 45700    | 70.85                          |
| F44                 | 481.63                          | 87.13             | 41.75 | 42900    | 70.87                          |
| F45                 | 493.3                           | 87.07             | 41.77 | 44200    | 70.87                          |
| F46MEP              | 504.97                          | 87.13             | 41.75 | 49900    | 70.86                          |
| F47roof             | 521.3                           | 88.79             | 41.09 | 69700    | 71.44                          |
| TO Screening        | 544.3                           | 86.29             | 42.06 | 41100    | 70.75                          |

| <b>Load Case 11</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| Fground             | 0                               | 95.12             | 38.35 | 13600    | 283.22                         |
| F2                  | 18.48                           | 94.31             | 38.11 | 22400    | 284.47                         |
| F3                  | 30.5                            | 89.57             | 36.81 | 21400    | 285.14                         |
| F4                  | 46.48                           | 94.29             | 38.10 | 25400    | 284.58                         |
| F5                  | 62.52                           | 94.06             | 38.04 | 24800    | 284.60                         |
| F6                  | 77.72                           | 93.97             | 38.02 | 21700    | 284.55                         |
| F7                  | 89.88                           | 93.81             | 37.98 | 19300    | 284.54                         |
| F8                  | 102.04                          | 93.13             | 37.80 | 21600    | 284.62                         |
| F9                  | 117.04                          | 92.14             | 37.61 | 22500    | 283.73                         |
| F10                 | 133.04                          | 92.25             | 37.58 | 15800    | 284.48                         |
| F9demo              | 141.75                          | 94.30             | 38.20 | 10800    | 281.73                         |
| F11                 | 150.46                          | 92.13             | 37.45 | 12000    | 285.78                         |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 11</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F11demo             | 159.16                                   | 94.06             | 38.17 | 11700    | 281.31                                  |
| F12                 | 167.87                                   | 91.88             | 37.48 | 15600    | 284.48                                  |
| F13                 | 176.58                                   | 92.19             | 37.55 | 13600    | 284.65                                  |
| F14                 | 185.29                                   | 91.26             | 37.42 | 17100    | 283.38                                  |
| F15                 | 194                                      | 91.03             | 37.44 | 17500    | 282.69                                  |
| F16                 | 202.71                                   | 91.14             | 37.51 | 18000    | 282.18                                  |
| F17                 | 212.54                                   | 91.25             | 37.25 | 12000    | 285.19                                  |
| F18                 | 222.37                                   | 91.16             | 37.24 | 12800    | 285.12                                  |
| F19                 | 232.2                                    | 91.03             | 37.17 | 13700    | 285.46                                  |
| F20                 | 242.03                                   | 90.92             | 37.13 | 14700    | 285.54                                  |
| F21                 | 251.86                                   | 90.80             | 37.06 | 15700    | 285.90                                  |
| F22                 | 261.69                                   | 90.73             | 37.03 | 16900    | 286.02                                  |
| F23                 | 271.52                                   | 90.55             | 36.94 | 17900    | 286.36                                  |
| F24                 | 281.35                                   | 90.44             | 36.88 | 19100    | 286.58                                  |
| F25                 | 291.18                                   | 90.33             | 36.84 | 20400    | 286.70                                  |
| F26                 | 301.01                                   | 90.13             | 36.74 | 21400    | 287.08                                  |
| F27                 | 310.84                                   | 90.02             | 36.68 | 22700    | 287.28                                  |
| F28                 | 320.67                                   | 89.87             | 36.61 | 23900    | 287.41                                  |
| F29                 | 330.5                                    | 89.74             | 36.55 | 25200    | 287.57                                  |
| F30                 | 340.33                                   | 89.60             | 36.48 | 26500    | 287.82                                  |
| F31                 | 350.16                                   | 89.47             | 36.42 | 27800    | 287.95                                  |
| F32                 | 359.99                                   | 89.30             | 36.35 | 29000    | 288.06                                  |
| F33                 | 369.82                                   | 89.16             | 36.29 | 30300    | 288.17                                  |
| F34                 | 379.65                                   | 89.04             | 36.23 | 31600    | 288.35                                  |
| F35                 | 389.48                                   | 88.90             | 36.17 | 32900    | 288.43                                  |
| F36                 | 399.31                                   | 88.79             | 36.11 | 34200    | 288.59                                  |
| F37                 | 409.14                                   | 88.67             | 36.06 | 35500    | 288.66                                  |
| F38                 | 418.97                                   | 88.53             | 36.00 | 36900    | 288.75                                  |
| F39                 | 428.8                                    | 88.43             | 35.94 | 38200    | 288.89                                  |
| F40                 | 438.63                                   | 88.34             | 35.91 | 39500    | 288.89                                  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 11</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F41                 | 448.46                                   | 88.23             | 35.86 | 40700    | 288.99                                  |
| F42                 | 458.29                                   | 88.17             | 35.83 | 43400    | 289.04                                  |
| F43                 | 469.96                                   | 88.11             | 35.79 | 45700    | 289.15                                  |
| F44                 | 481.63                                   | 88.26             | 35.85 | 42900    | 289.13                                  |
| F45                 | 493.3                                    | 88.21             | 35.83 | 44200    | 289.13                                  |
| F46MEP              | 504.97                                   | 88.26             | 35.84 | 49900    | 289.14                                  |
| F47roof             | 521.3                                    | 89.72             | 36.42 | 69700    | 288.56                                  |
| TO Screening        | 544.3                                    | 87.53             | 35.57 | 41100    | 289.25                                  |

| <b>Load Case 12</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 97.43             | 38.89 | 13600    | 283.22                                  |
| F2                  | 18.48                                    | 98.36             | 39.16 | 22400    | 284.47                                  |
| F3                  | 30.5                                     | 103.78            | 40.65 | 21400    | 285.14                                  |
| F4                  | 46.48                                    | 98.38             | 39.17 | 25400    | 284.58                                  |
| F5                  | 62.52                                    | 98.65             | 39.24 | 24800    | 284.60                                  |
| F6                  | 77.72                                    | 98.75             | 39.26 | 21700    | 284.55                                  |
| F7                  | 89.88                                    | 98.93             | 39.31 | 19300    | 284.54                                  |
| F8                  | 102.04                                   | 99.71             | 39.52 | 21600    | 284.62                                  |
| F9                  | 117.04                                   | 100.85            | 39.73 | 22500    | 283.73                                  |
| F10                 | 133.04                                   | 100.71            | 39.76 | 15800    | 284.48                                  |
| F9demo              | 141.75                                   | 98.38             | 39.05 | 10800    | 281.73                                  |
| F11                 | 150.46                                   | 100.85            | 39.91 | 12000    | 285.78                                  |
| F11demo             | 159.16                                   | 98.65             | 39.09 | 11700    | 281.31                                  |
| F12                 | 167.87                                   | 101.14            | 39.88 | 15600    | 284.48                                  |
| F13                 | 176.58                                   | 100.78            | 39.80 | 13600    | 284.65                                  |
| F14                 | 185.29                                   | 101.84            | 39.94 | 17100    | 283.38                                  |



**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 12</b> |  |                          |              |                 |                                       |
|---------------------|--|--------------------------|--------------|-----------------|---------------------------------------|
| <b>Floor</b>        | <b>Height (ft) Above Fground Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load Direction CCW from +X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |                                       |
| F15                 | 194                                    | 102.11                   | 39.93        | 17500           | 282.69                                |
| F16                 | 202.71                                 | 101.98                   | 39.85        | 18000           | 282.18                                |
| F17                 | 212.54                                 | 101.86                   | 40.14        | 12000           | 285.19                                |
| F18                 | 222.37                                 | 101.96                   | 40.16        | 12800           | 285.12                                |
| F19                 | 232.2                                  | 102.11                   | 40.23        | 13700           | 285.46                                |
| F20                 | 242.03                                 | 102.23                   | 40.28        | 14700           | 285.54                                |
| F21                 | 251.86                                 | 102.37                   | 40.36        | 15700           | 285.90                                |
| F22                 | 261.69                                 | 102.46                   | 40.40        | 16900           | 286.02                                |
| F23                 | 271.52                                 | 102.65                   | 40.49        | 17900           | 286.36                                |
| F24                 | 281.35                                 | 102.78                   | 40.56        | 19100           | 286.58                                |
| F25                 | 291.18                                 | 102.90                   | 40.61        | 20400           | 286.70                                |
| F26                 | 301.01                                 | 103.13                   | 40.73        | 21400           | 287.08                                |
| F27                 | 310.84                                 | 103.27                   | 40.80        | 22700           | 287.28                                |
| F28                 | 320.67                                 | 103.43                   | 40.87        | 23900           | 287.41                                |
| F29                 | 330.5                                  | 103.58                   | 40.94        | 25200           | 287.57                                |
| F30                 | 340.33                                 | 103.74                   | 41.02        | 26500           | 287.82                                |
| F31                 | 350.16                                 | 103.89                   | 41.09        | 27800           | 287.95                                |
| F32                 | 359.99                                 | 104.08                   | 41.17        | 29000           | 288.06                                |
| F33                 | 369.82                                 | 104.24                   | 41.24        | 30300           | 288.17                                |
| F34                 | 379.65                                 | 104.38                   | 41.31        | 31600           | 288.35                                |
| F35                 | 389.48                                 | 104.54                   | 41.38        | 32900           | 288.43                                |
| F36                 | 399.31                                 | 104.67                   | 41.45        | 34200           | 288.59                                |
| F37                 | 409.14                                 | 104.80                   | 41.51        | 35500           | 288.66                                |
| F38                 | 418.97                                 | 104.97                   | 41.58        | 36900           | 288.75                                |
| F39                 | 428.8                                  | 105.08                   | 41.64        | 38200           | 288.89                                |
| F40                 | 438.63                                 | 105.19                   | 41.68        | 39500           | 288.89                                |
| F41                 | 448.46                                 | 105.31                   | 41.73        | 40700           | 288.99                                |
| F42                 | 458.29                                 | 105.37                   | 41.77        | 43400           | 289.04                                |
| F43                 | 469.96                                 | 105.44                   | 41.81        | 45700           | 289.15                                |
| F44                 | 481.63                                 | 105.27                   | 41.75        | 42900           | 289.13                                |





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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 12</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| F45                 | 493.3                           | 105.33            | 41.77 | 44200    | 289.13                         |
| F46MEP              | 504.97                          | 105.27            | 41.75 | 49900    | 289.14                         |
| F47roof             | 521.3                           | 103.61            | 41.09 | 69700    | 288.56                         |
| TO Screening        | 544.3                           | 106.11            | 42.06 | 41100    | 289.25                         |

| <b>Load Case 13</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| Fground             | 0                               | 97.31             | 38.78 | 13400    | 99.34                          |
| F2                  | 18.48                           | 98.15             | 38.95 | 22100    | 100.24                         |
| F3                  | 30.5                            | 103.05            | 39.90 | 21100    | 100.72                         |
| F4                  | 46.48                           | 98.17             | 38.96 | 25000    | 100.32                         |
| F5                  | 62.52                           | 98.42             | 39.00 | 24400    | 100.33                         |
| F6                  | 77.72                           | 98.51             | 39.02 | 21300    | 100.30                         |
| F7                  | 89.88                           | 98.66             | 39.05 | 19000    | 100.29                         |
| F8                  | 102.04                          | 99.38             | 39.18 | 21200    | 100.34                         |
| F9                  | 117.04                          | 100.38            | 39.31 | 22200    | 99.70                          |
| F10                 | 133.04                          | 100.29            | 39.34 | 15500    | 100.24                         |
| F9demo              | 141.75                          | 98.14             | 38.88 | 10700    | 98.27                          |
| F11                 | 150.46                          | 100.46            | 39.44 | 11700    | 101.19                         |
| F11demo             | 159.16                          | 98.38             | 38.91 | 11600    | 97.97                          |
| F12                 | 167.87                          | 100.68            | 39.41 | 15300    | 100.25                         |
| F13                 | 176.58                          | 100.34            | 39.36 | 13400    | 100.37                         |
| F14                 | 185.29                          | 101.30            | 39.45 | 16800    | 99.46                          |
| F15                 | 194                             | 101.50            | 39.43 | 17300    | 98.96                          |
| F16                 | 202.71                          | 101.37            | 39.38 | 17800    | 98.59                          |
| F17                 | 212.54                          | 101.33            | 39.57 | 11800    | 100.76                         |
| F18                 | 222.37                          | 101.41            | 39.59 | 12600    | 100.71                         |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 13</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F19                 | 232.2                                    | 101.59            | 39.64 | 13400    | 100.95                                  |
| F20                 | 242.03                                   | 101.65            | 39.66 | 14500    | 101.02                                  |
| F21                 | 251.86                                   | 101.82            | 39.72 | 15400    | 101.27                                  |
| F22                 | 261.69                                   | 101.92            | 39.75 | 16500    | 101.36                                  |
| F23                 | 271.52                                   | 102.06            | 39.81 | 17600    | 101.61                                  |
| F24                 | 281.35                                   | 102.21            | 39.85 | 18700    | 101.78                                  |
| F25                 | 291.18                                   | 102.34            | 39.89 | 19900    | 101.86                                  |
| F26                 | 301.01                                   | 102.52            | 39.96 | 21000    | 102.14                                  |
| F27                 | 310.84                                   | 102.67            | 40.01 | 22200    | 102.28                                  |
| F28                 | 320.67                                   | 102.85            | 40.06 | 23300    | 102.38                                  |
| F29                 | 330.5                                    | 102.98            | 40.10 | 24600    | 102.50                                  |
| F30                 | 340.33                                   | 103.15            | 40.16 | 25800    | 102.68                                  |
| F31                 | 350.16                                   | 103.28            | 40.20 | 27100    | 102.77                                  |
| F32                 | 359.99                                   | 103.45            | 40.25 | 28300    | 102.86                                  |
| F33                 | 369.82                                   | 103.61            | 40.30 | 29500    | 102.94                                  |
| F34                 | 379.65                                   | 103.74            | 40.35 | 30800    | 103.07                                  |
| F35                 | 389.48                                   | 103.90            | 40.40 | 32000    | 103.13                                  |
| F36                 | 399.31                                   | 104.02            | 40.44 | 33300    | 103.25                                  |
| F37                 | 409.14                                   | 104.16            | 40.48 | 34500    | 103.30                                  |
| F38                 | 418.97                                   | 104.30            | 40.53 | 35900    | 103.37                                  |
| F39                 | 428.8                                    | 104.42            | 40.57 | 37100    | 103.47                                  |
| F40                 | 438.63                                   | 104.49            | 40.59 | 38500    | 103.47                                  |
| F41                 | 448.46                                   | 104.62            | 40.63 | 39600    | 103.54                                  |
| F42                 | 458.29                                   | 104.69            | 40.65 | 42200    | 103.58                                  |
| F43                 | 469.96                                   | 104.74            | 40.68 | 44500    | 103.66                                  |
| F44                 | 481.63                                   | 104.60            | 40.64 | 41700    | 103.65                                  |
| F45                 | 493.3                                    | 104.65            | 40.65 | 43000    | 103.65                                  |
| F46MEP              | 504.97                                   | 104.60            | 40.64 | 48500    | 103.66                                  |
| F47roof             | 521.3                                    | 103.03            | 40.21 | 67900    | 103.23                                  |
| TO Screening        | 544.3                                    | 105.39            | 40.85 | 39900    | 103.74                                  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 14</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| Fground             | 0  | 94.93                    | 38.39        | 13400           | 99.34   |
| F2                  | 18.48  | 93.97                    | 38.20        | 22100           | 100.24  |
| F3                  | 30.5   | 88.38                    | 37.12        | 21100           | 100.72  |
| F4                  | 46.48  | 93.95                    | 38.19        | 25000           | 100.32  |
| F5                  | 62.52  | 93.67                    | 38.14        | 24400           | 100.33  |
| F6                  | 77.72  | 93.56                    | 38.12        | 21300           | 100.30  |
| F7                  | 89.88  | 93.38                    | 38.09        | 19000           | 100.29  |
| F8                  | 102.04   | 92.56                    | 37.94        | 21200           | 100.34  |
| F9                  | 117.04   | 91.42                    | 37.78        | 22200           | 99.70   |
| F10                 | 133.04   | 91.53                    | 37.76        | 15500           | 100.24  |
| F9demo              | 141.75   | 93.98                    | 38.28        | 10700           | 98.27   |
| F11                 | 150.46   | 91.34                    | 37.64        | 11700           | 101.19  |
| F11demo             | 159.16   | 93.71                    | 38.25        | 11600           | 97.97   |
| F12                 | 167.87   | 91.08                    | 37.67        | 15300           | 100.25  |
| F13                 | 176.58   | 91.47                    | 37.74        | 13400           | 100.37  |
| F14                 | 185.29   | 90.38                    | 37.63        | 16800           | 99.46   |
| F15                 | 194  | 90.15                    | 37.65        | 17300           | 98.96   |
| F16                 | 202.71   | 90.29                    | 37.71        | 17800           | 98.59   |
| F17                 | 212.54   | 90.34                    | 37.49        | 11800           | 100.76  |
| F18                 | 222.37   | 90.24                    | 37.47        | 12600           | 100.71  |
| F19                 | 232.2  | 90.05                    | 37.41        | 13400           | 100.95  |
| F20                 | 242.03   | 89.97                    | 37.39        | 14500           | 101.02  |
| F21                 | 251.86   | 89.78                    | 37.32        | 15400           | 101.27  |
| F22                 | 261.69   | 89.66                    | 37.29        | 16500           | 101.36  |
| F23                 | 271.52   | 89.50                    | 37.22        | 17600           | 101.61  |
| F24                 | 281.35   | 89.33                    | 37.17        | 18700           | 101.78  |
| F25                 | 291.18   | 89.18                    | 37.13        | 19900           | 101.86  |
| F26                 | 301.01   | 88.97                    | 37.05        | 21000           | 102.14  |
| F27                 | 310.84   | 88.81                    | 36.99        | 22200           | 102.28  |



**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 14</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| F28                 | 320.67                          | 88.60             | 36.93 | 23300    | 102.38                         |
| F29                 | 330.5                           | 88.45             | 36.88 | 24600    | 102.50                         |
| F30                 | 340.33                          | 88.26             | 36.81 | 25800    | 102.68                         |
| F31                 | 350.16                          | 88.11             | 36.77 | 27100    | 102.77                         |
| F32                 | 359.99                          | 87.92             | 36.71 | 28300    | 102.86                         |
| F33                 | 369.82                          | 87.73             | 36.65 | 29500    | 102.94                         |
| F34                 | 379.65                          | 87.58             | 36.60 | 30800    | 103.07                         |
| F35                 | 389.48                          | 87.40             | 36.55 | 32000    | 103.13                         |
| F36                 | 399.31                          | 87.27             | 36.50 | 33300    | 103.25                         |
| F37                 | 409.14                          | 87.11             | 36.45 | 34500    | 103.30                         |
| F38                 | 418.97                          | 86.94             | 36.40 | 35900    | 103.37                         |
| F39                 | 428.8                           | 86.81             | 36.35 | 37100    | 103.47                         |
| F40                 | 438.63                          | 86.72             | 36.33 | 38500    | 103.47                         |
| F41                 | 448.46                          | 86.58             | 36.28 | 39600    | 103.54                         |
| F42                 | 458.29                          | 86.50             | 36.26 | 42200    | 103.58                         |
| F43                 | 469.96                          | 86.43             | 36.23 | 44500    | 103.66                         |
| F44                 | 481.63                          | 86.60             | 36.27 | 41700    | 103.65                         |
| F45                 | 493.3                           | 86.55             | 36.26 | 43000    | 103.65                         |
| F46MEP              | 504.97                          | 86.60             | 36.27 | 48500    | 103.66                         |
| F47roof             | 521.3                           | 88.39             | 36.76 | 67900    | 103.23                         |
| TO Screening        | 544.3                           | 85.69             | 36.03 | 39900    | 103.74                         |

| <b>Load Case 15</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| Fground             | 0                               | 95.09             | 38.78 | 13400    | 260.66                         |
| F2                  | 18.48                           | 94.25             | 38.95 | 22100    | 259.76                         |
| F3                  | 30.5                            | 89.35             | 39.90 | 21100    | 259.28                         |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 15</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F4                  | 46.48                                    | 94.23             | 38.96 | 25000    | 259.68                                  |
| F5                  | 62.52                                    | 93.98             | 39.00 | 24400    | 259.67                                  |
| F6                  | 77.72                                    | 93.89             | 39.02 | 21300    | 259.70                                  |
| F7                  | 89.88                                    | 93.74             | 39.05 | 19000    | 259.71                                  |
| F8                  | 102.04                                   | 93.02             | 39.18 | 21200    | 259.66                                  |
| F9                  | 117.04                                   | 92.02             | 39.31 | 22200    | 260.30                                  |
| F10                 | 133.04                                   | 92.11             | 39.34 | 15500    | 259.76                                  |
| F9demo              | 141.75                                   | 94.26             | 38.88 | 10700    | 261.73                                  |
| F11                 | 150.46                                   | 91.94             | 39.44 | 11700    | 258.81                                  |
| F11demo             | 159.16                                   | 94.02             | 38.91 | 11600    | 262.03                                  |
| F12                 | 167.87                                   | 91.72             | 39.41 | 15300    | 259.75                                  |
| F13                 | 176.58                                   | 92.06             | 39.36 | 13400    | 259.63                                  |
| F14                 | 185.29                                   | 91.10             | 39.45 | 16800    | 260.54                                  |
| F15                 | 194                                      | 90.90             | 39.43 | 17300    | 261.04                                  |
| F16                 | 202.71                                   | 91.03             | 39.38 | 17800    | 261.41                                  |
| F17                 | 212.54                                   | 91.07             | 39.57 | 11800    | 259.24                                  |
| F18                 | 222.37                                   | 90.99             | 39.59 | 12600    | 259.29                                  |
| F19                 | 232.2                                    | 90.81             | 39.64 | 13400    | 259.05                                  |
| F20                 | 242.03                                   | 90.75             | 39.66 | 14500    | 258.98                                  |
| F21                 | 251.86                                   | 90.58             | 39.72 | 15400    | 258.73                                  |
| F22                 | 261.69                                   | 90.48             | 39.75 | 16500    | 258.64                                  |
| F23                 | 271.52                                   | 90.34             | 39.81 | 17600    | 258.39                                  |
| F24                 | 281.35                                   | 90.19             | 39.85 | 18700    | 258.22                                  |
| F25                 | 291.18                                   | 90.06             | 39.89 | 19900    | 258.14                                  |
| F26                 | 301.01                                   | 89.88             | 39.96 | 21000    | 257.86                                  |
| F27                 | 310.84                                   | 89.73             | 40.01 | 22200    | 257.72                                  |
| F28                 | 320.67                                   | 89.55             | 40.06 | 23300    | 257.62                                  |
| F29                 | 330.5                                    | 89.42             | 40.10 | 24600    | 257.50                                  |
| F30                 | 340.33                                   | 89.25             | 40.16 | 25800    | 257.32                                  |
| F31                 | 350.16                                   | 89.12             | 40.20 | 27100    | 257.23                                  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 15</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| F32                 | 359.99                          | 88.95             | 40.25 | 28300    | 257.14                         |
| F33                 | 369.82                          | 88.79             | 40.30 | 29500    | 257.06                         |
| F34                 | 379.65                          | 88.66             | 40.35 | 30800    | 256.93                         |
| F35                 | 389.48                          | 88.50             | 40.40 | 32000    | 256.87                         |
| F36                 | 399.31                          | 88.38             | 40.44 | 33300    | 256.75                         |
| F37                 | 409.14                          | 88.24             | 40.48 | 34500    | 256.70                         |
| F38                 | 418.97                          | 88.10             | 40.53 | 35900    | 256.63                         |
| F39                 | 428.8                           | 87.98             | 40.57 | 37100    | 256.53                         |
| F40                 | 438.63                          | 87.91             | 40.59 | 38500    | 256.53                         |
| F41                 | 448.46                          | 87.78             | 40.63 | 39600    | 256.46                         |
| F42                 | 458.29                          | 87.71             | 40.65 | 42200    | 256.42                         |
| F43                 | 469.96                          | 87.66             | 40.68 | 44500    | 256.34                         |
| F44                 | 481.63                          | 87.80             | 40.64 | 41700    | 256.35                         |
| F45                 | 493.3                           | 87.75             | 40.65 | 43000    | 256.35                         |
| F46MEP              | 504.97                          | 87.80             | 40.64 | 48500    | 256.34                         |
| F47roof             | 521.3                           | 89.37             | 40.21 | 67900    | 256.77                         |
| TO Screening        | 544.3                           | 87.01             | 40.85 | 39900    | 256.26                         |

| <b>Load Case 16</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| Fground             | 0                               | 97.47             | 38.39 | 13400    | 260.66                         |
| F2                  | 18.48                           | 98.43             | 38.20 | 22100    | 259.76                         |
| F3                  | 30.5                            | 104.02            | 37.12 | 21100    | 259.28                         |
| F4                  | 46.48                           | 98.45             | 38.19 | 25000    | 259.68                         |
| F5                  | 62.52                           | 98.73             | 38.14 | 24400    | 259.67                         |
| F6                  | 77.72                           | 98.84             | 38.12 | 21300    | 259.70                         |
| F7                  | 89.88                           | 99.02             | 38.09 | 19000    | 259.71                         |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| Load Case 16 |  |                   |       |          |   |
|--------------|--|-------------------|-------|----------|---|
| Floor        | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|              |  | x (ft)            | y(ft) |          |   |
| F8           | 102.04                                   | 99.84             | 37.94 | 21200    | 259.66                                  |
| F9           | 117.04                                   | 100.98            | 37.78 | 22200    | 260.30                                  |
| F10          | 133.04                                   | 100.87            | 37.76 | 15500    | 259.76                                  |
| F9demo       | 141.75                                   | 98.42             | 38.28 | 10700    | 261.73                                  |
| F11          | 150.46                                   | 101.06            | 37.64 | 11700    | 258.81                                  |
| F11demo      | 159.16                                   | 98.69             | 38.25 | 11600    | 262.03                                  |
| F12          | 167.87                                   | 101.32            | 37.67 | 15300    | 259.75                                  |
| F13          | 176.58                                   | 100.93            | 37.74 | 13400    | 259.63                                  |
| F14          | 185.29                                   | 102.02            | 37.63 | 16800    | 260.54                                  |
| F15          | 194                                      | 102.25            | 37.65 | 17300    | 261.04                                  |
| F16          | 202.71                                   | 102.11            | 37.71 | 17800    | 261.41                                  |
| F17          | 212.54                                   | 102.06            | 37.49 | 11800    | 259.24                                  |
| F18          | 222.37                                   | 102.16            | 37.47 | 12600    | 259.29                                  |
| F19          | 232.2                                    | 102.35            | 37.41 | 13400    | 259.05                                  |
| F20          | 242.03                                   | 102.43            | 37.39 | 14500    | 258.98                                  |
| F21          | 251.86                                   | 102.62            | 37.32 | 15400    | 258.73                                  |
| F22          | 261.69                                   | 102.74            | 37.29 | 16500    | 258.64                                  |
| F23          | 271.52                                   | 102.90            | 37.22 | 17600    | 258.39                                  |
| F24          | 281.35                                   | 103.07            | 37.17 | 18700    | 258.22                                  |
| F25          | 291.18                                   | 103.22            | 37.13 | 19900    | 258.14                                  |
| F26          | 301.01                                   | 103.43            | 37.05 | 21000    | 257.86                                  |
| F27          | 310.84                                   | 103.59            | 36.99 | 22200    | 257.72                                  |
| F28          | 320.67                                   | 103.80            | 36.93 | 23300    | 257.62                                  |
| F29          | 330.5                                    | 103.95            | 36.88 | 24600    | 257.50                                  |
| F30          | 340.33                                   | 104.14            | 36.81 | 25800    | 257.32                                  |
| F31          | 350.16                                   | 104.29            | 36.77 | 27100    | 257.23                                  |
| F32          | 359.99                                   | 104.48            | 36.71 | 28300    | 257.14                                  |
| F33          | 369.82                                   | 104.67            | 36.65 | 29500    | 257.06                                  |
| F34          | 379.65                                   | 104.82            | 36.60 | 30800    | 256.93                                  |
| F35          | 389.48                                   | 105.00            | 36.55 | 32000    | 256.87                                  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 16</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F36                 | 399.31                                   | 105.13            | 36.50 | 33300    | 256.75                                  |
| F37                 | 409.14                                   | 105.29            | 36.45 | 34500    | 256.70                                  |
| F38                 | 418.97                                   | 105.46            | 36.40 | 35900    | 256.63                                  |
| F39                 | 428.8                                    | 105.59            | 36.35 | 37100    | 256.53                                  |
| F40                 | 438.63                                   | 105.68            | 36.33 | 38500    | 256.53                                  |
| F41                 | 448.46                                   | 105.82            | 36.28 | 39600    | 256.46                                  |
| F42                 | 458.29                                   | 105.90            | 36.26 | 42200    | 256.42                                  |
| F43                 | 469.96                                   | 105.97            | 36.23 | 44500    | 256.34                                  |
| F44                 | 481.63                                   | 105.80            | 36.27 | 41700    | 256.35                                  |
| F45                 | 493.3                                    | 105.85            | 36.26 | 43000    | 256.35                                  |
| F46MEP              | 504.97                                   | 105.80            | 36.27 | 48500    | 256.34                                  |
| F47roof             | 521.3                                    | 104.01            | 36.76 | 67900    | 256.77                                  |
| TO Screening        | 544.3                                    | 106.71            | 36.03 | 39900    | 256.26                                  |

| <b>Load Case 17</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 101.65            | 35.08 | 6300     | 57.14                                   |
| F2                  | 18.48                                    | 105.34            | 32.12 | 10600    | 54.64                                   |
| F3                  | 30.5                                     | 127.28            | 15.48 | 10300    | 53.35                                   |
| F4                  | 46.48                                    | 105.33            | 32.07 | 12100    | 54.42                                   |
| F5                  | 62.52                                    | 106.48            | 31.24 | 11800    | 54.39                                   |
| F6                  | 77.72                                    | 106.94            | 30.94 | 10300    | 54.48                                   |
| F7                  | 89.88                                    | 107.63            | 30.45 | 9200     | 54.50                                   |
| F8                  | 102.04                                   | 110.89            | 28.07 | 10300    | 54.36                                   |
| F9                  | 117.04                                   | 116.21            | 25.16 | 10600    | 56.11                                   |
| F10                 | 133.04                                   | 115.20            | 25.11 | 7500     | 54.63                                   |
| F9demo              | 141.75                                   | 106.30            | 32.83 | 4900     | 60.28                                   |



**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 17</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F11                 | 150.46                                   | 114.95            | 24.03 | 5800     | 52.15                                   |
| F11demo             | 159.16                                   | 107.89            | 32.17 | 5200     | 61.19                                   |
| F12                 | 167.87                                   | 117.03            | 23.81 | 7400     | 54.62                                   |
| F13                 | 176.58                                   | 115.31            | 24.87 | 6500     | 54.29                                   |
| F14                 | 185.29                                   | 121.15            | 22.27 | 7900     | 56.80                                   |
| F15                 | 194                                      | 122.96            | 22.03 | 8000     | 58.24                                   |
| F16                 | 202.71                                   | 122.70            | 22.87 | 8200     | 59.30                                   |
| F17                 | 212.54                                   | 119.30            | 21.35 | 5800     | 53.25                                   |
| F18                 | 222.37                                   | 119.69            | 21.15 | 6200     | 53.39                                   |
| F19                 | 232.2                                    | 120.26            | 20.30 | 6600     | 52.75                                   |
| F20                 | 242.03                                   | 120.30            | 20.16 | 7200     | 52.59                                   |
| F21                 | 251.86                                   | 120.68            | 19.43 | 7700     | 51.94                                   |
| F22                 | 261.69                                   | 120.91            | 19.10 | 8300     | 51.71                                   |
| F23                 | 271.52                                   | 121.48            | 18.19 | 8800     | 51.08                                   |
| F24                 | 281.35                                   | 121.58            | 17.82 | 9500     | 50.68                                   |
| F25                 | 291.18                                   | 122.10            | 17.23 | 10100    | 50.48                                   |
| F26                 | 301.01                                   | 122.51            | 16.36 | 10700    | 49.80                                   |
| F27                 | 310.84                                   | 122.80            | 15.85 | 11400    | 49.46                                   |
| F28                 | 320.67                                   | 123.36            | 15.18 | 12000    | 49.23                                   |
| F29                 | 330.5                                    | 123.73            | 14.63 | 12700    | 48.95                                   |
| F30                 | 340.33                                   | 123.88            | 14.13 | 13500    | 48.53                                   |
| F31                 | 350.16                                   | 124.48            | 13.42 | 14100    | 48.31                                   |
| F32                 | 359.99                                   | 124.92            | 12.84 | 14800    | 48.12                                   |
| F33                 | 369.82                                   | 125.37            | 12.28 | 15500    | 47.94                                   |
| F34                 | 379.65                                   | 125.71            | 11.69 | 16200    | 47.63                                   |
| F35                 | 389.48                                   | 126.16            | 11.14 | 16900    | 47.49                                   |
| F36                 | 399.31                                   | 126.30            | 10.75 | 17700    | 47.23                                   |
| F37                 | 409.14                                   | 126.86            | 10.12 | 18300    | 47.11                                   |
| F38                 | 418.97                                   | 127.25            | 9.61  | 19100    | 46.96                                   |
| F39                 | 428.8                                    | 127.51            | 9.14  | 19800    | 46.75                                   |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 17</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F40                 | 438.63                                   | 127.85            | 8.81  | 20500    | 46.74                                   |
| F41                 | 448.46                                   | 128.10            | 8.41  | 21200    | 46.58                                   |
| F42                 | 458.29                                   | 128.31            | 8.13  | 22600    | 46.50                                   |
| F43                 | 469.96                                   | 128.34            | 7.91  | 23900    | 46.32                                   |
| F44                 | 481.63                                   | 127.81            | 8.45  | 22400    | 46.35                                   |
| F45                 | 493.3                                    | 127.98            | 8.28  | 23100    | 46.35                                   |
| F46MEP              | 504.97                                   | 127.86            | 8.37  | 26000    | 46.33                                   |
| F47roof             | 521.3                                    | 122.60            | 14.21 | 36000    | 47.27                                   |
| TO Screening        | 544.3                                    | 130.59            | 5.58  | 21500    | 46.16                                   |

| <b>Load Case 18</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 89.86             | 41.95 | 6000     | 62.15                                   |
| F2                  | 18.48                                    | 85.39             | 44.88 | 10000    | 59.86                                   |
| F3                  | 30.5                                     | 59.21             | 61.11 | 9700     | 58.67                                   |
| F4                  | 46.48                                    | 85.37             | 44.94 | 11400    | 59.66                                   |
| F5                  | 62.52                                    | 84.00             | 45.75 | 11100    | 59.63                                   |
| F6                  | 77.72                                    | 83.47             | 46.03 | 9700     | 59.72                                   |
| F7                  | 89.88                                    | 82.70             | 46.48 | 8700     | 59.73                                   |
| F8                  | 102.04                                   | 78.77             | 48.83 | 9700     | 59.60                                   |
| F9                  | 117.04                                   | 72.63             | 51.56 | 10000    | 61.20                                   |
| F10                 | 133.04                                   | 73.79             | 51.62 | 7100     | 59.85                                   |
| F9demo              | 141.75                                   | 84.63             | 44.00 | 4700     | 64.97                                   |
| F11                 | 150.46                                   | 73.95             | 52.75 | 5500     | 57.55                                   |
| F11demo             | 159.16                                   | 82.89             | 44.59 | 5000     | 65.77                                   |
| F12                 | 167.87                                   | 71.62             | 52.88 | 7000     | 59.84                                   |
| F13                 | 176.58                                   | 73.45             | 51.98 | 6100     | 59.54                                   |

**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 18</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F14                 | 185.29   | 67.05                    | 54.21        | 7500            | 61.84   |
| F15                 | 194  | 65.50                    | 54.15        | 7700            | 63.13   |
| F16                 | 202.71   | 65.53                    | 53.50        | 7800            | 64.09   |
| F17                 | 212.54   | 68.39                    | 55.59        | 5400            | 58.58   |
| F18                 | 222.37   | 68.06                    | 55.71        | 5800            | 58.71   |
| F19                 | 232.2  | 67.44                    | 56.49        | 6200            | 58.11   |
| F20                 | 242.03   | 67.10                    | 56.81        | 6700            | 57.96   |
| F21                 | 251.86   | 66.73                    | 57.48        | 7200            | 57.35   |
| F22                 | 261.69   | 66.20                    | 57.98        | 7700            | 57.14   |
| F23                 | 271.52   | 65.57                    | 58.83        | 8200            | 56.55   |
| F24                 | 281.35   | 65.24                    | 59.35        | 8800            | 56.17   |
| F25                 | 291.18   | 64.72                    | 59.85        | 9400            | 55.98   |
| F26                 | 301.01   | 64.29                    | 60.67        | 10000           | 55.34   |
| F27                 | 310.84   | 63.74                    | 61.32        | 10600           | 55.01   |
| F28                 | 320.67   | 63.15                    | 61.92        | 11200           | 54.79   |
| F29                 | 330.5  | 62.52                    | 62.60        | 11800           | 54.53   |
| F30                 | 340.33   | 61.89                    | 63.41        | 12400           | 54.13   |
| F31                 | 350.16   | 61.53                    | 63.87        | 13100           | 53.92   |
| F32                 | 359.99   | 60.83                    | 64.55        | 13700           | 53.73   |
| F33                 | 369.82   | 60.14                    | 65.22        | 14300           | 53.56   |
| F34                 | 379.65   | 59.81                    | 65.75        | 15000           | 53.27   |
| F35                 | 389.48   | 59.12                    | 66.41        | 15600           | 53.13   |
| F36                 | 399.31   | 58.83                    | 66.89        | 16300           | 52.88   |
| F37                 | 409.14   | 58.23                    | 67.46        | 16900           | 52.76   |
| F38                 | 418.97   | 57.64                    | 68.06        | 17600           | 52.62   |
| F39                 | 428.8  | 57.19                    | 68.63        | 18200           | 52.41   |
| F40                 | 438.63   | 56.88                    | 68.88        | 18900           | 52.40   |
| F41                 | 448.46   | 56.46                    | 69.37        | 19500           | 52.25   |
| F42                 | 458.29   | 56.21                    | 69.65        | 20800           | 52.17   |
| F43                 | 469.96   | 55.97                    | 70.03        | 21900           | 52.00   |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 18</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F44                 | 481.63                                   | 56.79             | 69.37 | 20600    | 52.03                                   |
| F45                 | 493.3                                    | 56.49             | 69.60 | 21200    | 52.03                                   |
| F46MEP              | 504.97                                   | 56.70             | 69.45 | 23900    | 52.01                                   |
| F47roof             | 521.3                                    | 63.37             | 63.41 | 33100    | 52.92                                   |
| TO Screening        | 544.3                                    | 53.13             | 72.44 | 19700    | 51.84                                   |

| <b>Load Case 19</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 90.99             | 35.61 | 6800     | 299.86                                  |
| F2                  | 18.48                                    | 87.47             | 33.09 | 11500    | 302.24                                  |
| F3                  | 30.5                                     | 66.48             | 18.95 | 11200    | 303.48                                  |
| F4                  | 46.48                                    | 87.45             | 33.04 | 13100    | 302.45                                  |
| F5                  | 62.52                                    | 86.37             | 32.34 | 12800    | 302.48                                  |
| F6                  | 77.72                                    | 85.96             | 32.10 | 11200    | 302.39                                  |
| F7                  | 89.88                                    | 85.29             | 31.68 | 10000    | 302.37                                  |
| F8                  | 102.04                                   | 82.18             | 29.66 | 11200    | 302.51                                  |
| F9                  | 117.04                                   | 77.12             | 27.21 | 11500    | 300.84                                  |
| F10                 | 133.04                                   | 77.95             | 27.08 | 8100     | 302.26                                  |
| F9demo              | 141.75                                   | 86.61             | 33.73 | 5300     | 296.90                                  |
| F11                 | 150.46                                   | 78.21             | 26.17 | 6300     | 304.64                                  |
| F11demo             | 159.16                                   | 85.46             | 33.35 | 5800     | 296.05                                  |
| F12                 | 167.87                                   | 76.22             | 25.98 | 8000     | 302.27                                  |
| F13                 | 176.58                                   | 77.79             | 26.84 | 7000     | 302.57                                  |
| F14                 | 185.29                                   | 72.52             | 24.83 | 8600     | 300.18                                  |
| F15                 | 194                                      | 71.14             | 24.81 | 8800     | 298.83                                  |
| F16                 | 202.71                                   | 71.37             | 25.49 | 9000     | 297.82                                  |
| F17                 | 212.54                                   | 74.09             | 23.92 | 6300     | 303.58                                  |



**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 19</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F18                 | 222.37                                   | 73.60             | 23.68 | 6700     | 303.44                                  |
| F19                 | 232.2                                    | 73.24             | 23.08 | 7200     | 304.06                                  |
| F20                 | 242.03                                   | 72.73             | 22.64 | 7700     | 304.21                                  |
| F21                 | 251.86                                   | 72.53             | 22.12 | 8300     | 304.84                                  |
| F22                 | 261.69                                   | 72.17             | 21.74 | 8900     | 305.06                                  |
| F23                 | 271.52                                   | 71.75             | 21.05 | 9500     | 305.67                                  |
| F24                 | 281.35                                   | 71.50             | 20.62 | 10200    | 306.05                                  |
| F25                 | 291.18                                   | 71.11             | 20.20 | 10900    | 306.25                                  |
| F26                 | 301.01                                   | 70.57             | 19.35 | 11500    | 306.91                                  |
| F27                 | 310.84                                   | 70.38             | 18.97 | 12300    | 307.25                                  |
| F28                 | 320.67                                   | 69.72             | 18.30 | 12900    | 307.47                                  |
| F29                 | 330.5                                    | 69.44             | 17.89 | 13700    | 307.74                                  |
| F30                 | 340.33                                   | 68.97             | 17.20 | 14400    | 308.16                                  |
| F31                 | 350.16                                   | 68.66             | 16.80 | 15200    | 308.37                                  |
| F32                 | 359.99                                   | 68.12             | 16.22 | 15900    | 308.56                                  |
| F33                 | 369.82                                   | 67.58             | 15.65 | 16600    | 308.73                                  |
| F34                 | 379.65                                   | 67.32             | 15.18 | 17400    | 309.03                                  |
| F35                 | 389.48                                   | 66.78             | 14.63 | 18100    | 309.17                                  |
| F36                 | 399.31                                   | 66.54             | 14.21 | 18900    | 309.43                                  |
| F37                 | 409.14                                   | 66.08             | 13.73 | 19600    | 309.55                                  |
| F38                 | 418.97                                   | 65.60             | 13.20 | 20400    | 309.69                                  |
| F39                 | 428.8                                    | 65.40             | 12.84 | 21200    | 309.90                                  |
| F40                 | 438.63                                   | 64.99             | 12.49 | 21900    | 309.92                                  |
| F41                 | 448.46                                   | 64.68             | 12.08 | 22600    | 310.07                                  |
| F42                 | 458.29                                   | 64.47             | 11.83 | 24100    | 310.15                                  |
| F43                 | 469.96                                   | 64.45             | 11.65 | 25500    | 310.32                                  |
| F44                 | 481.63                                   | 64.97             | 12.12 | 23900    | 310.30                                  |
| F45                 | 493.3                                    | 64.87             | 12.03 | 24700    | 310.30                                  |
| F46MEP              | 504.97                                   | 64.98             | 12.11 | 27800    | 310.32                                  |
| F47roof             | 521.3                                    | 70.22             | 17.27 | 38500    | 309.39                                  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 19</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| TO Screening        | 544.3                                    | 62.30             | 9.66  | 23000    | 310.49                                  |

| <b>Load Case 20</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 103.02            | 42.72 | 5400     | 301.13                                  |
| F2                  | 18.48                                    | 107.65            | 46.20 | 9100     | 303.57                                  |
| F3                  | 30.5                                     | 135.38            | 65.86 | 8800     | 304.82                                  |
| F4                  | 46.48                                    | 107.63            | 46.25 | 10400    | 303.78                                  |
| F5                  | 62.52                                    | 109.12            | 47.25 | 10100    | 303.81                                  |
| F6                  | 77.72                                    | 109.72            | 47.62 | 8800     | 303.72                                  |
| F7                  | 89.88                                    | 110.52            | 48.15 | 7900     | 303.70                                  |
| F8                  | 102.04                                   | 114.70            | 51.00 | 8800     | 303.84                                  |
| F9                  | 117.04                                   | 121.23            | 54.32 | 9100     | 302.14                                  |
| F10                 | 133.04                                   | 120.15            | 54.50 | 6400     | 303.58                                  |
| F9demo              | 141.75                                   | 108.80            | 45.33 | 4200     | 298.09                                  |
| F11                 | 150.46                                   | 119.66            | 55.65 | 5000     | 306.01                                  |
| F11demo             | 159.16                                   | 110.63            | 46.02 | 4500     | 297.22                                  |
| F12                 | 167.87                                   | 122.51            | 56.08 | 6300     | 303.59                                  |
| F13                 | 176.58                                   | 120.06            | 54.64 | 5600     | 303.90                                  |
| F14                 | 185.29                                   | 127.31            | 57.63 | 6800     | 301.46                                  |
| F15                 | 194                                      | 129.44            | 57.84 | 6900     | 300.07                                  |
| F16                 | 202.71                                   | 129.42            | 57.05 | 7000     | 299.04                                  |
| F17                 | 212.54                                   | 125.06            | 58.75 | 5000     | 304.93                                  |
| F18                 | 222.37                                   | 125.80            | 59.16 | 5300     | 304.79                                  |
| F19                 | 232.2                                    | 126.23            | 59.95 | 5700     | 305.41                                  |
| F20                 | 242.03                                   | 126.87            | 60.54 | 6100     | 305.58                                  |
| F21                 | 251.86                                   | 127.01            | 61.16 | 6600     | 306.21                                  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 20</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F22                 | 261.69   | 127.81                   | 61.93        | 7000            | 306.43  |
| F23                 | 271.52   | 128.23                   | 62.78        | 7500            | 307.05  |
| F24                 | 281.35   | 128.35                   | 63.22        | 8100            | 307.45  |
| F25                 | 291.18   | 129.07                   | 63.96        | 8600            | 307.65  |
| F26                 | 301.01   | 129.65                   | 65.04        | 9100            | 308.32  |
| F27                 | 310.84   | 130.01                   | 65.65        | 9700            | 308.66  |
| F28                 | 320.67   | 130.44                   | 66.21        | 10300           | 308.88  |
| F29                 | 330.5  | 131.24                   | 67.13        | 10800           | 309.16  |
| F30                 | 340.33   | 131.70                   | 67.94        | 11400           | 309.57  |
| F31                 | 350.16   | 132.19                   | 68.57        | 12000           | 309.79  |
| F32                 | 359.99   | 132.75                   | 69.25        | 12600           | 309.98  |
| F33                 | 369.82   | 133.31                   | 69.92        | 13200           | 310.16  |
| F34                 | 379.65   | 133.75                   | 70.62        | 13800           | 310.46  |
| F35                 | 389.48   | 134.32                   | 71.28        | 14400           | 310.60  |
| F36                 | 399.31   | 134.72                   | 71.92        | 15000           | 310.86  |
| F37                 | 409.14   | 135.21                   | 72.48        | 15600           | 310.98  |
| F38                 | 418.97   | 135.91                   | 73.27        | 16200           | 311.12  |
| F39                 | 428.8  | 136.24                   | 73.83        | 16800           | 311.34  |
| F40                 | 438.63   | 136.67                   | 74.21        | 17400           | 311.35  |
| F41                 | 448.46   | 136.97                   | 74.68        | 18000           | 311.51  |
| F42                 | 458.29   | 137.22                   | 75.00        | 19200           | 311.59  |
| F43                 | 469.96   | 137.28                   | 75.28        | 20300           | 311.76  |
| F44                 | 481.63   | 136.65                   | 74.69        | 19000           | 311.73  |
| F45                 | 493.3  | 136.86                   | 74.87        | 19600           | 311.73  |
| F46MEP              | 504.97   | 136.64                   | 74.70        | 22100           | 311.75  |
| F47roof             | 521.3  | 129.89                   | 67.69        | 30600           | 310.81  |
| TO Screening        | 544.3  | 140.07                   | 78.00        | 18300           | 311.92  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 21</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| Fground             | 0  | 102.57                   | 41.59        | 5800            | 115.16  |
| F2                  | 18.48  | 106.97                   | 44.16        | 9800            | 117.30  |
| F3                  | 30.5   | 133.53                   | 58.80        | 9400            | 118.42  |
| F4                  | 46.48  | 107.06                   | 44.25        | 11100           | 117.49  |
| F5                  | 62.52  | 108.45                   | 44.98        | 10800           | 117.51  |
| F6                  | 77.72  | 108.89                   | 45.19        | 9500            | 117.43  |
| F7                  | 89.88  | 109.85                   | 45.68        | 8400            | 117.42  |
| F8                  | 102.04   | 113.76                   | 47.76        | 9400            | 117.54  |
| F9                  | 117.04   | 119.87                   | 50.17        | 9700            | 116.04  |
| F10                 | 133.04   | 118.71                   | 50.22        | 6900            | 117.31  |
| F9demo              | 141.75   | 107.64                   | 43.35        | 4600            | 112.54  |
| F11                 | 150.46   | 118.83                   | 51.39        | 5300            | 119.48  |
| F11demo             | 159.16   | 109.08                   | 43.75        | 5000            | 111.80  |
| F12                 | 167.87   | 120.90                   | 51.36        | 6800            | 117.32  |
| F13                 | 176.58   | 118.79                   | 50.41        | 6000            | 117.60  |
| F14                 | 185.29   | 124.95                   | 52.28        | 7400            | 115.45  |
| F15                 | 194  | 126.81                   | 52.38        | 7500            | 114.24  |
| F16                 | 202.71   | 126.33                   | 51.61        | 7700            | 113.36  |
| F17                 | 212.54   | 123.92                   | 53.66        | 5300            | 118.51  |
| F18                 | 222.37   | 124.71                   | 54.00        | 5600            | 118.38  |
| F19                 | 232.2  | 125.30                   | 54.69        | 6000            | 118.94  |
| F20                 | 242.03   | 125.58                   | 54.94        | 6500            | 119.09  |
| F21                 | 251.86   | 125.92                   | 55.53        | 7000            | 119.66  |
| F22                 | 261.69   | 126.41                   | 55.94        | 7500            | 119.86  |
| F23                 | 271.52   | 127.02                   | 56.70        | 8000            | 120.42  |
| F24                 | 281.35   | 127.70                   | 57.36        | 8500            | 120.78  |
| F25                 | 291.18   | 128.16                   | 57.77        | 9100            | 120.96  |
| F26                 | 301.01   | 128.91                   | 58.71        | 9600            | 121.58  |
| F27                 | 310.84   | 129.41                   | 59.26        | 10200           | 121.89  |
| F28                 | 320.67   | 129.96                   | 59.77        | 10800           | 122.10  |





**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 21</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| F29                 | 330.5                           | 130.56            | 60.36 | 11400    | 122.35                         |
| F30                 | 340.33                          | 131.16            | 61.08 | 12000    | 122.74                         |
| F31                 | 350.16                          | 131.76            | 61.64 | 12600    | 122.93                         |
| F32                 | 359.99                          | 132.43            | 62.23 | 13200    | 123.11                         |
| F33                 | 369.82                          | 133.09            | 62.81 | 13800    | 123.27                         |
| F34                 | 379.65                          | 133.64            | 63.43 | 14400    | 123.56                         |
| F35                 | 389.48                          | 134.30            | 64.00 | 15000    | 123.69                         |
| F36                 | 399.31                          | 134.80            | 64.57 | 15600    | 123.93                         |
| F37                 | 409.14                          | 135.37            | 65.06 | 16200    | 124.04                         |
| F38                 | 418.97                          | 135.91            | 65.57 | 16900    | 124.18                         |
| F39                 | 428.8                           | 136.34            | 66.07 | 17500    | 124.38                         |
| F40                 | 438.63                          | 136.83            | 66.41 | 18100    | 124.39                         |
| F41                 | 448.46                          | 137.21            | 66.83 | 18700    | 124.54                         |
| F42                 | 458.29                          | 137.57            | 67.16 | 19900    | 124.62                         |
| F43                 | 469.96                          | 137.74            | 67.45 | 21000    | 124.78                         |
| F44                 | 481.63                          | 137.01            | 66.91 | 19700    | 124.75                         |
| F45                 | 493.3                           | 137.27            | 67.09 | 20300    | 124.75                         |
| F46MEP              | 504.97                          | 137.02            | 66.94 | 22900    | 124.77                         |
| F47roof             | 521.3                           | 129.87            | 61.22 | 31900    | 123.89                         |
| TO Screening        | 544.3                           | 140.66            | 69.66 | 18900    | 124.93                         |

| <b>Load Case 22</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| Fground             | 0                               | 88.96             | 36.05 | 5600     | 109.41                         |
| F2                  | 18.48                           | 83.67             | 33.75 | 9300     | 111.16                         |
| F3                  | 30.5                            | 52.47             | 20.86 | 8900     | 112.09                         |
| F4                  | 46.48                           | 83.63             | 33.70 | 10600    | 111.32                         |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 22</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F5                  | 62.52  | 82.00                    | 33.05        | 10300           | 111.34  |
| F6                  | 77.72  | 81.39                    | 32.84        | 9000            | 111.27  |
| F7                  | 89.88  | 80.36                    | 32.44        | 8000            | 111.26  |
| F8                  | 102.04   | 75.92                    | 30.67        | 9000            | 111.36  |
| F9                  | 117.04   | 69.04                    | 28.65        | 9300            | 110.12  |
| F10                 | 133.04   | 70.20                    | 28.53        | 6600            | 111.17  |
| F9demo              | 141.75   | 83.18                    | 34.55        | 4400            | 107.29  |
| F11                 | 150.46   | 69.50                    | 27.28        | 5000            | 112.97  |
| F11demo             | 159.16   | 81.63                    | 34.23        | 4800            | 106.70  |
| F12                 | 167.87   | 67.65                    | 27.54        | 6500            | 111.18  |
| F13                 | 176.58   | 69.90                    | 28.29        | 5700            | 111.41  |
| F14                 | 185.29   | 63.30                    | 26.86        | 7100            | 109.64  |
| F15                 | 194  | 61.33                    | 26.82        | 7200            | 108.66  |
| F16                 | 202.71   | 62.00                    | 27.52        | 7400            | 107.95  |
| F17                 | 212.54   | 63.60                    | 25.32        | 5000            | 112.16  |
| F18                 | 222.37   | 63.42                    | 25.32        | 5400            | 112.06  |
| F19                 | 232.2  | 62.17                    | 24.48        | 5700            | 112.53  |
| F20                 | 242.03   | 61.96                    | 24.31        | 6200            | 112.65  |
| F21                 | 251.86   | 61.09                    | 23.60        | 6600            | 113.13  |
| F22                 | 261.69   | 60.62                    | 23.28        | 7100            | 113.29  |
| F23                 | 271.52   | 59.47                    | 22.42        | 7500            | 113.77  |
| F24                 | 281.35   | 58.77                    | 21.88        | 8000            | 114.07  |
| F25                 | 291.18   | 58.34                    | 21.57        | 8600            | 114.23  |
| F26                 | 301.01   | 57.05                    | 20.55        | 9000            | 114.75  |
| F27                 | 310.84   | 56.55                    | 20.10        | 9600            | 115.01  |
| F28                 | 320.67   | 55.61                    | 19.51        | 10100           | 115.19  |
| F29                 | 330.5  | 54.62                    | 18.85        | 10600           | 115.41  |
| F30                 | 340.33   | 53.98                    | 18.24        | 11200           | 115.74  |
| F31                 | 350.16   | 52.99                    | 17.61        | 11700           | 115.91  |
| F32                 | 359.99   | 52.31                    | 17.13        | 12300           | 116.06  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 22</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F33                 | 369.82                                   | 51.27             | 16.49 | 12800    | 116.21                                  |
| F34                 | 379.65                                   | 50.70             | 15.96 | 13400    | 116.45                                  |
| F35                 | 389.48                                   | 50.01             | 15.50 | 14000    | 116.57                                  |
| F36                 | 399.31                                   | 49.16             | 14.86 | 14500    | 116.78                                  |
| F37                 | 409.14                                   | 48.59             | 14.47 | 15100    | 116.87                                  |
| F38                 | 418.97                                   | 47.73             | 13.91 | 15700    | 116.99                                  |
| F39                 | 428.8                                    | 46.99             | 13.35 | 16200    | 117.16                                  |
| F40                 | 438.63                                   | 46.53             | 13.10 | 16800    | 117.17                                  |
| F41                 | 448.46                                   | 45.86             | 12.61 | 17300    | 117.30                                  |
| F42                 | 458.29                                   | 45.65             | 12.43 | 18500    | 117.37                                  |
| F43                 | 469.96                                   | 45.35             | 12.12 | 19500    | 117.51                                  |
| F44                 | 481.63                                   | 46.27             | 12.62 | 18300    | 117.49                                  |
| F45                 | 493.3                                    | 45.81             | 12.38 | 18800    | 117.49                                  |
| F46MEP              | 504.97                                   | 46.08             | 12.50 | 21200    | 117.51                                  |
| F47roof             | 521.3                                    | 55.11             | 17.90 | 29600    | 116.74                                  |
| TO Screening        | 544.3                                    | 41.58             | 9.99  | 17500    | 117.65                                  |

| <b>Load Case 23</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 90.31             | 41.06 | 6400     | 247.34                                  |
| F2                  | 18.48                                    | 86.11             | 43.23 | 10700    | 245.36                                  |
| F3                  | 30.5                                     | 61.29             | 55.39 | 10300    | 244.32                                  |
| F4                  | 46.48                                    | 86.09             | 43.27 | 12200    | 245.18                                  |
| F5                  | 62.52                                    | 84.83             | 43.87 | 11900    | 245.16                                  |
| F6                  | 77.72                                    | 84.34             | 44.07 | 10400    | 245.23                                  |
| F7                  | 89.88                                    | 83.58             | 44.42 | 9300     | 245.25                                  |
| F8                  | 102.04                                   | 79.96             | 46.13 | 10400    | 245.13                                  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 23</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F9                  | 117.04   | 74.29                    | 48.11        | 10700           | 246.52  |
| F10                 | 133.04   | 75.30                    | 48.19        | 7600            | 245.35  |
| F9demo              | 141.75   | 85.71                    | 42.47        | 5100            | 249.75  |
| F11                 | 150.46   | 74.98                    | 49.26        | 5800            | 243.32  |
| F11demo             | 159.16   | 84.32                    | 42.82        | 5500            | 250.43  |
| F12                 | 167.87   | 73.29                    | 49.12        | 7500            | 245.34  |
| F13                 | 176.58   | 74.86                    | 48.52        | 6500            | 245.08  |
| F14                 | 185.29   | 69.41                    | 49.93        | 8100            | 247.07  |
| F15                 | 194  | 68.04                    | 49.87        | 8300            | 248.19  |
| F16                 | 202.71   | 68.44                    | 49.25        | 8500            | 249.00  |
| F17                 | 212.54   | 70.24                    | 51.13        | 5800            | 244.23  |
| F18                 | 222.37   | 69.82                    | 51.27        | 6200            | 244.35  |
| F19                 | 232.2  | 69.07                    | 51.94        | 6600            | 243.82  |
| F20                 | 242.03   | 68.61                    | 52.24        | 7100            | 243.69  |
| F21                 | 251.86   | 68.10                    | 52.83        | 7600            | 243.15  |
| F22                 | 261.69   | 67.82                    | 53.08        | 8200            | 242.97  |
| F23                 | 271.52   | 67.06                    | 53.81        | 8700            | 242.44  |
| F24                 | 281.35   | 66.59                    | 54.28        | 9300            | 242.10  |
| F25                 | 291.18   | 65.97                    | 54.72        | 9900            | 241.93  |
| F26                 | 301.01   | 65.39                    | 55.43        | 10500           | 241.35  |
| F27                 | 310.84   | 65.02                    | 55.84        | 11200           | 241.06  |
| F28                 | 320.67   | 64.07                    | 56.51        | 11700           | 240.86  |
| F29                 | 330.5  | 63.62                    | 56.94        | 12400           | 240.62  |
| F30                 | 340.33   | 63.14                    | 57.49        | 13100           | 240.26  |
| F31                 | 350.16   | 62.43                    | 58.05        | 13700           | 240.07  |
| F32                 | 359.99   | 61.90                    | 58.49        | 14400           | 239.90  |
| F33                 | 369.82   | 61.13                    | 59.06        | 15000           | 239.74  |
| F34                 | 379.65   | 60.70                    | 59.53        | 15700           | 239.48  |
| F35                 | 389.48   | 59.95                    | 60.08        | 16300           | 239.35  |
| F36                 | 399.31   | 59.56                    | 60.51        | 17000           | 239.12  |

**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 23</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| F37                 | 409.14                          | 58.90             | 61.00 | 17600    | 239.01                         |
| F38                 | 418.97                          | 58.25             | 61.51 | 18300    | 238.88                         |
| F39                 | 428.8                           | 57.92             | 61.88 | 19000    | 238.69                         |
| F40                 | 438.63                          | 57.56             | 62.11 | 19700    | 238.68                         |
| F41                 | 448.46                          | 57.08             | 62.54 | 20300    | 238.54                         |
| F42                 | 458.29                          | 56.73             | 62.82 | 21600    | 238.47                         |
| F43                 | 469.96                          | 56.56             | 63.07 | 22800    | 238.31                         |
| F44                 | 481.63                          | 57.28             | 62.60 | 21400    | 238.34                         |
| F45                 | 493.3                           | 57.12             | 62.70 | 22100    | 238.34                         |
| F46MEP              | 504.97                          | 57.30             | 62.60 | 24900    | 238.32                         |
| F47roof             | 521.3                           | 64.09             | 57.77 | 34600    | 239.16                         |
| TO Screening        | 544.3                           | 53.93             | 64.85 | 20600    | 238.17                         |

| <b>Load Case 24</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| Fground             | 0                               | 104.18            | 35.39 | 5000     | 248.07                         |
| F2                  | 18.48                           | 109.97            | 32.51 | 8300     | 246.14                         |
| F3                  | 30.5                            | 143.83            | 16.51 | 8000     | 245.12                         |
| F4                  | 46.48                           | 110.09            | 32.40 | 9400     | 245.96                         |
| F5                  | 62.52                           | 111.78            | 31.64 | 9200     | 245.94                         |
| F6                  | 77.72                           | 112.53            | 31.33 | 8000     | 246.02                         |
| F7                  | 89.88                           | 113.46            | 30.93 | 7200     | 246.03                         |
| F8                  | 102.04                          | 118.57            | 28.60 | 8000     | 245.91                         |
| F9                  | 117.04                          | 126.09            | 26.08 | 8300     | 247.28                         |
| F10                 | 133.04                          | 124.72            | 25.98 | 5900     | 246.13                         |
| F9demo              | 141.75                          | 110.69            | 33.44 | 3900     | 250.41                         |
| F11                 | 150.46                          | 125.20            | 24.55 | 4500     | 244.15                         |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 24</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F11demo             | 159.16   | 112.26                   | 33.09        | 4300            | 251.08  |
| F12                 | 167.87   | 127.57                   | 24.71        | 5800            | 246.12  |
| F13                 | 176.58   | 125.01                   | 25.69        | 5100            | 245.87  |
| F14                 | 185.29   | 132.65                   | 23.73        | 6300            | 247.81  |
| F15                 | 194  | 134.83                   | 23.69        | 6400            | 248.90  |
| F16                 | 202.71   | 134.00                   | 24.61        | 6600            | 249.69  |
| F17                 | 212.54   | 131.66                   | 22.09        | 4500            | 245.04  |
| F18                 | 222.37   | 132.31                   | 21.88        | 4800            | 245.15  |
| F19                 | 232.2  | 133.41                   | 20.96        | 5100            | 244.64  |
| F20                 | 242.03   | 133.95                   | 20.60        | 5500            | 244.51  |
| F21                 | 251.86   | 134.58                   | 19.86        | 5900            | 243.98  |
| F22                 | 261.69   | 135.37                   | 19.33        | 6300            | 243.80  |
| F23                 | 271.52   | 136.33                   | 18.40        | 6700            | 243.28  |
| F24                 | 281.35   | 136.77                   | 17.89        | 7200            | 242.95  |
| F25                 | 291.18   | 137.43                   | 17.40        | 7700            | 242.78  |
| F26                 | 301.01   | 138.58                   | 16.27        | 8100            | 242.22  |
| F27                 | 310.84   | 139.29                   | 15.62        | 8600            | 241.93  |
| F28                 | 320.67   | 140.05                   | 15.03        | 9100            | 241.74  |
| F29                 | 330.5  | 140.88                   | 14.35        | 9600            | 241.50  |
| F30                 | 340.33   | 141.73                   | 13.51        | 10100           | 241.14  |
| F31                 | 350.16   | 142.55                   | 12.86        | 10600           | 240.96  |
| F32                 | 359.99   | 143.46                   | 12.18        | 11100           | 240.79  |
| F33                 | 369.82   | 144.36                   | 11.51        | 11600           | 240.64  |
| F34                 | 379.65   | 145.13                   | 10.78        | 12100           | 240.38  |
| F35                 | 389.48   | 146.02                   | 10.13        | 12600           | 240.26  |
| F36                 | 399.31   | 146.72                   | 9.46         | 13100           | 240.03  |
| F37                 | 409.14   | 147.49                   | 8.90         | 13600           | 239.93  |
| F38                 | 418.97   | 148.55                   | 8.13         | 14100           | 239.80  |
| F39                 | 428.8  | 149.14                   | 7.55         | 14600           | 239.61  |
| F40                 | 438.63   | 149.43                   | 7.37         | 15200           | 239.60  |



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**Table 3a (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 50-year Return Period**

| <b>Load Case 24</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F41                 | 448.46   | 150.31                   | 6.68         | 15600           | 239.46  |
| F42                 | 458.29   | 150.47                   | 6.49         | 16700           | 239.39  |
| F43                 | 469.96   | 150.78                   | 6.11         | 17600           | 239.24  |
| F44                 | 481.63   | 149.85                   | 6.69         | 16500           | 239.26  |
| F45                 | 493.3  | 150.20                   | 6.49         | 17000           | 239.26  |
| F46MEP              | 504.97   | 149.82                   | 6.69         | 19200           | 239.24  |
| F47roof             | 521.3  | 140.41                   | 13.15        | 26700           | 240.07  |
| TO Screening        | 544.3  | 154.79                   | 3.52         | 15800           | 239.09  |



**Table 3b (i): Effective Static Floor-by-Floor Wind Loads - 10-year Return Period**

| Floor Level | Height (ft) Above Fground | Fx (lb) | Fy (lb) | Mz (lb-ft) |
|-------------|---------------------------|---------|---------|------------|
| Fground     | 0                         | 3700    | 7900    | 28000      |
| F2          | 18.48                     | 6700    | 13100   | 76000      |
| F3          | 30.5                      | 6700    | 12500   | 241000     |
| F4          | 46.48                     | 7700    | 14800   | 88000      |
| F5          | 62.52                     | 7500    | 14400   | 96000      |
| F6          | 77.72                     | 6600    | 12600   | 87000      |
| F7          | 89.88                     | 5800    | 11200   | 83000      |
| F8          | 102.04                    | 6500    | 12500   | 117000     |
| F9          | 117.04                    | 6500    | 13200   | 157000     |
| F10         | 133.04                    | 4500    | 9200    | 107000     |
| F9demo      | 141.75                    | 2600    | 6300    | 36000      |
| F11         | 150.46                    | 3600    | 6900    | 84000      |
| F11demo     | 159.16                    | 2800    | 6900    | 44000      |
| F12         | 167.87                    | 4400    | 8900    | 114000     |
| F13         | 176.58                    | 3900    | 7800    | 93000      |
| F14         | 185.29                    | 4400    | 9600    | 142000     |
| F15         | 194                       | 4300    | 10000   | 151000     |
| F16         | 202.71                    | 4300    | 10200   | 152000     |
| F17         | 212.54                    | 3600    | 6900    | 102000     |
| F18         | 222.37                    | 3800    | 7300    | 110000     |
| F19         | 232.2                     | 4100    | 7700    | 121000     |
| F20         | 242.03                    | 4500    | 8300    | 132000     |
| F21         | 251.86                    | 4900    | 8800    | 144000     |
| F22         | 261.69                    | 5200    | 9400    | 157000     |
| F23         | 271.52                    | 5700    | 9900    | 172000     |
| F24         | 281.35                    | 6100    | 10500   | 187000     |
| F25         | 291.18                    | 6600    | 11100   | 203000     |
| F26         | 301.01                    | 7000    | 11800   | 220000     |
| F27         | 310.84                    | 7500    | 12400   | 238000     |
| F28         | 320.67                    | 8000    | 13000   | 257000     |
| F29         | 330.5                     | 8500    | 13700   | 276000     |
| F30         | 340.33                    | 9000    | 14300   | 297000     |
| F31         | 350.16                    | 9500    | 15000   | 318000     |
| F32         | 359.99                    | 10000   | 15600   | 339000     |
| F33         | 369.82                    | 10500   | 16300   | 361000     |
| F34         | 379.65                    | 11000   | 16900   | 384000     |
| F35         | 389.48                    | 11600   | 17600   | 407000     |



**Table 3b (i): Effective Static Floor-by-Floor Wind Loads - 10-year Return Period**

| Floor Level  | Height (ft) Above Fground | Fx (lb)         | Fy (lb)         | Mz (lb-ft)      |
|--------------|---------------------------|-----------------|-----------------|-----------------|
| F36          | 399.31                    | 12100           | 18300           | 430000          |
| F37          | 409.14                    | 12600           | 18900           | 454000          |
| F38          | 418.97                    | 13100           | 19600           | 480000          |
| F39          | 428.8                     | 13700           | 20300           | 504000          |
| F40          | 438.63                    | 14200           | 21000           | 527000          |
| F41          | 448.46                    | 14700           | 21600           | 550000          |
| F42          | 458.29                    | 15700           | 23000           | 592000          |
| F43          | 469.96                    | 16700           | 24300           | 629000          |
| F44          | 481.63                    | 15600           | 22700           | 579000          |
| F45          | 493.3                     | 16100           | 23400           | 600000          |
| F46MEP       | 504.97                    | 18100           | 26400           | 674000          |
| F47roof      | 521.3                     | 24500           | 37000           | 767000          |
| TO Screening | 544.3                     | 15100           | 21700           | 606000          |
| <b>Total</b> |                           | <b>4.32E+05</b> | <b>7.13E+05</b> | <b>1.37E+07</b> |

**Notes:**

1. The loads given in this table should be used with the load combination factors given in Table 4b (i).
2. The loads given in this table are centered about the reference axis shown in Figure 4a.
3. The above loads correspond to a 10-year return period Basic Wind Speed (3-second gust) of 76 mph.



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 1</b> |  |                          |              |                 |   |
|--------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>       | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                    |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| Fground            | 0  | 97.91                    | 36.82        | 5100            | 43.86   |
| F2                 | 18.48  | 98.74                    | 35.72        | 8900            | 41.34   |
| F3                 | 30.5   | 104.22                   | 29.05        | 8700            | 40.02   |
| F4                 | 46.48  | 98.74                    | 35.66        | 10200           | 40.86   |
| F5                 | 62.52  | 99.05                    | 35.30        | 9900            | 40.83   |
| F6                 | 77.72  | 99.13                    | 35.19        | 8700            | 40.67   |
| F7                 | 89.88  | 99.38                    | 34.94        | 7700            | 40.99   |
| F8                 | 102.04   | 100.21                   | 33.97        | 8600            | 40.87   |
| F9                 | 117.04   | 101.62                   | 32.67        | 8800            | 42.42   |
| F10                | 133.04   | 101.54                   | 32.79        | 6100            | 42.61   |
| F9demo             | 141.75   | 99.34                    | 35.72        | 3800            | 47.48   |
| F11                | 150.46   | 101.34                   | 32.64        | 4800            | 40.78   |
| F11demo            | 159.16   | 99.70                    | 35.44        | 4200            | 47.96   |
| F12                | 167.87   | 102.05                   | 32.17        | 5900            | 42.31   |
| F13                | 176.58   | 101.58                   | 32.62        | 5200            | 41.99   |
| F14                | 185.29   | 103.42                   | 31.25        | 6200            | 44.47   |
| F15                | 194  | 104.12                   | 31.03        | 6200            | 46.30   |
| F16                | 202.71   | 104.12                   | 31.18        | 6300            | 46.87   |
| F17                | 212.54   | 102.45                   | 31.36        | 4800            | 40.78   |
| F18                | 222.37   | 102.67                   | 31.11        | 5000            | 40.84   |
| F19                | 232.2  | 102.71                   | 30.90        | 5400            | 40.20   |
| F20                | 242.03   | 102.74                   | 30.72        | 5800            | 39.69   |
| F21                | 251.86   | 102.67                   | 30.60        | 6300            | 38.94   |
| F22                | 261.69   | 102.85                   | 30.42        | 6700            | 39.13   |
| F23                | 271.52   | 102.82                   | 30.13        | 7200            | 38.01   |
| F24                | 281.35   | 102.89                   | 29.96        | 7700            | 37.76   |
| F25                | 291.18   | 102.84                   | 29.82        | 8300            | 37.12   |
| F26                | 301.01   | 103.00                   | 29.64        | 8800            | 37.18   |
| F27                | 310.84   | 103.07                   | 29.36        | 9300            | 36.65   |
| F28                | 320.67   | 103.10                   | 29.17        | 9900            | 36.18   |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 1</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F29                | 330.5                                    | 103.14            | 29.02 | 10500    | 35.95                                   |
| F30                | 340.33                                   | 103.20            | 28.81 | 11100    | 35.56                                   |
| F31                | 350.16                                   | 103.28            | 28.63 | 11700    | 35.39                                   |
| F32                | 359.99                                   | 103.38            | 28.37 | 12200    | 35.07                                   |
| F33                | 369.82                                   | 103.47            | 28.20 | 12800    | 34.94                                   |
| F34                | 379.65                                   | 103.53            | 27.99 | 13400    | 34.66                                   |
| F35                | 389.48                                   | 103.58            | 27.80 | 14000    | 34.32                                   |
| F36                | 399.31                                   | 103.66            | 27.64 | 14600    | 34.24                                   |
| F37                | 409.14                                   | 103.72            | 27.46 | 15200    | 34.02                                   |
| F38                | 418.97                                   | 103.84            | 27.26 | 15800    | 33.95                                   |
| F39                | 428.8                                    | 103.83            | 27.16 | 16500    | 33.69                                   |
| F40                | 438.63                                   | 103.88            | 27.05 | 17100    | 33.64                                   |
| F41                | 448.46                                   | 103.96            | 26.87 | 17600    | 33.47                                   |
| F42                | 458.29                                   | 104.00            | 26.77 | 18800    | 33.39                                   |
| F43                | 469.96                                   | 103.95            | 26.76 | 20000    | 33.22                                   |
| F44                | 481.63                                   | 103.87            | 26.88 | 18600    | 33.22                                   |
| F45                | 493.3                                    | 103.90            | 26.83 | 19200    | 33.19                                   |
| F46MEP             | 504.97                                   | 103.87            | 26.92 | 21700    | 33.28                                   |
| F47roof            | 521.3                                    | 102.75            | 28.96 | 29600    | 34.20                                   |
| TO<br>Screening    | 544.3                                    | 104.43            | 25.88 | 18000    | 32.89                                   |

| <b>Load Case 2</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 94.30             | 40.58 | 5100     | 43.86                                   |
| F2                 | 18.48                                    | 93.38             | 41.81 | 8900     | 41.34                                   |
| F3                 | 30.5                                     | 87.29             | 49.21 | 8700     | 40.02                                   |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| Load Case 2 |  |                   |       |          |   |
|-------------|--|-------------------|-------|----------|---|
| Floor       | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|             |  | x (ft)            | y(ft) |          |   |
| F4          | 46.48                                    | 93.38             | 41.86 | 10200    | 40.86                                   |
| F5          | 62.52                                    | 93.03             | 42.27 | 9900     | 40.83                                   |
| F6          | 77.72                                    | 92.94             | 42.39 | 8700     | 40.67                                   |
| F7          | 89.88                                    | 92.66             | 42.67 | 7700     | 40.99                                   |
| F8          | 102.04                                   | 91.75             | 43.74 | 8600     | 40.87                                   |
| F9          | 117.04                                   | 90.18             | 45.18 | 8800     | 42.42                                   |
| F10         | 133.04                                   | 90.26             | 45.05 | 6100     | 42.61                                   |
| F9demo      | 141.75                                   | 92.71             | 41.80 | 3800     | 47.48                                   |
| F11         | 150.46                                   | 90.49             | 45.23 | 4800     | 40.78                                   |
| F11demo     | 159.16                                   | 92.31             | 42.11 | 4200     | 47.96                                   |
| F12         | 167.87                                   | 89.70             | 45.74 | 5900     | 42.31                                   |
| F13         | 176.58                                   | 90.22             | 45.25 | 5200     | 41.99                                   |
| F14         | 185.29                                   | 88.18             | 46.77 | 6200     | 44.47                                   |
| F15         | 194                                      | 87.40             | 47.01 | 6200     | 46.30                                   |
| F16         | 202.71                                   | 87.40             | 46.85 | 6300     | 46.87                                   |
| F17         | 212.54                                   | 89.26             | 46.65 | 4800     | 40.78                                   |
| F18         | 222.37                                   | 89.01             | 46.92 | 5000     | 40.84                                   |
| F19         | 232.2                                    | 88.97             | 47.16 | 5400     | 40.20                                   |
| F20         | 242.03                                   | 88.93             | 47.36 | 5800     | 39.69                                   |
| F21         | 251.86                                   | 89.02             | 47.49 | 6300     | 38.94                                   |
| F22         | 261.69                                   | 88.81             | 47.69 | 6700     | 39.13                                   |
| F23         | 271.52                                   | 88.84             | 48.01 | 7200     | 38.01                                   |
| F24         | 281.35                                   | 88.76             | 48.20 | 7700     | 37.76                                   |
| F25         | 291.18                                   | 88.82             | 48.35 | 8300     | 37.12                                   |
| F26         | 301.01                                   | 88.65             | 48.56 | 8800     | 37.18                                   |
| F27         | 310.84                                   | 88.56             | 48.87 | 9300     | 36.65                                   |
| F28         | 320.67                                   | 88.54             | 49.08 | 9900     | 36.18                                   |
| F29         | 330.5                                    | 88.48             | 49.24 | 10500    | 35.95                                   |
| F30         | 340.33                                   | 88.42             | 49.48 | 11100    | 35.56                                   |
| F31         | 350.16                                   | 88.33             | 49.68 | 11700    | 35.39                                   |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 2</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F32                | 359.99                                   | 88.22             | 49.97 | 12200    | 35.07                                   |
| F33                | 369.82                                   | 88.12             | 50.16 | 12800    | 34.94                                   |
| F34                | 379.65                                   | 88.05             | 50.39 | 13400    | 34.66                                   |
| F35                | 389.48                                   | 88.00             | 50.60 | 14000    | 34.32                                   |
| F36                | 399.31                                   | 87.91             | 50.77 | 14600    | 34.24                                   |
| F37                | 409.14                                   | 87.84             | 50.98 | 15200    | 34.02                                   |
| F38                | 418.97                                   | 87.72             | 51.20 | 15800    | 33.95                                   |
| F39                | 428.8                                    | 87.73             | 51.31 | 16500    | 33.69                                   |
| F40                | 438.63                                   | 87.66             | 51.43 | 17100    | 33.64                                   |
| F41                | 448.46                                   | 87.58             | 51.63 | 17600    | 33.47                                   |
| F42                | 458.29                                   | 87.53             | 51.75 | 18800    | 33.39                                   |
| F43                | 469.96                                   | 87.59             | 51.76 | 20000    | 33.22                                   |
| F44                | 481.63                                   | 87.67             | 51.62 | 18600    | 33.22                                   |
| F45                | 493.3                                    | 87.65             | 51.68 | 19200    | 33.19                                   |
| F46MEP             | 504.97                                   | 87.68             | 51.58 | 21700    | 33.28                                   |
| F47roof            | 521.3                                    | 88.92             | 49.32 | 29600    | 34.20                                   |
| TO<br>Screening    | 544.3                                    | 87.06             | 52.74 | 18000    | 32.89                                   |

| <b>Load Case 3</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 94.50             | 37.00 | 5400     | 313.13                                  |
| F2                 | 18.48                                    | 93.66             | 36.00 | 9400     | 315.65                                  |
| F3                 | 30.5                                     | 88.16             | 29.98 | 9200     | 316.99                                  |
| F4                 | 46.48                                    | 93.64             | 35.93 | 10700    | 316.14                                  |
| F5                 | 62.52                                    | 93.32             | 35.60 | 10400    | 316.17                                  |
| F6                 | 77.72                                    | 93.23             | 35.49 | 9100     | 316.33                                  |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 3</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F7                 | 89.88                                    | 93.00             | 35.28 | 8100     | 316.01                                  |
| F8                 | 102.04                                   | 92.15             | 34.38 | 9000     | 316.12                                  |
| F9                 | 117.04                                   | 90.79             | 33.27 | 9300     | 314.56                                  |
| F10                | 133.04                                   | 90.82             | 33.34 | 6400     | 314.37                                  |
| F9demo             | 141.75                                   | 93.15             | 36.08 | 4100     | 309.54                                  |
| F11                | 150.46                                   | 90.97             | 33.14 | 5000     | 316.22                                  |
| F11demo            | 159.16                                   | 92.71             | 35.76 | 4400     | 309.06                                  |
| F12                | 167.87                                   | 90.41             | 32.87 | 6300     | 314.68                                  |
| F13                | 176.58                                   | 90.82             | 33.22 | 5500     | 315.00                                  |
| F14                | 185.29                                   | 88.95             | 31.96 | 6500     | 312.51                                  |
| F15                | 194                                      | 88.39             | 31.89 | 6600     | 310.70                                  |
| F16                | 202.71                                   | 88.40             | 32.02 | 6700     | 310.14                                  |
| F17                | 212.54                                   | 89.85             | 31.97 | 5000     | 316.22                                  |
| F18                | 222.37                                   | 89.73             | 31.86 | 5300     | 316.15                                  |
| F19                | 232.2                                    | 89.54             | 31.51 | 5600     | 316.80                                  |
| F20                | 242.03                                   | 89.60             | 31.44 | 6100     | 317.32                                  |
| F21                | 251.86                                   | 89.64             | 31.29 | 6600     | 318.08                                  |
| F22                | 261.69                                   | 89.43             | 31.11 | 7000     | 317.89                                  |
| F23                | 271.52                                   | 89.43             | 30.81 | 7500     | 319.03                                  |
| F24                | 281.35                                   | 89.34             | 30.63 | 8000     | 319.28                                  |
| F25                | 291.18                                   | 89.36             | 30.47 | 8600     | 319.94                                  |
| F26                | 301.01                                   | 89.26             | 30.37 | 9200     | 319.87                                  |
| F27                | 310.84                                   | 89.17             | 30.09 | 9700     | 320.42                                  |
| F28                | 320.67                                   | 89.12             | 29.89 | 10300    | 320.91                                  |
| F29                | 330.5                                    | 89.05             | 29.73 | 10900    | 321.14                                  |
| F30                | 340.33                                   | 88.97             | 29.50 | 11500    | 321.53                                  |
| F31                | 350.16                                   | 88.87             | 29.32 | 12100    | 321.71                                  |
| F32                | 359.99                                   | 88.81             | 29.13 | 12700    | 322.05                                  |
| F33                | 369.82                                   | 88.71             | 28.95 | 13300    | 322.18                                  |
| F34                | 379.65                                   | 88.63             | 28.74 | 13900    | 322.47                                  |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 3</b> |                                 |                   |       |          |                                |
|--------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor              | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                    |                                 | x (ft)            | y(ft) |          |                                |
| F35                | 389.48                          | 88.62             | 28.61 | 14600    | 322.82                         |
| F36                | 399.31                          | 88.52             | 28.45 | 15200    | 322.90                         |
| F37                | 409.14                          | 88.44             | 28.26 | 15800    | 323.13                         |
| F38                | 418.97                          | 88.31             | 28.05 | 16400    | 323.20                         |
| F39                | 428.8                           | 88.30             | 27.94 | 17100    | 323.47                         |
| F40                | 438.63                          | 88.23             | 27.83 | 17700    | 323.52                         |
| F41                | 448.46                          | 88.15             | 27.64 | 18200    | 323.70                         |
| F42                | 458.29                          | 88.13             | 27.58 | 19500    | 323.78                         |
| F43                | 469.96                          | 88.16             | 27.54 | 20700    | 323.96                         |
| F44                | 481.63                          | 88.26             | 27.68 | 19300    | 323.96                         |
| F45                | 493.3                           | 88.22             | 27.62 | 19900    | 323.99                         |
| F46MEP             | 504.97                          | 88.22             | 27.66 | 22400    | 323.90                         |
| F47roof            | 521.3                           | 89.43             | 29.63 | 30700    | 322.94                         |
| TO Screening       | 544.3                           | 87.64             | 26.69 | 18600    | 324.30                         |

| <b>Load Case 4</b> |                                 |                   |       |          |                                |
|--------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor              | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                    |                                 | x (ft)            | y(ft) |          |                                |
| Fground            | 0                               | 98.09             | 40.37 | 5400     | 313.13                         |
| F2                 | 18.48                           | 99.03             | 41.49 | 9400     | 315.65                         |
| F3                 | 30.5                            | 105.13            | 48.18 | 9200     | 316.99                         |
| F4                 | 46.48                           | 99.05             | 41.56 | 10700    | 316.14                         |
| F5                 | 62.52                           | 99.40             | 41.93 | 10400    | 316.17                         |
| F6                 | 77.72                           | 99.50             | 42.06 | 9100     | 316.33                         |
| F7                 | 89.88                           | 99.76             | 42.29 | 8100     | 316.01                         |
| F8                 | 102.04                          | 100.71            | 43.29 | 9000     | 316.12                         |
| F9                 | 117.04                          | 102.21            | 44.52 | 9300     | 314.56                         |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 4</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F10                | 133.04                                   | 102.18            | 44.45 | 6400     | 314.37                                  |
| F9demo             | 141.75                                   | 99.59             | 41.39 | 4100     | 309.54                                  |
| F11                | 150.46                                   | 102.01            | 44.66 | 5000     | 316.22                                  |
| F11demo            | 159.16                                   | 100.08            | 41.75 | 4400     | 309.06                                  |
| F12                | 167.87                                   | 102.63            | 44.96 | 6300     | 314.68                                  |
| F13                | 176.58                                   | 102.18            | 44.58 | 5500     | 315.00                                  |
| F14                | 185.29                                   | 104.25            | 45.98 | 6500     | 312.51                                  |
| F15                | 194                                      | 104.87            | 46.06 | 6600     | 310.70                                  |
| F16                | 202.71                                   | 104.87            | 45.91 | 6700     | 310.14                                  |
| F17                | 212.54                                   | 103.26            | 45.96 | 5000     | 316.22                                  |
| F18                | 222.37                                   | 103.39            | 46.08 | 5300     | 316.15                                  |
| F19                | 232.2                                    | 103.60            | 46.48 | 5600     | 316.80                                  |
| F20                | 242.03                                   | 103.54            | 46.55 | 6100     | 317.32                                  |
| F21                | 251.86                                   | 103.49            | 46.72 | 6600     | 318.08                                  |
| F22                | 261.69                                   | 103.72            | 46.92 | 7000     | 317.89                                  |
| F23                | 271.52                                   | 103.72            | 47.26 | 7500     | 319.03                                  |
| F24                | 281.35                                   | 103.82            | 47.46 | 8000     | 319.28                                  |
| F25                | 291.18                                   | 103.80            | 47.63 | 8600     | 319.94                                  |
| F26                | 301.01                                   | 103.91            | 47.74 | 9200     | 319.87                                  |
| F27                | 310.84                                   | 104.02            | 48.06 | 9700     | 320.42                                  |
| F28                | 320.67                                   | 104.07            | 48.28 | 10300    | 320.91                                  |
| F29                | 330.5                                    | 104.14            | 48.46 | 10900    | 321.14                                  |
| F30                | 340.33                                   | 104.23            | 48.71 | 11500    | 321.53                                  |
| F31                | 350.16                                   | 104.34            | 48.91 | 12100    | 321.71                                  |
| F32                | 359.99                                   | 104.41            | 49.12 | 12700    | 322.05                                  |
| F33                | 369.82                                   | 104.52            | 49.32 | 13300    | 322.18                                  |
| F34                | 379.65                                   | 104.61            | 49.55 | 13900    | 322.47                                  |
| F35                | 389.48                                   | 104.62            | 49.70 | 14600    | 322.82                                  |
| F36                | 399.31                                   | 104.73            | 49.88 | 15200    | 322.90                                  |
| F37                | 409.14                                   | 104.82            | 50.09 | 15800    | 323.13                                  |





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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 4</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F38                | 418.97                                   | 104.97            | 50.32 | 16400    | 323.20                                  |
| F39                | 428.8                                    | 104.97            | 50.44 | 17100    | 323.47                                  |
| F40                | 438.63                                   | 105.05            | 50.57 | 17700    | 323.52                                  |
| F41                | 448.46                                   | 105.15            | 50.78 | 18200    | 323.70                                  |
| F42                | 458.29                                   | 105.17            | 50.85 | 19500    | 323.78                                  |
| F43                | 469.96                                   | 105.14            | 50.89 | 20700    | 323.96                                  |
| F44                | 481.63                                   | 105.02            | 50.73 | 19300    | 323.96                                  |
| F45                | 493.3                                    | 105.06            | 50.80 | 19900    | 323.99                                  |
| F46MEP             | 504.97                                   | 105.06            | 50.76 | 22400    | 323.90                                  |
| F47roof            | 521.3                                    | 103.73            | 48.57 | 30700    | 322.94                                  |
| TO<br>Screening    | 544.3                                    | 105.71            | 51.83 | 18600    | 324.30                                  |

| <b>Load Case 5</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 98.08             | 40.36 | 4900     | 133.13                                  |
| F2                 | 18.48                                    | 99.05             | 41.51 | 8400     | 135.65                                  |
| F3                 | 30.5                                     | 105.22            | 48.27 | 8200     | 136.99                                  |
| F4                 | 46.48                                    | 99.06             | 41.57 | 9600     | 136.14                                  |
| F5                 | 62.52                                    | 99.38             | 41.92 | 9400     | 136.17                                  |
| F6                 | 77.72                                    | 99.50             | 42.05 | 8200     | 136.33                                  |
| F7                 | 89.88                                    | 99.75             | 42.28 | 7300     | 136.01                                  |
| F8                 | 102.04                                   | 100.71            | 43.29 | 8100     | 136.12                                  |
| F9                 | 117.04                                   | 102.26            | 44.57 | 8300     | 134.56                                  |
| F10                | 133.04                                   | 102.13            | 44.41 | 5800     | 134.37                                  |
| F9demo             | 141.75                                   | 99.58             | 41.39 | 3700     | 129.54                                  |
| F11                | 150.46                                   | 102.01            | 44.66 | 4500     | 136.22                                  |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| Load Case 5 |  |                   |       |          |   |
|-------------|--|-------------------|-------|----------|---|
| Floor       | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|             |  | x (ft)            | y(ft) |          |   |
| F11demo     | 159.16                                   | 100.04            | 41.72 | 4000     | 129.06                                  |
| F12         | 167.87                                   | 102.71            | 45.04 | 5600     | 134.68                                  |
| F13         | 176.58                                   | 102.12            | 44.52 | 5000     | 135.00                                  |
| F14         | 185.29                                   | 104.18            | 45.92 | 5900     | 132.51                                  |
| F15         | 194                                      | 104.93            | 46.11 | 5900     | 130.70                                  |
| F16         | 202.71                                   | 104.92            | 45.95 | 6000     | 130.14                                  |
| F17         | 212.54                                   | 103.26            | 45.96 | 4500     | 136.22                                  |
| F18         | 222.37                                   | 103.50            | 46.20 | 4700     | 136.15                                  |
| F19         | 232.2                                    | 103.51            | 46.38 | 5100     | 136.80                                  |
| F20         | 242.03                                   | 103.52            | 46.54 | 5500     | 137.32                                  |
| F21         | 251.86                                   | 103.54            | 46.77 | 5900     | 138.08                                  |
| F22         | 261.69                                   | 103.72            | 46.92 | 6300     | 137.89                                  |
| F23         | 271.52                                   | 103.66            | 47.19 | 6800     | 139.03                                  |
| F24         | 281.35                                   | 103.82            | 47.46 | 7200     | 139.28                                  |
| F25         | 291.18                                   | 103.74            | 47.56 | 7800     | 139.94                                  |
| F26         | 301.01                                   | 103.98            | 47.83 | 8200     | 139.87                                  |
| F27         | 310.84                                   | 103.95            | 47.98 | 8800     | 140.42                                  |
| F28         | 320.67                                   | 104.04            | 48.25 | 9300     | 140.91                                  |
| F29         | 330.5                                    | 104.15            | 48.47 | 9800     | 141.14                                  |
| F30         | 340.33                                   | 104.27            | 48.76 | 10300    | 141.53                                  |
| F31         | 350.16                                   | 104.33            | 48.90 | 10900    | 141.71                                  |
| F32         | 359.99                                   | 104.43            | 49.15 | 11400    | 142.05                                  |
| F33         | 369.82                                   | 104.50            | 49.29 | 12000    | 142.18                                  |
| F34         | 379.65                                   | 104.62            | 49.56 | 12500    | 142.47                                  |
| F35         | 389.48                                   | 104.65            | 49.74 | 13100    | 142.82                                  |
| F36         | 399.31                                   | 104.72            | 49.87 | 13700    | 142.90                                  |
| F37         | 409.14                                   | 104.83            | 50.11 | 14200    | 143.13                                  |
| F38         | 418.97                                   | 105.00            | 50.37 | 14700    | 143.20                                  |
| F39         | 428.8                                    | 105.02            | 50.51 | 15300    | 143.47                                  |
| F40         | 438.63                                   | 105.07            | 50.59 | 15900    | 143.52                                  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 5</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F41                | 448.46                                   | 105.14            | 50.76 | 16400    | 143.70                                  |
| F42                | 458.29                                   | 105.20            | 50.88 | 17500    | 143.78                                  |
| F43                | 469.96                                   | 105.15            | 50.91 | 18600    | 143.96                                  |
| F44                | 481.63                                   | 105.01            | 50.71 | 17400    | 143.96                                  |
| F45                | 493.3                                    | 105.07            | 50.80 | 17900    | 143.99                                  |
| F46MEP             | 504.97                                   | 105.05            | 50.73 | 20200    | 143.90                                  |
| F47roof            | 521.3                                    | 103.74            | 48.58 | 27600    | 142.94                                  |
| TO<br>Screening    | 544.3                                    | 105.73            | 51.86 | 16700    | 144.30                                  |

| <b>Load Case 6</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 94.11             | 36.65 | 4900     | 133.13                                  |
| F2                 | 18.48                                    | 93.04             | 35.37 | 8400     | 135.65                                  |
| F3                 | 30.5                                     | 86.18             | 27.85 | 8200     | 136.99                                  |
| F4                 | 46.48                                    | 93.02             | 35.30 | 9600     | 136.14                                  |
| F5                 | 62.52                                    | 92.66             | 34.92 | 9400     | 136.17                                  |
| F6                 | 77.72                                    | 92.54             | 34.76 | 8200     | 136.33                                  |
| F7                 | 89.88                                    | 92.25             | 34.51 | 7300     | 136.01                                  |
| F8                 | 102.04                                   | 91.19             | 33.39 | 8100     | 136.12                                  |
| F9                 | 117.04                                   | 89.46             | 31.96 | 8300     | 134.56                                  |
| F10                | 133.04                                   | 89.61             | 32.15 | 5800     | 134.37                                  |
| F9demo             | 141.75                                   | 92.45             | 35.50 | 3700     | 129.54                                  |
| F11                | 150.46                                   | 89.74             | 31.86 | 4500     | 136.22                                  |
| F11demo            | 159.16                                   | 91.93             | 35.13 | 4000     | 129.06                                  |
| F12                | 167.87                                   | 88.96             | 31.44 | 5600     | 134.68                                  |
| F13                | 176.58                                   | 89.62             | 32.02 | 5000     | 135.00                                  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| Load Case 6 |  |                   |       |          |   |
|-------------|--|-------------------|-------|----------|---|
| Floor       | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|             |  | x (ft)            | y(ft) |          |   |
| F14         | 185.29                                   | 87.33             | 30.47 | 5900     | 132.51                                  |
| F15         | 194                                      | 86.50             | 30.26 | 5900     | 130.70                                  |
| F16         | 202.71                                   | 86.52             | 30.44 | 6000     | 130.14                                  |
| F17         | 212.54                                   | 88.36             | 30.42 | 4500     | 136.22                                  |
| F18         | 222.37                                   | 88.09             | 30.16 | 4700     | 136.15                                  |
| F19         | 232.2                                    | 88.08             | 29.95 | 5100     | 136.80                                  |
| F20         | 242.03                                   | 88.06             | 29.78 | 5500     | 137.32                                  |
| F21         | 251.86                                   | 88.05             | 29.52 | 5900     | 138.08                                  |
| F22         | 261.69                                   | 87.84             | 29.36 | 6300     | 137.89                                  |
| F23         | 271.52                                   | 87.91             | 29.05 | 6800     | 139.03                                  |
| F24         | 281.35                                   | 87.73             | 28.76 | 7200     | 139.28                                  |
| F25         | 291.18                                   | 87.82             | 28.64 | 7800     | 139.94                                  |
| F26         | 301.01                                   | 87.55             | 28.34 | 8200     | 139.87                                  |
| F27         | 310.84                                   | 87.58             | 28.18 | 8800     | 140.42                                  |
| F28         | 320.67                                   | 87.49             | 27.88 | 9300     | 140.91                                  |
| F29         | 330.5                                    | 87.36             | 27.64 | 9800     | 141.14                                  |
| F30         | 340.33                                   | 87.23             | 27.31 | 10300    | 141.53                                  |
| F31         | 350.16                                   | 87.16             | 27.15 | 10900    | 141.71                                  |
| F32         | 359.99                                   | 87.06             | 26.88 | 11400    | 142.05                                  |
| F33         | 369.82                                   | 86.98             | 26.72 | 12000    | 142.18                                  |
| F34         | 379.65                                   | 86.84             | 26.42 | 12500    | 142.47                                  |
| F35         | 389.48                                   | 86.81             | 26.22 | 13100    | 142.82                                  |
| F36         | 399.31                                   | 86.73             | 26.08 | 13700    | 142.90                                  |
| F37         | 409.14                                   | 86.61             | 25.81 | 14200    | 143.13                                  |
| F38         | 418.97                                   | 86.42             | 25.53 | 14700    | 143.20                                  |
| F39         | 428.8                                    | 86.40             | 25.37 | 15300    | 143.47                                  |
| F40         | 438.63                                   | 86.35             | 25.27 | 15900    | 143.52                                  |
| F41         | 448.46                                   | 86.27             | 25.09 | 16400    | 143.70                                  |
| F42         | 458.29                                   | 86.21             | 24.95 | 17500    | 143.78                                  |
| F43         | 469.96                                   | 86.25             | 24.93 | 18600    | 143.96                                  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 6</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F44                | 481.63                                   | 86.41             | 25.15 | 17400    | 143.96                                  |
| F45                | 493.3                                    | 86.35             | 25.04 | 17900    | 143.99                                  |
| F46MEP             | 504.97                                   | 86.37             | 25.12 | 20200    | 143.90                                  |
| F47roof            | 521.3                                    | 87.83             | 27.51 | 27600    | 142.94                                  |
| TO<br>Screening    | 544.3                                    | 85.61             | 23.87 | 16700    | 144.30                                  |

| <b>Load Case 7</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 94.35             | 40.16 | 5200     | 229.87                                  |
| F2                 | 18.48                                    | 93.37             | 41.20 | 8900     | 227.37                                  |
| F3                 | 30.5                                     | 87.23             | 47.26 | 8700     | 226.03                                  |
| F4                 | 46.48                                    | 93.34             | 41.28 | 10100    | 226.88                                  |
| F5                 | 62.52                                    | 93.02             | 41.58 | 9900     | 226.85                                  |
| F6                 | 77.72                                    | 92.93             | 41.69 | 8700     | 226.68                                  |
| F7                 | 89.88                                    | 92.65             | 41.91 | 7700     | 227.01                                  |
| F8                 | 102.04                                   | 91.73             | 42.78 | 8600     | 226.89                                  |
| F9                 | 117.04                                   | 90.19             | 43.93 | 8800     | 228.45                                  |
| F10                | 133.04                                   | 90.28             | 43.82 | 6100     | 228.64                                  |
| F9demo             | 141.75                                   | 92.87             | 41.08 | 3900     | 233.39                                  |
| F11                | 150.46                                   | 90.34             | 44.11 | 4700     | 226.80                                  |
| F11demo            | 159.16                                   | 92.48             | 41.32 | 4300     | 233.85                                  |
| F12                | 167.87                                   | 89.81             | 44.28 | 6000     | 228.33                                  |
| F13                | 176.58                                   | 90.22             | 43.98 | 5200     | 228.01                                  |
| F14                | 185.29                                   | 88.25             | 45.16 | 6200     | 230.48                                  |
| F15                | 194                                      | 87.67             | 45.20 | 6300     | 232.26                                  |
| F16                | 202.71                                   | 87.69             | 45.06 | 6400     | 232.81                                  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 7</b> |  |                          |              |                 |   |
|--------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>       | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                    |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F17                | 212.54   | 89.08                    | 45.29        | 4700            | 226.80  |
| F18                | 222.37   | 88.98                    | 45.37        | 5000            | 226.86  |
| F19                | 232.2  | 88.78                    | 45.71        | 5300            | 226.22  |
| F20                | 242.03   | 88.87                    | 45.75        | 5800            | 225.70  |
| F21                | 251.86   | 88.82                    | 46.00        | 6200            | 224.93  |
| F22                | 261.69   | 88.61                    | 46.15        | 6600            | 225.12  |
| F23                | 271.52   | 88.63                    | 46.44        | 7100            | 223.98  |
| F24                | 281.35   | 88.55                    | 46.60        | 7600            | 223.72  |
| F25                | 291.18   | 88.50                    | 46.84        | 8100            | 223.06  |
| F26                | 301.01   | 88.33                    | 47.00        | 8600            | 223.12  |
| F27                | 310.84   | 88.33                    | 47.17        | 9200            | 222.57  |
| F28                | 320.67   | 88.21                    | 47.45        | 9700            | 222.08  |
| F29                | 330.5  | 88.16                    | 47.58        | 10300           | 221.84  |
| F30                | 340.33   | 88.01                    | 47.88        | 10800           | 221.44  |
| F31                | 350.16   | 87.92                    | 48.04        | 11400           | 221.26  |
| F32                | 359.99   | 87.80                    | 48.29        | 11900           | 220.91  |
| F33                | 369.82   | 87.71                    | 48.44        | 12500           | 220.78  |
| F34                | 379.65   | 87.57                    | 48.71        | 13000           | 220.48  |
| F35                | 389.48   | 87.58                    | 48.82        | 13700           | 220.13  |
| F36                | 399.31   | 87.43                    | 49.03        | 14200           | 220.04  |
| F37                | 409.14   | 87.36                    | 49.20        | 14800           | 219.81  |
| F38                | 418.97   | 87.18                    | 49.46        | 15300           | 219.73  |
| F39                | 428.8  | 87.19                    | 49.54        | 16000           | 219.46  |
| F40                | 438.63   | 87.08                    | 49.71        | 16500           | 219.41  |
| F41                | 448.46   | 87.05                    | 49.81        | 17100           | 219.23  |
| F42                | 458.29   | 86.96                    | 49.95        | 18200           | 219.14  |
| F43                | 469.96   | 86.98                    | 50.01        | 19300           | 218.95  |
| F44                | 481.63   | 87.15                    | 49.79        | 18100           | 218.95  |
| F45                | 493.3  | 87.08                    | 49.89        | 18600           | 218.92  |
| F46MEP             | 504.97   | 87.11                    | 49.82        | 21000           | 219.02  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 7</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F47roof            | 521.3                                    | 88.50             | 47.78 | 28800    | 220.00                                  |
| TO<br>Screening    | 544.3                                    | 86.42             | 50.85 | 17400    | 218.60                                  |

| <b>Load Case 8</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| Fground            | 0  | 98.26             | 36.86 | 5200     | 229.87                                  |
| F2                 | 18.48                                    | 99.34             | 35.71 | 8900     | 227.37                                  |
| F3                 | 30.5                                     | 106.17            | 28.98 | 8700     | 226.03                                  |
| F4                 | 46.48                                    | 99.38             | 35.62 | 10100    | 226.88                                  |
| F5                 | 62.52                                    | 99.74             | 35.28 | 9900     | 226.85                                  |
| F6                 | 77.72                                    | 99.84             | 35.17 | 8700     | 226.68                                  |
| F7                 | 89.88                                    | 100.14            | 34.93 | 7700     | 227.01                                  |
| F8                 | 102.04                                   | 101.17            | 33.95 | 8600     | 226.89                                  |
| F9                 | 117.04                                   | 102.88            | 32.68 | 8800     | 228.45                                  |
| F10                | 133.04                                   | 102.78            | 32.80 | 6100     | 228.64                                  |
| F9demo             | 141.75                                   | 99.90             | 35.85 | 3900     | 233.39                                  |
| F11                | 150.46                                   | 102.71            | 32.48 | 4700     | 226.80                                  |
| F11demo            | 159.16                                   | 100.33            | 35.58 | 4300     | 233.85                                  |
| F12                | 167.87                                   | 103.30            | 32.28 | 6000     | 228.33                                  |
| F13                | 176.58                                   | 102.85            | 32.62 | 5200     | 228.01                                  |
| F14                | 185.29                                   | 105.03            | 31.31 | 6200     | 230.48                                  |
| F15                | 194                                      | 105.68            | 31.26 | 6300     | 232.26                                  |
| F16                | 202.71                                   | 105.66            | 31.42 | 6400     | 232.81                                  |
| F17                | 212.54                                   | 104.11            | 31.17 | 4700     | 226.80                                  |
| F18                | 222.37                                   | 104.23            | 31.08 | 5000     | 226.86                                  |
| F19                | 232.2                                    | 104.44            | 30.70 | 5300     | 226.22                                  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 8</b> |  |                          |              |                 |   |
|--------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>       | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                    |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F20                | 242.03   | 104.34                   | 30.65        | 5800            | 225.70  |
| F21                | 251.86   | 104.40                   | 30.38        | 6200            | 224.93  |
| F22                | 261.69   | 104.63                   | 30.21        | 6600            | 225.12  |
| F23                | 271.52   | 104.61                   | 29.88        | 7100            | 223.98  |
| F24                | 281.35   | 104.70                   | 29.71        | 7600            | 223.72  |
| F25                | 291.18   | 104.75                   | 29.44        | 8100            | 223.06  |
| F26                | 301.01   | 104.94                   | 29.26        | 8600            | 223.12  |
| F27                | 310.84   | 104.95                   | 29.07        | 9200            | 222.57  |
| F28                | 320.67   | 105.08                   | 28.77        | 9700            | 222.08  |
| F29                | 330.5  | 105.14                   | 28.62        | 10300           | 221.84  |
| F30                | 340.33   | 105.30                   | 28.29        | 10800           | 221.44  |
| F31                | 350.16   | 105.40                   | 28.11        | 11400           | 221.26  |
| F32                | 359.99   | 105.53                   | 27.84        | 11900           | 220.91  |
| F33                | 369.82   | 105.63                   | 27.66        | 12500           | 220.78  |
| F34                | 379.65   | 105.79                   | 27.37        | 13000           | 220.48  |
| F35                | 389.48   | 105.77                   | 27.24        | 13700           | 220.13  |
| F36                | 399.31   | 105.94                   | 27.01        | 14200           | 220.04  |
| F37                | 409.14   | 106.02                   | 26.82        | 14800           | 219.81  |
| F38                | 418.97   | 106.23                   | 26.54        | 15300           | 219.73  |
| F39                | 428.8  | 106.21                   | 26.44        | 16000           | 219.46  |
| F40                | 438.63   | 106.34                   | 26.26        | 16500           | 219.41  |
| F41                | 448.46   | 106.37                   | 26.14        | 17100           | 219.23  |
| F42                | 458.29   | 106.47                   | 25.99        | 18200           | 219.14  |
| F43                | 469.96   | 106.44                   | 25.93        | 19300           | 218.95  |
| F44                | 481.63   | 106.26                   | 26.16        | 18100           | 218.95  |
| F45                | 493.3  | 106.33                   | 26.05        | 18600           | 218.92  |
| F46MEP             | 504.97   | 106.30                   | 26.13        | 21000           | 219.02  |
| F47roof            | 521.3  | 104.76                   | 28.40        | 28800           | 220.00  |
| TO<br>Screening    | 544.3  | 107.06                   | 24.99        | 17400           | 218.60  |





**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| Load Case 9 |  |                   |       |          |   |
|-------------|--|-------------------|-------|----------|---|
| Floor       | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|             |  | x (ft)            | y(ft) |          |   |
| Fground     | 0  | 97.21             | 38.36 | 8100     | 76.82                                   |
| F2          | 18.48                                    | 97.84             | 38.18 | 13500    | 75.66                                   |
| F3          | 30.5                                     | 101.61            | 37.15 | 12900    | 75.00                                   |
| F4          | 46.48                                    | 97.87             | 38.17 | 15300    | 75.42                                   |
| F5          | 62.52                                    | 98.07             | 38.11 | 14900    | 75.40                                   |
| F6          | 77.72                                    | 98.14             | 38.09 | 13000    | 75.32                                   |
| F7          | 89.88                                    | 98.28             | 38.06 | 11600    | 75.48                                   |
| F8          | 102.04                                   | 98.83             | 37.92 | 12900    | 75.43                                   |
| F9          | 117.04                                   | 99.56             | 37.77 | 13600    | 76.17                                   |
| F10         | 133.04                                   | 99.48             | 37.80 | 9500     | 76.26                                   |
| F9demo      | 141.75                                   | 97.85             | 38.26 | 6400     | 78.34                                   |
| F11         | 150.46                                   | 99.63             | 37.70 | 7100     | 75.38                                   |
| F11demo     | 159.16                                   | 98.05             | 38.23 | 7000     | 78.53                                   |
| F12         | 167.87                                   | 99.81             | 37.71 | 9200     | 76.12                                   |
| F13         | 176.58                                   | 99.58             | 37.75 | 8000     | 75.96                                   |
| F14         | 185.29                                   | 100.44            | 37.63 | 9800     | 77.09                                   |
| F15         | 194                                      | 100.54            | 37.67 | 10200    | 77.87                                   |
| F16         | 202.71                                   | 100.49            | 37.70 | 10400    | 78.10                                   |
| F17         | 212.54                                   | 100.37            | 37.51 | 7100     | 75.38                                   |
| F18         | 222.37                                   | 100.46            | 37.49 | 7500     | 75.41                                   |
| F19         | 232.2                                    | 100.58            | 37.43 | 8000     | 75.09                                   |
| F20         | 242.03                                   | 100.64            | 37.40 | 8600     | 74.83                                   |
| F21         | 251.86                                   | 100.77            | 37.33 | 9100     | 74.44                                   |
| F22         | 261.69                                   | 100.83            | 37.32 | 9800     | 74.54                                   |
| F23         | 271.52                                   | 101.01            | 37.21 | 10300    | 73.94                                   |
| F24         | 281.35                                   | 101.14            | 37.16 | 10900    | 73.80                                   |
| F25         | 291.18                                   | 101.23            | 37.10 | 11600    | 73.44                                   |
| F26         | 301.01                                   | 101.34            | 37.07 | 12300    | 73.48                                   |
| F27         | 310.84                                   | 101.46            | 37.01 | 13000    | 73.17                                   |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 9</b> |  |                   |       |          |   |
|--------------------|--|-------------------|-------|----------|---|
| Floor              | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                    |  | x (ft)            | y(ft) |          |   |
| F28                | 320.67                                   | 101.62            | 36.93 | 13600    | 72.90                                   |
| F29                | 330.5                                    | 101.73            | 36.88 | 14300    | 72.77                                   |
| F30                | 340.33                                   | 101.87            | 36.82 | 15000    | 72.53                                   |
| F31                | 350.16                                   | 101.99            | 36.77 | 15700    | 72.43                                   |
| F32                | 359.99                                   | 102.11            | 36.71 | 16400    | 72.23                                   |
| F33                | 369.82                                   | 102.23            | 36.66 | 17100    | 72.15                                   |
| F34                | 379.65                                   | 102.35            | 36.60 | 17800    | 71.97                                   |
| F35                | 389.48                                   | 102.47            | 36.53 | 18500    | 71.76                                   |
| F36                | 399.31                                   | 102.55            | 36.50 | 19300    | 71.71                                   |
| F37                | 409.14                                   | 102.69            | 36.44 | 19900    | 71.57                                   |
| F38                | 418.97                                   | 102.80            | 36.40 | 20700    | 71.52                                   |
| F39                | 428.8                                    | 102.89            | 36.34 | 21400    | 71.35                                   |
| F40                | 438.63                                   | 102.95            | 36.32 | 22200    | 71.32                                   |
| F41                | 448.46                                   | 103.05            | 36.27 | 22800    | 71.21                                   |
| F42                | 458.29                                   | 103.12            | 36.24 | 24300    | 71.16                                   |
| F43                | 469.96                                   | 103.14            | 36.21 | 25700    | 71.04                                   |
| F44                | 481.63                                   | 103.04            | 36.25 | 24000    | 71.04                                   |
| F45                | 493.3                                    | 103.09            | 36.23 | 24700    | 71.02                                   |
| F46MEP             | 504.97                                   | 103.06            | 36.25 | 27900    | 71.08                                   |
| F47roof            | 521.3                                    | 101.80            | 36.75 | 39000    | 71.68                                   |
| TO<br>Screening    | 544.3                                    | 103.67            | 36.00 | 23000    | 70.82                                   |

| <b>Load Case 10</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 94.69             | 38.95 | 8100     | 76.82                                   |
| F2                  | 18.48                                    | 93.75             | 39.23 | 13500    | 75.66                                   |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 10</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F3                  | 30.5   | 88.08                    | 40.78        | 12900           | 75.00   |
| F4                  | 46.48  | 93.70                    | 39.25        | 15300           | 75.42   |
| F5                  | 62.52  | 93.39                    | 39.33        | 14900           | 75.40   |
| F6                  | 77.72  | 93.29                    | 39.36        | 13000           | 75.32   |
| F7                  | 89.88  | 93.08                    | 39.41        | 11600           | 75.48   |
| F8                  | 102.04   | 92.25                    | 39.63        | 12900           | 75.43   |
| F9                  | 117.04   | 91.16                    | 39.84        | 13600           | 76.17   |
| F10                 | 133.04   | 91.28                    | 39.80        | 9500            | 76.26   |
| F9demo              | 141.75   | 93.72                    | 39.11        | 6400            | 78.34   |
| F11                 | 150.46   | 91.05                    | 39.94        | 7100            | 75.38   |
| F11demo             | 159.16   | 93.43                    | 39.16        | 7000            | 78.53   |
| F12                 | 167.87   | 90.79                    | 39.94        | 9200            | 76.12   |
| F13                 | 176.58   | 91.12                    | 39.87        | 8000            | 75.96   |
| F14                 | 185.29   | 89.84                    | 40.06        | 9800            | 77.09   |
| F15                 | 194  | 89.69                    | 40.00        | 10200           | 77.87   |
| F16                 | 202.71   | 89.76                    | 39.96        | 10400           | 78.10   |
| F17                 | 212.54   | 89.94                    | 40.23        | 7100            | 75.38   |
| F18                 | 222.37   | 89.81                    | 40.26        | 7500            | 75.41   |
| F19                 | 232.2  | 89.62                    | 40.35        | 8000            | 75.09   |
| F20                 | 242.03   | 89.53                    | 40.41        | 8600            | 74.83   |
| F21                 | 251.86   | 89.34                    | 40.51        | 9100            | 74.44   |
| F22                 | 261.69   | 89.25                    | 40.52        | 9800            | 74.54   |
| F23                 | 271.52   | 88.98                    | 40.68        | 10300           | 73.94   |
| F24                 | 281.35   | 88.79                    | 40.75        | 10900           | 73.80   |
| F25                 | 291.18   | 88.65                    | 40.84        | 11600           | 73.44   |
| F26                 | 301.01   | 88.48                    | 40.89        | 12300           | 73.48   |
| F27                 | 310.84   | 88.31                    | 40.98        | 13000           | 73.17   |
| F28                 | 320.67   | 88.07                    | 41.10        | 13600           | 72.90   |
| F29                 | 330.5  | 87.90                    | 41.17        | 14300           | 72.77   |
| F30                 | 340.33   | 87.70                    | 41.27        | 15000           | 72.53   |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 10</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F31                 | 350.16                                   | 87.51             | 41.35 | 15700    | 72.43                                   |
| F32                 | 359.99                                   | 87.34             | 41.44 | 16400    | 72.23                                   |
| F33                 | 369.82                                   | 87.16             | 41.51 | 17100    | 72.15                                   |
| F34                 | 379.65                                   | 86.97             | 41.60 | 17800    | 71.97                                   |
| F35                 | 389.48                                   | 86.80             | 41.70 | 18500    | 71.76                                   |
| F36                 | 399.31                                   | 86.68             | 41.75 | 19300    | 71.71                                   |
| F37                 | 409.14                                   | 86.46             | 41.85 | 19900    | 71.57                                   |
| F38                 | 418.97                                   | 86.30             | 41.91 | 20700    | 71.52                                   |
| F39                 | 428.8                                    | 86.16             | 41.99 | 21400    | 71.35                                   |
| F40                 | 438.63                                   | 86.08             | 42.02 | 22200    | 71.32                                   |
| F41                 | 448.46                                   | 85.92             | 42.10 | 22800    | 71.21                                   |
| F42                 | 458.29                                   | 85.82             | 42.14 | 24300    | 71.16                                   |
| F43                 | 469.96                                   | 85.78             | 42.18 | 25700    | 71.04                                   |
| F44                 | 481.63                                   | 85.93             | 42.13 | 24000    | 71.04                                   |
| F45                 | 493.3                                    | 85.86             | 42.16 | 24700    | 71.02                                   |
| F46MEP              | 504.97                                   | 85.92             | 42.13 | 27900    | 71.08                                   |
| F47roof             | 521.3                                    | 87.80             | 41.38 | 39000    | 71.68                                   |
| TO<br>Screening     | 544.3                                    | 85.00             | 42.50 | 23000    | 70.82                                   |

| <b>Load Case 11</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 95.04             | 38.30 | 8200     | 284.45                                  |
| F2                  | 18.48                                    | 94.32             | 38.07 | 13600    | 285.71                                  |
| F3                  | 30.5                                     | 89.98             | 36.77 | 13000    | 286.43                                  |
| F4                  | 46.48                                    | 94.28             | 38.05 | 15400    | 285.97                                  |
| F5                  | 62.52                                    | 94.05             | 37.98 | 15000    | 285.98                                  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 11</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F6                  | 77.72  | 93.97                    | 37.96        | 13100           | 286.07  |
| F7                  | 89.88  | 93.79                    | 37.91        | 11600           | 285.90  |
| F8                  | 102.04   | 93.17                    | 37.73        | 13000           | 285.96  |
| F9                  | 117.04   | 92.33                    | 37.55        | 13700           | 285.15  |
| F10                 | 133.04   | 92.39                    | 37.58        | 9500            | 285.06  |
| F9demo              | 141.75   | 94.31                    | 38.17        | 6500            | 282.79  |
| F11                 | 150.46   | 92.28                    | 37.47        | 7200            | 286.01  |
| F11demo             | 159.16   | 94.08                    | 38.13        | 7100            | 282.58  |
| F12                 | 167.87   | 92.01                    | 37.46        | 9200            | 285.21  |
| F13                 | 176.58   | 92.33                    | 37.53        | 8100            | 285.38  |
| F14                 | 185.29   | 91.33                    | 37.37        | 9900            | 284.15  |
| F15                 | 194  | 91.21                    | 37.42        | 10300           | 283.31  |
| F16                 | 202.71   | 91.26                    | 37.46        | 10500           | 283.05  |
| F17                 | 212.54   | 91.43                    | 37.23        | 7200            | 286.01  |
| F18                 | 222.37   | 91.33                    | 37.21        | 7600            | 285.98  |
| F19                 | 232.2  | 91.12                    | 37.11        | 8000            | 286.32  |
| F20                 | 242.03   | 91.11                    | 37.08        | 8700            | 286.60  |
| F21                 | 251.86   | 90.96                    | 37.00        | 9200            | 287.03  |
| F22                 | 261.69   | 90.84                    | 36.97        | 9800            | 286.92  |
| F23                 | 271.52   | 90.68                    | 36.85        | 10400           | 287.57  |
| F24                 | 281.35   | 90.53                    | 36.79        | 11000           | 287.72  |
| F25                 | 291.18   | 90.43                    | 36.71        | 11700           | 288.11  |
| F26                 | 301.01   | 90.30                    | 36.67        | 12400           | 288.07  |
| F27                 | 310.84   | 90.17                    | 36.59        | 13100           | 288.40  |
| F28                 | 320.67   | 89.98                    | 36.50        | 13700           | 288.70  |
| F29                 | 330.5  | 89.89                    | 36.45        | 14500           | 288.84  |
| F30                 | 340.33   | 89.69                    | 36.35        | 15100           | 289.09  |
| F31                 | 350.16   | 89.59                    | 36.30        | 15900           | 289.20  |
| F32                 | 359.99   | 89.42                    | 36.21        | 16500           | 289.42  |
| F33                 | 369.82   | 89.32                    | 36.16        | 17300           | 289.51  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 11</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F34                 | 379.65                                   | 89.17             | 36.08 | 18000    | 289.70                                  |
| F35                 | 389.48                                   | 89.04             | 36.00 | 18700    | 289.93                                  |
| F36                 | 399.31                                   | 88.95             | 35.96 | 19500    | 289.98                                  |
| F37                 | 409.14                                   | 88.78             | 35.88 | 20100    | 290.14                                  |
| F38                 | 418.97                                   | 88.66             | 35.83 | 20900    | 290.18                                  |
| F39                 | 428.8                                    | 88.58             | 35.77 | 21700    | 290.36                                  |
| F40                 | 438.63                                   | 88.48             | 35.73 | 22400    | 290.40                                  |
| F41                 | 448.46                                   | 88.40             | 35.68 | 23100    | 290.52                                  |
| F42                 | 458.29                                   | 88.31             | 35.64 | 24600    | 290.58                                  |
| F43                 | 469.96                                   | 88.28             | 35.61 | 26000    | 290.71                                  |
| F44                 | 481.63                                   | 88.40             | 35.65 | 24300    | 290.71                                  |
| F45                 | 493.3                                    | 88.34             | 35.63 | 25000    | 290.73                                  |
| F46MEP              | 504.97                                   | 88.37             | 35.65 | 28200    | 290.66                                  |
| F47roof             | 521.3                                    | 89.80             | 36.27 | 39400    | 290.01                                  |
| TO<br>Screening     | 544.3                                    | 87.66             | 35.33 | 23200    | 290.94                                  |

| <b>Load Case 12</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 97.52             | 38.94 | 8200     | 284.45                                  |
| F2                  | 18.48                                    | 98.35             | 39.21 | 13600    | 285.71                                  |
| F3                  | 30.5                                     | 103.31            | 40.70 | 13000    | 286.43                                  |
| F4                  | 46.48                                    | 98.40             | 39.23 | 15400    | 285.97                                  |
| F5                  | 62.52                                    | 98.66             | 39.30 | 15000    | 285.98                                  |
| F6                  | 77.72                                    | 98.75             | 39.34 | 13100    | 286.07                                  |
| F7                  | 89.88                                    | 98.95             | 39.38 | 11600    | 285.90                                  |
| F8                  | 102.04                                   | 99.66             | 39.59 | 13000    | 285.96                                  |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| Load Case 12 |  |                   |       |          |   |
|--------------|--|-------------------|-------|----------|---|
| Floor        | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|              |  | x (ft)            | y(ft) |          |   |
| F9           | 117.04                                   | 100.62            | 39.80 | 13700    | 285.15                                  |
| F10          | 133.04                                   | 100.55            | 39.77 | 9500     | 285.06                                  |
| F9demo       | 141.75                                   | 98.36             | 39.09 | 6500     | 282.79                                  |
| F11          | 150.46                                   | 100.69            | 39.89 | 7200     | 286.01                                  |
| F11demo      | 159.16                                   | 98.62             | 39.14 | 7100     | 282.58                                  |
| F12          | 167.87                                   | 100.98            | 39.90 | 9200     | 285.21                                  |
| F13          | 176.58                                   | 100.63            | 39.82 | 8100     | 285.38                                  |
| F14          | 185.29                                   | 101.76            | 40.00 | 9900     | 284.15                                  |
| F15          | 194                                      | 101.91            | 39.95 | 10300    | 283.31                                  |
| F16          | 202.71                                   | 101.84            | 39.91 | 10500    | 283.05                                  |
| F17          | 212.54                                   | 101.65            | 40.16 | 7200     | 286.01                                  |
| F18          | 222.37                                   | 101.77            | 40.19 | 7600     | 285.98                                  |
| F19          | 232.2                                    | 102.01            | 40.30 | 8000     | 286.32                                  |
| F20          | 242.03                                   | 102.02            | 40.33 | 8700     | 286.60                                  |
| F21          | 251.86                                   | 102.19            | 40.43 | 9200     | 287.03                                  |
| F22          | 261.69                                   | 102.33            | 40.47 | 9800     | 286.92                                  |
| F23          | 271.52                                   | 102.51            | 40.60 | 10400    | 287.57                                  |
| F24          | 281.35                                   | 102.68            | 40.67 | 11000    | 287.72                                  |
| F25          | 291.18                                   | 102.80            | 40.76 | 11700    | 288.11                                  |
| F26          | 301.01                                   | 102.95            | 40.80 | 12400    | 288.07                                  |
| F27          | 310.84                                   | 103.10            | 40.89 | 13100    | 288.40                                  |
| F28          | 320.67                                   | 103.31            | 41.01 | 13700    | 288.70                                  |
| F29          | 330.5                                    | 103.41            | 41.06 | 14500    | 288.84                                  |
| F30          | 340.33                                   | 103.63            | 41.17 | 15100    | 289.09                                  |
| F31          | 350.16                                   | 103.75            | 41.23 | 15900    | 289.20                                  |
| F32          | 359.99                                   | 103.95            | 41.33 | 16500    | 289.42                                  |
| F33          | 369.82                                   | 104.07            | 41.39 | 17300    | 289.51                                  |
| F34          | 379.65                                   | 104.23            | 41.48 | 18000    | 289.70                                  |
| F35          | 389.48                                   | 104.38            | 41.57 | 18700    | 289.93                                  |
| F36          | 399.31                                   | 104.49            | 41.61 | 19500    | 289.98                                  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 12</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F37                 | 409.14                                   | 104.68            | 41.71 | 20100    | 290.14                                  |
| F38                 | 418.97                                   | 104.82            | 41.77 | 20900    | 290.18                                  |
| F39                 | 428.8                                    | 104.91            | 41.83 | 21700    | 290.36                                  |
| F40                 | 438.63                                   | 105.02            | 41.88 | 22400    | 290.40                                  |
| F41                 | 448.46                                   | 105.12            | 41.94 | 23100    | 290.52                                  |
| F42                 | 458.29                                   | 105.21            | 41.98 | 24600    | 290.58                                  |
| F43                 | 469.96                                   | 105.25            | 42.02 | 26000    | 290.71                                  |
| F44                 | 481.63                                   | 105.12            | 41.97 | 24300    | 290.71                                  |
| F45                 | 493.3                                    | 105.18            | 42.00 | 25000    | 290.73                                  |
| F46MEP              | 504.97                                   | 105.15            | 41.97 | 28200    | 290.66                                  |
| F47roof             | 521.3                                    | 103.52            | 41.26 | 39400    | 290.01                                  |
| TO<br>Screening     | 544.3                                    | 105.96            | 42.33 | 23200    | 290.94                                  |

| <b>Load Case 13</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 97.24             | 38.77 | 8000     | 99.31                                   |
| F2                  | 18.48                                    | 97.89             | 38.90 | 13300    | 100.15                                  |
| F3                  | 30.5                                     | 101.80            | 39.65 | 12700    | 100.63                                  |
| F4                  | 46.48                                    | 97.93             | 38.92 | 15000    | 100.32                                  |
| F5                  | 62.52                                    | 98.14             | 38.95 | 14600    | 100.33                                  |
| F6                  | 77.72                                    | 98.21             | 38.97 | 12800    | 100.39                                  |
| F7                  | 89.88                                    | 98.35             | 38.99 | 11400    | 100.27                                  |
| F8                  | 102.04                                   | 98.92             | 39.09 | 12700    | 100.31                                  |
| F9                  | 117.04                                   | 99.66             | 39.20 | 13400    | 99.78                                   |
| F10                 | 133.04                                   | 99.60             | 39.18 | 9300     | 99.71                                   |
| F9demo              | 141.75                                   | 97.87             | 38.84 | 6400     | 98.22                                   |





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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 13</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F11                 | 150.46   | 99.74                    | 39.25        | 7000            | 100.35  |
| F11demo             | 159.16   | 98.07                    | 38.87        | 7000            | 98.08   |
| F12                 | 167.87   | 99.94                    | 39.25        | 9000            | 99.82   |
| F13                 | 176.58   | 99.68                    | 39.21        | 7900            | 99.93   |
| F14                 | 185.29   | 100.54                   | 39.30        | 9700            | 99.11   |
| F15                 | 194  | 100.64                   | 39.27        | 10100           | 98.56   |
| F16                 | 202.71   | 100.58                   | 39.25        | 10300           | 98.39   |
| F17                 | 212.54   | 100.50                   | 39.39        | 7000            | 100.35  |
| F18                 | 222.37   | 100.59                   | 39.40        | 7400            | 100.33  |
| F19                 | 232.2  | 100.78                   | 39.45        | 7800            | 100.56  |
| F20                 | 242.03   | 100.83                   | 39.48        | 8400            | 100.74  |
| F21                 | 251.86   | 100.91                   | 39.52        | 9000            | 101.03  |
| F22                 | 261.69   | 101.02                   | 39.53        | 9600            | 100.96  |
| F23                 | 271.52   | 101.21                   | 39.61        | 10100           | 101.39  |
| F24                 | 281.35   | 101.34                   | 39.64        | 10700           | 101.49  |
| F25                 | 291.18   | 101.48                   | 39.70        | 11300           | 101.76  |
| F26                 | 301.01   | 101.54                   | 39.71        | 12100           | 101.73  |
| F27                 | 310.84   | 101.70                   | 39.76        | 12700           | 101.95  |
| F28                 | 320.67   | 101.87                   | 39.82        | 13300           | 102.15  |
| F29                 | 330.5  | 101.98                   | 39.86        | 14000           | 102.25  |
| F30                 | 340.33   | 102.16                   | 39.91        | 14600           | 102.42  |
| F31                 | 350.16   | 102.25                   | 39.94        | 15400           | 102.50  |
| F32                 | 359.99   | 102.40                   | 39.99        | 16000           | 102.65  |
| F33                 | 369.82   | 102.53                   | 40.03        | 16700           | 102.71  |
| F34                 | 379.65   | 102.69                   | 40.08        | 17300           | 102.83  |
| F35                 | 389.48   | 102.77                   | 40.12        | 18100           | 102.99  |
| F36                 | 399.31   | 102.89                   | 40.15        | 18800           | 103.03  |
| F37                 | 409.14   | 103.04                   | 40.20        | 19400           | 103.13  |
| F38                 | 418.97   | 103.18                   | 40.23        | 20100           | 103.17  |
| F39                 | 428.8  | 103.24                   | 40.26        | 20900           | 103.29  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 13</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F40                 | 438.63                                   | 103.32            | 40.29 | 21600    | 103.32                                  |
| F41                 | 448.46                                   | 103.43            | 40.32 | 22200    | 103.40                                  |
| F42                 | 458.29                                   | 103.52            | 40.35 | 23600    | 103.44                                  |
| F43                 | 469.96                                   | 103.54            | 40.37 | 25000    | 103.52                                  |
| F44                 | 481.63                                   | 103.45            | 40.34 | 23300    | 103.52                                  |
| F45                 | 493.3                                    | 103.46            | 40.35 | 24100    | 103.54                                  |
| F46MEP              | 504.97                                   | 103.46            | 40.34 | 27100    | 103.49                                  |
| F47roof             | 521.3                                    | 102.10            | 39.97 | 38000    | 103.05                                  |
| TO<br>Screening     | 544.3                                    | 104.12            | 40.53 | 22300    | 103.69                                  |

| <b>Load Case 14</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 94.65             | 38.35 | 8000     | 99.31                                   |
| F2                  | 18.48                                    | 93.67             | 38.15 | 13300    | 100.15                                  |
| F3                  | 30.5                                     | 87.81             | 37.03 | 12700    | 100.63                                  |
| F4                  | 46.48                                    | 93.60             | 38.13 | 15000    | 100.32                                  |
| F5                  | 62.52                                    | 93.29             | 38.07 | 14600    | 100.33                                  |
| F6                  | 77.72                                    | 93.19             | 38.05 | 12800    | 100.39                                  |
| F7                  | 89.88                                    | 92.98             | 38.02 | 11400    | 100.27                                  |
| F8                  | 102.04                                   | 92.12             | 37.86 | 12700    | 100.31                                  |
| F9                  | 117.04                                   | 91.00             | 37.70 | 13400    | 99.78                                   |
| F10                 | 133.04                                   | 91.10             | 37.73 | 9300     | 99.71                                   |
| F9demo              | 141.75                                   | 93.69             | 38.24 | 6400     | 98.22                                   |
| F11                 | 150.46                                   | 90.89             | 37.63 | 7000     | 100.35                                  |
| F11demo             | 159.16                                   | 93.40             | 38.20 | 7000     | 98.08                                   |
| F12                 | 167.87                                   | 90.58             | 37.63 | 9000     | 99.82                                   |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| Load Case 14 |  |                   |       |          |   |
|--------------|--|-------------------|-------|----------|---|
| Floor        | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|              |  | x (ft)            | y(ft) |          |   |
| F13          | 176.58                                   | 90.98             | 37.69 | 7900     | 99.93                                   |
| F14          | 185.29                                   | 89.70             | 37.56 | 9700     | 99.11                                   |
| F15          | 194                                      | 89.55             | 37.60 | 10100    | 98.56                                   |
| F16          | 202.71                                   | 89.63             | 37.63 | 10300    | 98.39                                   |
| F17          | 212.54                                   | 89.75             | 37.42 | 7000     | 100.35                                  |
| F18          | 222.37                                   | 89.62             | 37.40 | 7400     | 100.33                                  |
| F19          | 232.2                                    | 89.34             | 37.32 | 7800     | 100.56                                  |
| F20          | 242.03                                   | 89.25             | 37.28 | 8400     | 100.74                                  |
| F21          | 251.86                                   | 89.13             | 37.22 | 9000     | 101.03                                  |
| F22          | 261.69                                   | 88.97             | 37.20 | 9600     | 100.96                                  |
| F23          | 271.52                                   | 88.69             | 37.09 | 10100    | 101.39                                  |
| F24          | 281.35                                   | 88.49             | 37.03 | 10700    | 101.49                                  |
| F25          | 291.18                                   | 88.29             | 36.95 | 11300    | 101.76                                  |
| F26          | 301.01                                   | 88.19             | 36.94 | 12100    | 101.73                                  |
| F27          | 310.84                                   | 87.95             | 36.85 | 12700    | 101.95                                  |
| F28          | 320.67                                   | 87.70             | 36.77 | 13300    | 102.15                                  |
| F29          | 330.5                                    | 87.53             | 36.72 | 14000    | 102.25                                  |
| F30          | 340.33                                   | 87.26             | 36.63 | 14600    | 102.42                                  |
| F31          | 350.16                                   | 87.13             | 36.59 | 15400    | 102.50                                  |
| F32          | 359.99                                   | 86.90             | 36.51 | 16000    | 102.65                                  |
| F33          | 369.82                                   | 86.71             | 36.46 | 16700    | 102.71                                  |
| F34          | 379.65                                   | 86.46             | 36.38 | 17300    | 102.83                                  |
| F35          | 389.48                                   | 86.34             | 36.33 | 18100    | 102.99                                  |
| F36          | 399.31                                   | 86.17             | 36.28 | 18800    | 103.03                                  |
| F37          | 409.14                                   | 85.94             | 36.21 | 19400    | 103.13                                  |
| F38          | 418.97                                   | 85.74             | 36.15 | 20100    | 103.17                                  |
| F39          | 428.8                                    | 85.64             | 36.11 | 20900    | 103.29                                  |
| F40          | 438.63                                   | 85.52             | 36.07 | 21600    | 103.32                                  |
| F41          | 448.46                                   | 85.35             | 36.02 | 22200    | 103.40                                  |
| F42          | 458.29                                   | 85.22             | 35.98 | 23600    | 103.44                                  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 14</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F43                 | 469.96                                   | 85.19             | 35.95 | 25000    | 103.52                                  |
| F44                 | 481.63                                   | 85.33             | 35.98 | 23300    | 103.52                                  |
| F45                 | 493.3                                    | 85.31             | 35.98 | 24100    | 103.54                                  |
| F46MEP              | 504.97                                   | 85.32             | 35.99 | 27100    | 103.49                                  |
| F47roof             | 521.3                                    | 87.35             | 36.55 | 38000    | 103.05                                  |
| TO<br>Screening     | 544.3                                    | 84.32             | 35.71 | 22300    | 103.69                                  |

| <b>Load Case 15</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 94.99             | 38.80 | 8000     | 260.69                                  |
| F2                  | 18.48                                    | 94.23             | 38.95 | 13300    | 259.85                                  |
| F3                  | 30.5                                     | 89.67             | 39.82 | 12700    | 259.37                                  |
| F4                  | 46.48                                    | 94.18             | 38.97 | 15000    | 259.68                                  |
| F5                  | 62.52                                    | 93.94             | 39.01 | 14600    | 259.67                                  |
| F6                  | 77.72                                    | 93.86             | 39.03 | 12800    | 259.61                                  |
| F7                  | 89.88                                    | 93.69             | 39.05 | 11400    | 259.73                                  |
| F8                  | 102.04                                   | 93.03             | 39.18 | 12700    | 259.69                                  |
| F9                  | 117.04                                   | 92.16             | 39.30 | 13400    | 260.22                                  |
| F10                 | 133.04                                   | 92.23             | 39.28 | 9300     | 260.29                                  |
| F9demo              | 141.75                                   | 94.25             | 38.88 | 6400     | 261.78                                  |
| F11                 | 150.46                                   | 92.07             | 39.35 | 7000     | 259.65                                  |
| F11demo             | 159.16                                   | 94.02             | 38.91 | 7000     | 261.92                                  |
| F12                 | 167.87                                   | 91.83             | 39.36 | 9000     | 260.18                                  |
| F13                 | 176.58                                   | 92.14             | 39.31 | 7900     | 260.07                                  |
| F14                 | 185.29                                   | 91.14             | 39.41 | 9700     | 260.89                                  |
| F15                 | 194                                      | 91.03             | 39.38 | 10100    | 261.44                                  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 15</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F16                 | 202.71   | 91.09                    | 39.35        | 10300           | 261.61  |
| F17                 | 212.54   | 91.18                    | 39.52        | 7000            | 259.65  |
| F18                 | 222.37   | 91.08                    | 39.53        | 7400            | 259.67  |
| F19                 | 232.2  | 90.86                    | 39.59        | 7800            | 259.44  |
| F20                 | 242.03   | 90.80                    | 39.63        | 8400            | 259.26  |
| F21                 | 251.86   | 90.70                    | 39.67        | 9000            | 258.97  |
| F22                 | 261.69   | 90.58                    | 39.69        | 9600            | 259.04  |
| F23                 | 271.52   | 90.36                    | 39.78        | 10100           | 258.61  |
| F24                 | 281.35   | 90.21                    | 39.82        | 10700           | 258.51  |
| F25                 | 291.18   | 90.04                    | 39.88        | 11300           | 258.24  |
| F26                 | 301.01   | 89.97                    | 39.89        | 12100           | 258.27  |
| F27                 | 310.84   | 89.78                    | 39.96        | 12700           | 258.05  |
| F28                 | 320.67   | 89.59                    | 40.02        | 13300           | 257.85  |
| F29                 | 330.5  | 89.46                    | 40.06        | 14000           | 257.75  |
| F30                 | 340.33   | 89.25                    | 40.13        | 14600           | 257.58  |
| F31                 | 350.16   | 89.14                    | 40.16        | 15400           | 257.50  |
| F32                 | 359.99   | 88.96                    | 40.22        | 16000           | 257.35  |
| F33                 | 369.82   | 88.82                    | 40.26        | 16700           | 257.29  |
| F34                 | 379.65   | 88.63                    | 40.33        | 17300           | 257.17  |
| F35                 | 389.48   | 88.53                    | 40.37        | 18100           | 257.01  |
| F36                 | 399.31   | 88.40                    | 40.40        | 18800           | 256.97  |
| F37                 | 409.14   | 88.22                    | 40.46        | 19400           | 256.87  |
| F38                 | 418.97   | 88.06                    | 40.50        | 20100           | 256.83  |
| F39                 | 428.8  | 87.99                    | 40.54        | 20900           | 256.71  |
| F40                 | 438.63   | 87.89                    | 40.57        | 21600           | 256.68  |
| F41                 | 448.46   | 87.76                    | 40.61        | 22200           | 256.60  |
| F42                 | 458.29   | 87.66                    | 40.64        | 23600           | 256.56  |
| F43                 | 469.96   | 87.64                    | 40.66        | 25000           | 256.48  |
| F44                 | 481.63   | 87.74                    | 40.63        | 23300           | 256.48  |
| F45                 | 493.3  | 87.73                    | 40.64        | 24100           | 256.46  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 15</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F46MEP              | 504.97                                   | 87.74             | 40.63 | 27100    | 256.51                                  |
| F47roof             | 521.3                                    | 89.32             | 40.19 | 38000    | 256.95                                  |
| TO<br>Screening     | 544.3                                    | 86.96             | 40.85 | 22300    | 256.31                                  |

| <b>Load Case 16</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 97.58             | 38.37 | 8000     | 260.69                                  |
| F2                  | 18.48                                    | 98.45             | 38.20 | 13300    | 259.85                                  |
| F3                  | 30.5                                     | 103.66            | 37.20 | 12700    | 259.37                                  |
| F4                  | 46.48                                    | 98.51             | 38.18 | 15000    | 259.68                                  |
| F5                  | 62.52                                    | 98.79             | 38.13 | 14600    | 259.67                                  |
| F6                  | 77.72                                    | 98.87             | 38.11 | 12800    | 259.61                                  |
| F7                  | 89.88                                    | 99.07             | 38.08 | 11400    | 259.73                                  |
| F8                  | 102.04                                   | 99.83             | 37.94 | 12700    | 259.69                                  |
| F9                  | 117.04                                   | 100.82            | 37.80 | 13400    | 260.22                                  |
| F10                 | 133.04                                   | 100.74            | 37.82 | 9300     | 260.29                                  |
| F9demo              | 141.75                                   | 98.43             | 38.28 | 6400     | 261.78                                  |
| F11                 | 150.46                                   | 100.92            | 37.74 | 7000     | 259.65                                  |
| F11demo             | 159.16                                   | 98.69             | 38.25 | 7000     | 261.92                                  |
| F12                 | 167.87                                   | 101.19            | 37.74 | 9000     | 260.18                                  |
| F13                 | 176.58                                   | 100.84            | 37.79 | 7900     | 260.07                                  |
| F14                 | 185.29                                   | 101.98            | 37.67 | 9700     | 260.89                                  |
| F15                 | 194                                      | 102.11            | 37.71 | 10100    | 261.44                                  |
| F16                 | 202.71                                   | 102.04            | 37.74 | 10300    | 261.61                                  |
| F17                 | 212.54                                   | 101.93            | 37.55 | 7000     | 259.65                                  |
| F18                 | 222.37                                   | 102.05            | 37.53 | 7400     | 259.67                                  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 16</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F19                 | 232.2  | 102.30                   | 37.46        | 7800            | 259.44  |
| F20                 | 242.03   | 102.38                   | 37.43        | 8400            | 259.26  |
| F21                 | 251.86   | 102.48                   | 37.38        | 9000            | 258.97  |
| F22                 | 261.69   | 102.62                   | 37.36        | 9600            | 259.04  |
| F23                 | 271.52   | 102.88                   | 37.25        | 10100           | 258.61  |
| F24                 | 281.35   | 103.05                   | 37.21        | 10700           | 258.51  |
| F25                 | 291.18   | 103.24                   | 37.14        | 11300           | 258.24  |
| F26                 | 301.01   | 103.32                   | 37.12        | 12100           | 258.27  |
| F27                 | 310.84   | 103.53                   | 37.05        | 12700           | 258.05  |
| F28                 | 320.67   | 103.76                   | 36.97        | 13300           | 257.85  |
| F29                 | 330.5  | 103.91                   | 36.93        | 14000           | 257.75  |
| F30                 | 340.33   | 104.15                   | 36.85        | 14600           | 257.58  |
| F31                 | 350.16   | 104.26                   | 36.81        | 15400           | 257.50  |
| F32                 | 359.99   | 104.47                   | 36.74        | 16000           | 257.35  |
| F33                 | 369.82   | 104.63                   | 36.70        | 16700           | 257.29  |
| F34                 | 379.65   | 104.86                   | 36.63        | 17300           | 257.17  |
| F35                 | 389.48   | 104.96                   | 36.58        | 18100           | 257.01  |
| F36                 | 399.31   | 105.11                   | 36.54        | 18800           | 256.97  |
| F37                 | 409.14   | 105.32                   | 36.47        | 19400           | 256.87  |
| F38                 | 418.97   | 105.50                   | 36.42        | 20100           | 256.83  |
| F39                 | 428.8  | 105.59                   | 36.38        | 20900           | 256.71  |
| F40                 | 438.63   | 105.70                   | 36.35        | 21600           | 256.68  |
| F41                 | 448.46   | 105.84                   | 36.30        | 22200           | 256.60  |
| F42                 | 458.29   | 105.96                   | 36.27        | 23600           | 256.56  |
| F43                 | 469.96   | 105.98                   | 36.25        | 25000           | 256.48  |
| F44                 | 481.63   | 105.86                   | 36.28        | 23300           | 256.48  |
| F45                 | 493.3  | 105.88                   | 36.27        | 24100           | 256.46  |
| F46MEP              | 504.97   | 105.87                   | 36.28        | 27100           | 256.51  |
| F47roof             | 521.3  | 104.07                   | 36.78        | 38000           | 256.95  |
| TO<br>Screening     | 544.3  | 106.76                   | 36.03        | 22300           | 256.31  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| Load Case 17 |  |                   |       |          |   |
|--------------|--|-------------------|-------|----------|---|
| Floor        | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|              |  | x (ft)            | y(ft) |          |   |
| Fground      | 0  | 101.53            | 35.55 | 4100     | 60.21                                   |
| F2           | 18.48                                    | 104.49            | 33.42 | 7000     | 57.99                                   |
| F3           | 30.5                                     | 123.28            | 20.86 | 6700     | 56.77                                   |
| F4           | 46.48                                    | 104.66            | 33.22 | 7900     | 57.55                                   |
| F5           | 62.52                                    | 105.67            | 32.57 | 7700     | 57.52                                   |
| F6           | 77.72                                    | 106.04            | 32.30 | 6700     | 57.37                                   |
| F7           | 89.88                                    | 106.72            | 31.94 | 6000     | 57.67                                   |
| F8           | 102.04                                   | 109.46            | 30.17 | 6700     | 57.56                                   |
| F9           | 117.04                                   | 113.75            | 28.04 | 6900     | 58.96                                   |
| F10          | 133.04                                   | 113.42            | 28.31 | 4800     | 59.13                                   |
| F9demo       | 141.75                                   | 105.24            | 34.04 | 3200     | 63.23                                   |
| F11          | 150.46                                   | 113.43            | 27.61 | 3700     | 57.48                                   |
| F11demo      | 159.16                                   | 106.34            | 33.57 | 3500     | 63.62                                   |
| F12          | 167.87                                   | 114.88            | 27.31 | 4700     | 58.86                                   |
| F13          | 176.58                                   | 113.62            | 27.95 | 4100     | 58.57                                   |
| F14          | 185.29                                   | 118.50            | 26.11 | 5000     | 60.74                                   |
| F15          | 194                                      | 119.79            | 26.20 | 5100     | 62.28                                   |
| F16          | 202.71                                   | 119.59            | 26.55 | 5200     | 62.74                                   |
| F17          | 212.54                                   | 117.12            | 25.26 | 3700     | 57.48                                   |
| F18          | 222.37                                   | 117.62            | 24.97 | 3900     | 57.53                                   |
| F19          | 232.2                                    | 118.46            | 24.11 | 4100     | 56.94                                   |
| F20          | 242.03                                   | 118.21            | 24.02 | 4500     | 56.47                                   |
| F21          | 251.86                                   | 118.52            | 23.41 | 4800     | 55.76                                   |
| F22          | 261.69                                   | 119.15            | 23.08 | 5100     | 55.94                                   |
| F23          | 271.52                                   | 119.64            | 22.10 | 5400     | 54.87                                   |
| F24          | 281.35                                   | 119.86            | 21.80 | 5800     | 54.62                                   |
| F25          | 291.18                                   | 120.04            | 21.28 | 6200     | 53.99                                   |
| F26          | 301.01                                   | 120.49            | 20.99 | 6600     | 54.06                                   |
| F27          | 310.84                                   | 121.16            | 20.15 | 6900     | 53.53                                   |





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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 17</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F28                 | 320.67                                   | 121.52            | 19.55 | 7300     | 53.05                                   |
| F29                 | 330.5                                    | 121.90            | 19.11 | 7700     | 52.83                                   |
| F30                 | 340.33                                   | 122.36            | 18.48 | 8100     | 52.43                                   |
| F31                 | 350.16                                   | 122.83            | 17.99 | 8500     | 52.26                                   |
| F32                 | 359.99                                   | 123.19            | 17.46 | 8900     | 51.92                                   |
| F33                 | 369.82                                   | 123.65            | 16.99 | 9300     | 51.79                                   |
| F34                 | 379.65                                   | 124.08            | 16.42 | 9700     | 51.50                                   |
| F35                 | 389.48                                   | 124.17            | 16.07 | 10200    | 51.15                                   |
| F36                 | 399.31                                   | 124.60            | 15.65 | 10600    | 51.06                                   |
| F37                 | 409.14                                   | 125.00            | 15.14 | 11000    | 50.83                                   |
| F38                 | 418.97                                   | 125.55            | 14.63 | 11400    | 50.75                                   |
| F39                 | 428.8                                    | 125.85            | 14.14 | 11800    | 50.48                                   |
| F40                 | 438.63                                   | 125.92            | 14.03 | 12300    | 50.43                                   |
| F41                 | 448.46                                   | 126.40            | 13.48 | 12600    | 50.25                                   |
| F42                 | 458.29                                   | 126.50            | 13.32 | 13500    | 50.16                                   |
| F43                 | 469.96                                   | 126.51            | 13.14 | 14300    | 49.97                                   |
| F44                 | 481.63                                   | 126.20            | 13.40 | 13300    | 49.97                                   |
| F45                 | 493.3                                    | 126.15            | 13.42 | 13800    | 49.94                                   |
| F46MEP              | 504.97                                   | 126.20            | 13.46 | 15500    | 50.04                                   |
| F47roof             | 521.3                                    | 121.27            | 18.31 | 21400    | 51.02                                   |
| TO<br>Screening     | 544.3                                    | 128.66            | 10.99 | 12800    | 49.62                                   |

| <b>Load Case 18</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 90.27             | 41.99 | 4100     | 60.21                                   |
| F2                  | 18.48                                    | 86.99             | 44.35 | 7000     | 57.99                                   |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| Load Case 18 |  |                   |       |          |   |
|--------------|--|-------------------|-------|----------|---|
| Floor        | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|              |  | x (ft)            | y(ft) |          |   |
| F3           | 30.5                                     | 66.11             | 58.31 | 6700     | 56.77                                   |
| F4           | 46.48                                    | 86.80             | 44.58 | 7900     | 57.55                                   |
| F5           | 62.52                                    | 85.68             | 45.30 | 7700     | 57.52                                   |
| F6           | 77.72                                    | 85.26             | 45.60 | 6700     | 57.37                                   |
| F7           | 89.88                                    | 84.51             | 46.00 | 6000     | 57.67                                   |
| F8           | 102.04                                   | 81.46             | 47.97 | 6700     | 57.56                                   |
| F9           | 117.04                                   | 76.70             | 50.33 | 6900     | 58.96                                   |
| F10          | 133.04                                   | 77.07             | 50.04 | 4800     | 59.13                                   |
| F9demo       | 141.75                                   | 86.16             | 43.67 | 3200     | 63.23                                   |
| F11          | 150.46                                   | 77.06             | 50.81 | 3700     | 57.48                                   |
| F11demo      | 159.16                                   | 84.94             | 44.19 | 3500     | 63.62                                   |
| F12          | 167.87                                   | 75.44             | 51.14 | 4700     | 58.86                                   |
| F13          | 176.58                                   | 76.85             | 50.43 | 4100     | 58.57                                   |
| F14          | 185.29                                   | 71.42             | 52.48 | 5000     | 60.74                                   |
| F15          | 194                                      | 69.99             | 52.37 | 5100     | 62.28                                   |
| F16          | 202.71                                   | 70.22             | 51.99 | 5200     | 62.74                                   |
| F17          | 212.54                                   | 72.96             | 53.42 | 3700     | 57.48                                   |
| F18          | 222.37                                   | 72.40             | 53.74 | 3900     | 57.53                                   |
| F19          | 232.2                                    | 71.46             | 54.70 | 4100     | 56.94                                   |
| F20          | 242.03                                   | 71.75             | 54.80 | 4500     | 56.47                                   |
| F21          | 251.86                                   | 71.40             | 55.48 | 4800     | 55.76                                   |
| F22          | 261.69                                   | 70.70             | 55.84 | 5100     | 55.94                                   |
| F23          | 271.52                                   | 70.15             | 56.93 | 5400     | 54.87                                   |
| F24          | 281.35                                   | 69.91             | 57.27 | 5800     | 54.62                                   |
| F25          | 291.18                                   | 69.71             | 57.85 | 6200     | 53.99                                   |
| F26          | 301.01                                   | 69.21             | 58.17 | 6600     | 54.06                                   |
| F27          | 310.84                                   | 68.46             | 59.10 | 6900     | 53.53                                   |
| F28          | 320.67                                   | 68.06             | 59.76 | 7300     | 53.05                                   |
| F29          | 330.5                                    | 67.64             | 60.26 | 7700     | 52.83                                   |
| F30          | 340.33                                   | 67.14             | 60.96 | 8100     | 52.43                                   |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 18</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F31                 | 350.16                                   | 66.62             | 61.50 | 8500     | 52.26                                   |
| F32                 | 359.99                                   | 66.22             | 62.09 | 8900     | 51.92                                   |
| F33                 | 369.82                                   | 65.70             | 62.61 | 9300     | 51.79                                   |
| F34                 | 379.65                                   | 65.22             | 63.25 | 9700     | 51.50                                   |
| F35                 | 389.48                                   | 65.13             | 63.63 | 10200    | 51.15                                   |
| F36                 | 399.31                                   | 64.65             | 64.10 | 10600    | 51.06                                   |
| F37                 | 409.14                                   | 64.20             | 64.67 | 11000    | 50.83                                   |
| F38                 | 418.97                                   | 63.59             | 65.24 | 11400    | 50.75                                   |
| F39                 | 428.8                                    | 63.25             | 65.78 | 11800    | 50.48                                   |
| F40                 | 438.63                                   | 63.17             | 65.89 | 12300    | 50.43                                   |
| F41                 | 448.46                                   | 62.64             | 66.51 | 12600    | 50.25                                   |
| F42                 | 458.29                                   | 62.53             | 66.69 | 13500    | 50.16                                   |
| F43                 | 469.96                                   | 62.52             | 66.89 | 14300    | 49.97                                   |
| F44                 | 481.63                                   | 62.86             | 66.60 | 13300    | 49.97                                   |
| F45                 | 493.3                                    | 62.92             | 66.58 | 13800    | 49.94                                   |
| F46MEP              | 504.97                                   | 62.87             | 66.53 | 15500    | 50.04                                   |
| F47roof             | 521.3                                    | 68.34             | 61.15 | 21400    | 51.02                                   |
| TO<br>Screening     | 544.3                                    | 60.14             | 69.27 | 12800    | 49.62                                   |

| <b>Load Case 19</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 90.87             | 35.55 | 4100     | 299.79                                  |
| F2                  | 18.48                                    | 87.91             | 33.42 | 7000     | 302.01                                  |
| F3                  | 30.5                                     | 69.12             | 20.86 | 6700     | 303.23                                  |
| F4                  | 46.48                                    | 87.74             | 33.22 | 7900     | 302.45                                  |
| F5                  | 62.52                                    | 86.73             | 32.57 | 7700     | 302.48                                  |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| Load Case 19 |  |                   |       |          |   |
|--------------|--|-------------------|-------|----------|---|
| Floor        | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|              |  | x (ft)            | y(ft) |          |   |
| F6           | 77.72                                    | 86.36             | 32.30 | 6700     | 302.63                                  |
| F7           | 89.88                                    | 85.68             | 31.94 | 6000     | 302.33                                  |
| F8           | 102.04                                   | 82.94             | 30.17 | 6700     | 302.44                                  |
| F9           | 117.04                                   | 78.65             | 28.04 | 6900     | 301.04                                  |
| F10          | 133.04                                   | 78.98             | 28.31 | 4800     | 300.87                                  |
| F9demo       | 141.75                                   | 87.16             | 34.04 | 3200     | 296.77                                  |
| F11          | 150.46                                   | 78.97             | 27.61 | 3700     | 302.52                                  |
| F11demo      | 159.16                                   | 86.06             | 33.57 | 3500     | 296.38                                  |
| F12          | 167.87                                   | 77.52             | 27.31 | 4700     | 301.14                                  |
| F13          | 176.58                                   | 78.78             | 27.95 | 4100     | 301.43                                  |
| F14          | 185.29                                   | 73.90             | 26.11 | 5000     | 299.26                                  |
| F15          | 194                                      | 72.61             | 26.20 | 5100     | 297.72                                  |
| F16          | 202.71                                   | 72.81             | 26.55 | 5200     | 297.26                                  |
| F17          | 212.54                                   | 75.28             | 25.26 | 3700     | 302.52                                  |
| F18          | 222.37                                   | 74.78             | 24.97 | 3900     | 302.47                                  |
| F19          | 232.2                                    | 73.94             | 24.11 | 4100     | 303.06                                  |
| F20          | 242.03                                   | 74.19             | 24.02 | 4500     | 303.53                                  |
| F21          | 251.86                                   | 73.88             | 23.41 | 4800     | 304.24                                  |
| F22          | 261.69                                   | 73.25             | 23.08 | 5100     | 304.06                                  |
| F23          | 271.52                                   | 72.76             | 22.10 | 5400     | 305.13                                  |
| F24          | 281.35                                   | 72.54             | 21.80 | 5800     | 305.38                                  |
| F25          | 291.18                                   | 72.36             | 21.28 | 6200     | 306.01                                  |
| F26          | 301.01                                   | 71.91             | 20.99 | 6600     | 305.94                                  |
| F27          | 310.84                                   | 71.24             | 20.15 | 6900     | 306.47                                  |
| F28          | 320.67                                   | 70.88             | 19.55 | 7300     | 306.95                                  |
| F29          | 330.5                                    | 70.50             | 19.11 | 7700     | 307.17                                  |
| F30          | 340.33                                   | 70.04             | 18.48 | 8100     | 307.57                                  |
| F31          | 350.16                                   | 69.57             | 17.99 | 8500     | 307.74                                  |
| F32          | 359.99                                   | 69.21             | 17.46 | 8900     | 308.08                                  |
| F33          | 369.82                                   | 68.75             | 16.99 | 9300     | 308.21                                  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 19</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F34                 | 379.65                                   | 68.32             | 16.42 | 9700     | 308.50                                  |
| F35                 | 389.48                                   | 68.23             | 16.07 | 10200    | 308.85                                  |
| F36                 | 399.31                                   | 67.80             | 15.65 | 10600    | 308.94                                  |
| F37                 | 409.14                                   | 67.40             | 15.14 | 11000    | 309.17                                  |
| F38                 | 418.97                                   | 66.85             | 14.63 | 11400    | 309.25                                  |
| F39                 | 428.8                                    | 66.55             | 14.14 | 11800    | 309.52                                  |
| F40                 | 438.63                                   | 66.48             | 14.03 | 12300    | 309.57                                  |
| F41                 | 448.46                                   | 66.00             | 13.48 | 12600    | 309.75                                  |
| F42                 | 458.29                                   | 65.90             | 13.32 | 13500    | 309.84                                  |
| F43                 | 469.96                                   | 65.89             | 13.14 | 14300    | 310.03                                  |
| F44                 | 481.63                                   | 66.20             | 13.40 | 13300    | 310.03                                  |
| F45                 | 493.3                                    | 66.25             | 13.42 | 13800    | 310.06                                  |
| F46MEP              | 504.97                                   | 66.20             | 13.46 | 15500    | 309.96                                  |
| F47roof             | 521.3                                    | 71.13             | 18.31 | 21400    | 308.98                                  |
| TO<br>Screening     | 544.3                                    | 63.74             | 10.99 | 12800    | 310.38                                  |

| <b>Load Case 20</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 102.13            | 41.99 | 4100     | 299.79                                  |
| F2                  | 18.48                                    | 105.41            | 44.35 | 7000     | 302.01                                  |
| F3                  | 30.5                                     | 126.29            | 58.31 | 6700     | 303.23                                  |
| F4                  | 46.48                                    | 105.60            | 44.58 | 7900     | 302.45                                  |
| F5                  | 62.52                                    | 106.72            | 45.30 | 7700     | 302.48                                  |
| F6                  | 77.72                                    | 107.14            | 45.60 | 6700     | 302.63                                  |
| F7                  | 89.88                                    | 107.89            | 46.00 | 6000     | 302.33                                  |
| F8                  | 102.04                                   | 110.94            | 47.97 | 6700     | 302.44                                  |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 20</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F9                  | 117.04   | 115.70                   | 50.33        | 6900            | 301.04  |
| F10                 | 133.04   | 115.33                   | 50.04        | 4800            | 300.87  |
| F9demo              | 141.75   | 106.24                   | 43.67        | 3200            | 296.77  |
| F11                 | 150.46   | 115.34                   | 50.81        | 3700            | 302.52  |
| F11demo             | 159.16   | 107.46                   | 44.19        | 3500            | 296.38  |
| F12                 | 167.87   | 116.96                   | 51.14        | 4700            | 301.14  |
| F13                 | 176.58   | 115.55                   | 50.43        | 4100            | 301.43  |
| F14                 | 185.29   | 120.98                   | 52.48        | 5000            | 299.26  |
| F15                 | 194  | 122.41                   | 52.37        | 5100            | 297.72  |
| F16                 | 202.71   | 122.18                   | 51.99        | 5200            | 297.26  |
| F17                 | 212.54   | 119.44                   | 53.42        | 3700            | 302.52  |
| F18                 | 222.37   | 120.00                   | 53.74        | 3900            | 302.47  |
| F19                 | 232.2  | 120.94                   | 54.70        | 4100            | 303.06  |
| F20                 | 242.03   | 120.65                   | 54.80        | 4500            | 303.53  |
| F21                 | 251.86   | 121.00                   | 55.48        | 4800            | 304.24  |
| F22                 | 261.69   | 121.70                   | 55.84        | 5100            | 304.06  |
| F23                 | 271.52   | 122.25                   | 56.93        | 5400            | 305.13  |
| F24                 | 281.35   | 122.49                   | 57.27        | 5800            | 305.38  |
| F25                 | 291.18   | 122.69                   | 57.85        | 6200            | 306.01  |
| F26                 | 301.01   | 123.19                   | 58.17        | 6600            | 305.94  |
| F27                 | 310.84   | 123.94                   | 59.10        | 6900            | 306.47  |
| F28                 | 320.67   | 124.34                   | 59.76        | 7300            | 306.95  |
| F29                 | 330.5  | 124.76                   | 60.26        | 7700            | 307.17  |
| F30                 | 340.33   | 125.26                   | 60.96        | 8100            | 307.57  |
| F31                 | 350.16   | 125.78                   | 61.50        | 8500            | 307.74  |
| F32                 | 359.99   | 126.18                   | 62.09        | 8900            | 308.08  |
| F33                 | 369.82   | 126.70                   | 62.61        | 9300            | 308.21  |
| F34                 | 379.65   | 127.18                   | 63.25        | 9700            | 308.50  |
| F35                 | 389.48   | 127.27                   | 63.63        | 10200           | 308.85  |
| F36                 | 399.31   | 127.75                   | 64.10        | 10600           | 308.94  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 20</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F37                 | 409.14                                   | 128.20            | 64.67 | 11000    | 309.17                                  |
| F38                 | 418.97                                   | 128.81            | 65.24 | 11400    | 309.25                                  |
| F39                 | 428.8                                    | 129.15            | 65.78 | 11800    | 309.52                                  |
| F40                 | 438.63                                   | 129.23            | 65.89 | 12300    | 309.57                                  |
| F41                 | 448.46                                   | 129.76            | 66.51 | 12600    | 309.75                                  |
| F42                 | 458.29                                   | 129.87            | 66.69 | 13500    | 309.84                                  |
| F43                 | 469.96                                   | 129.88            | 66.89 | 14300    | 310.03                                  |
| F44                 | 481.63                                   | 129.54            | 66.60 | 13300    | 310.03                                  |
| F45                 | 493.3                                    | 129.48            | 66.58 | 13800    | 310.06                                  |
| F46MEP              | 504.97                                   | 129.53            | 66.53 | 15500    | 309.96                                  |
| F47roof             | 521.3                                    | 124.06            | 61.15 | 21400    | 308.98                                  |
| TO<br>Screening     | 544.3                                    | 132.26            | 69.27 | 12800    | 310.38                                  |

| <b>Load Case 21</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 102.43            | 40.87 | 3800     | 110.02                                  |
| F2                  | 18.48                                    | 106.29            | 42.61 | 6300     | 111.69                                  |
| F3                  | 30.5                                     | 129.02            | 52.28 | 6100     | 112.63                                  |
| F4                  | 46.48                                    | 106.40            | 42.73 | 7200     | 112.03                                  |
| F5                  | 62.52                                    | 107.64            | 43.23 | 7000     | 112.05                                  |
| F6                  | 77.72                                    | 108.09            | 43.44 | 6100     | 112.17                                  |
| F7                  | 89.88                                    | 109.03            | 43.77 | 5400     | 111.94                                  |
| F8                  | 102.04                                   | 112.20            | 45.07 | 6100     | 112.02                                  |
| F9                  | 117.04                                   | 116.82            | 46.50 | 6400     | 110.96                                  |
| F10                 | 133.04                                   | 116.66            | 46.38 | 4400     | 110.83                                  |
| F9demo              | 141.75                                   | 106.48            | 41.90 | 3000     | 107.80                                  |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 21</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F11                 | 150.46   | 116.80                   | 46.96        | 3400            | 112.09  |
| F11demo             | 159.16   | 107.64                   | 42.21        | 3300            | 107.52  |
| F12                 | 167.87   | 118.47                   | 47.16        | 4300            | 111.03  |
| F13                 | 176.58   | 116.73                   | 46.58        | 3800            | 111.25  |
| F14                 | 185.29   | 122.37                   | 47.93        | 4600            | 109.62  |
| F15                 | 194  | 123.62                   | 47.77        | 4700            | 108.49  |
| F16                 | 202.71   | 123.28                   | 47.48        | 4800            | 108.15  |
| F17                 | 212.54   | 121.22                   | 48.75        | 3400            | 112.09  |
| F18                 | 222.37   | 122.42                   | 49.22        | 3500            | 112.04  |
| F19                 | 232.2  | 122.68                   | 49.57        | 3800            | 112.50  |
| F20                 | 242.03   | 122.90                   | 49.86        | 4100            | 112.86  |
| F21                 | 251.86   | 123.86                   | 50.58        | 4300            | 113.42  |
| F22                 | 261.69   | 124.42                   | 50.74        | 4600            | 113.28  |
| F23                 | 271.52   | 125.03                   | 51.51        | 4900            | 114.12  |
| F24                 | 281.35   | 125.69                   | 51.93        | 5200            | 114.32  |
| F25                 | 291.18   | 126.35                   | 52.54        | 5500            | 114.82  |
| F26                 | 301.01   | 127.20                   | 52.90        | 5800            | 114.77  |
| F27                 | 310.84   | 127.46                   | 53.31        | 6200            | 115.19  |
| F28                 | 320.67   | 128.30                   | 53.96        | 6500            | 115.58  |
| F29                 | 330.5  | 129.10                   | 54.48        | 6800            | 115.76  |
| F30                 | 340.33   | 129.54                   | 54.92        | 7200            | 116.08  |
| F31                 | 350.16   | 130.43                   | 55.46        | 7500            | 116.22  |
| F32                 | 359.99   | 131.21                   | 56.05        | 7800            | 116.50  |
| F33                 | 369.82   | 131.62                   | 56.35        | 8200            | 116.61  |
| F34                 | 379.65   | 132.48                   | 56.96        | 8500            | 116.85  |
| F35                 | 389.48   | 132.83                   | 57.38        | 8900            | 117.14  |
| F36                 | 399.31   | 133.21                   | 57.63        | 9300            | 117.22  |
| F37                 | 409.14   | 133.99                   | 58.19        | 9600            | 117.41  |
| F38                 | 418.97   | 134.92                   | 58.73        | 9900            | 117.47  |
| F39                 | 428.8  | 135.19                   | 59.07        | 10300           | 117.70  |





**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| Load Case 21 |                                 |                   |       |          |                                |
|--------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor        | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|              |                                 | x (ft)            | y(ft) |          |                                |
| F40          | 438.63                          | 135.43            | 59.23 | 10700    | 117.74                         |
| F41          | 448.46                          | 135.97            | 59.65 | 11000    | 117.89                         |
| F42          | 458.29                          | 136.42            | 59.95 | 11700    | 117.96                         |
| F43          | 469.96                          | 136.46            | 60.12 | 12400    | 118.13                         |
| F44          | 481.63                          | 135.82            | 59.78 | 11600    | 118.12                         |
| F45          | 493.3                           | 136.21            | 60.01 | 11900    | 118.15                         |
| F46MEP       | 504.97                          | 135.85            | 59.74 | 13500    | 118.07                         |
| F47roof      | 521.3                           | 129.02            | 55.50 | 18700    | 117.25                         |
| TO Screening | 544.3                           | 139.41            | 61.99 | 11100    | 118.42                         |

| Load Case 22 |                                 |                   |       |          |                                |
|--------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor        | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|              |                                 | x (ft)            | y(ft) |          |                                |
| Fground      | 0                               | 89.28             | 36.08 | 3800     | 110.02                         |
| F2           | 18.48                           | 84.99             | 34.14 | 6300     | 111.69                         |
| F3           | 30.5                            | 59.73             | 23.40 | 6100     | 112.63                         |
| F4           | 46.48                           | 84.87             | 34.02 | 7200     | 112.03                         |
| F5           | 62.52                           | 83.49             | 33.45 | 7000     | 112.05                         |
| F6           | 77.72                           | 82.99             | 33.22 | 6100     | 112.17                         |
| F7           | 89.88                           | 81.94             | 32.86 | 5400     | 111.94                         |
| F8           | 102.04                          | 78.42             | 31.41 | 6100     | 112.02                         |
| F9           | 117.04                          | 73.29             | 29.83 | 6400     | 110.96                         |
| F10          | 133.04                          | 73.47             | 29.95 | 4400     | 110.83                         |
| F9demo       | 141.75                          | 84.77             | 34.93 | 3000     | 107.80                         |
| F11          | 150.46                          | 73.31             | 29.31 | 3400     | 112.09                         |
| F11demo      | 159.16                          | 83.48             | 34.59 | 3300     | 107.52                         |
| F12          | 167.87                          | 71.45             | 29.08 | 4300     | 111.03                         |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 22</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F13                 | 176.58   | 73.39                    | 29.73        | 3800            | 111.25  |
| F14                 | 185.29   | 67.12                    | 28.23        | 4600            | 109.62  |
| F15                 | 194  | 65.73                    | 28.41        | 4700            | 108.49  |
| F16                 | 202.71   | 66.11                    | 28.73        | 4800            | 108.15  |
| F17                 | 212.54   | 68.40                    | 27.32        | 3400            | 112.09  |
| F18                 | 222.37   | 67.07                    | 26.81        | 3500            | 112.04  |
| F19                 | 232.2  | 66.78                    | 26.42        | 3800            | 112.50  |
| F20                 | 242.03   | 66.53                    | 26.09        | 4100            | 112.86  |
| F21                 | 251.86   | 65.47                    | 25.29        | 4300            | 113.42  |
| F22                 | 261.69   | 64.85                    | 25.11        | 4600            | 113.28  |
| F23                 | 271.52   | 64.16                    | 24.25        | 4900            | 114.12  |
| F24                 | 281.35   | 63.43                    | 23.79        | 5200            | 114.32  |
| F25                 | 291.18   | 62.70                    | 23.11        | 5500            | 114.82  |
| F26                 | 301.01   | 61.76                    | 22.71        | 5800            | 114.77  |
| F27                 | 310.84   | 61.46                    | 22.26        | 6200            | 115.19  |
| F28                 | 320.67   | 60.54                    | 21.53        | 6500            | 115.58  |
| F29                 | 330.5  | 59.65                    | 20.96        | 6800            | 115.76  |
| F30                 | 340.33   | 59.15                    | 20.46        | 7200            | 116.08  |
| F31                 | 350.16   | 58.16                    | 19.86        | 7500            | 116.22  |
| F32                 | 359.99   | 57.30                    | 19.21        | 7800            | 116.50  |
| F33                 | 369.82   | 56.84                    | 18.88        | 8200            | 116.61  |
| F34                 | 379.65   | 55.89                    | 18.20        | 8500            | 116.85  |
| F35                 | 389.48   | 55.51                    | 17.74        | 8900            | 117.14  |
| F36                 | 399.31   | 55.08                    | 17.45        | 9300            | 117.22  |
| F37                 | 409.14   | 54.22                    | 16.83        | 9600            | 117.41  |
| F38                 | 418.97   | 53.18                    | 16.24        | 9900            | 117.47  |
| F39                 | 428.8  | 52.87                    | 15.86        | 10300           | 117.70  |
| F40                 | 438.63   | 52.61                    | 15.67        | 10700           | 117.74  |
| F41                 | 448.46   | 52.01                    | 15.21        | 11000           | 117.89  |
| F42                 | 458.29   | 51.51                    | 14.87        | 11700           | 117.96  |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 22</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| F43                 | 469.96                          | 51.46             | 14.69 | 12400    | 118.13                         |
| F44                 | 481.63                          | 52.18             | 15.07 | 11600    | 118.12                         |
| F45                 | 493.3                           | 51.74             | 14.81 | 11900    | 118.15                         |
| F46MEP              | 504.97                          | 52.15             | 15.11 | 13500    | 118.07                         |
| F47roof             | 521.3                           | 59.74             | 19.82 | 18700    | 117.25                         |
| TO Screening        | 544.3                           | 48.19             | 12.61 | 11100    | 118.42                         |

| <b>Load Case 23</b> |                                 |                   |       |          |                                |
|---------------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor               | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|                     |                                 | x (ft)            | y(ft) |          |                                |
| Fground             | 0                               | 89.97             | 40.87 | 3800     | 249.98                         |
| F2                  | 18.48                           | 86.11             | 42.61 | 6300     | 248.31                         |
| F3                  | 30.5                            | 63.38             | 52.28 | 6100     | 247.37                         |
| F4                  | 46.48                           | 86.00             | 42.73 | 7200     | 247.97                         |
| F5                  | 62.52                           | 84.76             | 43.23 | 7000     | 247.95                         |
| F6                  | 77.72                           | 84.31             | 43.44 | 6100     | 247.83                         |
| F7                  | 89.88                           | 83.37             | 43.77 | 5400     | 248.06                         |
| F8                  | 102.04                          | 80.20             | 45.07 | 6100     | 247.98                         |
| F9                  | 117.04                          | 75.58             | 46.50 | 6400     | 249.04                         |
| F10                 | 133.04                          | 75.74             | 46.38 | 4400     | 249.17                         |
| F9demo              | 141.75                          | 85.92             | 41.90 | 3000     | 252.20                         |
| F11                 | 150.46                          | 75.60             | 46.96 | 3400     | 247.91                         |
| F11demo             | 159.16                          | 84.76             | 42.21 | 3300     | 252.48                         |
| F12                 | 167.87                          | 73.93             | 47.16 | 4300     | 248.97                         |
| F13                 | 176.58                          | 75.67             | 46.58 | 3800     | 248.75                         |
| F14                 | 185.29                          | 70.03             | 47.93 | 4600     | 250.38                         |
| F15                 | 194                             | 68.78             | 47.77 | 4700     | 251.51                         |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 23</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F16                 | 202.71   | 69.12                    | 47.48        | 4800            | 251.85  |
| F17                 | 212.54   | 71.18                    | 48.75        | 3400            | 247.91  |
| F18                 | 222.37   | 69.98                    | 49.22        | 3500            | 247.96  |
| F19                 | 232.2  | 69.72                    | 49.57        | 3800            | 247.50  |
| F20                 | 242.03   | 69.50                    | 49.86        | 4100            | 247.14  |
| F21                 | 251.86   | 68.54                    | 50.58        | 4300            | 246.58  |
| F22                 | 261.69   | 67.98                    | 50.74        | 4600            | 246.72  |
| F23                 | 271.52   | 67.37                    | 51.51        | 4900            | 245.88  |
| F24                 | 281.35   | 66.71                    | 51.93        | 5200            | 245.68  |
| F25                 | 291.18   | 66.05                    | 52.54        | 5500            | 245.18  |
| F26                 | 301.01   | 65.20                    | 52.90        | 5800            | 245.23  |
| F27                 | 310.84   | 64.94                    | 53.31        | 6200            | 244.81  |
| F28                 | 320.67   | 64.10                    | 53.96        | 6500            | 244.42  |
| F29                 | 330.5  | 63.30                    | 54.48        | 6800            | 244.24  |
| F30                 | 340.33   | 62.86                    | 54.92        | 7200            | 243.92  |
| F31                 | 350.16   | 61.97                    | 55.46        | 7500            | 243.78  |
| F32                 | 359.99   | 61.19                    | 56.05        | 7800            | 243.50  |
| F33                 | 369.82   | 60.78                    | 56.35        | 8200            | 243.39  |
| F34                 | 379.65   | 59.92                    | 56.96        | 8500            | 243.15  |
| F35                 | 389.48   | 59.57                    | 57.38        | 8900            | 242.86  |
| F36                 | 399.31   | 59.19                    | 57.63        | 9300            | 242.78  |
| F37                 | 409.14   | 58.41                    | 58.19        | 9600            | 242.59  |
| F38                 | 418.97   | 57.48                    | 58.73        | 9900            | 242.53  |
| F39                 | 428.8  | 57.21                    | 59.07        | 10300           | 242.30  |
| F40                 | 438.63   | 56.97                    | 59.23        | 10700           | 242.26  |
| F41                 | 448.46   | 56.43                    | 59.65        | 11000           | 242.11  |
| F42                 | 458.29   | 55.98                    | 59.95        | 11700           | 242.04  |
| F43                 | 469.96   | 55.94                    | 60.12        | 12400           | 241.87  |
| F44                 | 481.63   | 56.58                    | 59.78        | 11600           | 241.88  |
| F45                 | 493.3  | 56.19                    | 60.01        | 11900           | 241.85  |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 23</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| F46MEP              | 504.97                                   | 56.55             | 59.74 | 13500    | 241.93                                  |
| F47roof             | 521.3                                    | 63.38             | 55.50 | 18700    | 242.75                                  |
| TO<br>Screening     | 544.3                                    | 52.99             | 61.99 | 11100    | 241.58                                  |

| <b>Load Case 24</b> |  |                   |       |          |   |
|---------------------|--|-------------------|-------|----------|---|
| Floor               | Height (ft)<br>Above<br>Fground<br>Level | Application Point |       | Fr (lbs) | Load<br>Direction<br>CCW from<br>+X deg |
|                     |  | x (ft)            | y(ft) |          |   |
| Fground             | 0  | 103.12            | 36.08 | 3800     | 249.98                                  |
| F2                  | 18.48                                    | 107.41            | 34.14 | 6300     | 248.31                                  |
| F3                  | 30.5                                     | 132.67            | 23.40 | 6100     | 247.37                                  |
| F4                  | 46.48                                    | 107.53            | 34.02 | 7200     | 247.97                                  |
| F5                  | 62.52                                    | 108.91            | 33.45 | 7000     | 247.95                                  |
| F6                  | 77.72                                    | 109.41            | 33.22 | 6100     | 247.83                                  |
| F7                  | 89.88                                    | 110.46            | 32.86 | 5400     | 248.06                                  |
| F8                  | 102.04                                   | 113.98            | 31.41 | 6100     | 247.98                                  |
| F9                  | 117.04                                   | 119.11            | 29.83 | 6400     | 249.04                                  |
| F10                 | 133.04                                   | 118.93            | 29.95 | 4400     | 249.17                                  |
| F9demo              | 141.75                                   | 107.63            | 34.93 | 3000     | 252.20                                  |
| F11                 | 150.46                                   | 119.09            | 29.31 | 3400     | 247.91                                  |
| F11demo             | 159.16                                   | 108.92            | 34.59 | 3300     | 252.48                                  |
| F12                 | 167.87                                   | 120.95            | 29.08 | 4300     | 248.97                                  |
| F13                 | 176.58                                   | 119.01            | 29.73 | 3800     | 248.75                                  |
| F14                 | 185.29                                   | 125.28            | 28.23 | 4600     | 250.38                                  |



**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| Load Case 24 |                                 |                   |       |          |                                |
|--------------|---------------------------------|-------------------|-------|----------|--------------------------------|
| Floor        | Height (ft) Above Fground Level | Application Point |       | Fr (lbs) | Load Direction CCW from +X deg |
|              |                                 | x (ft)            | y(ft) |          |                                |
| F15          | 194                             | 126.67            | 28.41 | 4700     | 251.51                         |
| F16          | 202.71                          | 126.29            | 28.73 | 4800     | 251.85                         |
| F17          | 212.54                          | 124.00            | 27.32 | 3400     | 247.91                         |
| F18          | 222.37                          | 125.33            | 26.81 | 3500     | 247.96                         |
| F19          | 232.2                           | 125.62            | 26.42 | 3800     | 247.50                         |
| F20          | 242.03                          | 125.87            | 26.09 | 4100     | 247.14                         |
| F21          | 251.86                          | 126.93            | 25.29 | 4300     | 246.58                         |
| F22          | 261.69                          | 127.55            | 25.11 | 4600     | 246.72                         |
| F23          | 271.52                          | 128.24            | 24.25 | 4900     | 245.88                         |
| F24          | 281.35                          | 128.97            | 23.79 | 5200     | 245.68                         |
| F25          | 291.18                          | 129.70            | 23.11 | 5500     | 245.18                         |
| F26          | 301.01                          | 130.64            | 22.71 | 5800     | 245.23                         |
| F27          | 310.84                          | 130.94            | 22.26 | 6200     | 244.81                         |
| F28          | 320.67                          | 131.86            | 21.53 | 6500     | 244.42                         |
| F29          | 330.5                           | 132.75            | 20.96 | 6800     | 244.24                         |
| F30          | 340.33                          | 133.25            | 20.46 | 7200     | 243.92                         |
| F31          | 350.16                          | 134.24            | 19.86 | 7500     | 243.78                         |
| F32          | 359.99                          | 135.10            | 19.21 | 7800     | 243.50                         |
| F33          | 369.82                          | 135.56            | 18.88 | 8200     | 243.39                         |
| F34          | 379.65                          | 136.51            | 18.20 | 8500     | 243.15                         |
| F35          | 389.48                          | 136.89            | 17.74 | 8900     | 242.86                         |
| F36          | 399.31                          | 137.32            | 17.45 | 9300     | 242.78                         |
| F37          | 409.14                          | 138.18            | 16.83 | 9600     | 242.59                         |
| F38          | 418.97                          | 139.22            | 16.24 | 9900     | 242.53                         |
| F39          | 428.8                           | 139.53            | 15.86 | 10300    | 242.30                         |
| F40          | 438.63                          | 139.79            | 15.67 | 10700    | 242.26                         |
| F41          | 448.46                          | 140.39            | 15.21 | 11000    | 242.11                         |
| F42          | 458.29                          | 140.89            | 14.87 | 11700    | 242.04                         |
| F43          | 469.96                          | 140.94            | 14.69 | 12400    | 241.87                         |
| F44          | 481.63                          | 140.22            | 15.07 | 11600    | 241.88                         |



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**Table 3b (ii): Effective Static Floor-by-Floor Wind Loads (Resultant Force Fr) for Different Load Cases – 10-year Return Period**

| <b>Load Case 24</b> |  |                          |              |                 |   |
|---------------------|--|--------------------------|--------------|-----------------|---|
| <b>Floor</b>        | <b>Height (ft)<br/>Above<br/>Fground<br/>Level</b> | <b>Application Point</b> |              | <b>Fr (lbs)</b> | <b>Load<br/>Direction<br/>CCW from<br/>+X deg</b> |
|                     |  | <b>x (ft)</b>            | <b>y(ft)</b> |                 |   |
| F45                 | 493.3  | 140.66                   | 14.81        | 11900           | 241.85  |
| F46MEP              | 504.97   | 140.25                   | 15.11        | 13500           | 241.93  |
| F47roof             | 521.3  | 132.66                   | 19.82        | 18700           | 242.75  |
| TO<br>Screening     | 544.3  | 144.21                   | 12.61        | 11100           | 241.58  |



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**Table 4a (i): Recommended Wind Load Combination Factors – 50-year Return Period**

| Load Combination | Recommended Wind Load Combination Factors for Simultaneous Application of Loads in Table 3a (i) |               |              |
|------------------|---|---------------|--------------|
|                  | X Forces (Fx)   | Y Forces (Fy) | Torsion (Mz) |
| 1                | +100%   | +45%          | +45%         |
| 2                | +100%   | +45%          | -50%         |
| 3                | +100%   | -50%          | +45%         |
| 4                | +100%   | -50%          | -50%         |
| 5                | -90%  | +45%          | +45%         |
| 6                | -90%  | +45%          | -50%         |
| 7                | -90%  | -50%          | +45%         |
| 8                | -90%  | -50%          | -50%         |
| 9                | +50%  | +100%         | +35%         |
| 10               | +50%  | +100%         | -40%         |
| 11               | +50%  | -100%         | +35%         |
| 12               | +50%  | -100%         | -40%         |
| 13               | -35%  | +100%         | +35%         |
| 14               | -35%  | +100%         | -40%         |
| 15               | -35%  | -100%         | +35%         |
| 16               | -35%  | -100%         | -40%         |
| 17               | +55%  | +40%          | +95%         |
| 18               | +45%  | +40%          | -100%        |
| 19               | +55%  | -45%          | +95%         |
| 20               | +45%  | -35%          | -100%        |
| 21               | -40%  | +40%          | +95%         |
| 22               | -30%  | +40%          | -100%        |
| 23               | -40%  | -45%          | +95%         |
| 24               | -30%  | -35%          | -100%        |

**Notes:**

1. Load combination factors have been produced through consideration of the structure’s response to various wind directions, modal coupling, correlation of wind gusts and the directionality of strong winds in the local wind climate.





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& SCIENTISTS

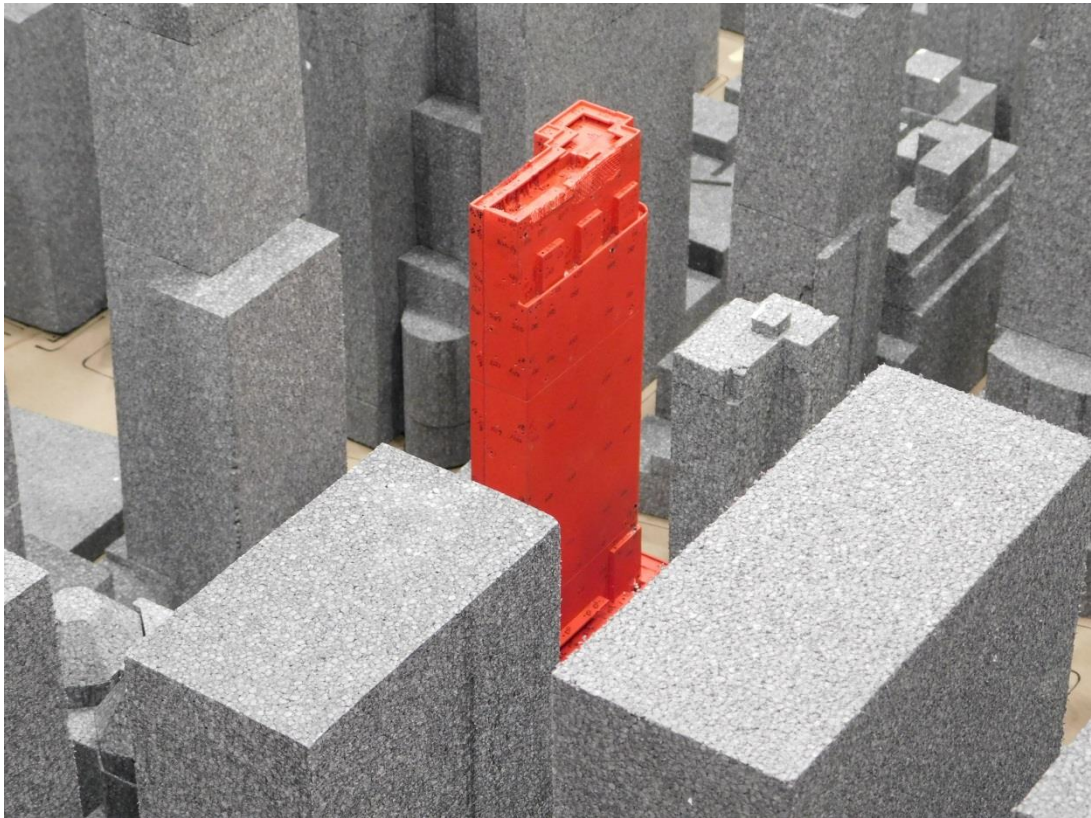
**Table 4b (i): Recommended Wind Load Combination Factors – 10-year Return Period**

| Load Combination | Recommended Wind Load Combination Factors for Simultaneous Application of Loads in Table 3b (i) |               |              |
|------------------|---|---------------|--------------|
|                  | X Forces (Fx)   | Y Forces (Fy) | Torsion (Mz) |
| 1                | +100%   | +45%          | +45%         |
| 2                | +100%   | +45%          | -50%         |
| 3                | +100%   | -50%          | +45%         |
| 4                | +100%   | -50%          | -50%         |
| 5                | -90%  | +45%          | +45%         |
| 6                | -90%  | +45%          | -50%         |
| 7                | -90%  | -50%          | +45%         |
| 8                | -90%  | -50%          | -50%         |
| 9                | +50%  | +100%         | +35%         |
| 10               | +50%  | +100%         | -40%         |
| 11               | +50%  | -100%         | +35%         |
| 12               | +50%  | -100%         | -40%         |
| 13               | -35%  | +100%         | +35%         |
| 14               | -35%  | +100%         | -40%         |
| 15               | -35%  | -100%         | +35%         |
| 16               | -35%  | -100%         | -40%         |
| 17               | +55%  | +40%          | +95%         |
| 18               | +45%  | +40%          | -100%        |
| 19               | +55%  | -45%          | +95%         |
| 20               | +45%  | -35%          | -100%        |
| 21               | -40%  | +40%          | +95%         |
| 22               | -30%  | +40%          | -100%        |
| 23               | -40%  | -45%          | +95%         |
| 24               | -30%  | -35%          | -100%        |

**Notes:**

1. Load combination factors have been produced through consideration of the structure's response to various wind directions, modal coupling, correlation of wind gusts and the directionality of strong winds in the local wind climate.

# FIGURES



**Wind Tunnel Study Model**

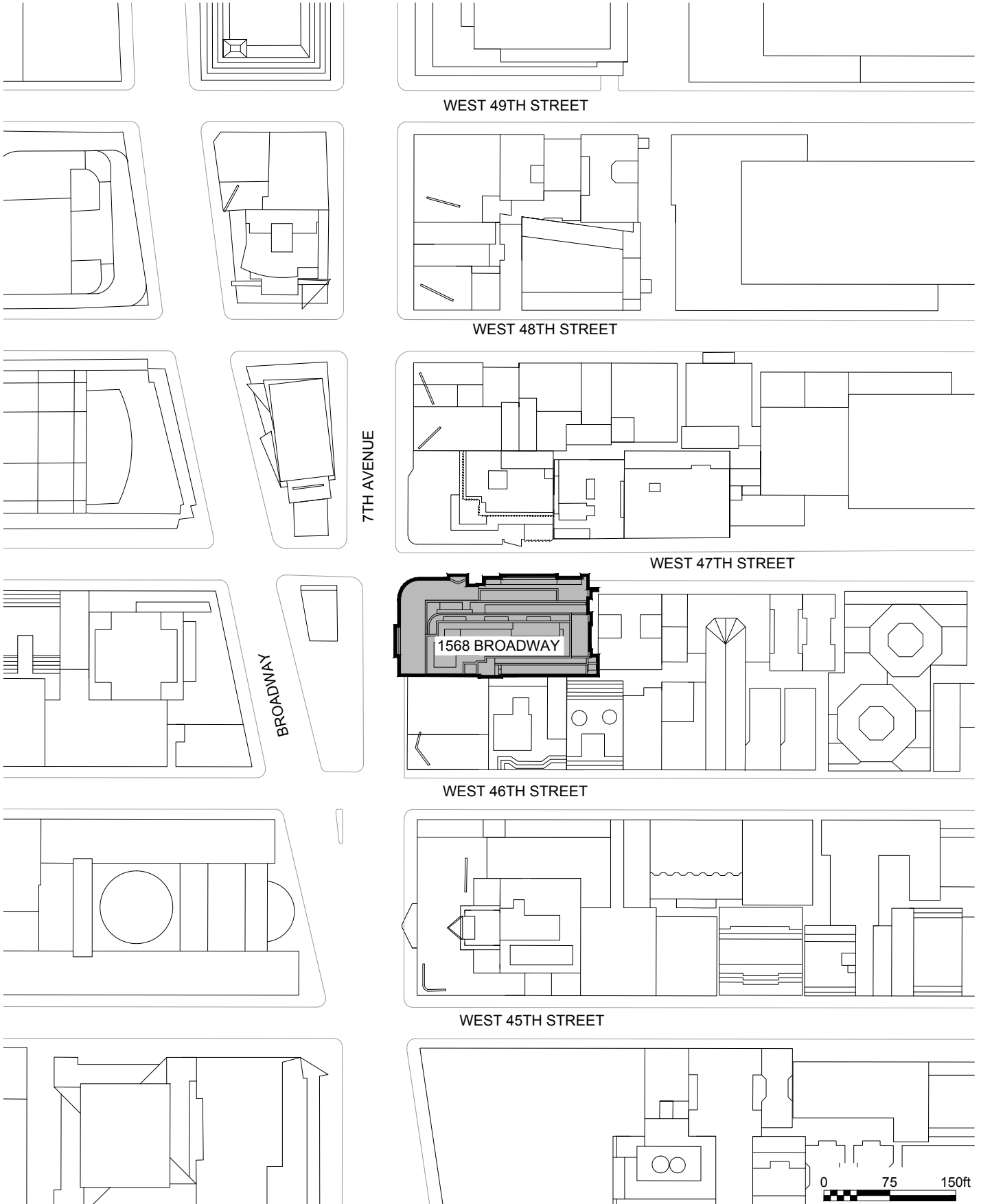
1568 Broadway – New York, NY

Figure No. 1

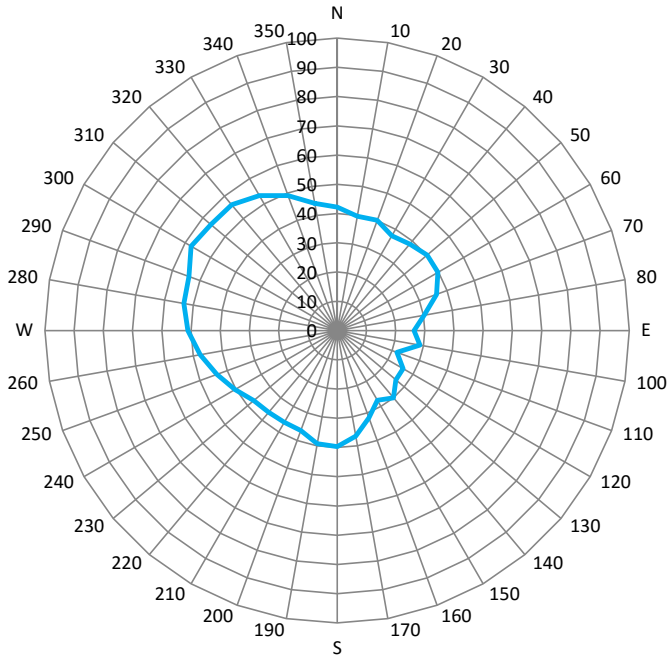
Project #1601798

Date: January 13, 2017

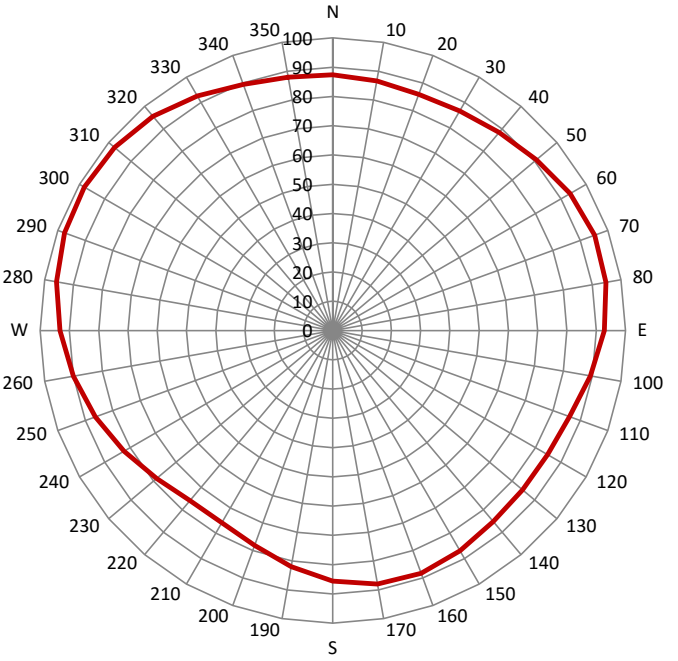




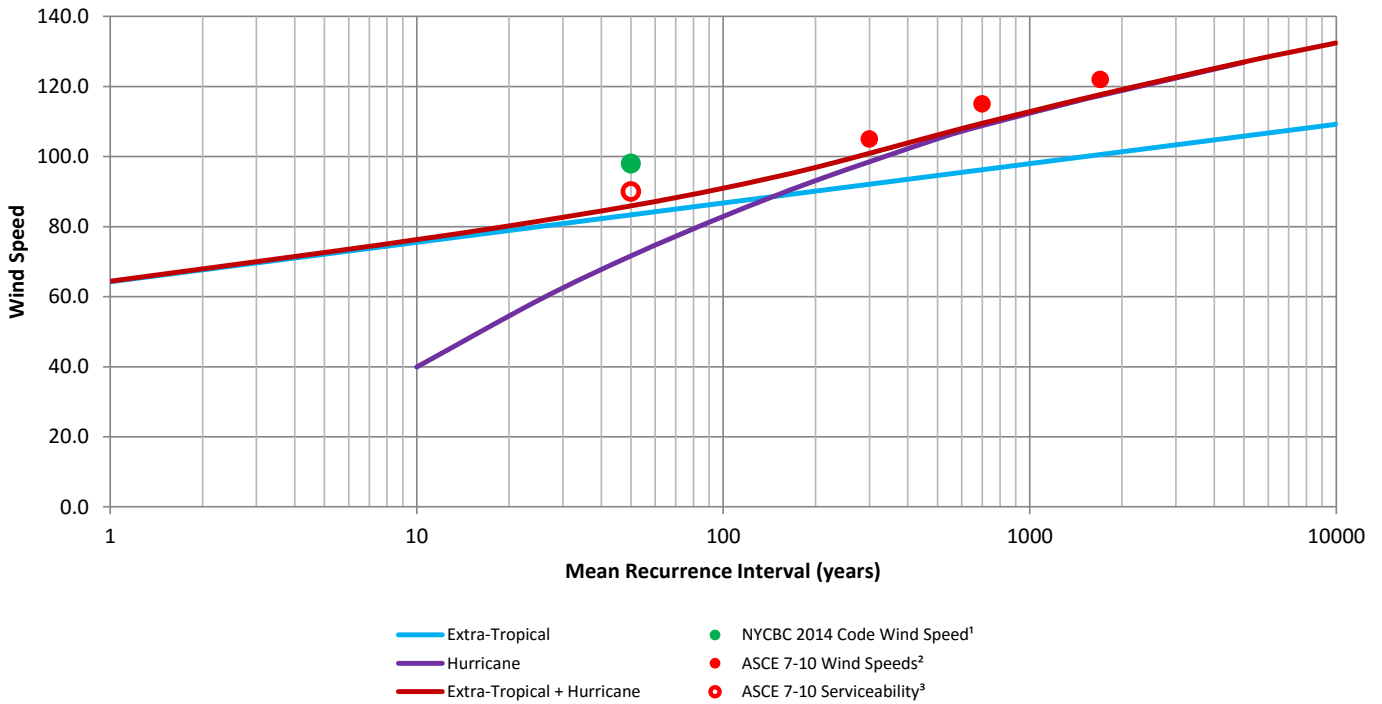
|   |  |   |   |
|---|--|---|---|
| <p><b>Site Plan</b></p> <p>1568 Broadway - New York, NY</p> | <p>True North</p>  | <p>Drawn by: JMA   Figure: <b>2</b></p> |  |
|   | <p>Approx. Scale: 1"=150'</p>  | <p>Date Revised: Nov. 11, 2016</p>      |   |
|   | <p>Project #1601798</p>  |   |   |



Common Winds



Design Winds



1) 2014 Building Code, City of New York  
 2) ASCE 7-10, American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures, 2010  
 3) ASCE 7-10, American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures, Commentary C: Serviceability Considerations, 2010

Note: Wind Speeds shown are 3-second Gust Wind Speeds (mph) at 33 ft height in Open Terrain

Directional Distribution of Local Wind Speeds

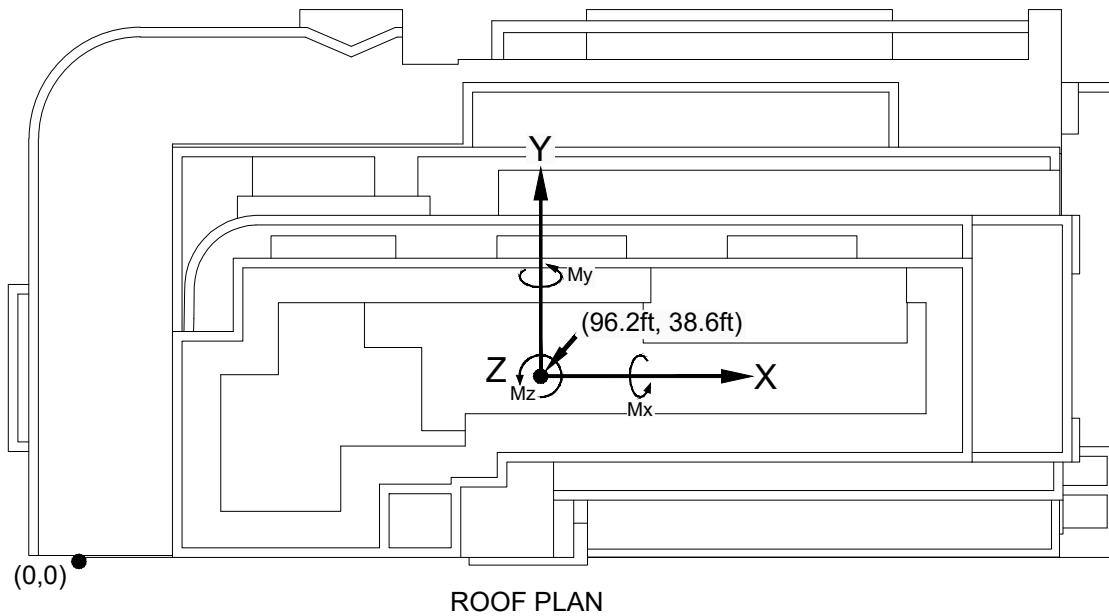
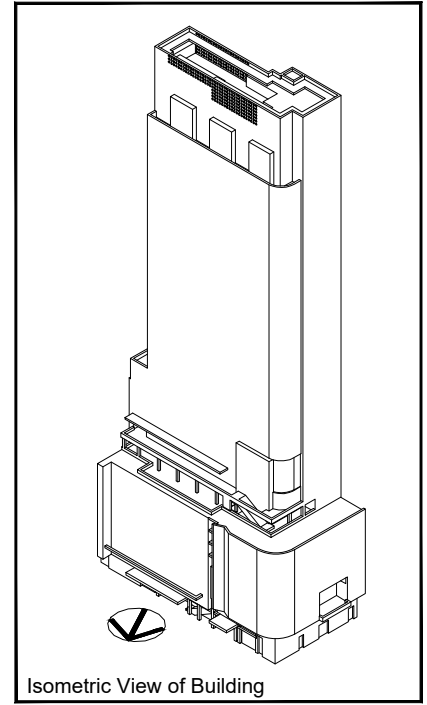
1568 Broadway – New York, NY

Project #1601798

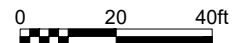
Figure No. 3

Date: November 18, 2016





**Note:**  
Point (0,0) indicates co-ordinate origin provided by the structural engineer.



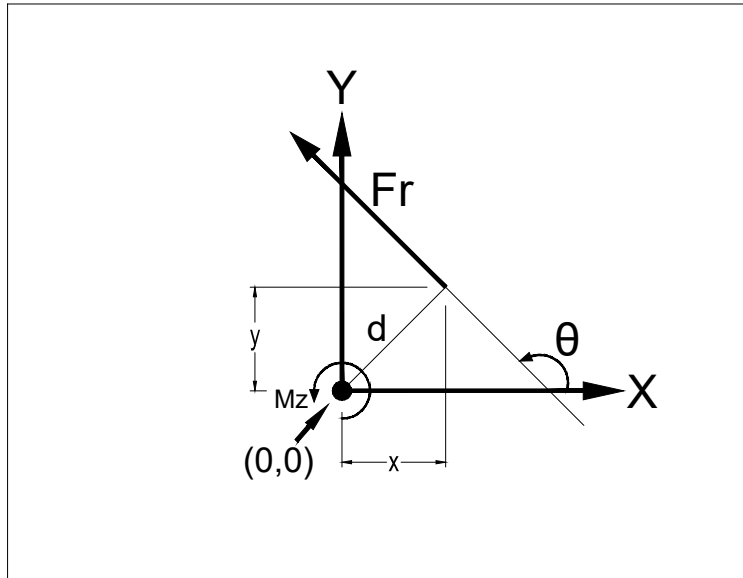
Co-ordinate System for Structural Loading



|                             |            |
|-----------------------------|------------|
| Drawn by: JMA               | Figure: 4a |
| Approx. Scale: 1"=40'       |            |
| Date Revised: Nov. 23, 2016 |            |







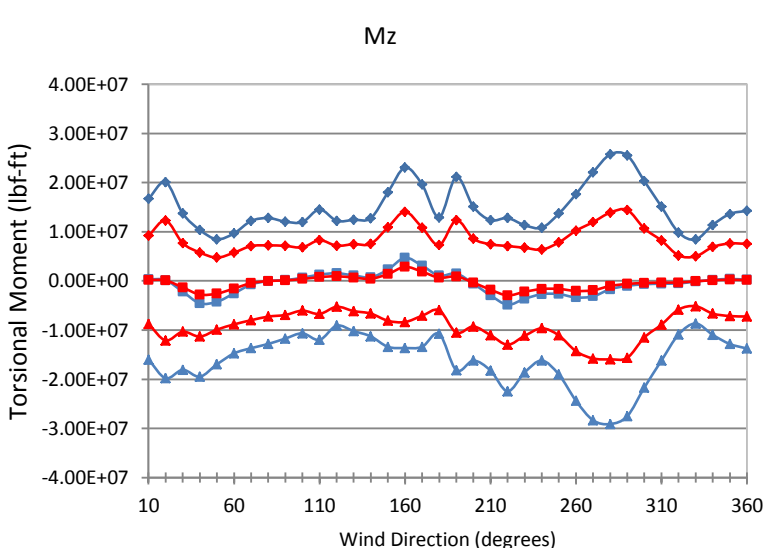
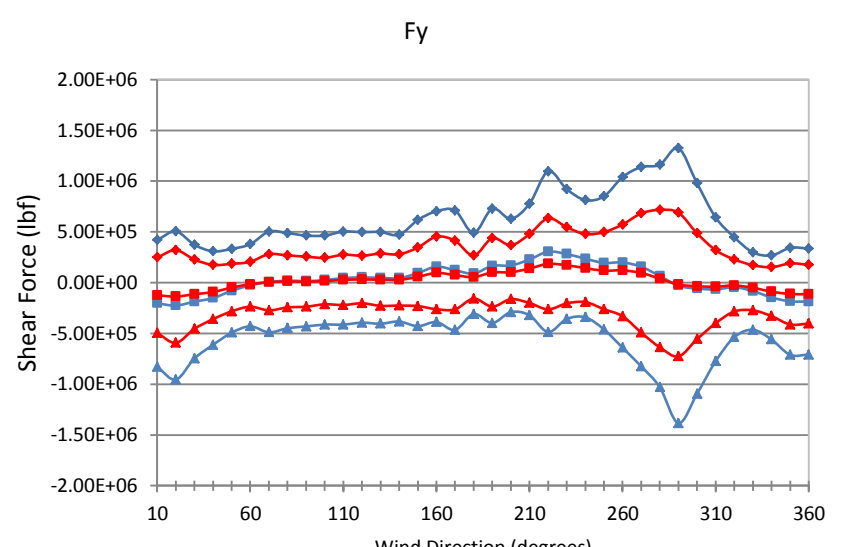
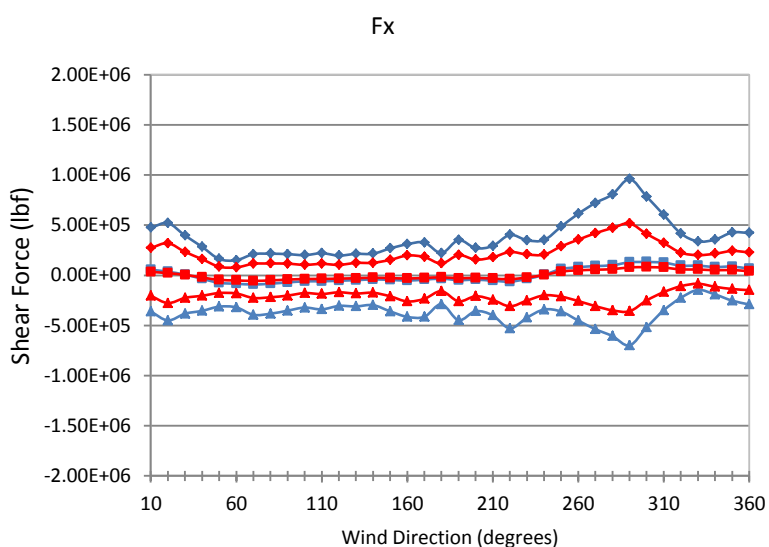
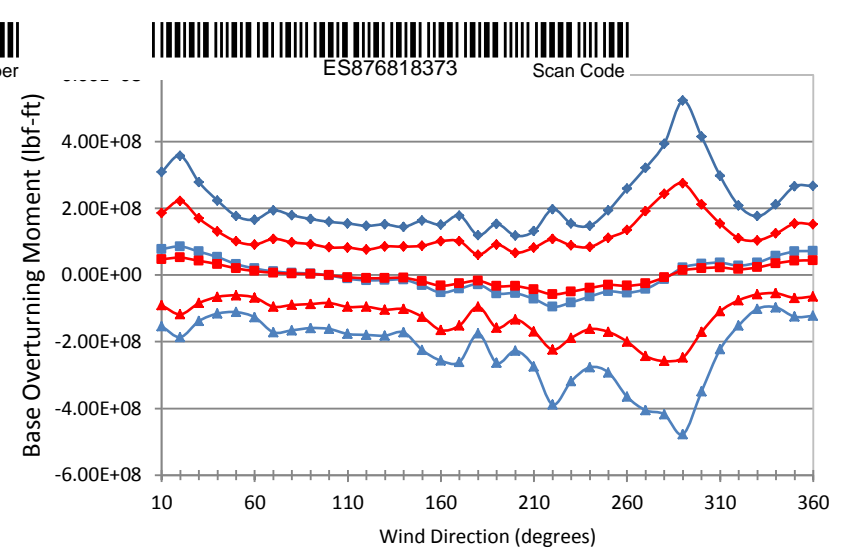
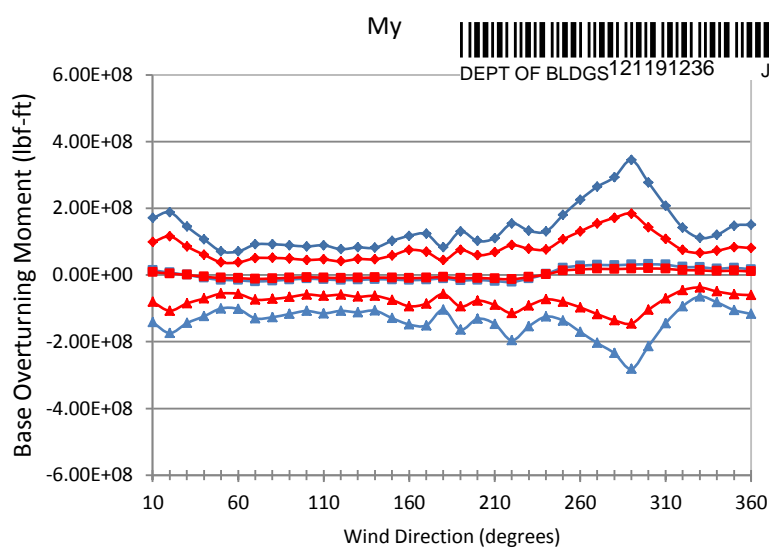


Representation of the line of action of force (Fr) from the origin

**Note:**

Fr, resultant force vector at degree 'θ' ( measured in anti clockwise direction from axis) acting at the perpendicular distance of d (x,y) from the origin (0,0) shown in Figure 4a.

|  |  |                             |   |
|--|--|-----------------------------|---|
| Co-ordinate System for Effective Static Floor-By-Floor Loads<br><br>1568 Broadway - New York, NY | True North<br> | Drawn by: JMA   Figure: 4b  |  |
|  |  | Approx. Scale: 1"=40'       |   |
|  |  | Date Revised: Nov. 23, 2016 |   |

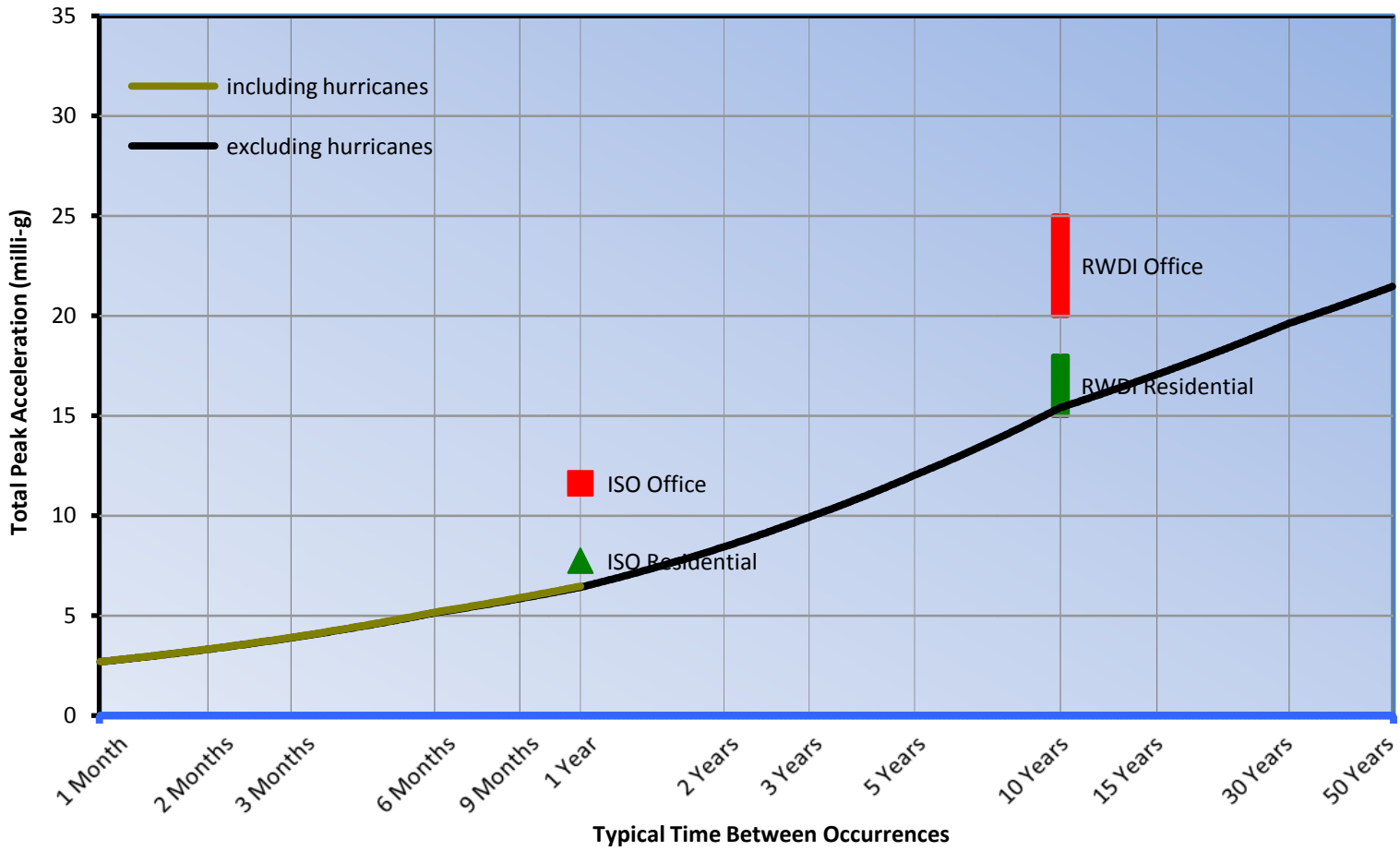


- ◆ 50-Year Return Period - Max
- 50-Year Return Period - Mean
- ▲ 50-Year Return Period - Min
- ◆ 10-Year Return Period - Max
- 10-Year Return Period - Mean
- ▲ 10-Year Return Period - Min

- Note:
- 1) Above loads are based on properties as provided on November 17, 2016 and updated mode shapes and building frequencies provided on November 22, 2016. The natural frequencies were as follows:  
 Mode 1: 0.2096 Hz  
 Mode 2: 0.2367 Hz  
 Mode 3: 0.3933 Hz
  - 2) A total damping ratio of 2.0% and 1.5% of critical were used for structural load calculations for 50- and 10-year Return Periods respectively.
  - 3) The response plots show the maximum magnitudes for wind speeds up to and including the 50- and 10-year Return Periods wind speeds.

|  |                              |  |
|--|------------------------------|--|
| <b>Raw Overall Base Moments, Shears and Torsion<br/>at level Fground for 50- and 10-year Return Period Wind Speeds</b> | Figure No. 5                 |  |
|  | 1568 Broadway – New York, NY |  |




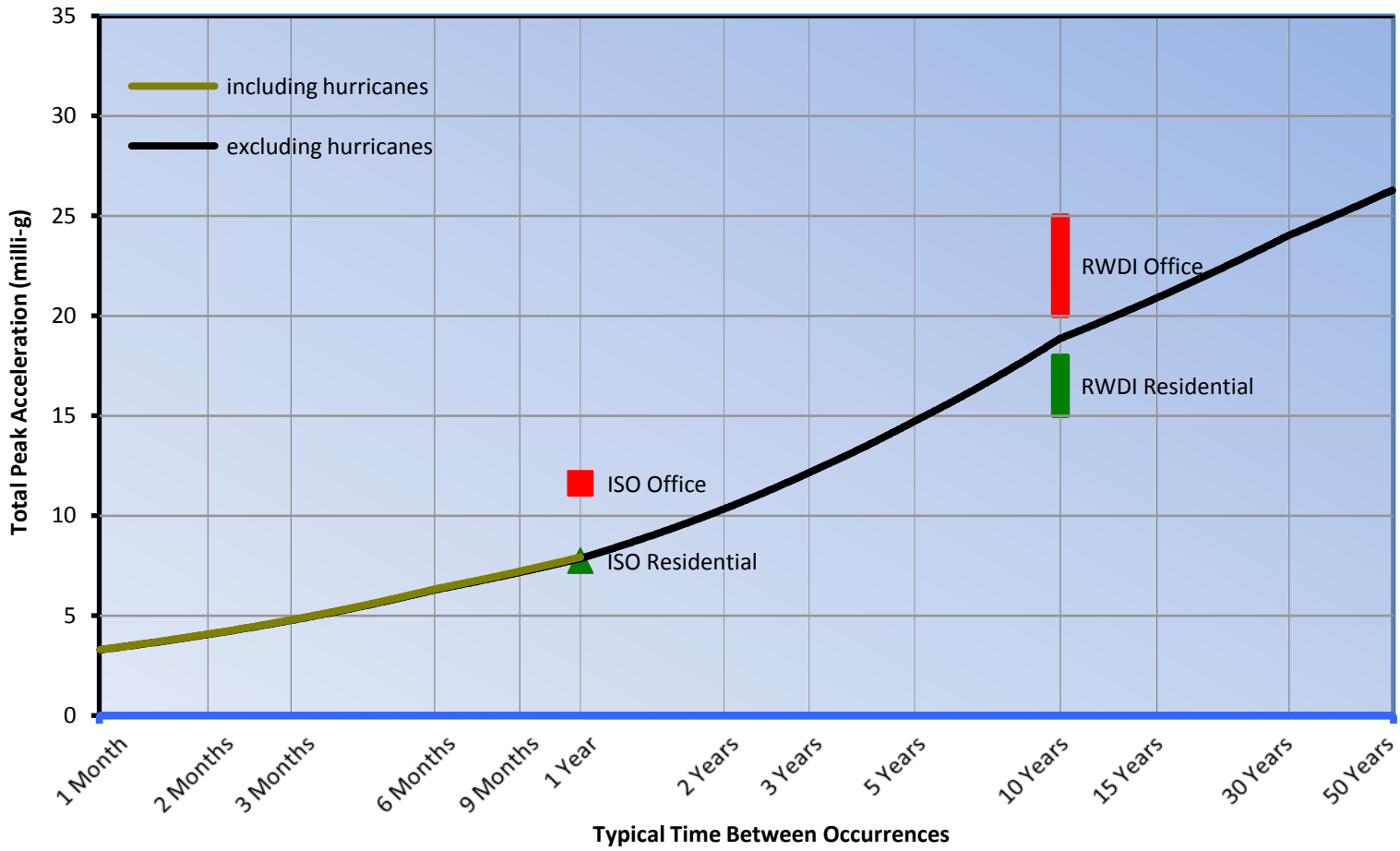


| Return Period (Years) | Peak Accelerations <sup>(2)</sup> (milli-g) |                                | Peak Torsional Velocities (milli-rads/sec) |                 |                               |
|-----------------------|---|--------------------------------|--|-----------------|-------------------------------|
|                       | without hurricanes                          | with <sup>(6)</sup> hurricanes | without hurricanes                         | with hurricanes | CTBUH <sup>(5)</sup> Criteria |
| 1                     | 6.4 - [4.2, 5.6, 3.3]                       | 6.5 - [4.2, 5.7, 3.3]          | 1  | 1.1             | 1.5                           |
| 5                     | 12.0 - [7.4, 11, 5.5]                       | -                              | 2  | -               | -                             |
| 10                    | 15.4 - [9.3, 14, 6.8]                       | -                              | 2  | -               | 3                             |

**Notes:**

- (1) A damping ratio of 1.5% of critical was used, along with frequencies of 0.2096, 0.2367, and 0.3933 Hz.
- (2) Accelerations are predicted at Structural Level 'F45' (493.3 ft above Structural Level 'Fground') at a radial distance of 52 ft from the central axis of the tower (given in Figure 4).
- (3) ISO is the International Organization for Standardization, and the current standard (ISO 10137:2007) provides acceleration criteria for buildings at the 1-year return period. The criteria plotted on the graph have been generated based on a response-weighted interpretation of the individual modal component of the ISO criteria.
- (4) RWDI's criteria for residential and office buildings are based on research, experience and surveys of existing buildings, and is in agreement with general practice in North America.
- (5) The Council on Tall Buildings and Urban Habitat (CTBUH) provides tentative torsional velocity criteria for the 1- and 10-year return periods.
- (6) With the inclusion of hurricanes, it is not appropriate to consider events beyond the 1-year return period when evaluating occupant comfort. Therefore, longer return period values with hurricanes are not provided.


|  |                        |   |
|--|------------------------|---|
| <b>Predicted Peak Accelerations and Torsional Velocities</b><br><b>Top Occupied Floor - 1.5% damping</b><br><br>1568 Broadway - New York, NY | Figure No. 6a          |  |
|  | Date: January 13, 2017 |   |

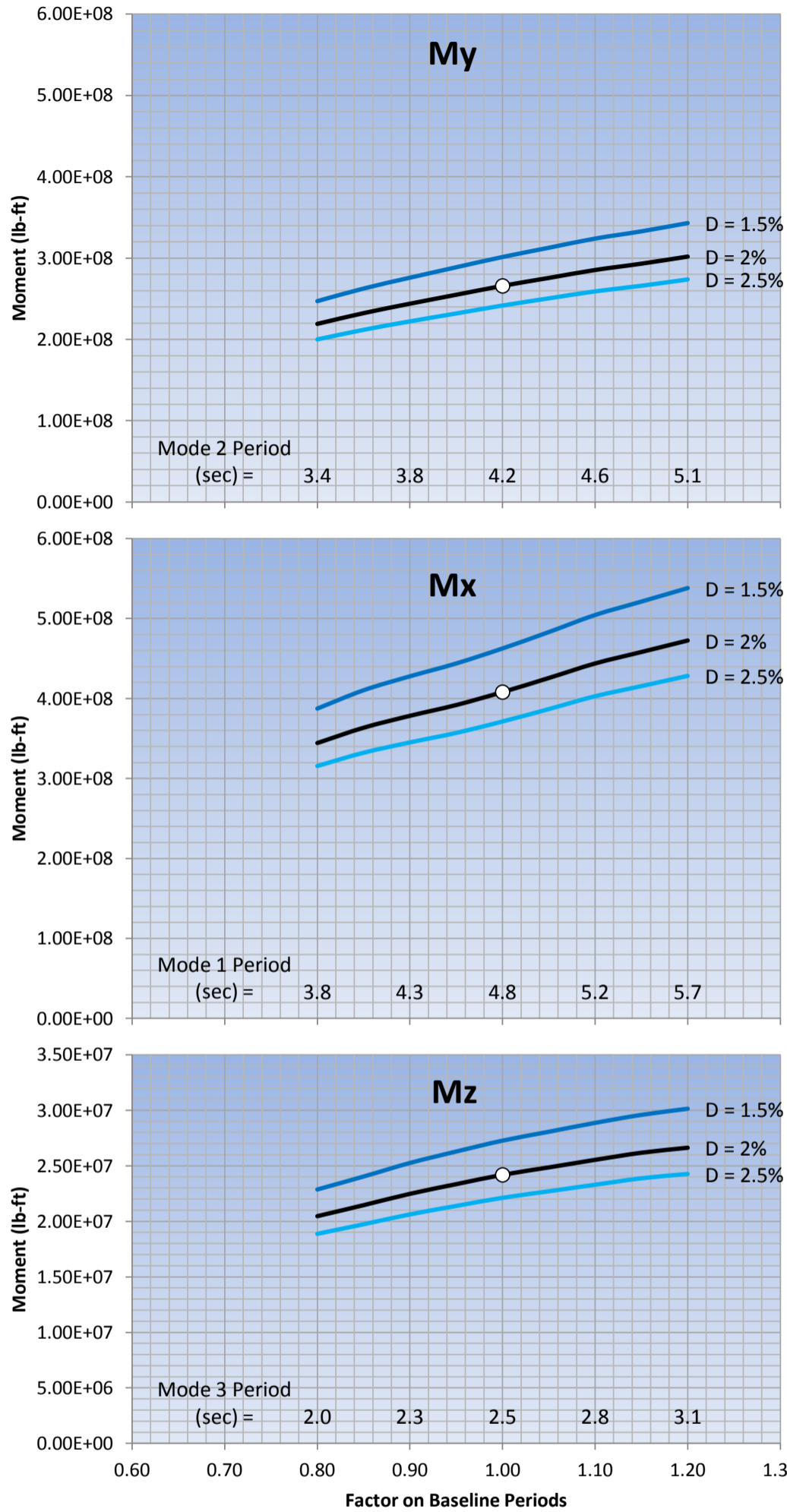


| Return Period (Years) | Peak Accelerations <sup>(2)</sup> (milli-g) |                                | Peak Torsional Velocities (milli-rads/sec) |                 |                               |
|-----------------------|---|--------------------------------|--|-----------------|-------------------------------|
|                       | Total - [X, Y and torsional components]     |                                | without hurricanes                         | with hurricanes | CTBUH <sup>(5)</sup> Criteria |
|                       | without hurricanes                          | with <sup>(6)</sup> hurricanes |  |                 |                               |
| 1                     | 7.8 - [5.2, 6.9, 4.1]                       | 7.9 - [5.2, 6.9, 4.1]          | 1  | 1.3             | 1.5                           |
| 5                     | 14.7 - [9.0, 13, 6.8]                       | -                              | 2  | -               | -                             |
| 10                    | 18.8 - [11, 17, 8.3]                        | -                              | 3  | -               | 3                             |

**Notes:**

- (1) A damping ratio of 1% of critical was used, along with frequencies of 0.2096, 0.2367, and 0.3933 Hz.
- (2) Accelerations are predicted at Structural Level 'F45' (493.3 ft above Structural Level 'Fground') at a radial distance of 52 ft from the central axis of the tower (given in Figure 4).
- (3) ISO is the International Organization for Standardization, and the current standard (ISO 10137:2007) provides acceleration criteria for buildings at the 1-year return period. The criteria plotted on the graph have been generated based on a response-weighted interpretation of the individual modal component of the ISO criteria.
- (4) RWDI's criteria for residential and office buildings are based on research, experience and surveys of existing buildings, and is in agreement with general practice in North America.
- (5) The Council on Tall Buildings and Urban Habitat (CTBUH) provides tentative torsional velocity criteria for the 1- and 10-year return periods.
- (6) With the inclusion of hurricanes, it is not appropriate to consider events beyond the 1-year return period when evaluating occupant comfort. Therefore, longer return period values with hurricanes are not provided.

|  |                        |   |
|--|------------------------|---|
| <b>Predicted Peak Accelerations and Torsional Velocities</b><br><b>Top Occupied Floor - 1.0% damping</b> | Figure No. 6b          |  |
|  | Date: January 13, 2017 |   |
| 1568 Broadway - New York, NY   | Project #1601798       |   |



Notes:

- 1) The baseline periods for the fundamental modes are 4.77, 4.22, and 2.54 sec
- 2) The base loads are presented at level 'Fground' for a 50-year basic wind speed (3-second gust) of 98 mph.
- 3) The above comparisons assume no change to the mode shapes. Some change to the curvature and coupling may be expected when mass and stiffness properties are significantly changed.

**Sensitivity of Base Loads to Period and Damping**  
50-year Return Period

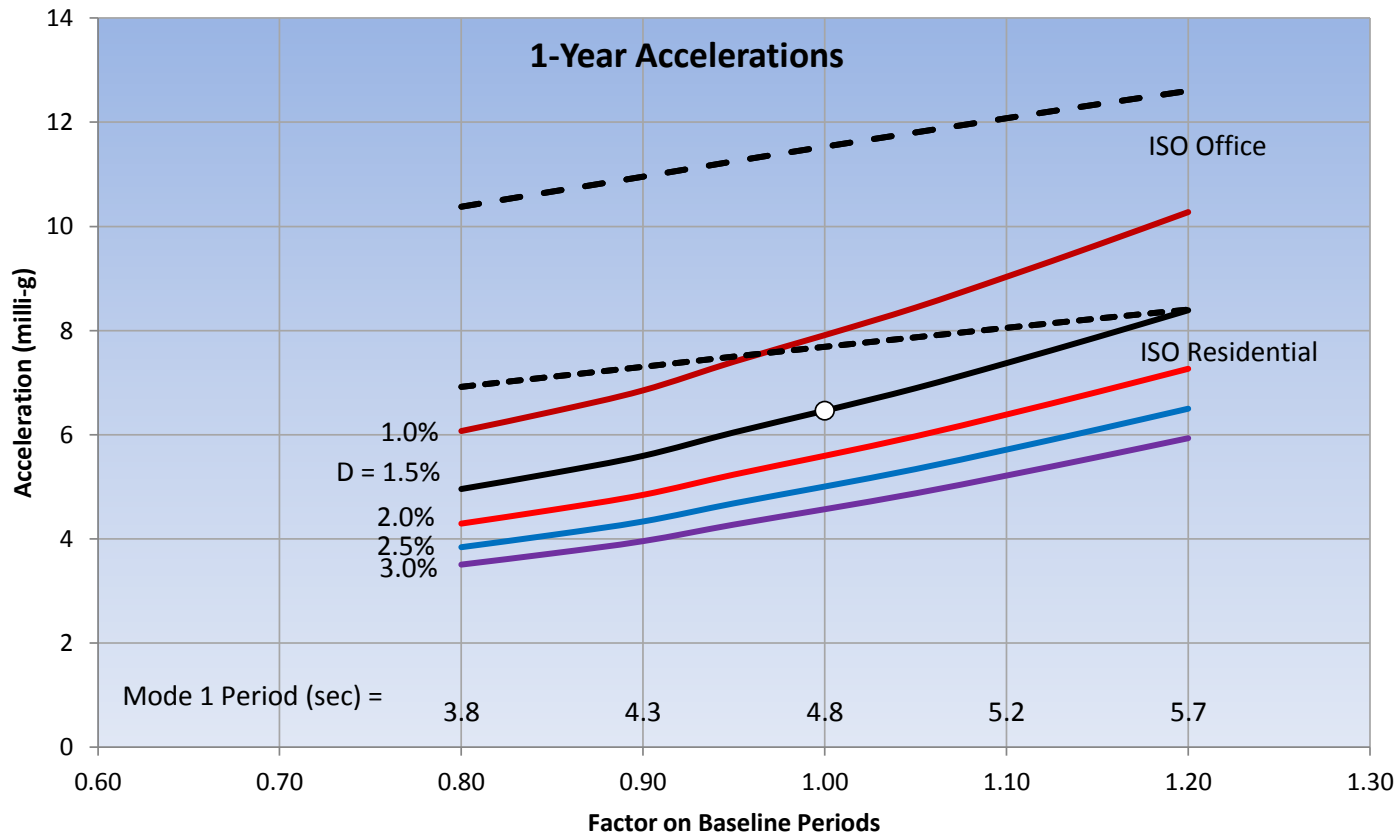
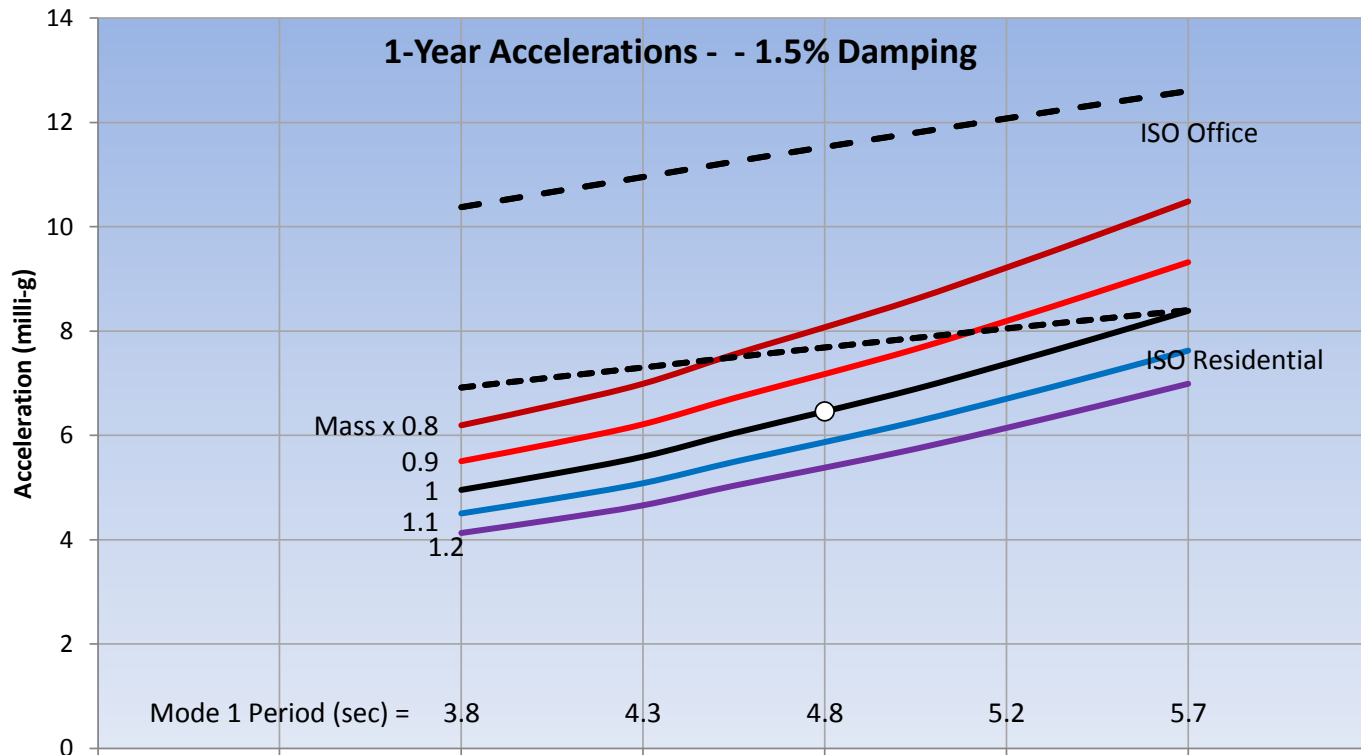
1568 Broadway - New York, NY

Project # 1601798

Figure No. 7

Date: January 12, 2017





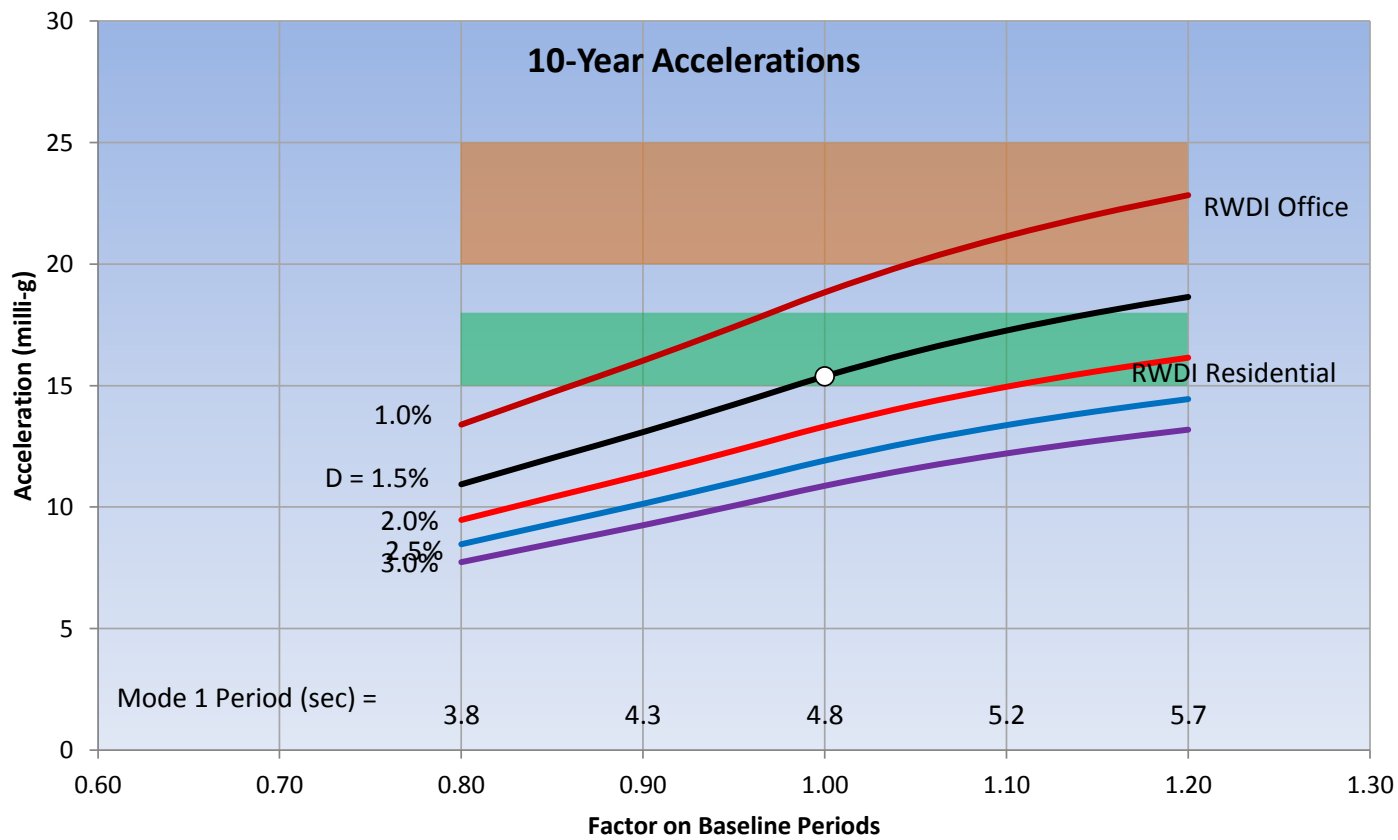
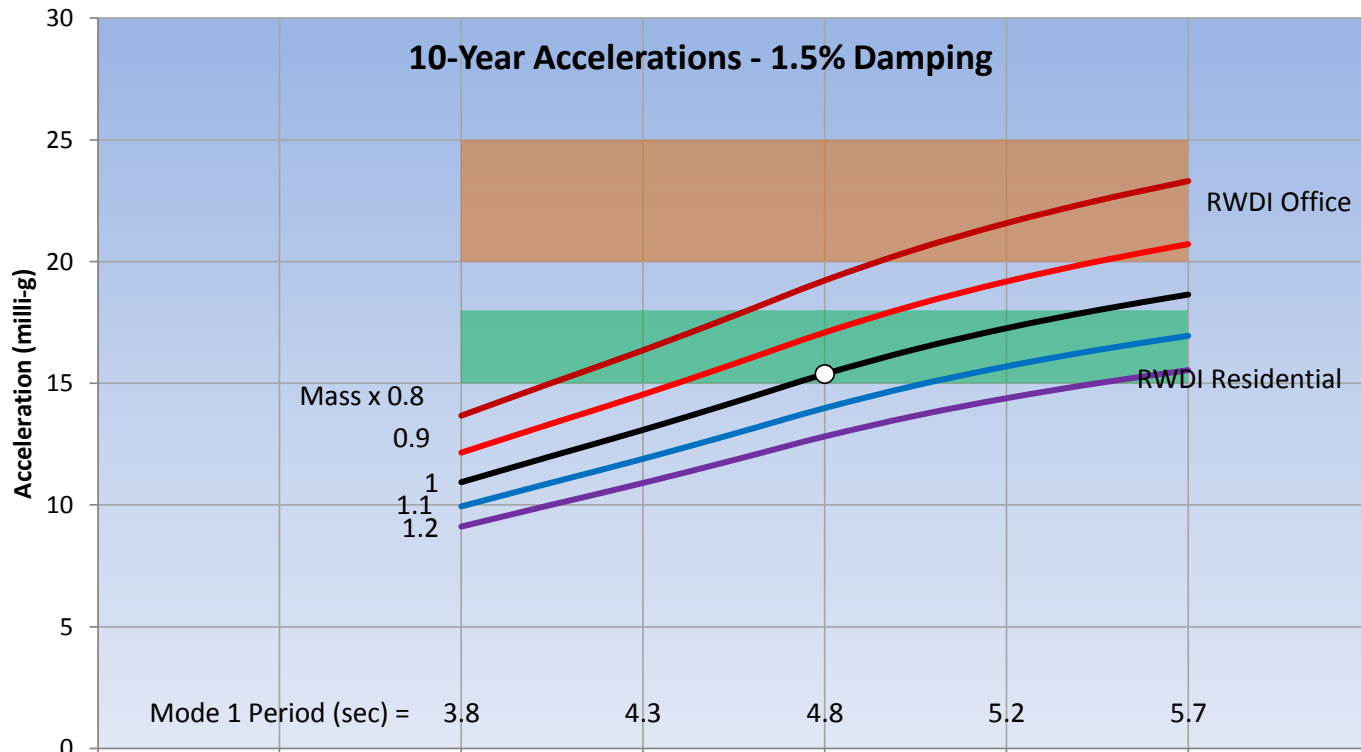
Notes:

- 1) The baseline periods for the fundamental modes are 4.77, 4.22, and 2.54 sec
- 2) Accelerations are predicted at Structural Level 'F45' (493.3 ft above Structural Level 'Fground') at a radial distance of 52 ft from the central axis of the tower (given in Figure 4).
- 3) The above comparisons assume no change to the mode shapes. Some change to the curvature and coupling may be expected when mass and stiffness properties are significantly changed.
- 4) Changes in mass may be uniform changes over the entire building, but are more appropriately related to the generalized mass.

**Sensitivity of 1-Year Accelerations to Mass, Period and Damping  
Top Occupied Floor**

Figure No. 8





Notes:

- 1) The baseline periods for the fundamental modes are 4.77, 4.22, and 2.54 sec
- 2) Accelerations are predicted at Structural Level 'F45' (493.3 ft above Structural Level 'Fground') at a radial distance of 52 ft from the central axis of the tower (given in Figure 4).
- 3) The above comparisons assume no change to the mode shapes. Some change to the curvature and coupling may be expected when mass and stiffness properties are significantly changed.
- 4) Changes in mass may be uniform changes over the entire building, but are more appropriately related to the generalized mass.

**Sensitivity of 10-Year Accelerations to Mass, Period and Damping  
Top Occupied Floor**

Figure No. 9



# APPENDIX A

## APPENDIX A: WIND TUNNEL PROCEDURES

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### OVERVIEW OF WIND TUNNEL PROCEDURES FOR THE PREDICTION OF WIND-INDUCED STRUCTURAL RESPONSES

#### A.1 Wind Tunnel Test and Analysis Methods

##### A.1.1 Wind Tunnel Tests

RWDI's boundary layer wind tunnel facility simulates the mean speed profile and turbulence of the natural wind approaching the modeled area by having a long working section with a roughened floor and specially designed turbulence generators, or spires, at the upwind end. Floor roughness and spires have been selected to simulate four basic terrain conditions, ranging from open terrain, or water, to built-up urban terrain. During the tests, the upwind profile in the wind tunnel is set to represent the most appropriate of these four basic profiles, for directions with similar upwind terrain. Scaling factors are also introduced at the analysis stage to account for remaining minor differences between the expected wind speed and turbulence properties, and the basic upwind flow conditions simulated in the wind tunnel. The full-scale properties are derived using the ESDU methodology<sup>1, 2</sup> for predicting the effect of changes in the earth's surface roughness on the planetary boundary layer. For example, this procedure distinguishes between the flows generated by a uniform open water fetch upwind of the site, versus a short fetch of suburban terrain immediately upwind of the site with open water in the distance.

Wind direction is defined as the direction from which the wind blows in degrees measured clockwise from true north. The test model (study model and surroundings) is mounted on a turntable, allowing any wind direction to be simulated by rotating the model to the appropriate angle in the wind tunnel. The wind tunnel test is typically conducted for 36 wind directions at 10° intervals.

##### A.1.2 Measurement Techniques

This study addresses the horizontal wind loads on the structural system of a building, the moments produced by those loads and the horizontal accelerations of the upper part of the building. Predictions of these responses are required in order that the structural system can be designed to safely resist the wind loads and, at the same time, provide an environment in which sensations of motion by occupants do not exceed normal guidelines for comfort. In special cases, vertical wind loads can also be addressed, but they are typically not significant for tall buildings. There are two techniques, based on wind tunnel testing of rigid models that are commonly used to make these predictions. The first technique uses measurements on a base balance and the second involves the integration of simultaneous pressure measurements. In the case of structures that are unusually tall or flexible, an aeroelastic model may be used.

---

<sup>1</sup> Wind speed profiles over terrain with roughness changes for flat or hilly sites. Item No. 84011, ESDU International London, 1984 with amendments to 1993.

<sup>2</sup> Longitudinal turbulence intensities over terrain with roughness changes for flat or hilly sites. Item No. 84030, ESDU International London, 1984 with amendments to 1993.

### A.1.2.1 The High-Frequency Force-Balance (HFFB) Technique

The mathematical basis of the HFFB technique is the well-established modal analysis theory. The practical basis of the approach is that base moments and shears, as measured on a very rigid (hence “high-frequency”) wind tunnel model of a building, can be used to determine the wind-induced mean and dynamic loads, that can be expected to occur under given conditions. These loads can then be combined analytically with the dynamic properties of the full-scale structure to determine the wind-induced responses.

For the test, a model of the building is constructed with the aim of being as light and stiff as possible. The model is then mounted on the HFFB (Figure 1a), which consists of a stiff rectangular sway flexure mounted on top of a stiff torsional flexure. The resulting mass and stiffness of the assemblage (i.e., flexures and model) should produce sway and torsional natural frequencies well above the range of interest for the subsequent analysis. Residual dynamic amplification effects associated with the model frequencies are removed during the post-test analysis.

During the HFFB test, instantaneous overturning and torsional moments are recorded from strain gauges attached to the force-balance flexures. The sway flexure consists of two levels of strain gauges, from which the base moments may be determined at the appropriate level (e.g., grade). The instantaneous shear is computed from the difference in strain gauge readings at the two levels. The strain gauges are calibrated by applying a range of known static loads (sway and torsion) to the flexures prior to the wind tunnel tests.

For each of the test wind directions, the recorded data are analysed to obtain mean and root-mean-square (RMS) values of the base moments, shears and torsional moments. In addition, the RMS values and the power spectral density functions of the modal forces and torque acting on the building are calculated. A modal force (or torque) is the integral of the force (or torque), weighted by the modal deflection shape, over the height of the building. To calculate this from the HFFB data, the base overturning moments and shears are used to determine a linear distribution of pressure with height for each sway direction, from which a force distribution with height can then be obtained. The distribution of torque with height is predicted from a weighted average of the sway pressure distributions.

Where the project involves two or more towers that are structurally linked, the HFFB technique can be extended to these cases by use of multiple force balances recording data simultaneously. The details of the methodology for these cases may be found in Xie and Irwin<sup>3,4</sup>.

<sup>3</sup> Xie, J., and Irwin, P.A., “Application of the Force Balance Technique to a Building Complex”, Journal of Wind Engineering and Industrial Aerodynamics, Vols. 77 & 78 (1998), pg. 579-590.

<sup>4</sup> Xie, J., and Irwin, P.A., “Wind-Induced Response of a Twin-Tower Structure”, Wind and Structures, Vol. 4, No. 6 (2001), pg. 495-504.



### A.1.2.2 The High Frequency Pressure Integration (HFPI) Technique

The mathematical basis of this technique is also the modal analysis theory. The practical basis of this approach is that wind pressure measurements, taken simultaneously over the surface of a building, can be summed (or integrated) to determine the wind-induced mean and dynamic loads, which can be expected to occur under given wind conditions. These loads can then be combined analytically with the dynamic properties of the full-scale structure to determine the wind-induced responses.

For the test, a model is constructed and instrumented with pressure taps at enough locations (Figure 1b) to fully describe the overall wind loading at any instant in time. During the testing, time series of the simultaneous pressures are recorded for post-test processing. The measured data are converted into pressure coefficients based on the measured upper level mean dynamic pressure in the wind tunnel.

During the post-test analysis, the integration is carried out to determine time series of the base moments, shears, torsional moments and modal forces. From these time series, the mean and RMS values and power spectral density functions may be determined and then the analysis proceeds in the same manner as for an HFFB study.

An advantage of the HFPI method is that it lends itself to the testing of more complex structures since the modal loads are determined directly with no assumptions necessary about the form of the pressure distribution. It also allows the overall structure to be broken down into multiple substructures and the loads on each identified separately.

### A.1.2.3 Aeroelastic Model Testing

An aeroelastic model is designed to simulate the mass, stiffness and damping properties of the actual structure. The responses of the model, in the form of moments, forces, displacements and accelerations, therefore reflect the total response including the inertial loading. Because the motion of the structure is simulated, aeroelastic forces arising from the relative motion between the structure and the wind are also inherent in the measured responses. The result is a more precise prediction of the structural responses. This appendix focuses primarily on rigid model techniques, and details on aeroelastic modelling techniques may be found elsewhere<sup>5</sup>.

## A.1.3 Determination of Structural Responses

The rigid model (i.e., HFFB or HFPI) data are used to determine the modal loads for each of the 36 tested wind directions. The modal loads are then combined with the specific properties of the building, provided by the structural engineer, to determine the dynamic components of the various structural responses. These properties included the mass distribution, natural frequencies for the fundamental sway and torsional modes of vibration, and selected structural damping values. For each principal wind direction, mean, root-mean-square, maximum, and minimum values of the important overall structural loads are calculated for a range of full-scale wind speeds.

<sup>5</sup> Irwin, P.A., "Model Studies of the Dynamic Response of Tall Buildings in Wind", Proceedings, Canadian Society for Civil Engineering, 1982 Annual Conference, Edmonton, Alberta.



For assessing building motions, the quantity of interest is the total acceleration at the uppermost, occupied floors. Total acceleration is a result of two components due to the sway motions of a building,  $a_x$  and  $a_y$  and a component due to the rotational motion of the building,  $a_z$ . The rotation-induced component varies with position in the floor plan, being negligible near the center of rotation and greatest at the far corner locations. The total acceleration would therefore be greatest at such corner locations, but this would not be representative of where most occupants are likely to be. As an effective compromise between extreme options, a radial arm equivalent to the mass radius of gyration of the top occupied floor from the center of the building is typically selected by RWDI as the representative distance for calculating the rotational component.

#### A.1.4 Determination of Peak Factors

The RMS value of a structural response multiplied by a peak factor gives the peak dynamic value for the response. For a Gaussian process, which is the common case for the random vibrations, the peak factor can be calculated as follows:

$$g_p = \sqrt{2\ln(NT)} + \frac{0.577}{\sqrt{2\ln(NT)}}$$

where  $N$  is the average fluctuation rate and  $T$  is the duration to be considered. As the response of a tower tends to be a narrow band process (i.e., the energy of the response is highly concentrated around the tower's natural frequency),  $N$  is approximately equal to the building's natural frequency. When the reference wind speed is converted to a mean hourly speed,  $T$  can be taken as 3600 seconds. The peak factor calculated in this manner is used for an HFFB or HFPI analysis. Aeroelastic model tests simulate the total response and therefore allow the peak factor to be measured directly. Lower values of the peak factor are generally measured in cases where vortex-induced oscillations, or some other aerodynamic instability, are present.

#### A.1.5 Consideration of the Local Wind Climate

Carrying out the procedures described in the previous sections determines the structural responses to be expected at full-scale for a given set of building properties and for any given wind direction and mean wind speed. However, in order to account for the varying likelihood of different wind directions and the varying strengths of winds that may be expected from different directions, the calculated structural responses are integrated with statistical records of the local wind climate to produce predicted peak values as a function of return period. In the case of structural loads, it is appropriate to consider peak loads associated with return periods comparable to the design life of the structure. The choice of return period will be governed by local code requirements, that consider the intended use of the building, but 50 years is often used (with the appropriate load or safety factors applied) for structural design. In the case of building motions, the concern is one of occupant comfort and it is common to consider much shorter return periods, typically in the range of 1 to 10 years.



Wind records taken from one or more locations near to the study site are generally used to derive the wind climate model. In areas affected by hurricanes or typhoons, Monte Carlo simulations are typically used to generate a better database since full scale measurements, if available for a given location, typically provide an inadequate sample for statistical purposes. The data in either case are analysed to determine the probabilities of exceeding various hourly mean wind speeds from within each of 36 wind sectors at an upper level reference height, typically taken to be 600 m (2000 ft) above open terrain. This coincides with the height used to measure the reference dynamic pressure in the wind tunnel.

In order to predict the wind-induced responses for a given return period, the wind tunnel results are integrated with the wind climate model. There are two methods typically used by RWDI to perform this integration. In one method, the historical (or simulated as is the case with hurricanes or typhoons) wind record is used to determine the full-scale wind-induced responses for each hour, given the recorded wind speed and direction and the wind tunnel predictions for that direction. By stepping through the wind speed and direction data on an hour-by-hour basis, a time history of the desired response is generated. Then, through the use of extreme value fitting techniques, statistically valid peak responses for any desired return period are determined.

The second method is the Upcrossing Method as described by Irwin<sup>6</sup> and Irwin and Sifton<sup>7</sup>. In simple terms, this can be thought of as an analytical representation of the first method, in which a fitted mathematical model of the wind statistics is used in place of the detailed wind records themselves. The Upcrossing Method is currently used by RWDI for HFFB and HFPI studies of the structural loads and responses of tall buildings.

#### A.1.6 Design Wind Speeds in Hurricane/Typhoon Regions

It may be of interest to compare design wind speeds with the Saffir-Simpson hurricane categories, although this should be done with caution. In particular, while associating the building strength or performance with a given category of hurricane may sound appealing, it ignores the likelihood of that category of storm actually occurring at a given site. It also ignores the distinction between a direct hit from a weak hurricane compared with a glancing blow from a strong one. For this reason, when adopting criteria for both strength and serviceability, building codes and standards relate design wind speeds to return period rather than simply to storm categories or other similar systems.

The commentary to the ASCE 7-05 has a discussion in Section C6.5.4 regarding the relationship between the Basic Wind Speeds in the standard and the Saffir-Simpson scale. The Basic Wind speeds given currently in the ASCE 7 are 3-second gust speeds at 33 feet over land. The ASCE commentary also provides guidance on conversion to other wind speed durations *in the same terrain conditions*, which may be considered if the design wind speeds are taken from other sources.

Hurricane wind speeds commonly referred to with the Saffir-Simpson scale are 1-minute averages over water. The conversion between these different averaging times and terrain conditions is

<sup>6</sup> Irwin, P.A., "Pressure Model Techniques for Cladding Loads", Journal of Wind Engineering and Industrial Aerodynamics 29 (1988), pg. 69-78.

<sup>7</sup> Irwin, P.A. and Sifton, V. L., "Risk Considerations for Internal Pressures", Journal of Wind Engineering and Industrial Aerodynamics, 77 & 78 (1998), pg. 715-723.



complicated by the fact that the effective roughness of the sea surface varies with wind speed. The ASCE commentary (Table C6-2) provides the following approximate conversions, although they are the topic of ongoing research:

| Saffir/Simpson Hurricane Category | 1-minute average speed, 33 ft (10 m) over water, mph (m/s) | 3-second gust speed, 33 ft (10 m) over land, mph (m/s) |
|-----------------------------------|--|--|
| 1                                 | 74-95 (33.1-42.5)  | 82-108 (36.7-48.3)                                     |
| 2                                 | 96-110 (42.6-49.2)   | 109-130 (48.4-58.1)                                    |
| 3                                 | 111-130 (49.6-58.1)  | 131-156 (58.2-69.7)                                    |
| 4                                 | 131-155 (58.2-69.3)  | 157-191 (69.8-85.4)                                    |
| 5                                 | >155 (>69.3)   | >191 (>85.4)   |

When relating the design speed for a particular area to the above categories, it is worth considering the impact of the load factor. For example, a basic wind speed of 120 mph specified by the ASCE 7-05 corresponds to a Category 2 hurricane, as is. With the load factor of 1.6 (or 1.26 on wind speed), this corresponds to 152 mph and a Category 3 storm.

**A.1.7 Determination of Wind Load Distribution with Height**

The wind-induced forces generated within a building are constantly changing due to turbulence in the wind as well as the inertia of the building as it sways and twists. However, it is convenient for structural design computations to convert these fluctuating wind loads into equivalent static wind load distributions. Such wind load distributions are determined by accounting for the vertical distributions of the quasi-static and resonant components of the wind loads independently. The quasi-static wind loads essentially represent the direct wind loading on the building, which may be characterized by a mean component and a fluctuating background component. The resonant wind loads are produced by the inertial loads of the building as it oscillates in its primary modes of vibration. The distribution of the resonant forces and moments may be inferred to a good approximation from the building accelerations, mode shapes for sway and twisting motion, and from the building's mass distribution. The quasi-static loads are then determined from the difference between the overall loads and the resonant loads. The quasi-static loads are distributed based on the resulting quasi-static shear forces and overturning moments, and the building geometry.

These distributions correspond to the predicted peak overall loads in each of the two sway directions, and also in torsion. These three load distributions will not necessarily occur at the same instant in time or during the same storm and, therefore, should not be treated as simultaneous loads. Reduction factors are subsequently introduced to account for the peak design values occurring at different times. These reduction factors can be determined by a process that compares the peak overall loads in each of the two sway directions, and in the torsional direction to the building's force data measured on a direction by direction basis and factored by its meteorological directional probability. This procedure produces a set of load combinations that are simply defined and expected to provide adequate loading of all members of the primary structural system.

## A.2 Discussion of Acceleration Criteria

Acceleration levels that are acceptable to people are dependent on many physiological factors and consequently are subjective to some degree. Some background to the suggested criteria for acceptability of building accelerations is discussed in this section.

As with any other response to wind loading, acceleration is a random, fluctuating quantity, which must be described in statistical terms. There are two statistics that are commonly used in the literature to describe accelerations: the root-mean-square (RMS) values and the peak. The acceleration predictions that are provided for the various return periods in this report are peak values, expected to occur a few times each hour during a windstorm.

Research indicates that people first begin to perceive accelerations when they reach about 5 milli-g (where milli-g is 1/1000 of the acceleration of gravity). However, it is not realistic to require that no accelerations ever occur above this level. In addition, there is a distinction to be made between the perception of motion, and the tolerance of it. That is, simply because occupants can perceive motion does not necessarily mean they will object to it, as long as such motions do not occur too often. Criteria have therefore been developed that relate acceleration levels and their acceptability to various frequencies of occurrence.

The first building code document to give guidance on building motions was the National Building Code of Canada (NBCC). It suggested that 10-year return period accelerations in the range of 1.0% to 3.0% of gravity (10 to 30 milli-g) were acceptable, with the upper end of the range being appropriate for office buildings and the lower end for residential buildings.

Research conducted during the development of the acceleration criteria in the NBCC indicated that peoples' sensitivity to motion becomes less as the natural frequency of the building becomes lower (at least in the range of interest for tall buildings, 0.1 Hz to 1.0 Hz). This dependence is not reflected in the NBCC, which provides a single set of criteria based on results for frequencies primarily in the range 0.15 to 0.3 Hz. The criteria suggested by the International Organization for Standardization (ISO) are expressed as a function of frequency. The upper limit of the ISO criteria is based on magnitudes of acceleration which approximately 2% of those occupying the upper third of a building may find objectionable. The ISO Criteria generally have used shorter return periods than 10 years.

ISO initially published criteria (ISO 6897:1984) based on a 5-year return period, which were expressed in terms of the RMS acceleration. The corresponding 1-year criterion was tentatively suggested by ISO to be 0.72 times the 5-year criterion. It should be noted that the ISO 6897 made reference to “buildings used for general purposes,” in reference to the above criteria, with no distinction between commercial and residential occupancies as suggested in the NBCC.

In the new ISO standard (ISO 10137:2007(E) – Annex D) on building serviceability, the acceleration criteria are expressed as peak values at the 1-year return period. The expression for building frequencies ranging from .06 Hz to 1 Hz (which is the range of interest for high-rise buildings) is as follows:

$$\text{1-Year Peak Criterion in milli-g} = \text{constant} \times f^{-0.445}$$

where  $f$  is the building frequency in Hz, and the constant is 6.12 for office buildings, and 4.08 for residential buildings. In other words, the residential criteria are 2/3 of the office criteria. In the absence of information to the contrary, it is assumed that the corresponding 5-year criterion can be obtained by dividing the 1-year criteria by the 0.72 factor given in ISO 6897.

In addition to the NBCC and ISO guidelines, acceleration criteria were developed based on a consensus between design teams, developers, and the wind engineering community’s experience with many towers constructed and wind tunnel tested during the 1980’s and 1990’s. The Council on Tall Buildings and Urban Habitat (CTBUH) recommends 10-year accelerations of 10 to 15 milli-g for residential buildings and 20 to 25 milli-g for office buildings<sup>8</sup>. Based on discussions between RWDI and the designers of numerous high-rise towers, we have found it desirable to relax the residential criteria to a range of 15 to 18 milli-g, noting that the consequence of higher accelerations is an increased likelihood of occupant discomfort, rather than an issue of life safety. After numerous studies using this less stringent criteria<sup>9</sup>, we are not aware of any complaints of building performance. It should be noted that these criteria, which are not expressed as functions of frequency, may not be appropriate particularly for buildings with unusually high or low frequencies. For more typical frequencies, these criteria essentially follow the trend of the ISO-derived 1-year and 5-year criteria.

A hotel will fall somewhere between office and residential buildings as far as criteria for occupant comfort are concerned, unless the upper floors are occupied by long term residents in which case the residential building criteria would apply.

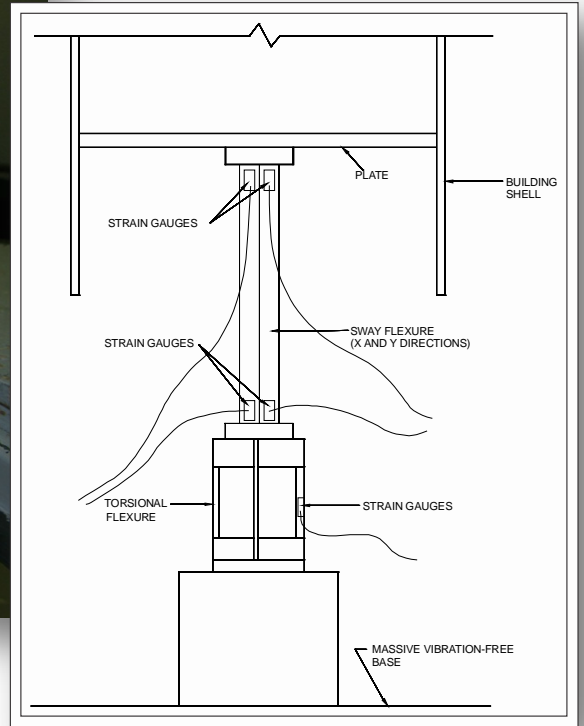
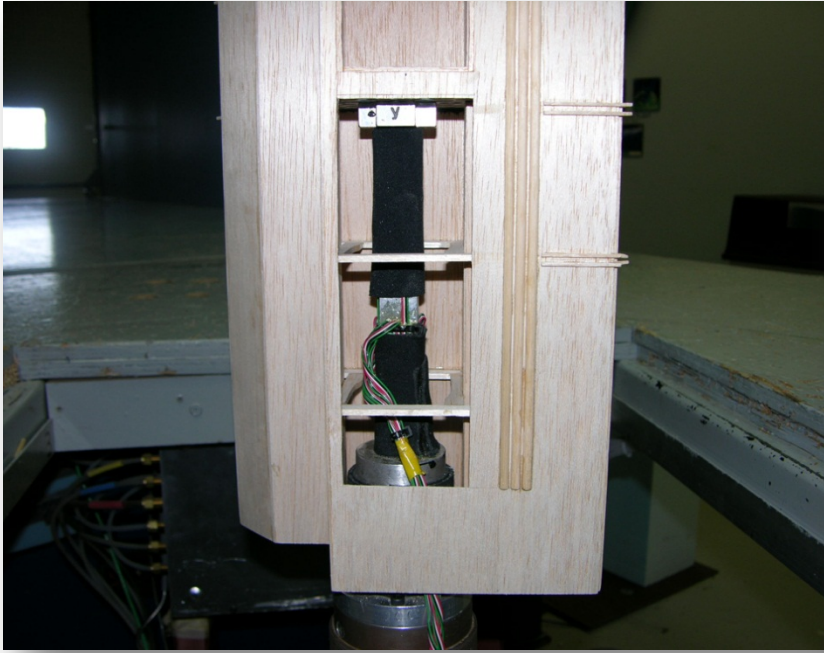
<sup>8</sup> Isyumov, N. “Criteria for Acceptable Wind-Induced Motions of Tall Buildings,” International Conference on Tall Buildings, CTBUH, Rio De Janeiro, 1993.

<sup>9</sup> Irwin, P. and Myslimaj, B. “Practical Experience with Wind-Tunnel Predicted Tall Building Motions” – 17-th Congress of IABSE, Chicago, September 17-19, 2008.

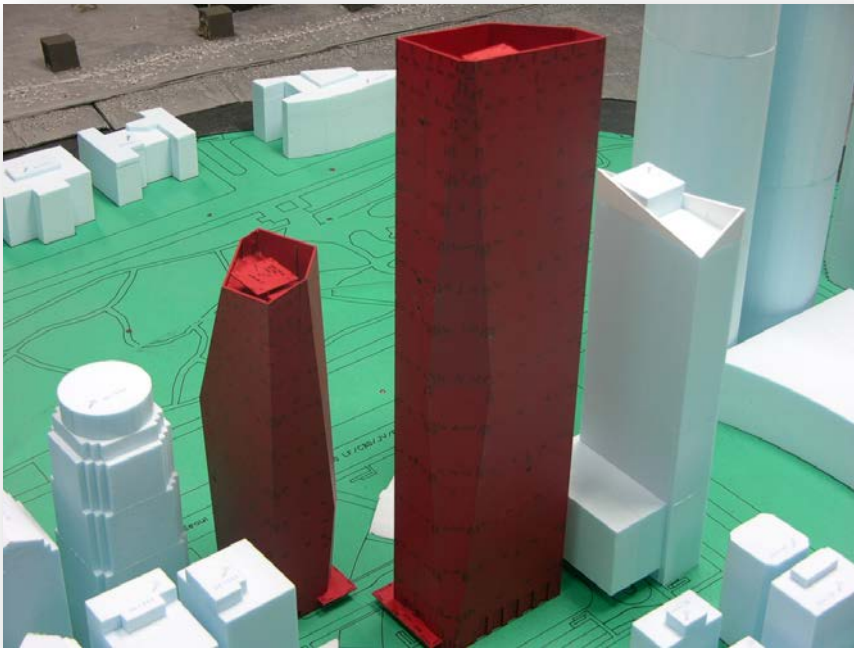




The above-mentioned reference, which contains the CTBUH criteria, also suggests that the North American practice of using the 10-year return period for assessing accelerations and occupant comfort is not appropriate for areas subjected to hurricanes, and recommends the 1-year return period be considered in such regions. Use of the 1-year return period is consistent with current practice in Japan, where typhoons are a significant consideration for the design of high-rise towers. If building occupants choose to remain during a hurricane, it is reasonable to suggest that they should not expect normal conditions to prevail. Furthermore, research into occupant comfort indicates that motions tend to be more tolerable as long as they are not completely unexpected. While structural modifications and/or auxiliary damping could be employed to reduce the motions during hurricanes, such measures are typically undertaken to address motions during more common wind events. Therefore, simply educating building occupants as to the likelihood of motion during stronger hurricanes might be a more appropriate way to address occupant comfort, particularly in tall slender towers.



(a) High Frequency Force Balance (HFFB)



(b) High Frequency Pressure Integration (HFPI)



**Measurement Techniques for the Prediction of Wind-Induced Structural Responses**





# APPENDIX B



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## APPENDIX B: STRUCTURAL DYNAMIC PROPERTIES

This appendix contains the dynamic properties supplied by Severud Associates Consulting Engineers, on November 17, 2016 and updated mode shapes and building frequencies provided November 22, 2016, which were combined with the wind tunnel data to predict the wind-induced structural responses provided in this report.

FILE: 14442\_RAM Frame - Structural Ladder.xlsx

### STORY DATA:

| Level | Story Label  | Layout Type       | Flr Height<br>ft | Height Above Base<br>ft |
|-------|--------------|-------------------|------------------|-------------------------|
| 51    | TO Screening | T.O. Screening    | 23               | 572                     |
| 50    | F47roof      | 47th FL Main Roof | 16.33            | 549                     |
| 49    | F46MEP       | 46th FL MEP       | 11.67            | 533                     |
| 48    | F45          | 45th FL           | 11.67            | 521                     |
| 47    | F44          | 44th FL           | 11.67            | 510                     |
| 46    | F43          | 43rd FL           | 11.67            | 498                     |
| 45    | F42          | 38th-42th         | 9.83             | 486                     |
| 44    | F41          | 38th-42th         | 9.83             | 477                     |
| 43    | F40          | 38th-42th         | 9.83             | 467                     |
| 42    | F39          | 38th-42th         | 9.83             | 457                     |
| 41    | F38          | 38th-42th         | 9.83             | 447                     |
| 40    | F37          | 28th-37th         | 9.83             | 437                     |
| 39    | F36          | 28th-37th         | 9.83             | 427                     |
| 38    | F35          | 28th-37th         | 9.83             | 418                     |
| 37    | F34          | 28th-37th         | 9.83             | 408                     |
| 36    | F33          | 28th-37th         | 9.83             | 398                     |
| 35    | F32          | 28th-37th         | 9.83             | 388                     |
| 34    | F31          | 28th-37th         | 9.83             | 378                     |
| 33    | F30          | 28th-37th         | 9.83             | 368                     |
| 32    | F29          | 28th-37th         | 9.83             | 359                     |
| 31    | F28          | 28th-37th         | 9.83             | 349                     |
| 30    | F27          | 18th-27th         | 9.83             | 339                     |
| 29    | F26          | 18th-27th         | 9.83             | 329                     |
| 28    | F25          | 18th-27th         | 9.83             | 319                     |
| 27    | F24          | 18th-27th         | 9.83             | 309                     |
| 26    | F23          | 18th-27th         | 9.83             | 300                     |
| 25    | F22          | 18th-27th         | 9.83             | 290                     |
| 24    | F21          | 18th-27th         | 9.83             | 280                     |



**STORY DATA:**

| Level | Story Label | Layout Type   | Flr Height<br>ft | Height Above Base<br>ft |
|-------|-------------|---------------|------------------|-------------------------|
| 23    | F20         | 18th-27th     | 9.83             | 270                     |
| 22    | F19         | 18th-27th     | 9.83             | 260                     |
| 21    | F18         | 18th-27th     | 9.83             | 250                     |
| 20    | F17         | 17th          | 9.83             | 241                     |
| 19    | F16         | 16th FL       | 8.71             | 231                     |
| 18    | F15         | 15th FL       | 8.71             | 222                     |
| 17    | F14         | 14th FL       | 8.71             | 213                     |
| 16    | F13         | 13th FL       | 8.71             | 205                     |
| 15    | F12         | 12th FL       | 8.71             | 196                     |
| 14    | F11demo     | 11th FL Demo  | 8.7              | 187                     |
| 13    | F11         | 11th FL       | 8.71             | 179                     |
| 12    | F9demo      | 9th FL Demo   | 8.71             | 170                     |
| 11    | F10         | 10th FL       | 16               | 161                     |
| 10    | F9          | 9th FL        | 15               | 145                     |
| 9     | F8          | 8th FL model1 | 12.16            | 130                     |
| 8     | F7          | 7th FL        | 12.16            | 118                     |
| 7     | F6          | 6th FL        | 15.2             | 106                     |
| 6     | F5          | 5th FL        | 16.04            | 91                      |
| 5     | F4          | 4th FL        | 15.98            | 75                      |
| 4     | F3          | 3rd FL new    | 12.02            | 59                      |
| 3     | F2          | 2nd FL        | 18.48            | 47                      |
| 2     | Fground     | Ground Floor  | 14.08            | 28                      |
| 1     | Cellar      | Cellar        | 14               | 14                      |

**Ground Floor is at Elevation 28' above base**  
**Floor F45 at Elevation 521' is the highest occupied floor**



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FILE: 14442\_RAM Frame - Criteria, Mass, and Exposure Data.csv

| Story     | Diaph # | Weight<br>kips | Mass<br>k-s2/ft | MMI<br>ft-k-s2 | Xm<br>ft | Ym<br>ft | EccX<br>ft | EccY<br>ft |
|-----------|---------|----------------|-----------------|----------------|----------|----------|------------|------------|
| TO        |         |                |                 |                |          |          |            |            |
| Screening | 1       | 1210.66        | 37.6            | 114587         | 94.15    | 33.39    | 8.24       | 3.06       |
| F47roof   | 1       | 1693.1         | 52.58           | 148399         | 96.93    | 32.91    | 8.24       | 3.01       |
| F46MEP    | 1       | 1645.87        | 51.11           | 138774         | 95.01    | 34.16    | 8.24       | 3.38       |
| F45       | 1       | 1521.71        | 47.26           | 128754         | 95.59    | 34.76    | 8.24       | 3.38       |
| F44       | 1       | 1521.71        | 47.26           | 128754         | 95.59    | 34.76    | 8.24       | 3.38       |
| F43       | 1       | 1698.19        | 52.74           | 147295         | 95.78    | 37.65    | 8.24       | 3.5        |
| F42       | 1       | 1675.18        | 52.02           | 145757         | 95.73    | 38.16    | 8.24       | 3.5        |
| F41       | 1       | 1631.43        | 50.67           | 141645         | 95.86    | 38.36    | 8.24       | 3.5        |
| F40       | 1       | 1631.43        | 50.67           | 141645         | 95.86    | 38.36    | 8.24       | 3.5        |
| F39       | 1       | 1631.43        | 50.67           | 141645         | 95.86    | 38.36    | 8.24       | 3.5        |
| F38       | 1       | 1631.43        | 50.67           | 141645         | 95.86    | 38.36    | 8.24       | 3.5        |
| F37       | 1       | 1625.2         | 50.47           | 140613         | 96.19    | 38.58    | 8.24       | 3.5        |
| F36       | 1       | 1625.2         | 50.47           | 140613         | 96.19    | 38.58    | 8.24       | 3.5        |
| F35       | 1       | 1625.2         | 50.47           | 140613         | 96.19    | 38.58    | 8.24       | 3.5        |
| F34       | 1       | 1625.2         | 50.47           | 140613         | 96.19    | 38.58    | 8.24       | 3.5        |
| F33       | 1       | 1625.2         | 50.47           | 140613         | 96.19    | 38.58    | 8.24       | 3.5        |
| F32       | 1       | 1625.2         | 50.47           | 140613         | 96.19    | 38.58    | 8.24       | 3.5        |
| F31       | 1       | 1625.2         | 50.47           | 140613         | 96.19    | 38.58    | 8.24       | 3.5        |
| F30       | 1       | 1625.2         | 50.47           | 140613         | 96.19    | 38.58    | 8.24       | 3.5        |
| F29       | 1       | 1625.2         | 50.47           | 140613         | 96.19    | 38.58    | 8.24       | 3.5        |
| F28       | 1       | 1625.2         | 50.47           | 140613         | 96.19    | 38.58    | 8.24       | 3.5        |
| F27       | 1       | 1625.28        | 50.47           | 140611         | 96.19    | 38.57    | 8.24       | 3.5        |
| F26       | 1       | 1625.28        | 50.47           | 140611         | 96.19    | 38.57    | 8.24       | 3.5        |
| F25       | 1       | 1625.28        | 50.47           | 140611         | 96.19    | 38.57    | 8.24       | 3.5        |
| F24       | 1       | 1625.28        | 50.47           | 140611         | 96.19    | 38.57    | 8.24       | 3.5        |
| F23       | 1       | 1625.28        | 50.47           | 140611         | 96.19    | 38.57    | 8.24       | 3.5        |
| F22       | 1       | 1625.28        | 50.47           | 140611         | 96.19    | 38.57    | 8.24       | 3.5        |
| F21       | 1       | 1625.28        | 50.47           | 140611         | 96.19    | 38.57    | 8.24       | 3.5        |
| F20       | 1       | 1625.28        | 50.47           | 140611         | 96.19    | 38.57    | 8.24       | 3.5        |
| F19       | 1       | 1625.28        | 50.47           | 140611         | 96.19    | 38.57    | 8.24       | 3.5        |
| F18       | 1       | 1625.28        | 50.47           | 140611         | 96.19    | 38.57    | 8.24       | 3.5        |
| F17       | 1       | 1647.09        | 51.15           | 141626         | 96.44    | 38.67    | 8.24       | 3.5        |
| F16       | 1       | 2533.19        | 78.67           | 266725         | 107.7    | 40.19    | 9.38       | 3.5        |
| F15       | 1       | 2651.84        | 82.36           | 297347         | 108.9    | 40.52    | 9.38       | 3.5        |
| F14       | 1       | 2747.15        | 85.32           | 302434         | 110.03   | 40.63    | 9.38       | 3.5        |
|           | None    | 0.94           | 0.03            | 4              | 53.58    | 73.86    | --         | --         |



| Story   | Diaph # | Weight<br>kips | Mass<br>k-s2/ft | MMI<br>ft-k-s2 | Xm<br>ft | Ym<br>ft | EccX<br>ft | EccY<br>ft |
|---------|---------|----------------|-----------------|----------------|----------|----------|------------|------------|
| F13     | 1       | 2275.35        | 70.66           | 203363         | 94.92    | 39.04    | 8.29       | 3.76       |
|         | None    | 181.07         | 5.62            | 2595           | 200.59   | 45.58    | --         | --         |
| F12     | 1       | 2771.62        | 86.08           | 296125         | 105.94   | 40.23    | 9.38       | 3.79       |
| F11demo | None    | 542.05         | 16.83           | 63741          | 78.31    | 39.92    | --         | --         |
| F11     | 1       | 2319.13        | 72.02           | 243513         | 97.84    | 39.49    | 9.38       | 3.79       |
| F9demo  | None    | 519.47         | 16.13           | 63707          | 78.46    | 39.18    | --         | --         |
| F10     | 1       | 2880.89        | 89.47           | 350441         | 103.54   | 45.31    | 9.41       | 4.27       |
| F9      | 1       | 3918           | 121.68          | 542502         | 101      | 52.96    | 10.54      | 5.14       |
| F8      | 1       | 3280.15        | 101.87          | 320317         | 86.63    | 52.09    | 8.67       | 5.11       |
|         | None    | 214.29         | 6.65            | 2070           | 206.23   | 45.64    | --         | --         |
| F7      | 1       | 1507.98        | 46.83           | 72998          | 46.64    | 49.12    | 4.53       | 5.11       |
|         | None    | 211.61         | 6.57            | 7436           | 197.69   | 46.24    | --         | --         |
| F6      | 1       | 1580.32        | 49.08           | 81081          | 47.88    | 49.14    | 4.53       | 5.11       |
|         | None    | 211.63         | 6.57            | 1988           | 206.66   | 45.59    | --         | --         |
| F5      | 1       | 1765.5         | 54.83           | 88037          | 46.98    | 48.77    | 4.38       | 4.98       |
|         | None    | 248.82         | 7.73            | 10551          | 201.24   | 46.35    | --         | --         |
| F4      | 1       | 1648.83        | 51.21           | 75651          | 50.02    | 49.06    | 4.38       | 4.98       |
|         | None    | 247.67         | 7.69            | 2327           | 206.66   | 45.59    | --         | --         |
| F3      | 1       | 12168.73       | 377.91          | 1478947        | 133.19   | 52.05    | 11.55      | 5.01       |
|         | None    | 216.31         | 6.72            | 1975           | 206.75   | 45.58    | --         | --         |
| F2      | 1       | 2752.44        | 85.48           | 426727         | 96.97    | 46.74    | 10.36      | 5.01       |
|         | None    | 15.91          | 0.49            | 683            | 144.5    | 90.84    | --         | --         |
| Fground | 1       | 5512.17        | 171.19          | 1020508        | 107.47   | 61.17    | 11.6       | 5.76       |
|         | None    | 7.42           | 0.23            | 0              | 24       | 99.25    | --         | --         |
| Cellar  | 1       | 4923.91        | 152.92          | 958701         | 100      | 58.35    | 11.6       | 5.76       |
|         | None    | 6.19           | 0.19            | 0              | 24       | 99.25    | --         | --         |

FILE: MODES.CSV (Provided on November 22, 2016)

**FREQUENCIES AND PERIODS:**

| Mode | Period ( T ) | Cyclic Frequency ( f ) |
|------|--------------|------------------------|
|      | sec          | Hz                     |
| 1    | 4.77         | 0.2096                 |
| 2    | 4.2251       | 0.2367                 |
| 3    | 2.5424       | 0.3933                 |



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**MODE SHAPES:**

Mode Shapes for Rigid Diaphragms:

| Story        | Diaph. # | Dir | Mode 1   | Mode 2   | Mode 3   |
|--------------|----------|-----|----------|----------|----------|
| TO Screening | 1        | X   | -0.06738 | -0.11224 | -0.06047 |
|              |          | Y   | 0.12542  | -0.05466 | -0.03247 |
|              |          | R   | 0.00002  | 0.00013  | -0.00021 |
| F47roof      | 1        | X   | -0.06306 | -0.10484 | -0.05897 |
|              |          | Y   | 0.11917  | -0.04852 | -0.03476 |
|              |          | R   | 0.00001  | 0.00012  | -0.0002  |
| F46MEP       | 1        | X   | -0.06027 | -0.10148 | -0.05478 |
|              |          | Y   | 0.11394  | -0.04948 | -0.02773 |
|              |          | R   | 0.00001  | 0.00011  | -0.00019 |
| F45          | 1        | X   | -0.05819 | -0.09851 | -0.0527  |
|              |          | Y   | 0.11047  | -0.04744 | -0.02737 |
|              |          | R   | 0.00001  | 0.00011  | -0.00018 |
| F44          | 1        | X   | -0.05601 | -0.09466 | -0.05198 |
|              |          | Y   | 0.10688  | -0.04614 | -0.02577 |
|              |          | R   | 0.00001  | 0.0001   | -0.00018 |
| F43          | 1        | X   | -0.05412 | -0.09421 | -0.04543 |
|              |          | Y   | 0.10329  | -0.04459 | -0.02462 |
|              |          | R   | 0.00001  | 0.0001   | -0.00017 |
| F42          | 1        | X   | -0.05193 | -0.09075 | -0.0439  |
|              |          | Y   | 0.09966  | -0.04332 | -0.02305 |
|              |          | R   | 0.00001  | 0.00009  | -0.00016 |
| F41          | 1        | X   | -0.05004 | -0.08752 | -0.04308 |
|              |          | Y   | 0.0966   | -0.04205 | -0.0221  |
|              |          | R   | 0.00001  | 0.00009  | -0.00015 |
| F40          | 1        | X   | -0.04813 | -0.08406 | -0.04261 |
|              |          | Y   | 0.09351  | -0.0409  | -0.02094 |
|              |          | R   | 0.00001  | 0.00009  | -0.00015 |
| F39          | 1        | X   | -0.0462  | -0.08057 | -0.0421  |
|              |          | Y   | 0.0904   | -0.03975 | -0.01983 |
|              |          | R   | 0.00001  | 0.00008  | -0.00014 |
| F38          | 1        | X   | -0.04426 | -0.07707 | -0.04156 |
|              |          | Y   | 0.08729  | -0.03858 | -0.01876 |
|              |          | R   | 0        | 0.00008  | -0.00013 |
| F37          | 1        | X   | -0.04233 | -0.07377 | -0.04065 |
|              |          | Y   | 0.08418  | -0.0371  | -0.01823 |
|              |          | R   | 0        | 0.00008  | -0.00013 |
| F36          | 1        | X   | -0.04039 | -0.07028 | -0.04007 |



Mode Shapes for Rigid Diaphragms:

| Story | Diaph. # | Dir | Mode 1   | Mode 2   | Mode 3   |
|-------|----------|-----|----------|----------|----------|
|       |          | Y   | 0.08105  | -0.03594 | -0.01721 |
|       |          | R   | 0        | 0.00007  | -0.00012 |
| F35   | 1        | X   | -0.03844 | -0.06679 | -0.03947 |
|       |          | Y   | 0.07793  | -0.03477 | -0.01622 |
|       |          | R   | 0        | 0.00007  | -0.00011 |
| F34   | 1        | X   | -0.03649 | -0.06332 | -0.03883 |
|       |          | Y   | 0.0748   | -0.0336  | -0.01526 |
|       |          | R   | 0        | 0.00006  | -0.00011 |
| F33   | 1        | X   | -0.03455 | -0.05985 | -0.03817 |
|       |          | Y   | 0.07168  | -0.03242 | -0.01433 |
|       |          | R   | 0        | 0.00006  | -0.0001  |
| F32   | 1        | X   | -0.03261 | -0.05641 | -0.03747 |
|       |          | Y   | 0.06856  | -0.03125 | -0.01342 |
|       |          | R   | 0        | 0.00006  | -0.00009 |
| F31   | 1        | X   | -0.03069 | -0.05299 | -0.03675 |
|       |          | Y   | 0.06546  | -0.03008 | -0.01254 |
|       |          | R   | 0        | 0.00005  | -0.00009 |
| F30   | 1        | X   | -0.02878 | -0.04961 | -0.03601 |
|       |          | Y   | 0.06238  | -0.02891 | -0.01168 |
|       |          | R   | 0        | 0.00005  | -0.00008 |
| F29   | 1        | X   | -0.02688 | -0.04627 | -0.03524 |
|       |          | Y   | 0.05932  | -0.02775 | -0.01084 |
|       |          | R   | 0        | 0.00004  | -0.00007 |
| F28   | 1        | X   | -0.02501 | -0.04298 | -0.03446 |
|       |          | Y   | 0.05629  | -0.0266  | -0.01001 |
|       |          | R   | 0        | 0.00004  | -0.00007 |
| F27   | 1        | X   | -0.02318 | -0.03976 | -0.03366 |
|       |          | Y   | 0.0533   | -0.02546 | -0.0092  |
|       |          | R   | 0        | 0.00004  | -0.00006 |
| F26   | 1        | X   | -0.02138 | -0.03664 | -0.03286 |
|       |          | Y   | 0.05034  | -0.02434 | -0.00839 |
|       |          | R   | 0        | 0.00003  | -0.00006 |
| F25   | 1        | X   | -0.01962 | -0.03359 | -0.03206 |
|       |          | Y   | 0.04743  | -0.02323 | -0.0076  |
|       |          | R   | 0        | 0.00003  | -0.00005 |
| F24   | 1        | X   | -0.0179  | -0.03062 | -0.03125 |
|       |          | Y   | 0.04457  | -0.02215 | -0.0068  |
|       |          | R   | 0        | 0.00003  | -0.00004 |
| F23   | 1        | X   | -0.01624 | -0.02776 | -0.03042 |



Mode Shapes for Rigid Diaphragms:

| Story | Diaph. # | Dir | Mode 1   | Mode 2   | Mode 3   |
|-------|----------|-----|----------|----------|----------|
|       |          | Y   | 0.04176  | -0.02109 | -0.00602 |
|       |          | R   | 0        | 0.00002  | -0.00004 |
| F22   | 1        | X   | -0.01465 | -0.02503 | -0.02954 |
|       |          | Y   | 0.03904  | -0.02003 | -0.00528 |
|       |          | R   | 0        | 0.00002  | -0.00003 |
| F21   | 1        | X   | -0.01315 | -0.02246 | -0.02859 |
|       |          | Y   | 0.0364   | -0.01897 | -0.0046  |
|       |          | R   | 0        | 0.00002  | -0.00003 |
| F20   | 1        | X   | -0.01175 | -0.02005 | -0.02758 |
|       |          | Y   | 0.03386  | -0.01791 | -0.00397 |
|       |          | R   | 0        | 0.00002  | -0.00002 |
| F19   | 1        | X   | -0.01045 | -0.01785 | -0.02651 |
|       |          | Y   | 0.03143  | -0.01686 | -0.00339 |
|       |          | R   | 0        | 0.00001  | -0.00002 |
| F18   | 1        | X   | -0.00927 | -0.01587 | -0.02539 |
|       |          | Y   | 0.02913  | -0.01583 | -0.00288 |
|       |          | R   | 0        | 0.00001  | -0.00002 |
| F17   | 1        | X   | -0.00823 | -0.01416 | -0.02421 |
|       |          | Y   | 0.02699  | -0.01478 | -0.00247 |
|       |          | R   | 0        | 0.00001  | -0.00002 |
| F16   | 1        | X   | -0.00732 | -0.01302 | -0.02285 |
|       |          | Y   | 0.02447  | -0.01266 | -0.00389 |
|       |          | R   | 0        | 0.00001  | -0.00001 |
| F15   | 1        | X   | -0.00721 | -0.01304 | -0.02285 |
|       |          | Y   | 0.02289  | -0.01184 | -0.00378 |
|       |          | R   | 0        | 0.00001  | -0.00001 |
| F14   | 1        | X   | -0.00712 | -0.01304 | -0.02289 |
|       |          | Y   | 0.02133  | -0.01105 | -0.00358 |
|       |          | R   | 0        | 0.00001  | -0.00001 |
| F13   | 1        | X   | -0.00708 | -0.01293 | -0.02311 |
|       |          | Y   | 0.02007  | -0.01098 | -0.0022  |
|       |          | R   | 0        | 0.00001  | -0.00001 |
| F12   | 1        | X   | -0.00696 | -0.01297 | -0.02301 |
|       |          | Y   | 0.01836  | -0.00992 | -0.00238 |
|       |          | R   | 0        | 0.00001  | -0.00001 |
| F11   | 1        | X   | -0.0063  | -0.01156 | -0.02064 |
|       |          | Y   | 0.01558  | -0.00896 | -0.00105 |
|       |          | R   | 0        | 0.00001  | -0.00001 |
| F10   | 1        | X   | -0.00536 | -0.01045 | -0.01733 |





Mode Shapes for Rigid Diaphragms:

| Story   | Diaph. # | Dir | Mode 1   | Mode 2   | Mode 3   |
|---------|----------|-----|----------|----------|----------|
|         |          | Y   | 0.01256  | -0.00704 | -0.00152 |
|         |          | R   | 0        | 0.00001  | -0.00001 |
| F9      | 1        | X   | -0.00452 | -0.00941 | -0.01428 |
|         |          | Y   | 0.01025  | -0.00592 | -0.00118 |
|         |          | R   | 0        | 0        | -0.00001 |
| F8      | 1        | X   | -0.00393 | -0.00797 | -0.01228 |
|         |          | Y   | 0.00875  | -0.00539 | -0.00032 |
|         |          | R   | 0        | 0        | -0.00001 |
| F7      | 1        | X   | -0.00345 | -0.00674 | -0.01076 |
|         |          | Y   | 0.00797  | -0.00658 | 0.00266  |
|         |          | R   | 0        | 0        | -0.00001 |
| F6      | 1        | X   | -0.00293 | -0.00567 | -0.00904 |
|         |          | Y   | 0.00655  | -0.00549 | 0.00217  |
|         |          | R   | 0        | 0        | 0        |
| F5      | 1        | X   | -0.00231 | -0.00439 | -0.00703 |
|         |          | Y   | 0.00515  | -0.0045  | 0.00177  |
|         |          | R   | 0        | 0        | 0        |
| F4      | 1        | X   | -0.00168 | -0.00317 | -0.00501 |
|         |          | Y   | 0.00367  | -0.00329 | 0.00121  |
|         |          | R   | 0        | 0        | 0        |
| F3      | 1        | X   | -0.0011  | -0.00213 | -0.00318 |
|         |          | Y   | 0.00204  | -0.00097 | -0.00077 |
|         |          | R   | 0        | 0        | 0        |
| F2      | 1        | X   | -0.00075 | -0.00137 | -0.00213 |
|         |          | Y   | 0.00142  | -0.00109 | -0.00012 |
|         |          | R   | 0        | 0        | 0        |
| Fground | 1        | X   | -0.00031 | -0.00068 | -0.00092 |
|         |          | Y   | 0.00057  | -0.0004  | -0.0001  |
|         |          | R   | 0        | 0        | 0        |
| Cellar  | 1        | X   | -0.0001  | -0.00022 | -0.00032 |
|         |          | Y   | 0.00017  | -0.00013 | -0.00002 |
|         |          | R   | 0        | 0        | 0        |

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