

GENERAL NOTES

1.
- LIMITS OF THE SUPPORT OF EXCAVATION AND FOUNDATION CONSTRUCTION ARE BASED ON STRUCTURAL DRAWINGS DRAWINGS PREPARED BY WSP DATED 8 MARCH 2016.
2.
3.
- SURVEY INFORMATION PREPARED BY LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING, LANDSCAPE ARCHITECTURE, D.P.C. (LANGAN) DATED 1/20/2015.
4.
- ALL ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVDS8) WHICH IS 1.65 FEET LOWER THAN BOROUGH PRESIDENT OF MANHATTAN DATUM (BPMO). [NAVDS8 = BPMO + 1.65]
5.
- SOE-SERIES DRAWINGS SHALL BE USED ONLY FOR THE SUPPORT OF EXCAVATION SYSTEM (SOE).
6.
- THE CONTRACTOR SHALL PERFORM TEST PITS TO CONFIRM SIZE AND DEPTH OF ADJACENT FOUNDATIONS AND VERIFY THE SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATING OR INSTALLING THE SOE, AND PROVIDE PROTECTION AND SUPPORT OF ALL EXISTING UTILITIES AND ADJACENT STRUCTURES DURING CONSTRUCTION.
7.
- PRIOR TO EXCAVATING AND INSTALLING THE SUPPORT OF EXCAVATION SYSTEM, THE CONTRACTOR SHALL SURVEY ADJACENT STRUCTURES AT LOT LINES FOR PROJECTIONS INTO THE SITE. PRECONSTRUCTION-CONDITION SURVEY AND MONITORING TO RECORD ANY CRACKS AND VERIFY BELOW GRADE LEVELS IN THE EXISTING STRUCTURES SHALL BE PERFORMED BY OTHERS.
8.
- CONTRACTOR SHALL PERFORM ALL WORK AS TO NOT UNDERMINE THE ADJACENT STRUCTURES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DAMAGES ON THE ADJACENT STRUCTURES.
9.
- ANY DAMAGE TO ADJACENT STRUCTURES SHALL BE REPORTED TO OWNER AND REPAIRED BY CONTRACTOR, AT NO ADDITIONAL COST TO OWNER.
10.
- ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OUTLINED ON THE CONTRACT DRAWINGS AND AS INDICATED IN THE PROJECT SPECIFICATIONS.
11.
- ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE 2014 NEW YORK CITY BUILDING CODE AND THE REQUIREMENTS OF ALL OTHER AGENCIES HAVING JURISDICTION.
12.
- THE WORK SHOWN IN THESE DRAWINGS SHALL BE EXECUTED IN CONJUNCTION WITH THOSE OF THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, SITE/CIVIL DRAWINGS AND DRAWINGS OF ALL OTHER DISCIPLINES. DISCREPANCIES BETWEEN THESE DRAWINGS AND THOSE OF OTHER DISCIPLINES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION PRIOR TO COMMENCING WORK.
13.
- THE CONTRACTOR SHALL COORDINATE SOE WORK WITH THAT OF OTHER TRADES, INCLUDING BUT NOT LIMITED TO: SITE UTILITIES, GENERAL EARTHWORK, AND BUILDING FOUNDATION CONSTRUCTION.
14.
- REFER TO STRUCTURAL DRAWINGS FOR ALL BUILDING FOUNDATION DETAILS.
15.
- REFER TO ARCHITECTURAL DRAWINGS FOR GENERAL BUILDING DETAILS.
16.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES PRIOR TO COMMENCING WORK, AS REQUIRED.
17.
- THE CONTRACTOR SHALL MAINTAIN GROUNDWATER LEVEL AT LEAST 2 FT BELOW SUBGRADE LEVEL DURING EXCAVATION AND SUBGRADE PREPARATION.
18.
- BENCH CUT OR SLOPE ALL EXCAVATIONS TO COMPLY WITH OSHA STANDARDS UNLESS SUITABLE TEMPORARY SHORING OR BRACING IS PROVIDED.
19.
- DO NOT OVER-EXCAVATE UNLESS DIRECTED BY THE OWNER'S GEOTECHNICAL OR ENVIRONMENTAL ENGINEER FOR REMOVAL OF UNSUITABLE SOIL.
20.
- REFER TO GEOTECHNICAL ENGINEERING REPORT PREPARED BY LANGAN DATED 13 APRIL 2015 FOR INFORMATION PERTAINING TO GENERAL SUBSURFACE CONDITIONS.
21.
- ALL WORK SHALL BE SUBJECT TO SPECIAL INSPECTION AS REQUIRED BY THE NEW YORK CITY BUILDING CODE 2014. REFER TO NEW YORK CITY BUILDING DEPARTMENT NOTES FOR IDENTIFICATION OF SPECIAL INSPECTIONS.

STRUCTURAL STEEL NOTES

1.
- STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A992, GRADE 50, U.O.N.
2.
- SHEET PILES, WALES, AND STRUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572, GRADE 50 U.O.N.
3.
- MISCELLANEOUS STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36, U.O.N.
4.
- FIELD WELDING SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1-06.
5.
- WELDING ELECTRODES SHALL BE E70XX, UNLESS NOTED OTHERWISE. FILLET WELDS SHALL NOT BE LESS THAN 3/16-INCH.
6.
- REFER TO FO-SERIES STRUCTURAL DRAWINGS AND THE PROJECT SPECIFICATIONS FOR STRUCTURAL STEEL REQUIREMENTS RELATED TO ALL OTHER WORK.

CONCRETE NOTES

1.
- CAST-IN-PLACE CONCRETE SHALL BE CONTROLLED CONCRETE AND SHALL HAVE A MINIMUM UNCONFINED COMPRESSIVE STRENGTH AT 28 DAYS (FC) OF 4,000 PSI U.O.N.
2.
- CONCRETE REINFORCEMENT BARS SHALL CONSIST OF DEFORMED BILLET STEEL MEETING ASTM A615, GRADE 60.
3.
- MECHANICAL SPLICES SHALL DEVELOP THE FULL TENSILE CAPACITY OF THE PARENT REINFORCING BAR.
4.
- MINIMUM CONCRETE COVER SHALL BE IN ACCORDANCE WITH ACI 318.
5.
- TOLERANCES FOR CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 117.
6.
- ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED A MINIMUM OF 3/4 INCHES.
7.
- REFER TO STRUCTURAL DRAWINGS AND SPECIFICATIONS RELATED TO ALL OTHER WORK.

SUPPORT OF EXCAVATION NOTES

1.
- SHEET PILES SHALL CONFORM TO ASTM A-572 GRADE 50.
2.
- VIBRATORY DRIVING CAN BE USED TO INSTALL THE STEEL SHEET PILES.
3.
- THE TOP OF ALL SHEET PILING SHALL EXTEND A MINIMUM OF 6 INCHES ABOVE THE GROUND SURFACE.
4.
- ALL SHEET PILES SHALL BE INTERLOCKED.
5.
- SHEET PILING SHALL BE INSTALLED TO WITHIN 3-INCHES OF THEORETICAL LOCATION. SHEETS PILES SHALL NOT DEVIATE MORE THAN 1 PERCENT FROM PLUMB. SHEETS PILES DRIVEN OUTSIDE OF THE ABOVE TOLERANCES SHALL BE EXTRACTED AND REDRIVEN.
6.
- TIMBER SHALL BE CONSTRUCTION GRADE, ROUGH CUT FULL SIZE, SOUTHERN PINE WITH A MINIMUM ALLOWABLE BENDING STRESS OF 1950 PSI. 3 INCH TIMBER LAGGING SHALL BE INSTALLED FROM GROUND SURFACE TO EXTENT OF EXCAVATION (TOP-DOWN).
7.
- INSTALLATION PROCEDURE:

•

FIELD LOCATE EXISTING STRUCTURES AND UTILITIES TO ENSURE NECESSARY CLEARANCES.

•

GRADE SURFACE AS REQUIRED TO PROVIDE LEVEL WORKING PLATFORM.

•

PERFORM PRE-EXCAVATIONS AS REQUIRED ALONG ALIGNMENT TO CLEAR OBSTRUCTIONS.

•

SET PILING RIG AT DESIRED LOCATION AND PLUMB THE SHEETING OR SOLDIER PILE PRIOR TO DRIVING.

•

DRIVE SHEETING TO THE REQUIRED MINIMUM DEPTHS. VIBRATION AND SURVEY MONITORING OF THE SOE SYSTEM AND ADJACENT STRUCTURES SHALL BE PERFORMED CONTINUOUSLY DURING DRIVING. DRIVING SHALL BE CEASED IF VIBRATION LIMITS OR SETTLEMENTS EXCEED THE DEFINED THRESHOLD VALUES ESTABLISHED HEREIN (SEE MONITORING NOTES).

•

INSTALL BRACING AS REQUIRED AT THE LOCATIONS SHOWN ON THE DRAWINGS.

•

CONTINUE EXCAVATION AS REQUIRED TO ACHIEVE SUBGRADE ELEVATION. DEWATER LOCALLY AS REQUIRED FOR INSTALLATION OF PERMANENT FOUNDATIONS. DEEPER DEWATERING WILL BE REQUIRED FOR THE CONSTRUCTION OF THE ELEVATOR PITS.

•

INSTALL PERMANENT FOUNDATIONS AS REQUIRED.

•

BRACING SHALL REMAIN IN-PLACE UNTIL ADEQUATE LATERAL SUPPORT IS PROVIDED BY PERMANENT STRUCTURAL ELEMENTS (I.E. FOUNDATIONS AND INTERMEDIATE FLOOR SLABS).

TIE-BACK ANCHOR NOTES:

1.
- ANCHOR SHALL CONSIST SINGLE-CORROSION PROTECTION. HOLLOW BARS MANUFACTURED BY SAS STRESSSTEEL, INC., OR APPROVED EQUIVALENT. THE ULTIMATE STRENGTH SHALL BE 97 KSI.
2.
- PLATES AND OTHER MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A-36.
3.
- GROUT SHALL CONSIST OF A MIXTURE OF PORTLAND CEMENT (TYPE I, II, OR III) AND WATER. SUBMIT MIX DESIGN SUITABLE FOR ACHIEVING AN UNCONFINED COMPRESSIVE STRENGTH AT 28 DAYS (FC) OF 5,000 PSI.
4.
- PROVIDE FREE STRESSING LENGTHS AS INDICATED ON THE DRAWING SOE-401 USING SMOOTH PVC SHEATH.
5.
- THE ANCHOR BOND ZONE SHALL HAVE A MINIMUM NOMINAL DIAMETER OF AT LEAST 6 INCHES.
6.
- ANCHOR NUTS & COUPLERS SHALL BE CAPABLE OF DEVELOPING 100% OF THE ULTIMATE STRENGTH OF STRESS STEEL.
7.
- CARE SHALL BE TAKEN NOT TO DAMAGE THE ANCHOR TENDONS. KEEP THE ANCHOR TENDONS FREE OF DIRT OR OTHER DELETERIOUS SUBSTANCES.
8.
- WELDING SHALL NOT BE PERFORMED ON OR IN THE VICINITY OF ANCHOR TENDONS. ANCHOR TENDONS SHALL NOT BE USED AS A WELDING GROUND AND SHALL NOT BE EXCESSIVELY HEATED. CUTTING OF ANCHOR TENDONS SHALL BE PERFORMED WITH A METAL CUT-OFF SAW; TORCHES AND PLASMA CUTTERS SHALL NOT BE USED.
9.
- JACKING SHALL BE PERFORMED UTILIZING A CALIBRATED CENTER-HOLE JACK.
10.
- ANCHOR MOVEMENTS SHALL BE RECORDED WITH A DIAL INDICATOR CAPABLE OF READING TO INCREMENTS OF 0.001-INCH.
11.
- ANCHORS SHALL HAVE AN ALLOWABLE CAPACITY SUITABLE FOR ACHIEVING LOADS PRESCRIBED ON THE DRAWINGS. ANCHORS SHALL BE LOCKED OFF AT 75 PERCENT OF THE DESIGN VALUE UPON COMPLETION OF TESTING UNLESS OTHERWISE STATED ON DRAWINGS.
12.
- CONTRACTOR SHALL SUBMIT ANCHOR SHOP DRAWINGS FOR APPROVAL PRIOR TO COMMENCING ANCHOR INSTALLATION. SHOP DRAWINGS SHALL CONTAIN ANCHOR DETAILS, INSTALLATION & TESTING PROCEDURES.
13.
- REJECTION OF HOLES: HOLES REJECTED BECAUSE OF NON-CONFORMANCE TO ALIGNMENT TOLERANCES OR BECAUSE THEY INTERCEPT OTHER HOLES SHALL BE FILLED WITH GROUT AND ANOTHER HOLE SHALL BE DRILLED AT THE CONTRACTOR'S EXPENSE.
14.
- GROUT SHALL BE CEMENT GROUT HAVING A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI.
15.
- CENTRALIZERS, SPACERS OR OTHER SUITABLE CENTERING DEVICES SHALL BE PLACED AT MAXIMUM 10-FOOT INTERVALS OR IN A SUFFICIENT NUMBER TO ENSURE ADEQUATE GROUT COVER OVER THE TENDON ASSEMBLY THROUGHOUT THE ENTIRE TENDON LENGTH. CENTRALIZERS AND SPACERS MAY BE MADE OF ANY MATERIAL (EXCEPT WOOD) NOT DELETERIOUS TO THE TENDONS OR SHEATHING, AND SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
16.
- CONTRACTOR SHALL SUBMIT TIEBACK SHOP DRAWING FOR APPROVAL PRIOR TO COMMENCING ANCHOR INSTALLATION. SHOP DRAWING SHALL CONTAIN TIEBACK DETAILS, INSTALLATION AND TESTING PROCEDURES.
17.
- TIE-BACK ANCHOR TESTING:

a.

TEN PERCENT (10%) OF THE TIE-BACK ANCHORS SHALL BE PERFORMANCE TESTED. ALL OTHER ANCHORS SHALL BE PROOF TESTED USING A CALIBRATED CENTER HOLE JACK.

b.

ALL ANCHORS SHALL BE PROOF TESTED IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED IN THE POST-TENSIONING INSTITUTE (PTI) DOCUMENT "RECOMMENDATIONS FOR PRESTRESSED ROCK AND SOIL ANCHORS", PTI-DC35.1-04.

c.

PERFORMANCE AND PROOF TESTING SHALL BE AS FOLLOWS:

PERFORMANCE TEST:

AL, 25P

AL, 25P, 50P

AL, 25P, 50P, 75P

AL, 25P, 50P, 75P, 1,00P

AL, 25P, 50P, 75P, 1,00P, 1,20P

AL, 25P, 50P, 75P, 1,00P, 1,20P, 1,33P

HOLD 1.33P FOR CREEP TEST. RECORD MOVEMENTS USING A DIAL INDICATOR CAPABLE OF READING INCREMENTS OF 0.001-INCH. RECORD READINGS AT 0, 1, 2, 3, 4, 5, 6 AND 10 MINUTES. IF THE INCREMENTAL MOVEMENT IS GREATER THAN 0.04-INCH, HOLD FOR AN ADDITIONAL 50 MINUTES AND TAKE READINGS IN 10 MINUTE INTERVALS. RELEASE TO ALIGNMENT LOAD, RE-STRESS TO TRANSFER LOAD, AND LOCK OFF ANCHOR NUT. PERFORM A LIFT-OFF TEST TO CONFIRM THE ACTUAL LOCK-OFF LOAD IS WITHIN 5% OF THE DESIGN LOCK-OFF LOAD.

PROOF TEST: AL, 25P, 50P, 75P, 1,00P, 1,20P, 1,33P. HOLD 1.33P FOR CREEP TEST. RECORD MOVEMENTS USING A DIAL INDICATOR CAPABLE OF READING INCREMENTS OF 0.001-INCH. RECORD READINGS AT 0, 1, 2, 3, 4, 5, 6 AND 10 MINUTES. IF THE INCREMENTAL MOVEMENT IS GREATER THAN 0.04-INCH, HOLD FOR AN ADDITIONAL 50 MINUTES AND TAKE READINGS IN 10 MINUTE INTERVALS. RELEASE TO ALIGNMENT LOAD, RE-STRESS TO TRANSFER LOAD, AND LOCK OFF ANCHOR NUT. PERFORM A LIFT-OFF TEST TO CONFIRM THE ACTUAL LOCK-OFF LOAD IS WITHIN 5.1% OF THE DESIGN LOCK-OFF LOAD

d.

ACCEPTANCE: IF THE INCREMENTAL MOVEMENT BETWEEN 0 AND 10 MINUTES IS LESS THAN 0.04-INCH OR THAT BETWEEN 10 AND 60 MINUTES IS LESS THAN 0.08-INCH; AND THE APPARENT FREE TENDON LENGTH IS GREATER THAN 80% OF THE DESIGN FREE LENGTH AND LESS THAN 100% FREE LENGTH PLUS 50% BOND LENGTH; THE ANCHOR SHALL BE ACCEPTED.

e.

REJECTED ANCHORS SHALL BE ABANDONED AND REPLACEMENT ANCHORS DRILLED AT CONTRACTOR'S EXPENSE.

f.

THE LOCK-OFF LOAD FOR ALL ANCHORS SHALL BE AT 75% OF THE DESIGN LOAD, UNLESS OTHERWISE STATED ON DRAWINGS.

MONITORING NOTES

1.
- PRIOR TO START OF WORK, PERFORM PRECONSTRUCTION CONDITIONS DOCUMENTATION OF ALL ADJACENT STRUCTURES.
2.
- PROVIDE MONITORING OF SOE WALL MOVEMENTS, GROUNDWATER LEVELS, AND PUMPING FLOW RATES AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH PROJECT SPECIFICATIONS.

THE MONITORING PROGRAM SHALL CONSIST OF:

•

OPTICAL SURVEY MONITORING POINTS.

•

SEISMOGRAPHS

•

WATER LEVEL READINGS DURING EXCAVATION AND DEWATERING OPERATIONS.

2.

PRIOR TO ANY SITE EXCAVATION BELOW EXISTING GRADE:

•

ESTABLISH SURVEY BASELINES FOR ADJACENT BUILDINGS AND INFRASTRUCTURE.

•

SUBMIT SAMPLE BASELINE LAYOUT AND SAMPLE DATA REPORT FORMS FOR APPROVAL.

3.

MONITORING FREQUENCY: CONTRACTOR SHALL TAKE AND RECORD ALL READINGS ON A DAILY BASIS. MONITORING SHALL CONTINUE UNTIL COMPLETION OF THE PERMANENT CELLAR AND GROUND FLOOR SLABS.

•

MONITORING POINTS: 0.25 INCHES TOTAL LATERAL MOVEMENT OR 0.0625 INCHES LATERAL MOVEMENT BETWEEN READINGS. 0.375 INCHES TOTAL VERTICAL MOVEMENT OR 0.0625 INCHES VERTICAL MOVEMENT BETWEEN READINGS.

•

VIBRATION: PEAK PARTICLE VELOCITIES EXCEEDING 2-INCHES PER SECOND.

•

VIBRATION OF LANDMARKED BUILDING: VIBRATION FOR THE CON EDISION POWER STATION SHALL NOT EXCEED 0.5-INCHES PER SECOND

•

WATER LEVEL: 2 FT INCREASE OR DECREASE IN ANY MEASUREMENT AFTER PUMPING HAS STABILIZED AT ANY TEMPORARY SUBGRADE DURING EXCAVATION.

5.

THE CONTRACTOR WILL DETERMINE IF CONTINGENCY PLANS ARE NECESSARY.

6.

IN THE EVENT THAT MONITORING INDICATES MOVEMENT EXCEEDS THE ABOVE DEFINED ALERT LEVELS (LATERAL OR VERTICAL), THE CONTRACTOR SHALL CEASE EXCAVATION AND PROVIDE STABILIZATION OF THE EXCAVATION SUPPORT SYSTEM VIA INSTALLATION OF TEMPORARY EARTHEN BERMS AND/OR ADDITIONAL BRACING. ADDITIONAL EXCAVATION ACTIVITIES SHALL NOT PROCEED WITHOUT THE AUTHORIZATION OF THE OWNER'S ENGINEER.

9.

ALL SURVEY MONITORING POINTS SHALL BEAR A UNIQUE IDENTIFICATION. AS-BUILT PLANS SHALL BE PREPARED FOR ALL SURVEY MONITORING POINTS INSTALLED. PLANS SHALL BE AMENDED AS REQUIRED DURING CONSTRUCTION FOR THE ABANDONMENT, REPLACEMENT, OR ADDITION OF NEW SURVEY MONITORING LOCATIONS.

10.

VIBRATION MONITORING DURING ALL OPERATIONS TO BE PERFORMED BY OTHERS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE MAXIMUM PERMISSIBLE VIBRATION LEVEL (PPV) OF ALL CONSTRUCTION ACTIVITIES SHALL BE 2.0-INCHES PER SECOND AS MEASURED AT THE PROJECT SITE PERIMETER. THRESHOLD TRIGGER VALUES FOR GEOPHONES SHALL BE SET TO A MAXIMUM OF 0.5-INCHES PER SECOND.

11.

INSTALL SURVEY MONITORING POINTS AT LOCATIONS DETERMINED IN CONSULTATION WITH THE OWNER'S ENGINEER.

12.

INSTALL GROUNDWATER MONITORING WELLS AT LOCATIONS TO BE COORDINATED WITH THE OWNER'S ENGINEER.

13.

INSTALL SEISMOGRAPHS (BY OTHERS) AT LOCATIONS DETERMINED IN CONSULTATION WITH THE OWNER'S ENGINEER.

NEW YORK CITY BUILDING DEPARTMENT NOTES

1.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED IN THE 2014 NEW YORK CITY BUILDING CODE.

2.

SITE SAFETY SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED IN CHAPTER 33 OF THE NEW YORK CITY BUILDING CODE.

3.

THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF BUILDINGS AND ADJACENT PROPERTY OWNER'S 24 TO 48 HOURS PRIOR TO COMMENCING EXCAVATION AS PER SECTION 3304.3.1 AND 3304.3.2 OF THE NEW YORK CITY BUILDING CODE.

4.

ALL WORK CONTAINED HEREIN SHALL BE SUBJECT TO SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 AND CHAPTER 19 OF THE NEW YORK CITY BUILDING CODE. SPECIAL INSPECTORS SHALL MEET THE QUALIFICATIONS OUTLINED IN SECTIONS 28-114.1, 28-115.1, AND 28-116.1 OF THE ADMINISTRATIVE CODE. REQUIRED SPECIAL INSPECTIONS INCLUDE:

A. STRUCTURAL STEEL - WELDING PER SECTION 1704.3.1

B. CONCRETE - CAST-IN-PLACE PER SECTION 1704.4

C. SUBSURFACE CONDITIONS - LIFT PLACEMENT & IN-PLACE DENSITY PER SECTION 1704.7.2 AND 1704.7.3

D. EXCAVATIONS - SHEETING, SHORING AND BRACING PER SECTION 1704.20.2

E. CONCRETE DESIGN MIX PER SECTION 1905.3 AND 1913.5

F. CONCRETE SAMPLING AND TESTING PER SECTION 1905.6 AND 1913.10

G. FINAL PROGRESS INSPECTION PER SECTION 28-116.2.4.2, 110.5, DIRECTIVE 14 OF 1975 AND 1 RCNY 101-10

5.

IN CONFORMANCE WITH THE NEW YORK CITY BUILDING CODE, THE OWNER'S ENGINEER SHALL BE RETAINED TO CONDUCT THE NECESSARY SPECIAL INSPECTIONS FOR THE PROPOSED WORK AS APPROPRIATE.

6.

REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION ON SCOPE AND DETAILED REQUIREMENTS FOR INSPECTIONS AND TESTING.

7.

REFER TO THE PROJECT SPECIFICATIONS AND DRAWINGS FOR DEPTH AND TESTING REQUIREMENTS PERTAINING TO WORK OF OTHER TRADES.

8.

TO THE BEST OF OUR KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND SPECIFICATIONS ARE AN EXCEPTION FROM THE 2014 NEW YORK CITY ENERGY CONSERVATION CODE. THE SCOPE OF WORK DOES NOT AFFECT THE ENERGY USE OF THE BUILDING.

APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
DATE: 03/11/2016
NYC Development Hub

Date	Description	No.
03/11/16	REVISION DUE TO CHANGE OF EXCAVATION LEVEL AND VAULTS	1

REVISIONS

SIGNATURE

03/11/2016

PROFESSIONAL ENGINEER Lic. No. 0802201

LANGAN

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Langan Engineering and Environmental Services, Inc.
Langan CT Inc.
Langan International LLC
Collectively known as Langan

Project

RIVERSIDE CENTER
BUILDING 3

10 RIVERSIDE BLVD.
BLOCK No. 1171, LOT No. 155 & 158

NEW YORK

NEW YORK

Drawing Title

SUPPORT OF
EXCAVATION
NOTES

Project No.
170275403

Drawing No.

Date
10/08/2015

Scale

AS SHOWN

Drawn By
RK

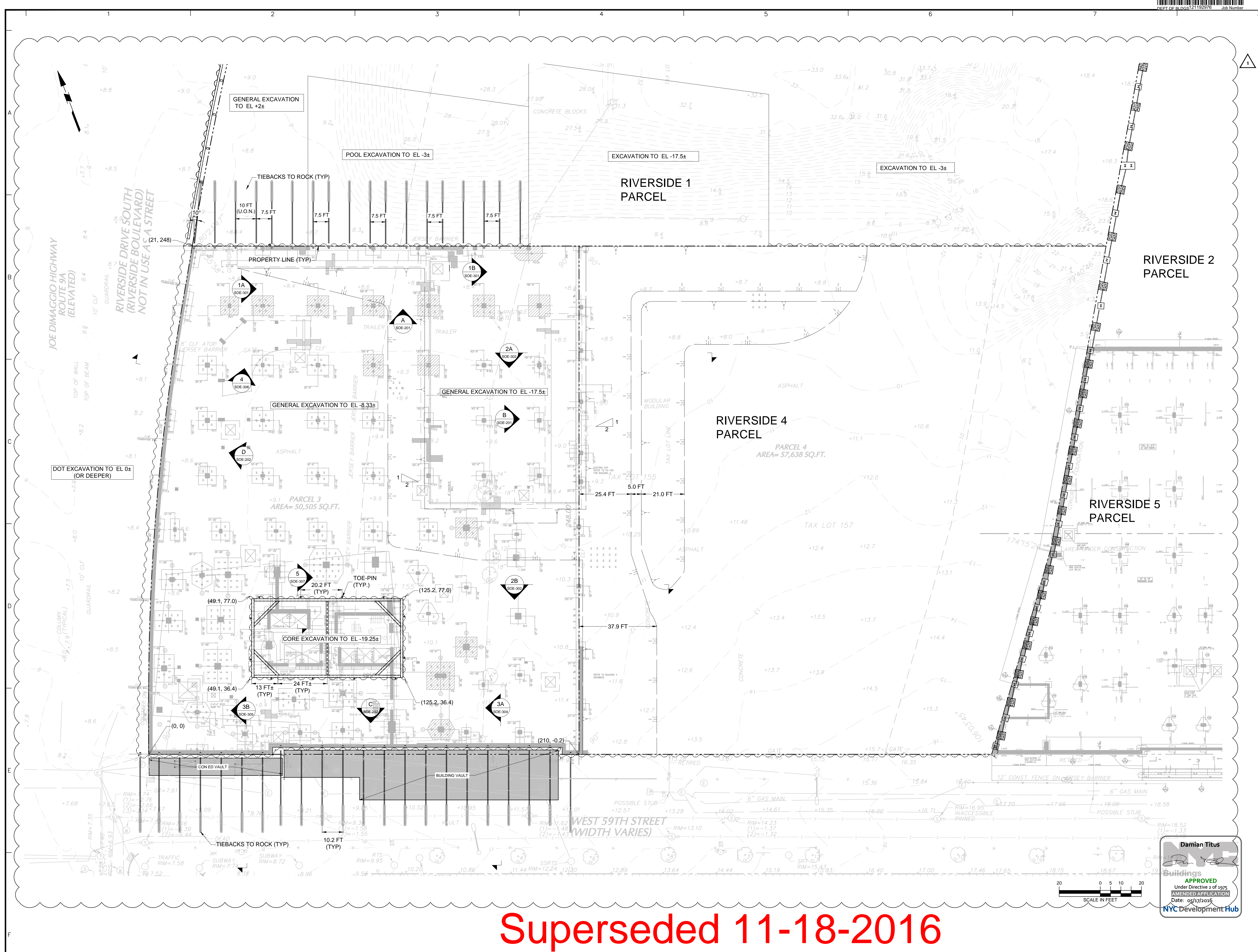
Checked By
JD

Submission Date
10/08/2015

Sheet 1 of 12

SOE-001.01

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03/11/16	REVISION DUE TO CHANGE OF EXCAVATION LEVEL AND VAULTS	1

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Langan Engineering, Environmental, Surveying and Landscape Architecture, P.C.
Langan Engineering and Environmental Services, Inc.
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Collectively known as Langan

Project

RIVERSIDE CENTER BUILDING 3

10 RIVERSIDE BLVD.
BLOCK NO. 1171, LOT NO. 155 & 158

NEW YORK NEW YORK

Drawing Title

SUPPORT OF EXCAVATION PLAN

Project No.	170275403	Drawing No.	SOE-101.01
Date	10/08/2015	Scale	1" = 20'
Scale	1" = 20'	Drawn By	RK
Submission Date	10/08/2015	Checked By	JD
		Submission Date	10/08/2015
		Sheet	2 of 12

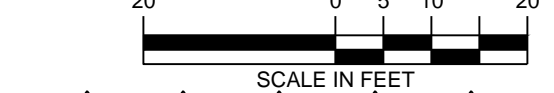
APPROVED

Under Directive 2 of 1975

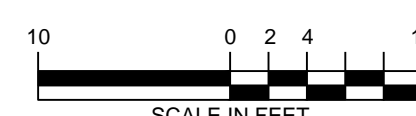
AMENDED APPLICATION

Date: 03/17/2016

NYC Development Hub

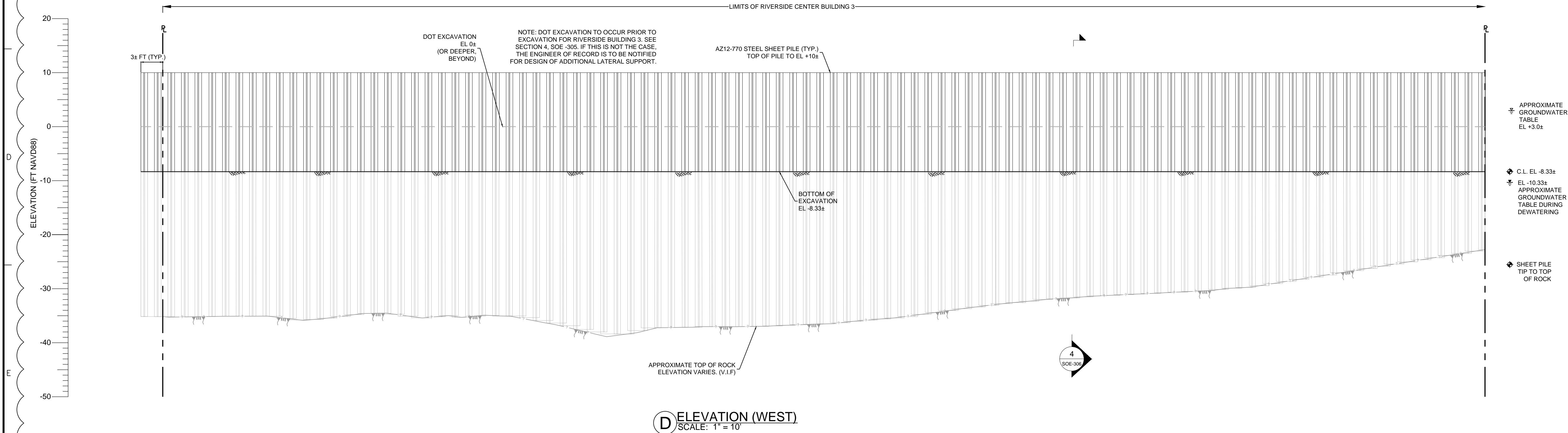
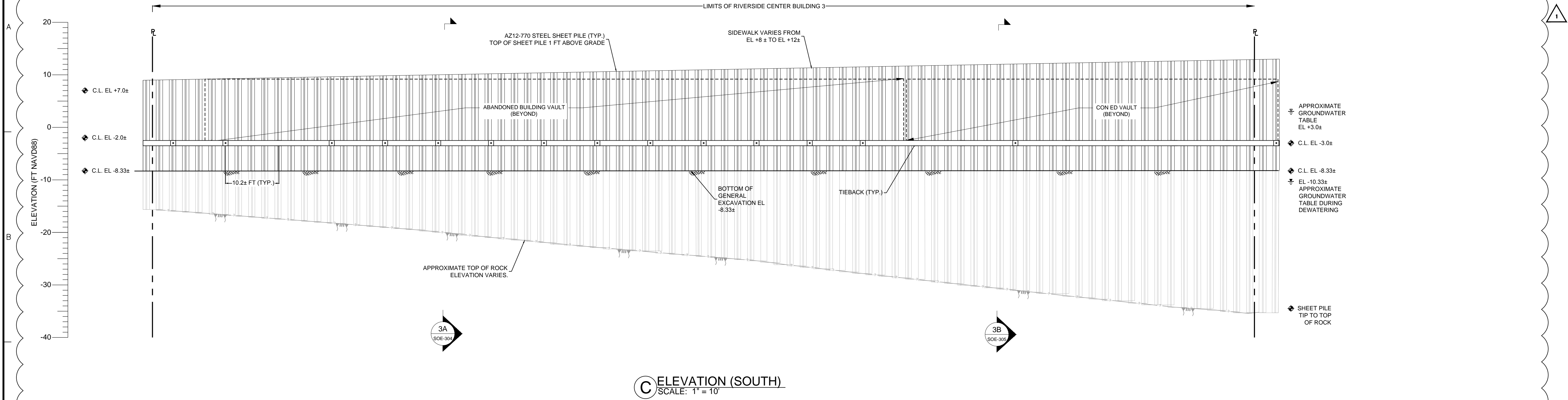


Superseded 11-18-2016




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Drawn By RK	Checked By JD	
Submission Date 10/08/2015		
		Sheet 3 of 12

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Date	Description	No.
03/11/16	REVISION DUE TO CHANGE OF EXCAVATION LEVEL AND VAULTS	1

REVISIONS

SIGNATURE  03/11/2016
PROFESSIONAL ENGINEER Lic. No. 0802201

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Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan International LLC
Collectively known as Langan

Project

**RIVERSIDE CENTER
BUILDING 3**

**10 RIVERSIDE BLVD.
BLOCK No. 1171, LOT No. 155 & 158**

NEW YORK NEW YORK

Drawing Title

**ELEVATION
(SOUTH & WEST)**

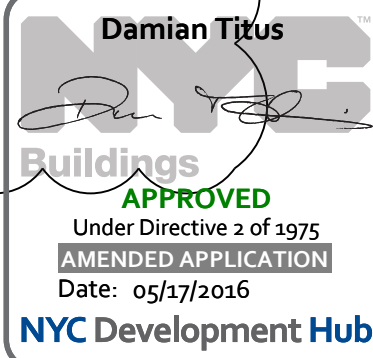
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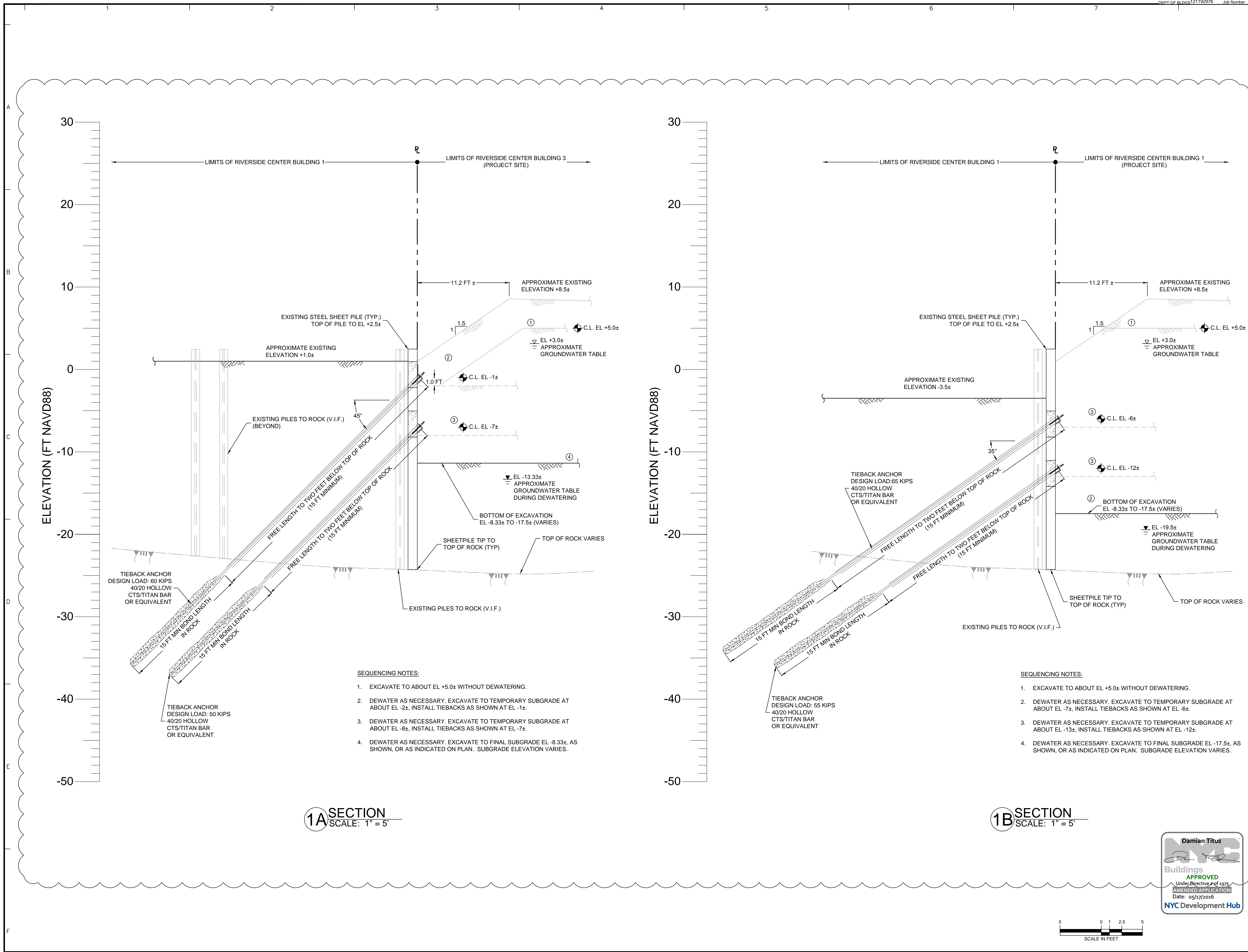
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Drawn By **RK** Checked By **JD**


Submission Date **10/08/2015** Sheet 4 of 12





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REVISIONS

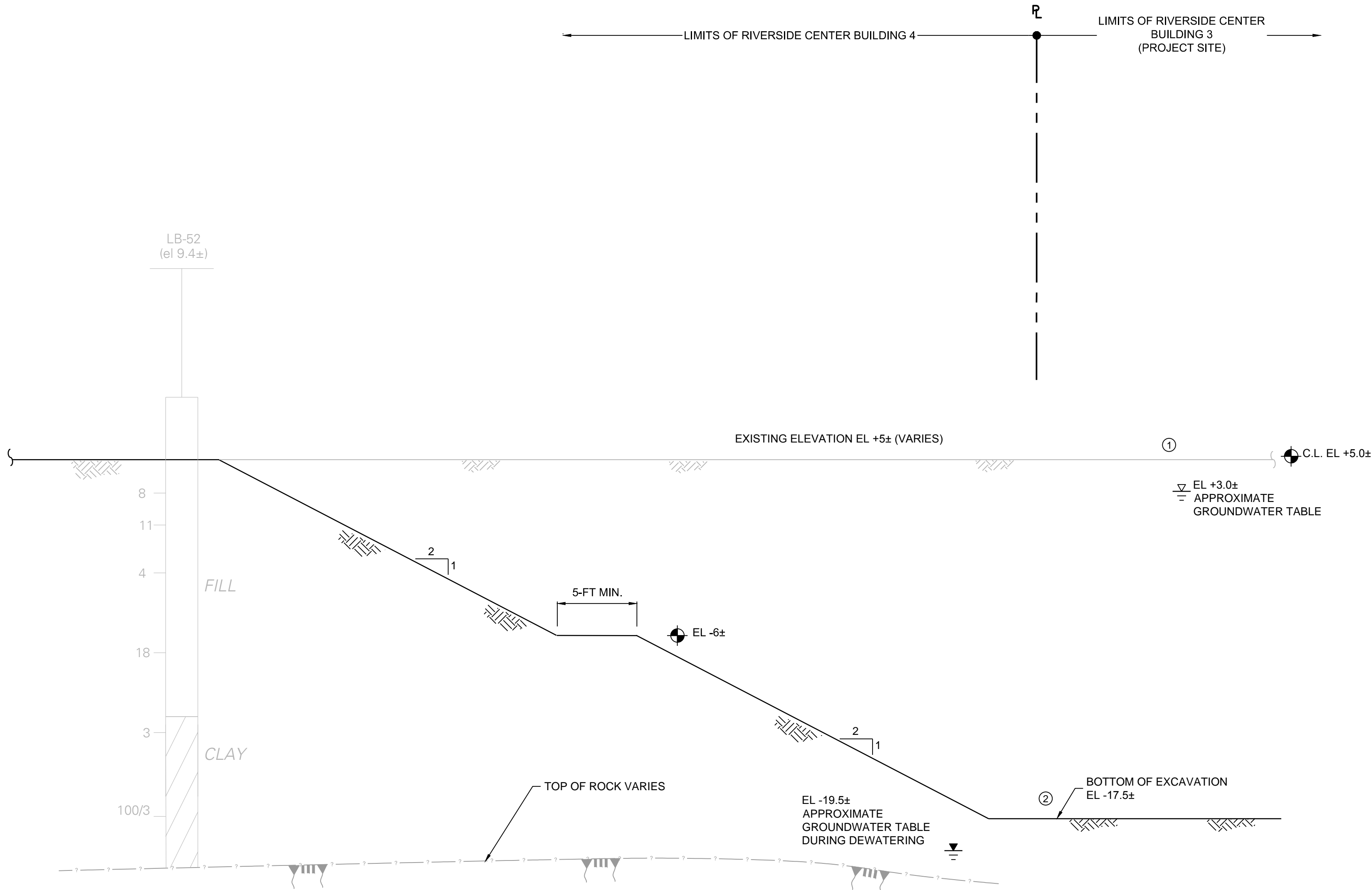
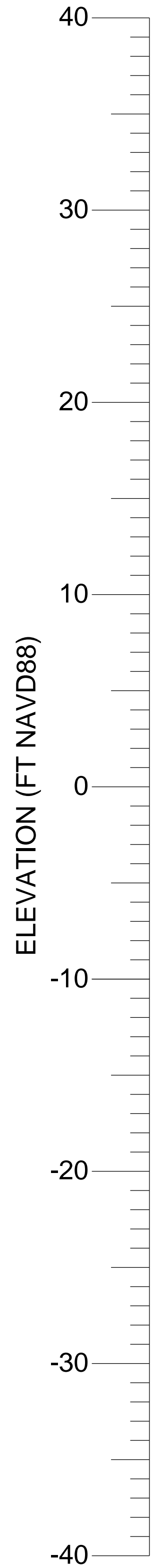
SIGNATURE  03/11/2016
PROFESSIONAL ENGINEER Lic. No. 0802201

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21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, NY 10001
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ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan International LLC
Collectively known as Langan

Project
RIVERSIDE CENTER BUILDING 3
10 RIVERSIDE BLVD.
BLOCK No. 1171, LOT No. 155 & 158
NEW YORK NEW YORK
Drawing Title

SECTIONS

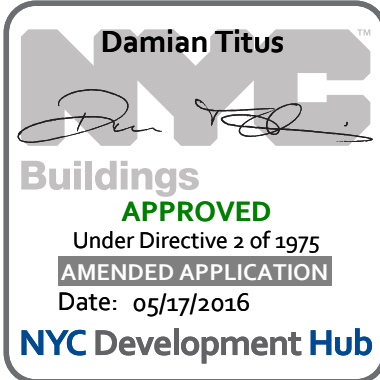
Project No. 170275403	Drawing No.
Date 10/08/2015	SOE-301.01
Scale 1" = 5'	
Drawn By RK	
Submission Date 10/08/2015	Sheet 5 of 12



SEQUENCING NOTES:

- EXCAVATE TO ABOUT EL +5.0± WITHOUT DEWATERING.
- DEWATER AS NECESSARY. EXCAVATE AND SLOPE BERM TO FINAL SUBGRADE EL -17.5± AS SHOWN.

2A SECTION
SCALE: 1" = 5'



Date	Description	No.
03/11/16	REVISION DUE TO CHANGE OF EXCAVATION LEVEL AND VAULTS	1

REVISIONS

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Project

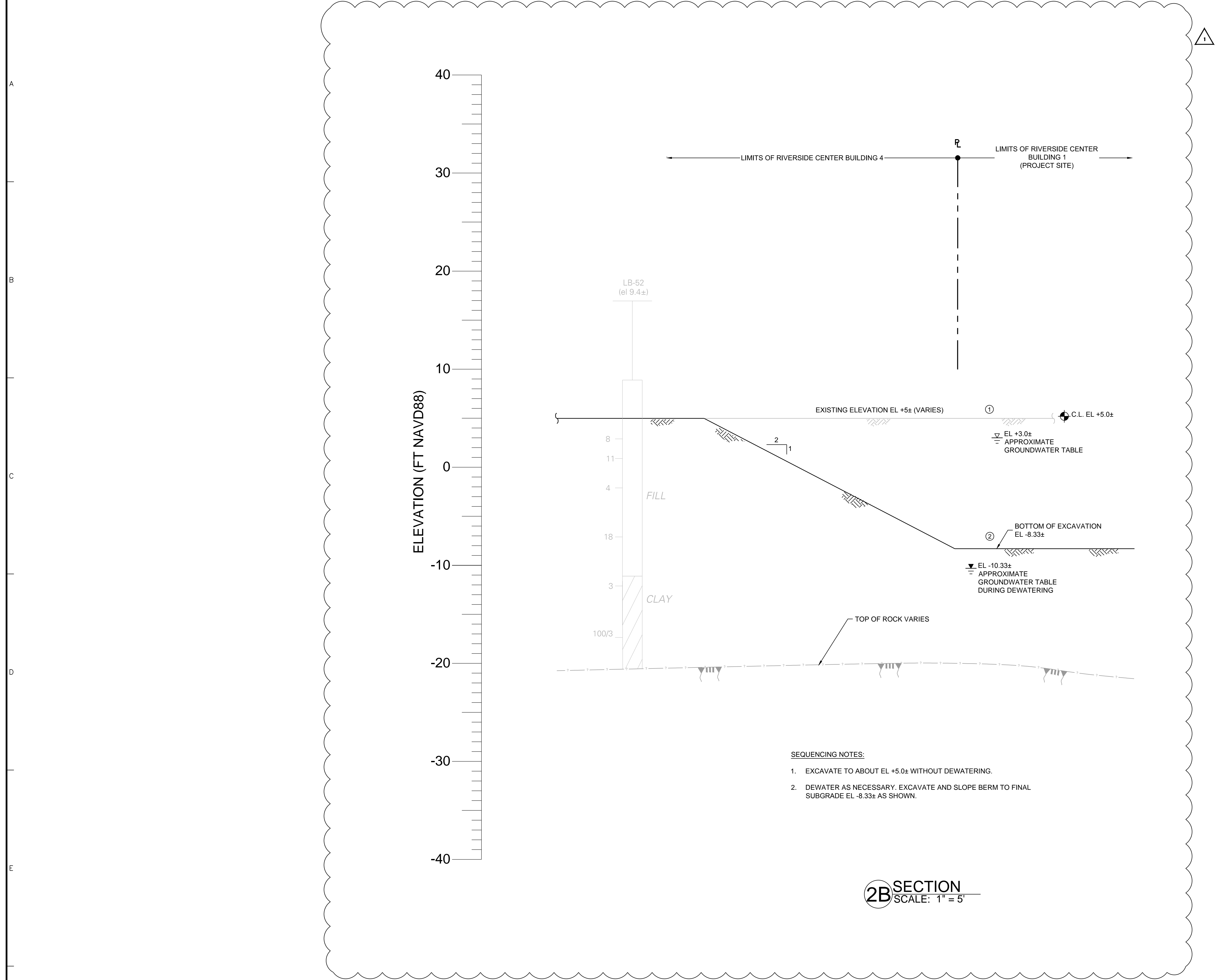
**RIVERSIDE CENTER
BUILDING 3**
10 RIVERSIDE BLVD.
BLOCK No. 1171, LOT No. 155 & 158

NEW YORK NEW YORK

Drawing Title

SECTIONS

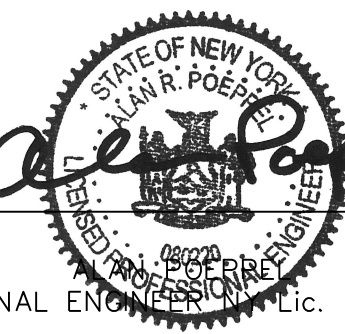
Project No. 170275403	Drawing No. SOE-302.01
Date 10/08/2015	
Scale 1" = 5'	
Drawn By RK	Checked By JD
Submission Date 10/08/2015	Sheet 6 of 12



- SEQUENCING NOTES:
- EXCAVATE TO ABOUT EL +5.0± WITHOUT DEWATERING.
 - DEWATER AS NECESSARY. EXCAVATE AND SLOPE BERM TO FINAL SUBGRADE EL -8.33± AS SHOWN.

Date	Description	No.
03/11/16	REVISION DUE TO CHANGE OF EXCAVATION LEVEL AND VAULTS	1

REVISIONS

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Project

**RIVERSIDE CENTER
BUILDING 3**


10 RIVERSIDE BLVD.
BLOCK No. 1171, LOT No. 155 & 158

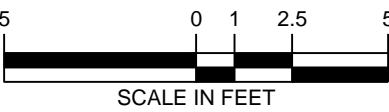
NEW YORK NEW YORK

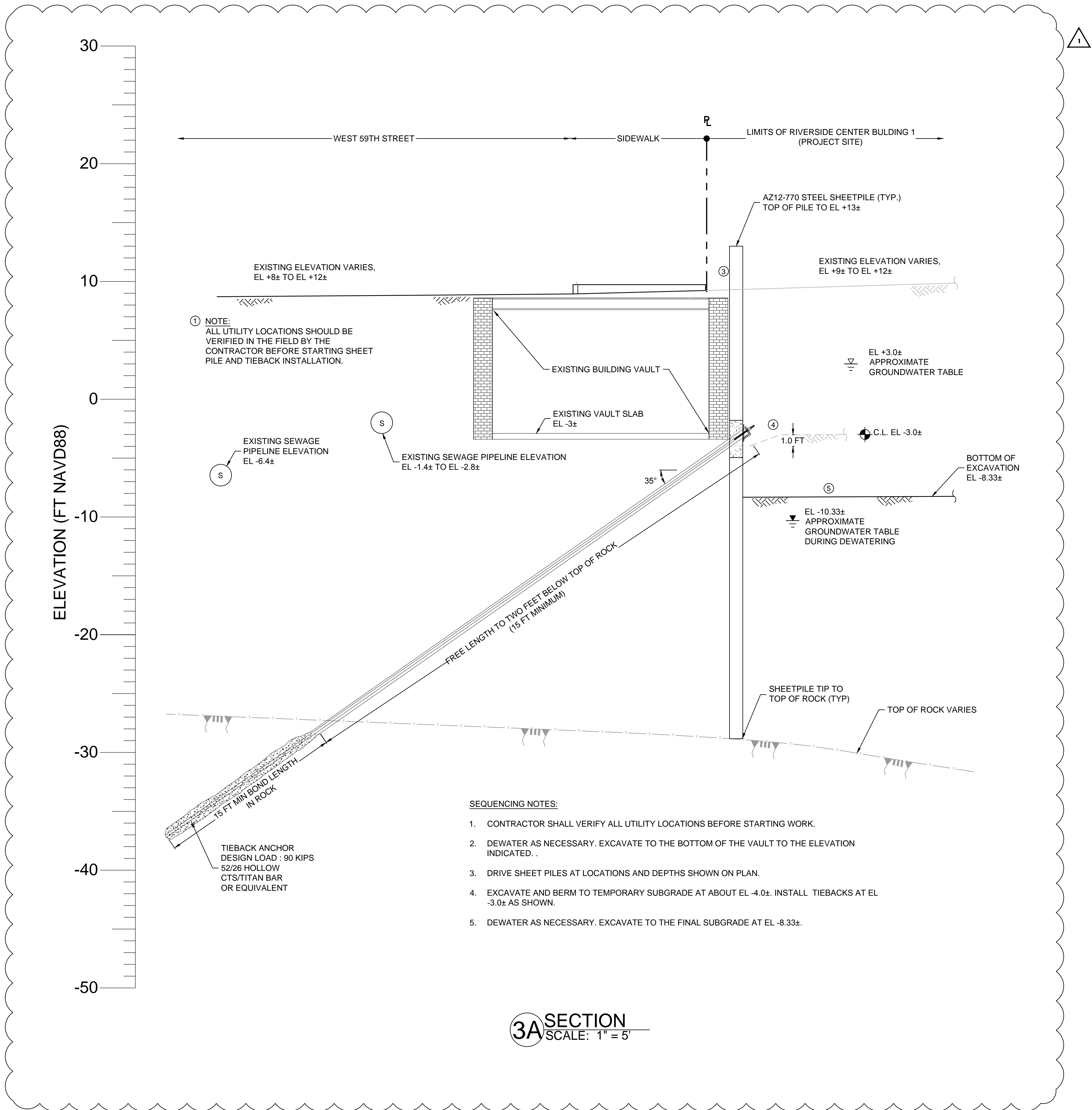
Drawing Title

SECTIONS

Project No. 170275403	Drawing No. SOE-303.01
Date 10/08/2015	
Scale 1" = 5'	
Drawn By RK	Checked By JD
Submission Date 10/08/2015	Sheet 7 of 12

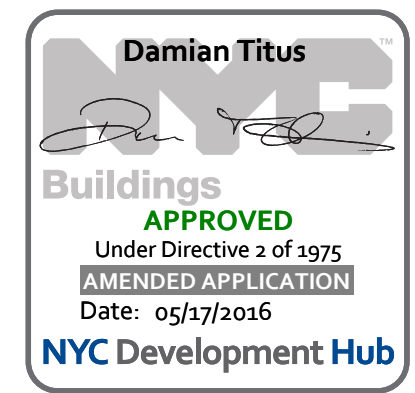
Damian Titus

Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 05/17/2016
NYC Development Hub






3A SECTION
SCALE: 1" = 5'

Superseded 11-18-2016



Date	Description	No.
03/11/16	REVISION DUE TO CHANGE OF EXCAVATION LEVEL AND VAULTS	1

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Project
RIVERSIDE CENTER BUILDING 3
10 RIVERSIDE BLVD.
BLOCK No. 1171, LOT No. 155 & 158
NEW YORK NEW YORK
Drawing Title
SECTIONS

Project No. 170275403	Drawing No.
Date 10/08/2015	SOE-304.01
Scale 1" = 5'	
Drawn By RK	
Submission Date 10/08/2015	Sheet 8 of 12

ELEVATION (FT NAVD88)

30

20

10

0

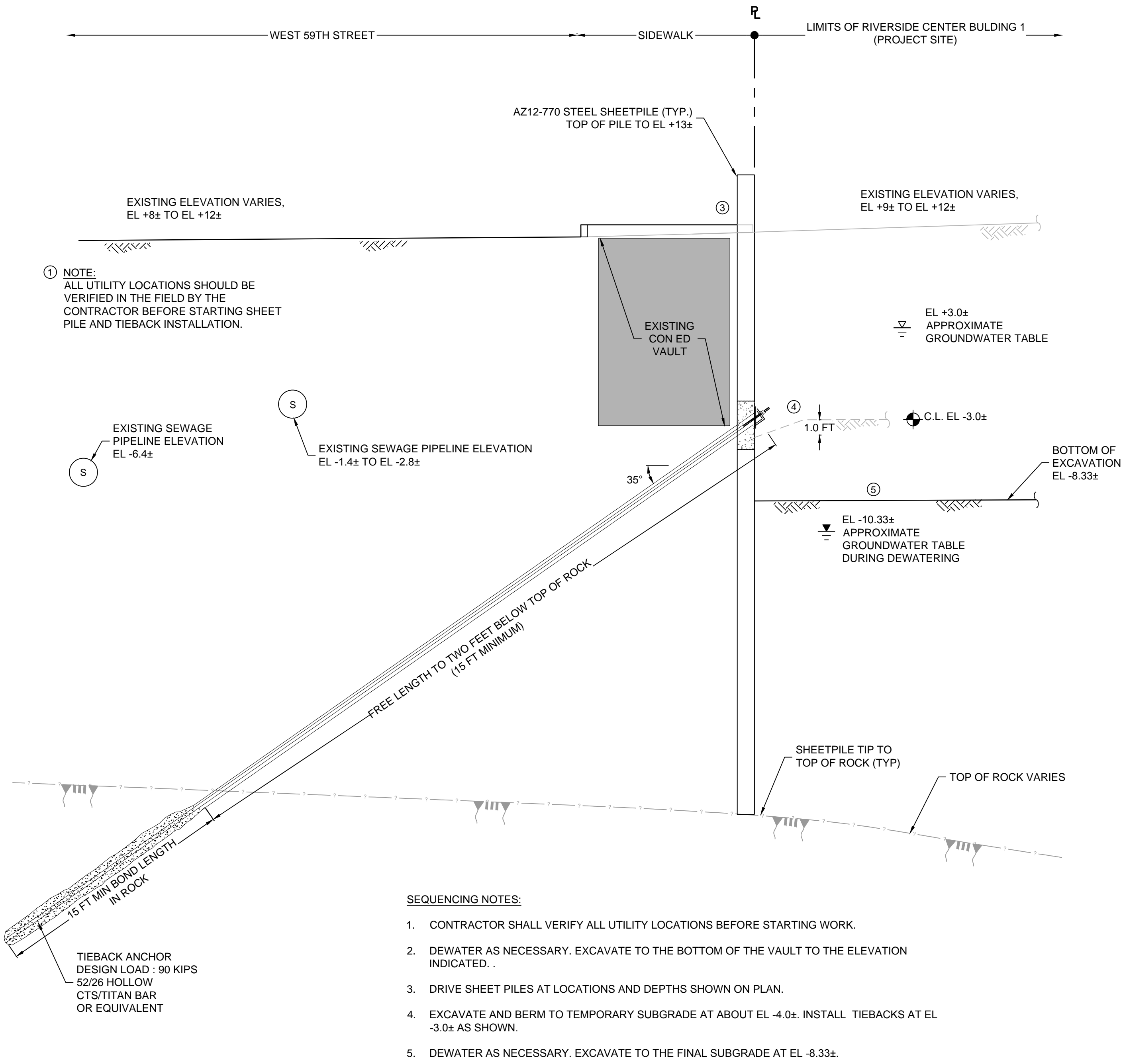
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-20

-30

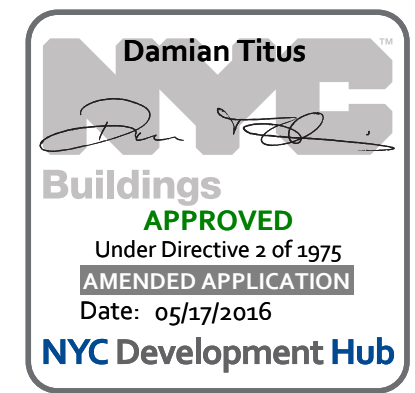
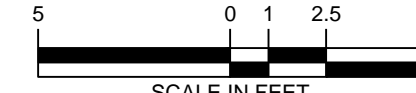
-40

-50



- SEQUENCING NOTES:
1. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS BEFORE STARTING WORK.
 2. DEWATER AS NECESSARY. EXCAVATE TO THE BOTTOM OF THE VAULT TO THE ELEVATION INDICATED. .
 3. DRIVE SHEET PILES AT LOCATIONS AND DEPTHS SHOWN ON PLAN.
 4. EXCAVATE AND BERM TO TEMPORARY SUBGRADE AT ABOUT EL -4.0±. INSTALL TIEBACKS AT EL -3.0± AS SHOWN.
 5. DEWATER AS NECESSARY. EXCAVATE TO THE FINAL SUBGRADE AT EL -8.33±.

3B SECTION
SCALE: 1" = 5'



SECTIONS

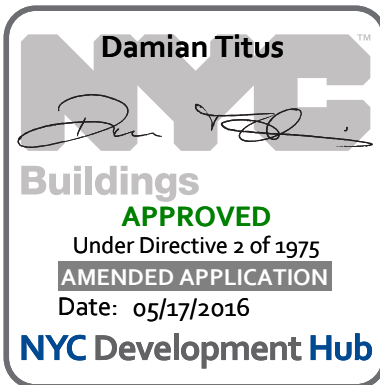
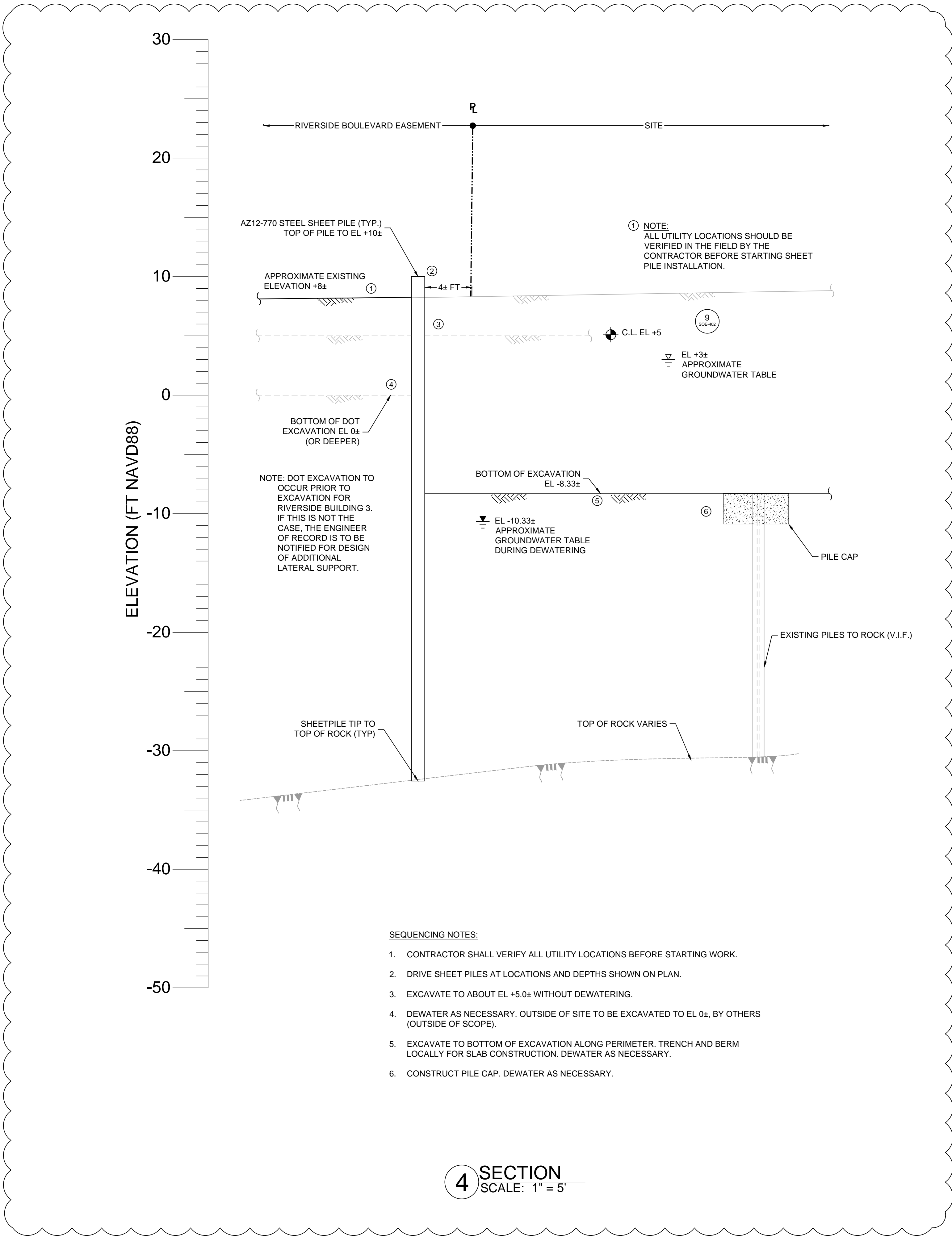
**RIVERSIDE CENTER
BUILDING 3**
10 RIVERSIDE BLVD.
BLOCK No. 1171, LOT No. 155 & 158

NEW YORK NEW YORK

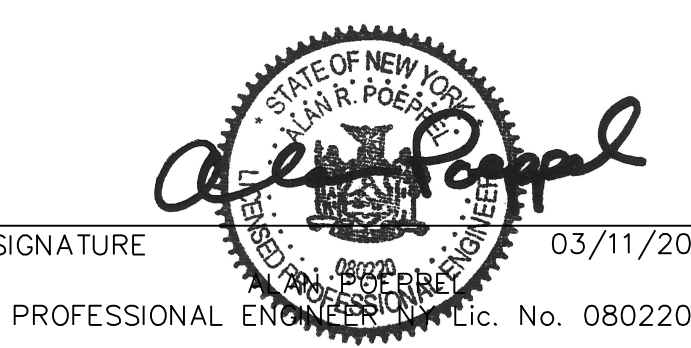
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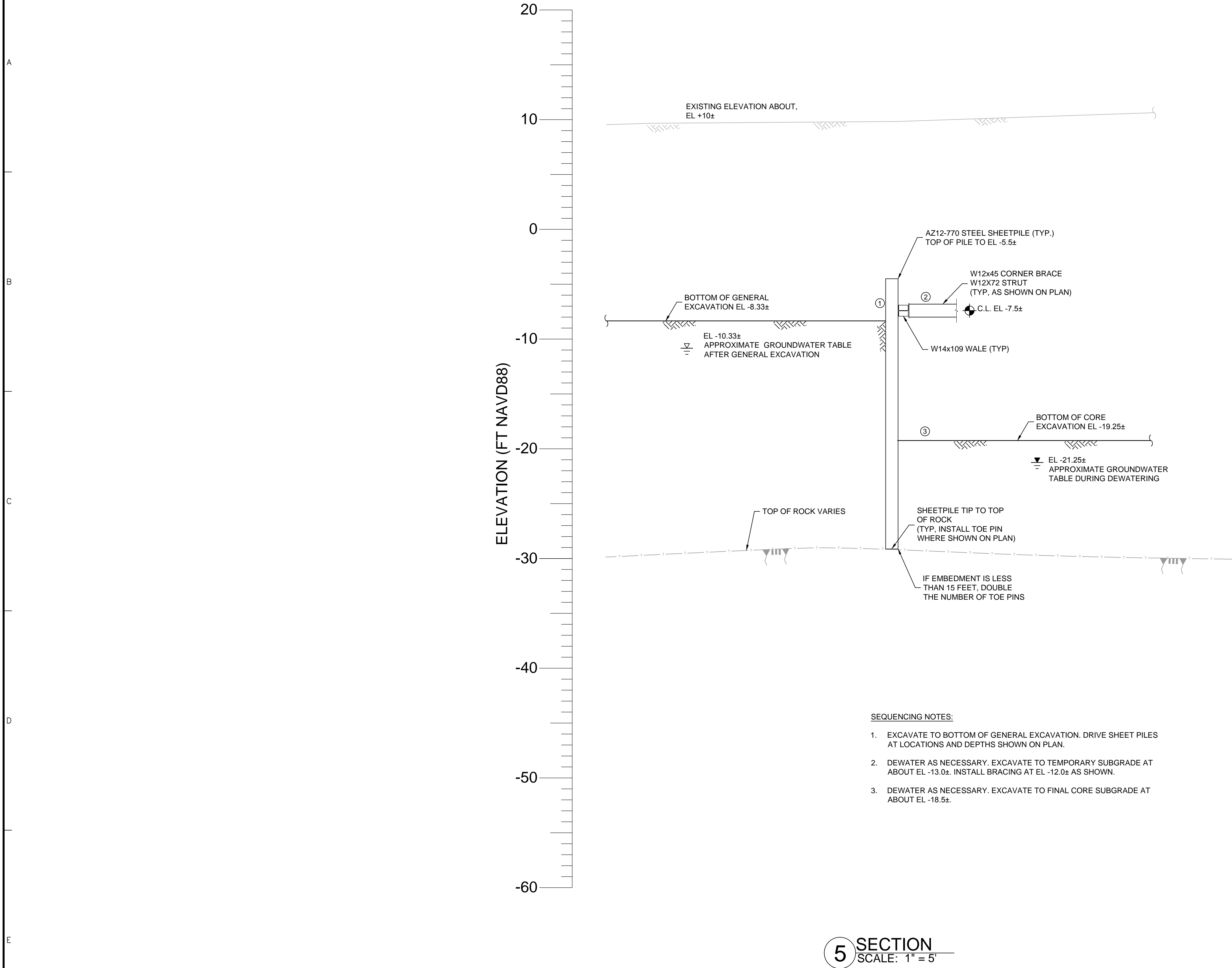
Project No. 170275403		Drawing No. <
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A
B
C
D
E
F



Date	Description	No.
03/11/16	REVISION DUE TO CHANGE OF EXCAVATION LEVEL AND VAULTS	1

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Project RIVERSIDE CENTER BUILDING 3 10 RIVERSIDE BLVD. BLOCK No. 1171, LOT No. 155 & 158		
NEW YORKNEW YORK Drawing Title SECTIONS		
Project No. 170275403	Drawing No. SOE-306	
Date 10/08/2015		
Scale 1" = 5'		
Drawn By RK		
Submission Date 10/08/2015	Checked By JD	Sheet 10 of 12



Date	Description	No.
03/11/16	REVISION DUE TO CHANGE OF EXCAVATION LEVEL AND VAULTS	1

REVISIONS

STATE OF NEW YORK
SEAL OF THE STATE ENGINEER
JAMES P. PAPPALARDI
Professional Engineer
Lic. No. 0802201

SIGNATURE

03/11/2016

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Project

**RIVERSIDE CENTER
BUILDING 3**

10 RIVERSIDE BLVD.
BLOCK No. 1171, LOT No. 155 & 158

NEW YORK NEW YORK

Drawing Title

SECTIONS

Project No. 170275403	Drawing No. SOE-307
Date 10/08/2015	
Scale 1" = 5'	
Drawn By RK	Checked By JD
Submission Date 10/08/2015	Sheet 11 of 12

Damian Titus

Buildings

APPROVED

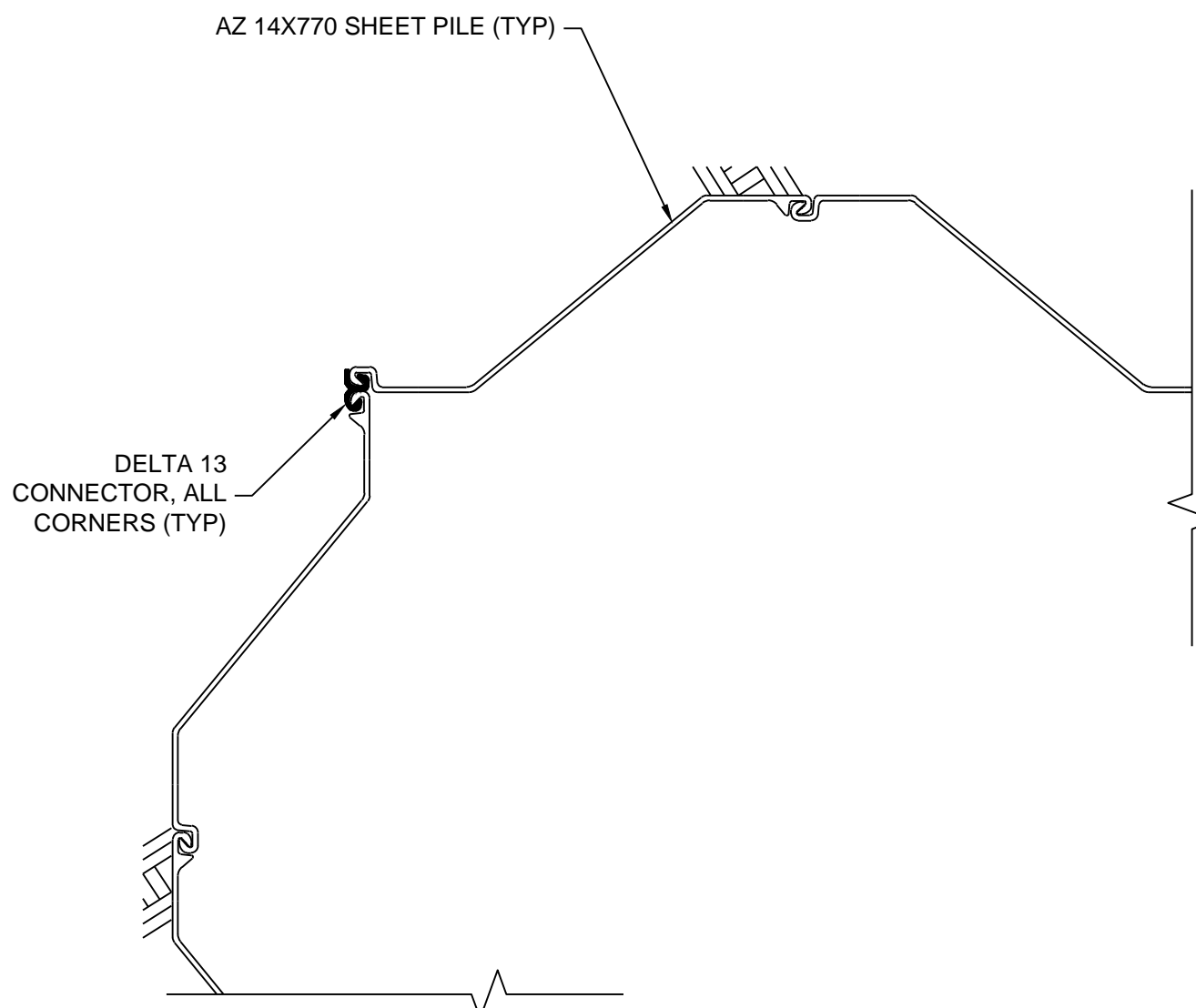
Under Directive 2 of 1975

AMENDED APPLICATION

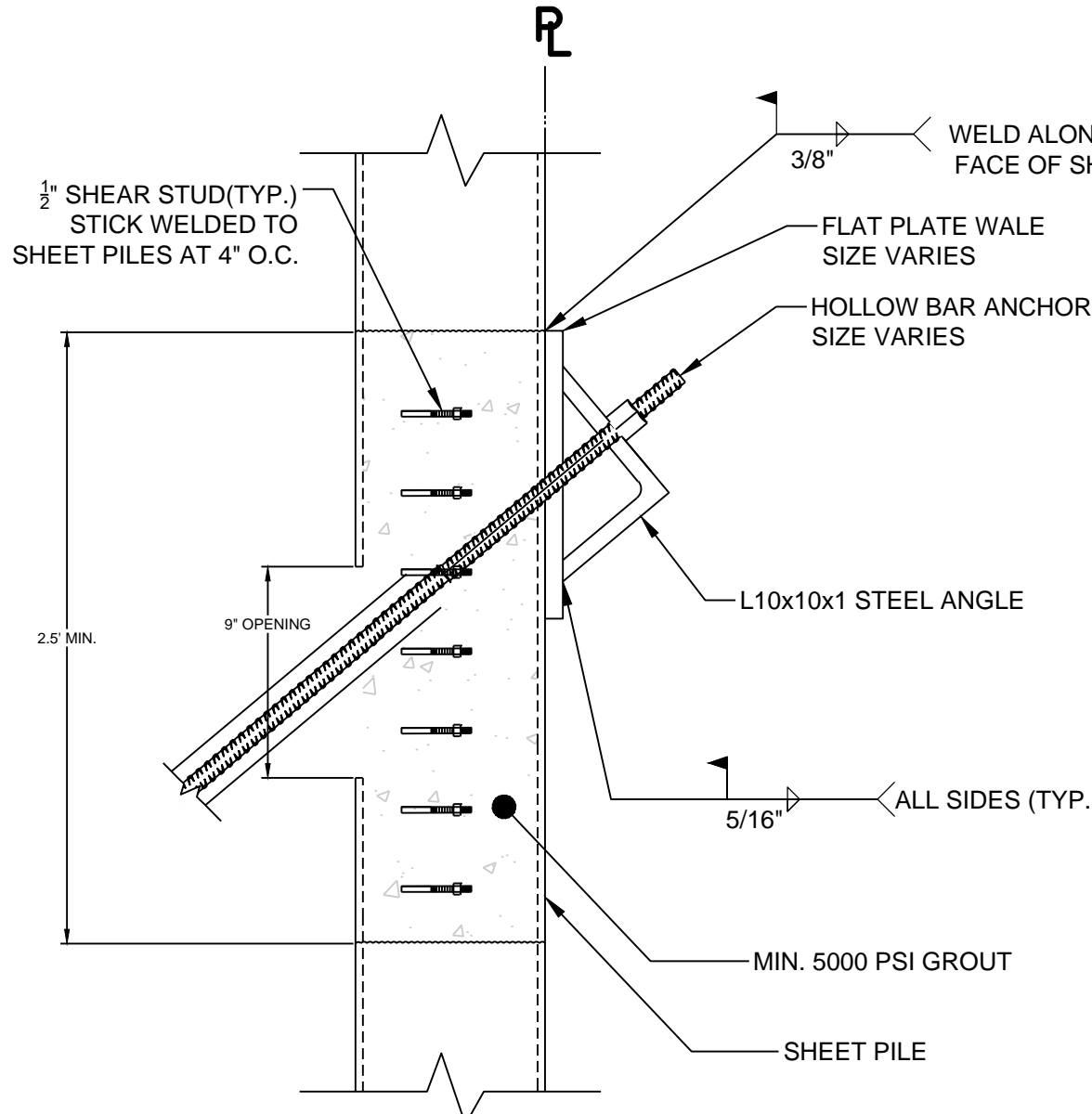
Date: 05/17/2016

NYC Development Hub

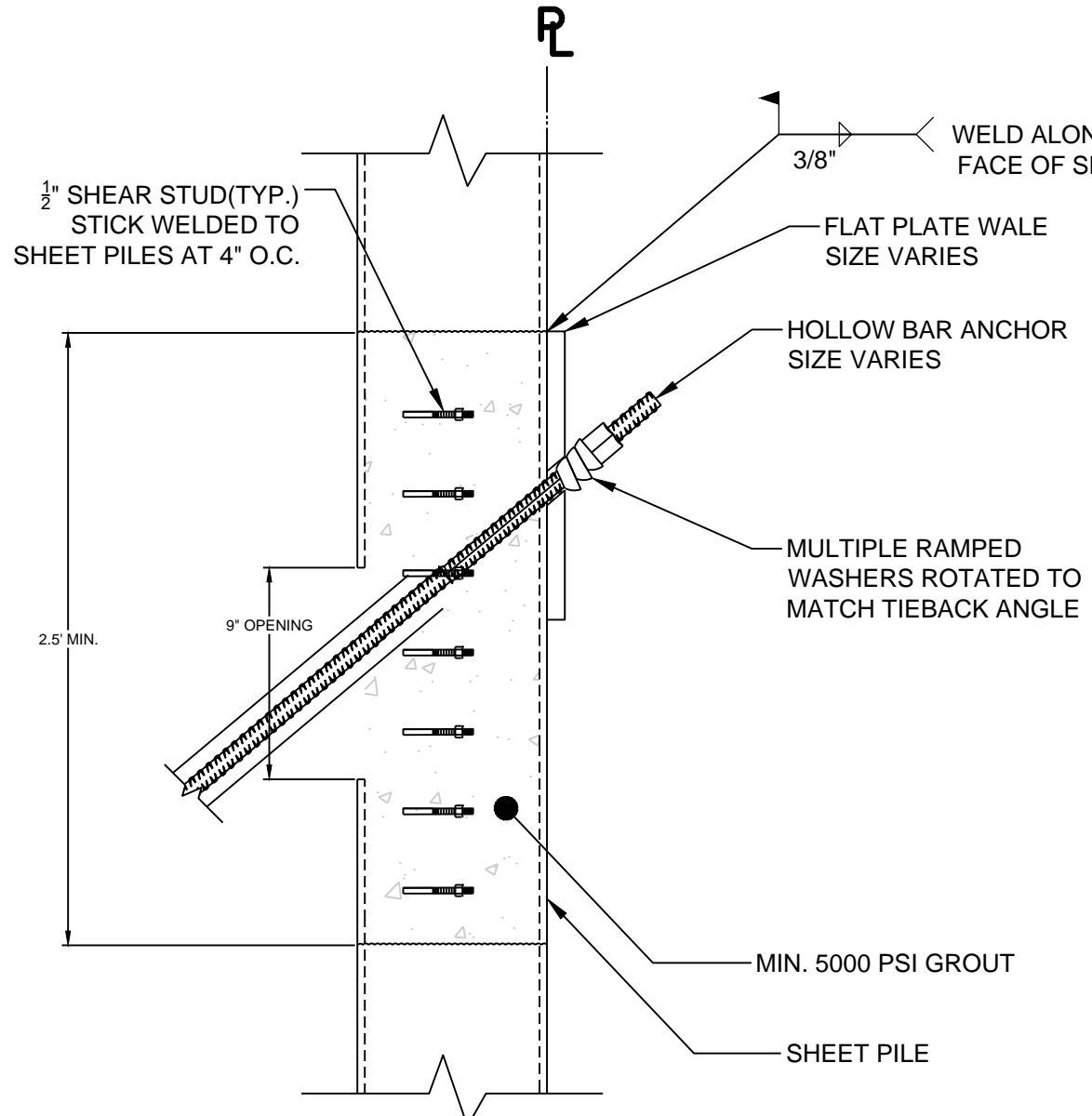




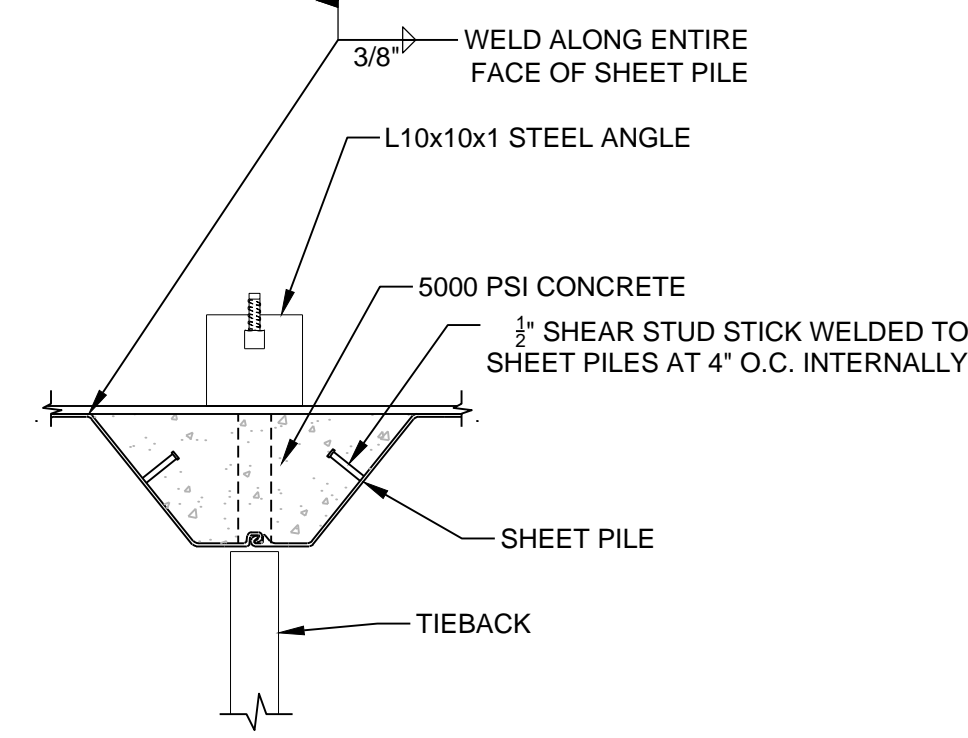
1 TYPICAL SHEETPILE CORNER CONNECTION
SCALE: N.T.S.



TYPICAL SECTION

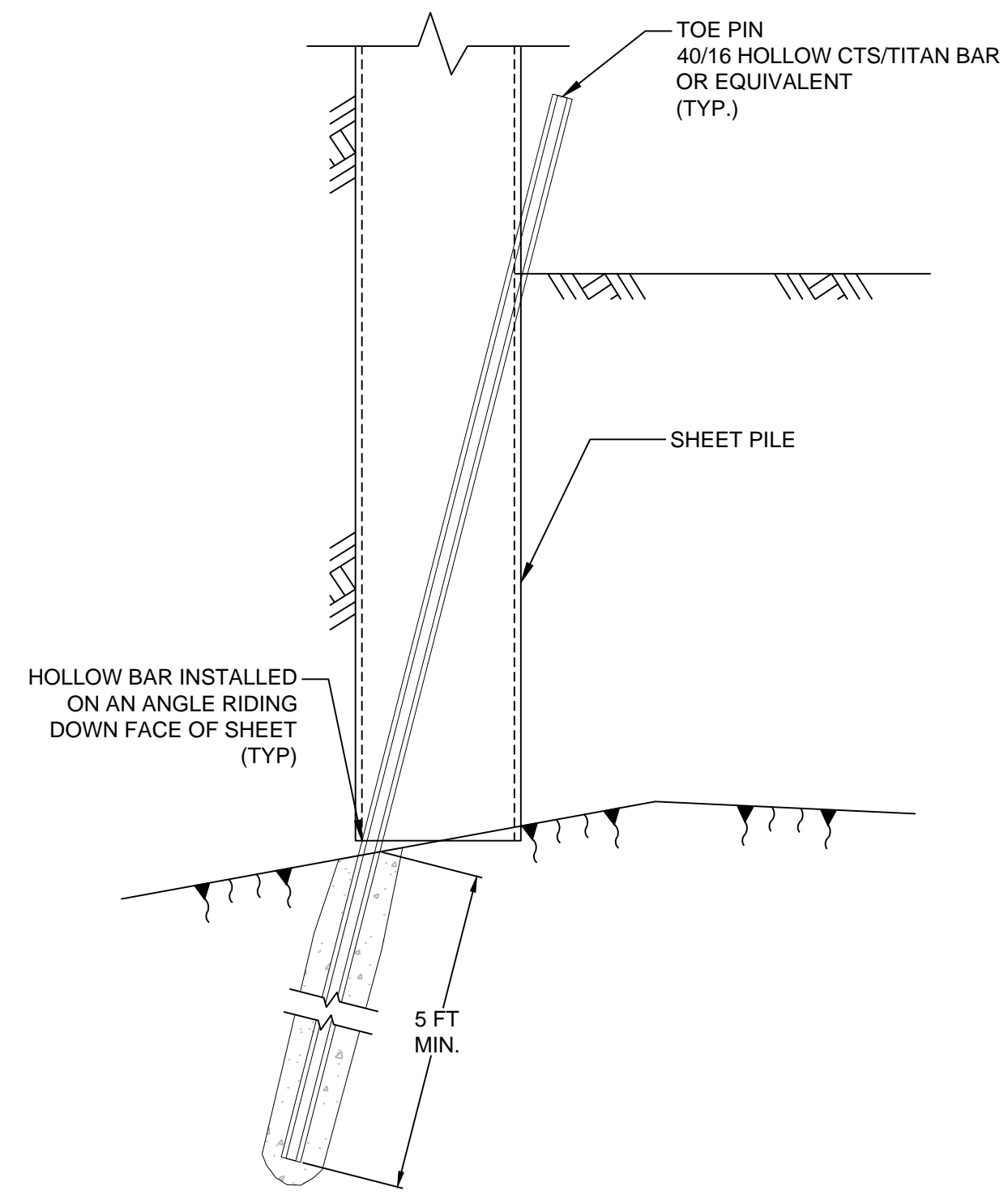


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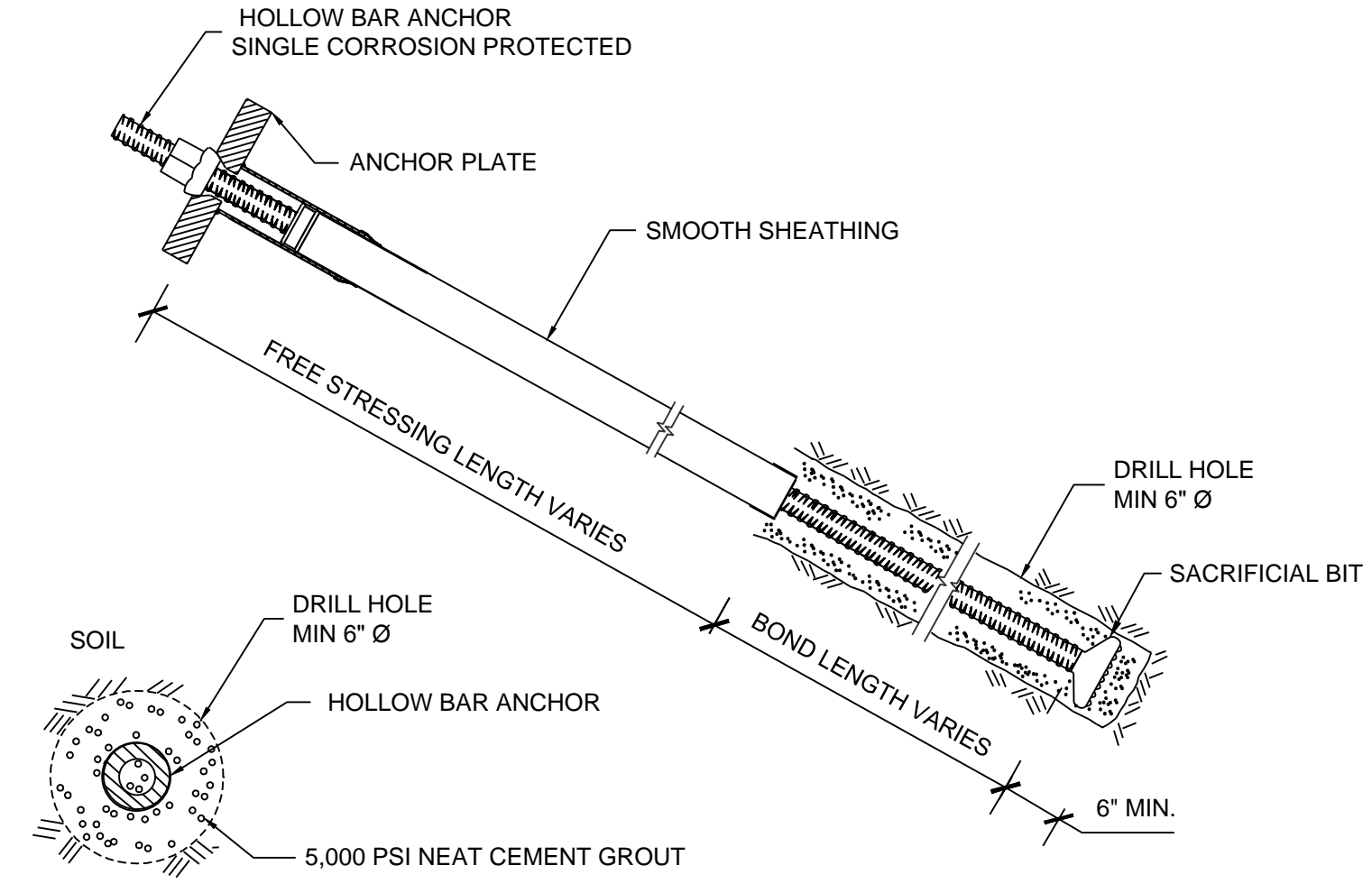


PLAN

2 SHEETPILE TIEBACK SUPPORT
SCALE: N.T.S.



3 TOE PIN DETAIL
SCALE: N.T.S.



SECTION	TIEBACK TYPE (HOLLOW CTS/TITAN BAR OR EQUIVALENT)	TIER	DESIGN LOAD	LOCK-OFF	WALE	ANGLE
1A	40/20	TIER 1	60 KIP	50 KIP	R 12\"X1"	45°
1A	40/20	TIER 2	50 KIP	40 KIP	R 12\"X1"	45°
1B	40/20	TIER 1	65 KIP	60 KIP	R 12\"X1"	35°
1B	40/20	TIER 2	55 KIP	50 KIP	R 12\"X1"	35°
3	52/26	TIER 1	90 KIP	70 KIP	R 12\"X1"	35°

4 TIEBACK DETAIL
SCALE: N.T.S.

Date	Description	No.
03/11/16	REVISION DUE TO CHANGE OF EXCAVATION LEVEL AND VAULTS	1

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SIGNATURE: *Damian Titus* 03/11/2016
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Project

RIVERSIDE CENTER BUILDING 3
10 RIVERSIDE BLVD.
BLOCK No. 1171, LOT No. 155 & 158

NEW YORK NEW YORK

Drawing Title

DETAILS

Project No. 170275403		Drawing No.
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Damian Titus
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 05/17/2016
NYC Development Hub