

TECHNICAL MANUAL

**OPERATOR, UNIT, DIRECT SUPPORT
AND GENERAL SUPPORT
MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND
SPECIAL TOOLS LIST)**

FOR

**WATER PURIFICATION BARGES
(NSN 1930-01-234-2165)
VOLUME 18
SUPPORTING APPENDICES FOR VOLUMES 1
THROUGH 21**

This technical manual is an authentication of the manufacturer's commercial literature and does not conform with the format and content requirements normally associated with the Army technical manuals. This technical manual does, however, contain all essential information required to operate and maintain the equipment.

Approved for public release; distribution is unlimited.

*This manual supersedes TM 55-1930-209-14&P-18, 7 JUNE, 1991.

**HEADQUARTERS, DEPARTMENT OF THE ARMY'
15 OCTOBER 1992**

WARNINGS AND SAFETY NOTICES

WARNING

**DANGEROUS VOLTAGES AND HAZARDOUS MATERIALS
ARE USED IN THIS EQUIPMENT.
DO NOT TAKE CHANCES!**

GENERAL WARNINGS

- Always redtag electrical equipment, controls, circuits, and switches before beginning repairs.
- Do not service or adjust high voltage electrical equipment when alone.
- Do not overload circuits.
- Always use authorized, insulated tools and test equipment when working on electrical equipment.
- Remove all jewelry before working on or around electrical equipment with exposed current-carrying areas.
- Do not wear clothing with exposed metal fasteners when working on electrical equipment.
- Always use approved breathing apparatus when working with chemicals.
- Avoid chemical contact with eyes, skin, and clothing.
- Always wear safety glasses, gloves, and rubber aprons when handling chemicals.
- Wear protective clothing and safety glasses as required when working on barge equipment.
- Always wear approved ear protection in noise hazard areas.

SPECIFIC WARNINGS

- Do not connect any new circuit to an existing circuit.
- Do not energize circuits if water condensation is present.
- If any sparks are seen, stop operation immediately. Determine cause and take corrective action.
- Never touch radio antennas of fixed-base radio transmitters. When transmitting, antennas contain high voltage.
- Always use approved breathing apparatus when handling material in multimedia fitters and chlorination unit descaling acid crystals. Do not breathe dust from these materials.
- Avoid breathing vapors from coagulant aid chemicals. Use in a well-ventilated area. In case of chemical contact with skin. wash with water. For eyes, immediately flush at eyewash station and obtain medical help as soon as possible.
- Always wear work gloves and shirts with full length buttoned sleeves when handling fuel oil and gasoline.

- Do not smoke or have open flames within 10 feet when handling fuel oil or gas. Only minimum number of personnel necessary to conduct fueling operation is permitted in area.
- Before starting any repairs on compressed air system, always release pressure from air receiver and compressor and open and redtag circuit breakers.
- On air compressor, do not adjust automatic regulator switch (pressure switch) and pilot valve settings.
- To avoid flying particles lodging in eyes, do not use compressed air to "dust-off" clothing or workspace.
- Stay clear of anchor cables when operating anchor winches.
- Always wear safety glasses or face shield when using power tools.
- Always wear lifevests when on weatherdeck and throughout the barge during storm conditions.
- Lifevests are to be worn at all times aboard workboat.
- Only qualified persons will operate and maintain arc and fuel gas welders.
- When welding, always make sure those working with or near the welder wear proper clothing: heavy, hole-free gloves, heavy shirt, cuffless trousers, high shoes, and cap. Keep clothing dry and free of oil and other flammable substances.
- Use dry heavy canvas drop cloth to cover work area and adjacent deck when arc welding.
- Before welding on bulkheads, deck plating and similar surfaces, always check carefully to make sure that the other side of the surface to be welded does not hide fuel or compressed gas tanks, flammable or hazardous materials, or electrical equipment or wiring.
- When welding, keep your head out of the fumes and make sure area is well ventilated.
- Before welding on surfaces which have been cleaned with cleaning solutions containing chlorinated hydrocarbons, always wash with water, dry and ventilate area thoroughly.
- Use shield with proper filter lens when welding. Do not allow others near welding operations to assist or observe without proper eye protection. This must include side shields during slag chipping operations.
- Warn personnel in area during welding operations not to look at arc or expose themselves to hot spatter or metal.
- In an extreme emergency, when welding is required in void 2 port, shut down chlorination system. Close all valves. Cover the parts of chlorination system not being welded with a heavy canvas drop cloth. Turn on vent 8 and, if available, provide additional forced air ventilation.

- Before welding on fuel oil or sludge tank, make sure tank is gas-free by: 1) removing all liquid from tank, 2) cleaning tank thoroughly, 3) seeing that tank is thoroughly dry, and 4) force ventilating tank.
- Connect arc welding work cable as close to welding area as possible. Work cables connected to barge framework or other locations far from welding site increase the possibility of the welding current passing through lifting chains, crane cables or other possible circuit paths. This can create fire hazards or weaken lifting chains or crane cables until they break or fall.
- Always weld with all doors, portholes, and hatches propped open and necessary ventilation systems operating.
- Take frequent breaks away from the area where you are welding.
- Do not take oxygen and acetylene tanks into confined areas when welding.
- Always use a friction lighter to start oxyacetylene torch.
- Always maintain all welding equipment in proper working condition. If you have any doubts about the safety of any welding equipment, do not use the welder.

ELECTRICAL SHOCK SAFETY STEPS

Five safety steps to follow if someone is the victim of electrical shock.

1. Do not try to pull or grab individual.
2. Turn off electrical power when possible.
3. If you can not turn off electrical power, pull, push, or lift person to safety using a wooden pole, rope, or some other insulating material.
4. Get medical help as soon as possible.
5. After the injured person is free of contact with the source of electrical shock, move the person a short distance away and, if needed, start CPR immediately.

INTRODUCTION TO

TM 55-1930-209-14&P-18

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Troop Support Command, ATTN: AMSTR-MMTS, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

1. SCOPE

TM 55-1930-209-14&P covers the Reverse Osmosis Water Purification Barges, Models 300-WPB-1, 300-WPB-2 and 300WPB-3, NSN 1930-01-234-2165. This manual consists of twenty-one volumes.

2. REVERSE OSMOSIS WATER PURIFICATION BARGES

The Reverse Osmosis Water Purification Barges provide up to 300,000 gallons of drinking water per 24 hour period. The drinking water, converted from seawater or brackish water, is for use by a Rapid Deployment Force in a forward area. When needed, the drinking water can be pumped to a shore facility or to another vessel. This manual provides operation and maintenance procedures for all the component systems on the barges.

3. VOLUME 1 -NORMAL OPERATIONS

This volume provides information and procedures on normal Reverse Osmosis Water Purification Barge operations, including barge movement and deployment, communications and electrical power systems, drinking water production, shutdown, and required operational maintenance. Emergency shutdown procedures are also provided.

4. VOLUME 2 -SEAWATER SYSTEM

This volume describes operation and maintenance of the seawater system which supplies seawater to the Reverse Osmosis Water Purification Units (ROWPUs) for processing to the air conditioning unit for cooling to the ballast tank for barge trimming to the chlorination unit for priming and cooling, and to the diesel generators for cooling.

5. VOLUME 3 -REVERSE OSMOSIS WATER PURIFICATION UNIT (ROWPU) SYSTEM

Volume 3 provides operation and maintenance procedures for the ROWPU System which processes seawater or brackish water to produce drinking water. Normally, this system processes seawater supplied by the seawater system (TM 55-1930-209-14&P-2) to create product water. Chlorine is then added to this product water by the chlorination system (TM 55-1930-209-14&P-4). The resultant drinking water is discharged into four storage tanks that are part of the drinking water system (TM 55-1930-209-14&P-5).

6. VOLUME 4 -CHLORINATION SYSTEM

Operation and maintenance procedures for the chlorination system onboard the Water Purification Barges are contained in this volume. This system produces chlorine in a sodium hypochlorite solution, upon demand, to water processed by the ROWPU system just before the water enters the four drinking water storage tanks.

7. VOLUME 5 -- DRINKING WATER SYSTEM

The drinking water system provides storage for water produced by the ROWPUs and includes pumps and valves to move this water from onboard storage tanks to the shore discharge system, to another vessel, or overboard. The drinking water system also provides a pressurized water supply for drinking and washing onboard the barges.

8. VOLUME 6 -SHORE DISCHARGE SYSTEM

This volume provides operation and maintenance procedures for the shore discharge system which transfers drinking water from barge storage tanks to holding/storage facilities ashore.

9. VOLUME 7 -COMPRESSED AIR SYSTEM

Volume 7 describes the operation and maintenance of the compressed air system which provides compressed air to five air stations in the ROWPU space, one in the workshop, and one on stem weatherdeck. This system also provides compressed air to two air stations for blowdown of seachests in void 2 starboard and void 4 port. Compressed air is used on the barges to operate air-powered impact tools, to propel air through the shore discharge hose, to blowdown seachest, and for general cleaning blowdown.

10. VOLUME 8 -FUEL OIL SYSTEM

This volume provides operation and maintenance procedures for the fuel oil system which functions as a centralized receiving storage and distribution system for diesel fuel used for barge operations. This onboard fuel system provides fuel for two 155 kW diesel ship service generators, a 20 kW ship auxiliary generator, two ROWPU high-pressure pump diesel engines, and a fueling station for the barge workboat.

11. VOLUME 9 -ELECTRICAL POWER SYSTEMS

Operation and maintenance procedures for the two electrical power systems installed aboard the Water Purification Barges are contained in Volume 9. The normal electrical power system generates, controls and distributes all electrical power for operating the water purification system and its auxiliary systems. The emergency electrical system supplies 24 Vdc from a battery bank to 24 Vdc equipment and converts to 24 Vdc through an inverter to 120 Vac to power emergency lighting and equipment.

12. VOLUME 10 -LIGHTING SYSTEM

Volume 10 contains operation and maintenance procedures for the onboard lighting systems for the Water Purification Barges. This system supplies interior and exterior lighting. Normal and emergency interior lighting is provided in the deckhouse ROWPU space, dayroom, workshop, and voids. Exterior lighting consists of searchlights and floodlights for use at night or during reduced visibility. Lights on the weatherdecks and standard navigation and status lights are for use during operation and towing.

13. VOLUME 11 -EQUIPMENT MONITORING SYSTEM

This volume provides operation and maintenance procedures for the equipment monitoring system which monitors the operation of several equipment components onboard the Water Purification Barges. This system monitors operating conditions such as amount of drinking water in storage tanks and temperature of diesel engine cooling water. Sensors detect unacceptable operating conditions, the main processor flashes at double intensity and remote alarms (horns, strobe lights and buzzer) alert crewmembers that corrective action is necessary.

14. VOLUME 12-COMMUNICATIONS SYSTEM

Operation and maintenance procedures for the communications system are provided in Volume 12. This system consists of three separate communications methods, radio communications, foghorn and intercom telephones.

15. VOLUME 13-HANDLING EQUIPMENT

This volume contains operation and maintenance procedures for handling equipment used for lifting, transporting and repositioning equipment and materials onboard the barges. The system includes a bridge crane, bow crane and a void 4 trolley hoist.

16. VOLUME 14-ANCHOR, MOORING, AND TOWING EQUIPMENT

Volume 14 describes the operation and maintenance procedures for the anchor mooring, and towing equipment on the Water Purification Barges. This equipment provides a method to hold (anchor) the barges in a fixed position offshore, at dockside, or next to another vessel and a method to move the barges from one location to another.

17. VOLUME 15-MISCELLANEOUS EQUIPMENT (DAYROOM, WORKSHOP, ACCESSES, AND SANITATION SYSTEMS)

Volume 15 addresses operation and maintenance procedures for miscellaneous equipment installed on the Water Purification Barges. This equipment includes the dayroom on the forward starboard side of deckhouse, the workshop on the forward portside of deckhouse, accesses such as deckhouse doors and portholes and various accesses to and from the voids, and two separate sanitation systems (toilets and bilge). Additional equipment addressed in this volume includes: guard rails, rubber fendering, removable floor mats, eyewash stations, component labels, caution, warning and danger signs, and storage areas.

18. VOLUME 16-VENTILATION, HEATING, AND AIR CONDITIONING SYSTEMS

This volume contains operation and maintenance procedures for the deckhouse and voids ventilation systems and the heating and air conditioning (HAC) system installed on the Water Purification Barges. The ventilation system provides fresh air circulation in the deckhouse and voids with 17 hatches and 10 ventilation fans. The HAC controls the temperature in the dayroom and deckhouse.

19. VOLUME 17-WORKBOAT, LIFESAVING, AND FIREFIGHTING EQUIPMENT

Volume 17 includes procedures for the operation and maintenance of:

- a. Workboat-provides water transportation for crew members and visitors, small cargo items, transportation of the messenger line for the shore discharge hose and similar work-related tasks associated with operating the Water Purification Barges.
- b. Lifesaving Equipment-installed on the barges and consisting of 2 liferafts, 15 Type II and 24 Type V lifevests and 4 lifesaving rings.
- c. Firefighting Equipment-installed on the barges and consisting of Halon 1301 system, 2 CO₂ hose reel units, a smoke detector system, 17 portable CO₂ fire extinguishers, 5 dry chemical fire extinguishers, 5 self-contained breathing apparatuses, and a portable, engine driven firefighting pump. The workboat also has a 10-pound, portable, dry chemical fire extinguisher.

20. VOLUME 18 - SUPPORTING APPENDICES FOR VOLUMES 1-17

Volume 18 contains the Maintenance Allocation Chart, Components of End Item List, Tools and Test Equipment List, Expendable/Durable Supplies and Materials List and the Repair Parts and Special Tools List.

All of the information contained in this volume is common to volumes 1-17 and does not appear in each individual volume.

Appendix A in volumes 1-17 provides information unique to each volume. Appendix B in volumes 1-17 provides manufacturers manuals and instructions unique to the system described in each volume. Appendixes C-G are located in Volume 18.

21. VOLUME 19-PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Volume 19 contains PMCS pertinent to all onboard systems for the Reverse Osmosis Water Purification Barges.

22. VOLUME 20-SUPPLEMENTAL DATA

Volume 20 contains the Basic Issue Items List, and Additional Authorization List for all onboard systems for the Reverse Osmosis Water Purification Barges.

23. VOLUME 21-This volume contains operation and maintenance procedures for the 20-ton double drum diesel engine winch used on the Water Purification Barges.

TECHNICAL MANUAL
NO. 55-1930-209-14&P-18

HEADQUARTERS
DEPARTMENT OF THE ARMY,
WASHINGTON D.C., 15 OCTOBER 1992

TECHNICAL MANUAL

OPERATORS', UNIT, DIRECT SUPPORT
AND GENERAL SUPPORT
MAINTENANCE MANUAL
(INCLUDING REPAIR PARTS AND
SPECIAL TOOLS LIST)

FOR

WATER PURIFICATION BARGES
(NSN 1930-01-234-2165)
VOLUME 18
SUPPORTING APPENDICES FOR VOLUMES 1 THROUGH 21

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Troop Support Command, ATTN: AMSTR-MMTS, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

Approved for public release; distribution is unlimited.

* Supersedes TM 55-1930-209-14&P-18, 7 JUNE, 1991.

A/(B blank)

TABLE OF CONTENTS

VOLUME 1

		<u>Page</u>
CHAPTER 1	INTRODUCTION.....	1-1
Section I	General Information.....	1-1
1-1	Purpose.....	1-1
1-2	Scope.....	1-1
1-3	Warranties and guarantees.....	1-1
1-4	Maintenance forms and records.....	1-1
1-5	Destruction of Army materiel to prevent enemy use.....	1-1
1-6	Storage.....	1-1
Section II	Description and Data.....	1-5
1-7	General.....	1-5
1-8	Capabilities.....	1-6
1-8.1	Definitions.....	1-6
1-9	Special limitations.....	1-7
1-10	Performance characteristics.....	1-7
1-11	Equipment specifications.....	1-7
1-12	Items furnished.....	1-8
1-13	Items required but not furnished.....	1-8
1-14	Tools and test equipment.....	1-8
1-15	Maintenance.....	1-8
CHAPTER 2	DESCRIPTION OF OPERATION.....	2-1
2-1	General.....	2-1
2-2	Reverse osmosis process.....	2-1
2-3	Drinking water production.....	2-3
2-4	Manual format for operational use.....	2-4
CHAPTER 3	ELECTRICAL POWER SYSTEMS.....	3-1
Section I	General.....	3-1
3-1	General.....	3-1
3-1.1	Normal electrical system.....	3-1
3-1.2	Emergency electrical system.....	3-1
Section II	Normal electrical system.....	3-1
3-2	Description.....	3-1
3-3	Capabilities.....	3-2
3-4	Special limitations.....	3-2
3-5	Performance characteristics.....	3-2

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
3-6	Description of operation3-12
3-6.1	Watertight electrical cabling.....3-13
3-7	Operating instructions.....3-13
3-7.1	Operating controls and indicators.....3-13
3-7.1.1	General3-13
3-7.1.2	Generator control panels3-13
3-7.1.3	Switchboard distribution panel3-16
3-7.1.4	Paralleling and control panels3-16
3-7.1.5	Miscellaneous controls and indicators3-16
3-7.2	Prestart procedures from switchboard.....3-21
3-7.3	Generator set alarm and shutoff systems.....3-21
3-7.3.1	Alarm systems3-21
3-7.3.2	Shutoff systems.....3-22
3-7.4	Operating procedures from switchboard.....3-23
3-7.5	Paralleling generators and transferring load.....3-24
3-7.5.1	Correcting reverse power situation.....3-25
3-7.6	Operating procedures using shore power3-25
3-7.7	Operating other electrical panels and controls.....3-25
3-7.8	Normal shutdown procedures from switchboard.....3-25
3-7.9	Emergency shutdown3-26
3-7.9.1	General3-26
3-7.9.2	Emergency shutdown procedures3-26
Section III	Emergency electrical system3-26
3-8	Description3-26
3-9	Capabilities.....3-27
3-10	Special limitations.....3-27
3-11	Performance characteristics3-27
3-12	Description of operation3-27
3-12.1	Normal operations3-27
3-12.2	Emergency operations3-29
3-12.3	Restoration of normal source of electricity3-29
Section IV	Operating instructions.....3-29
3-13	Operating controls and indicators.....3-29
3-13.1	Prestart checks.....3-29

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
3-13.2	Normal operating procedures.....3-34
3-13.3	Emergency operating procedures3-35
3-13.4	Return to normal power source3-35
3-13.5	Shutdown procedures3-36
3-13.5.1	Normal shutdown procedures.....3-36
3-13.5.2	Emergency shutdown procedures3-36
Section V	155 kW ship service generators.....3-36
3-14	Description3-36
3-14.1	3306TA diesel engine3-36
3-14.2	SR4 generator3-36
3-15	Capabilities.....3-36
3-16	Special limitations.....3-37
3-17	Performance characteristics3-37
3-18	Description of operation3-37
3-18.1	Remote control and startup requirements3-37
3-19	Operating controls and indicators.....3-37
3-19.1	3306TA diesel engine3-37
3-19.1.1	Controls for operating engine at the SSG.....3-37
3-19.1.2	Engine indicators3-38
3-19.2	SR4 generator controls3-38
3-19.3	Prestart procedures3-39
3-19.4	Starting procedures at the engine3-40
3-19.5	Operating procedures3-41
3-19.6	Shutdown procedures3-41
3-19.6.1	Shutdown procedures from engine location.....3-41
3-19.6.2	Emergency shutdown3-41
Section VI	20 kW ship auxiliary generator (SAG) set3-41
3-20	Description3-41
3-21	Capabilities.....3-42
3-22	Special limitations.....3-42
3-23	Performance characteristics3-42
3-24	Description of operation3-42

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
3-25	Operating instructions.....3-43
3-25.1	Operating controls and indicators.....3-43
3-25.1.1	4.236M diesel engine.....3-43
3-25.1.1.1	Engine instruments.....3-43
3-25.1.1.2	Engine indicators.....3-43
3-25.1.1.3	Engine controls.....3-43
3-25.1.2	SC144E generator.....3-44
3-25.2	Prestart procedures.....3-44
3-25.3	Starting procedures.....3-45
3-25.4	Operating procedures.....3-46
3-25.5	Shutdown procedures.....3-46
3-25.5.1	Shutdown procedures at engine.....3-46
3-25.5.2	Emergency shutdown.....3-46
CHAPTER 4	SMOKE DETECTOR SYSTEM.....4-1
Section I	General.....4-1
4-1	General.....4-1
4-2	Description.....4-1
4-3	Capabilities.....4-1
4-4	Special limitations.....4-1
Section II	Description of operation.....4-1
4-5	General.....4-1
Section III	Operating instructions.....4-1
4-6	Controls and indicators.....4-1
4-7	Prestart procedures.....4-1
4-8	Normal operations.....4-3
4-9	Emergency procedures for smoke.....4-3
4-10	Emergency procedures for malfunctions.....4-3
4-11	Shutdown procedures.....4-4
CHAPTER 5	COMMUNICATIONS SYSTEMS.....5-1
Section I	General.....5-1
5-1	General.....5-1
5-1.1	Radio communications equipment.....5-1
5-1.1.1	Army radio.....5-1
5-1.1.2	Commercial marine radios.....5-1

TABLE OF CONTENTS (Continued)

VOLUME 1

		<u>Page</u>
5-1.1.3	Walkie-talkies.....	5-1
5-1.2	Foghorn equipment.....	5-1
5-1.3	Telephone system	5-1
Section II	Radio communications system	5-1
5-2	Description	5-1
5-3	Capabilities.....	5-2
5-3.1	Army radio.....	5-2
5-3.2	Commercial marine radios.....	5-2
5-3.3	Walkie-talkies.....	5-6
5-4	Special limitations.....	5-6
5-5	Performance characteristics	5-6
5-6	Description of operation	5-7
5-6.1	General	5-7
5-6.2	Receiving radio messages.....	5-7
5-6.3	Transmitting radio messages.....	5-7
5-7	Operating instructions.....	5-7
5-7.1	Operating controls and indicators.....	5-7
5-7.2	Prestart procedures	5-7
5-7.3	Operating procedures	5-15
5-7.3.1	Army radio.....	5-15
5-7.3.2	Commercial marine radios.....	5-16
5-7.3.3	Walkie-talkies.....	5-17
5-7.4	Shutdown procedures	5-20
5-7.4.1	Army radio.....	5-20
5-7.4.2	Marine radio	5-20
5-7.4.3	Walkie-talkies.....	5-20
Section III	Foghorn equipment.....	5-20
5-8	Description	5-20
5-9	Capabilities.....	5-20
5-10	Special limitations.....	5-20
5-11	Performance characteristics	5-21
5-12	Description of operation	5-21
5-13	Operating instructions.....	5-21
5-13.1	Operating controls and indicators.....	5-21

TABLE OF CONTENTS (Continued)

VOLUME 1

		<u>Page</u>
5-13.2	Prestart procedures	5-21
5-13.3	Operating procedures	5-21
5-13.4	Shutdown procedure	5-21
Section IV	Telephone system	5-23
5-14	Description	5-23
5-15	Capabilities.....	5-23
5-16	Special limitations.....	5-23
5-17	Performance characteristics	5-23
5-18	Description of operation	5-27
5-18.1	General	5-27
5-18.1.1	Paging from system operator to crew personnel.....	5-27
5-18.1.2	Paging from crew personnel to system operator.....	5-27
5-18.1.3	Two-way communications between crew personnel	5-28
5-19	Operating instructions.....	5-28
5-19.1	Operating controls and indicators.....	5-28
5-19.2	Prestart procedures	5-28
5-19.3	Operating procedures	5-29
5-19.3.1	Talking with telephone station from operator station in dayroom	5-29
5-19.3.2	Talking with system operator from crew telephone station	5-29
5-19.3.3	Talking between telephone stations	5-34
5-19.4	Shutdown procedures	5-34
CHAPTER 6	LIGHTING SYSTEM.....	6-1
Section I	General	6-1
6-1	General	6-1
Section II	Interior lighting system.....	6-1
6-2	Description	6-1
6-3	Description of operation	6-1
6-4	Operating instructions.....	6-6
6-4.1	Operating controls and indicators.....	6-6
6-4.2	Prestart procedures	6-6
6-4.3	Operating procedures	6-6
6-4.3.1	Normal lighting	6-6
6-4.3.2	Emergency lighting	6-12

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
6-4.4	Shutdown procedures6-12
6-4.4.1	Normal lighting6-12
6-4.4.2	Emergency lighting6-12
Section III	Exterior lighting system6-12
6-5	Description6-12
6-6	Description of operation6-12
6-7	Operating instructions6-15
6-7.1	Operating controls and indicators6-15
6-7.2	Prestart procedures6-15
6-7.3	Operating procedures6-15
6-7.3.1	Exterior side lights6-15
6-7.3.2	Floodlights6-15
6-7.3.3	Searchlights6-15
6-7.3.4	Shore discharge hose deployment status lights6-16
6-7.3.5	Anchor light6-16
6-7.3.6	Navigation running lights6-16
6-7.4	Shutdown procedures6-16
6-7.4.1	Exterior side lights6-16
6-7.4.2	Floodlights6-16
6-7.4.3	Searchlights6-16
6-7.4.4	Shore discharge hose deployment status lights6-16
6-7.4.5	Anchor light6-16
6-7.4.6	Navigation running lights6-16
6-7.4.7	After operation checks6-16
Section IV	Emergency shutdown6-17
6-8	General6-17
CHAPTER 7	VENTILATION, HEATING, AND AIR CONDITIONING SYSTEMS7-1
Section I	General7-1
7-1	General7-1
Section II	Deckhouse ventilation system7-1
7-2	Description7-1
7-3	Capabilities7-1
7-4	Performance characteristics7-1

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
7-5	Operating instructions.....7-1
7-5.1	Operating controls and indicators.....7-1
7-5.2	Prestart procedures7-1
7-5.3	Operating procedures7-5
7-5.3.1	Increasing ventilation.....7-5
7-5.3.2	Decreasing ventilation7-5
7-5.4	Shutdown procedures7-5
7-5.4.1	Normal shutdown for less than 72 hours7-5
7-5.4.2	Normal shutdown for more than 72 hours7-6
7-5.4.3	Emergency shutdown7-6
7-5.4.3.1	General7-6
7-5.4.3.2	Emergency shutdown procedures7-6
Section III	Voids ventilation system7-8
7-6	Description7-8
7-7	Capabilities.....7-8
7-8	Performance characteristics7-8
7-9	Operating instructions.....7-8
7-9.1	Operating controls and indicators.....7-8
7-9.2	Prestart procedures7-8
7-9.3	Operating procedures7-14
7-10	Shutdown procedures7-14
7-10.1	Normal shutdown for less than 72 hours7-14
7-10.2	Normal shutdown for more than 72 hours7-14
7-10.3	Emergency shutdown7-14
7-10.3.1	General7-14
7-10.3.2	Emergency shutdown procedures7-14
Section IV	Heating and air conditioning (HAC) system.....7-15
7-11	Description7-15
7-12	Capabilities.....7-15
7-13	Special limitations.....7-15
7-14	Performance characteristics7-15
7-15	Operating instructions.....7-15
7-15.1	Operating controls and indicators.....7-15
7-15.2	Prestart procedures7-19

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
7-15.3	Operating procedures7-19
7-15.3.1	AC unit7-19
7-15.3.2	Heating unit7-21
7-15.4	Shutdown procedures7-21
7-15.4.1	AC unit7-21
7-15.4.2	Heating unit7-21
7-15.5	Emergency shutdown7-21
7-15.5.1	General7-21
7-15.5.2	Emergency shutdown procedures7-22
Section V	ROWPU space and voids heating system.....7-22
7-16	Description7-22
7-17	Capabilities.....7-22
7-18	Special limitations.....7-22
7-19	Performance characteristics7-22
7-20	Operating instructions.....7-22
7-20.1	Operating controls and indicators.....7-22
7-20.2	Prestart procedures7-24
7-20.3	Operating procedures7-24
7-20.4	Shutdown procedures7-24
7-20.5	Emergency shutdown7-24
7-20.5.1	General7-24
7-20.5.2	Emergency shutdown procedures7-24
CHAPTER 8	EQUIPMENT MONITORING SYSTEM (EMS).....8-1
Section I	General8-1
8-1	General8-1
8-2	Description8-1
8-3	Capabilities.....8-1
8-4	Special limitations.....8-1
Section II	Description of operation8-1
8-5	General8-1
8-6	Power supply8-1

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
Section III	Operating instructions.....8-11
8-7	Operating controls and indicator8-11
8-8	Prestart procedures8-11
8-9	Operating procedures8-11
8-9.1	Startup procedures8-11
8-9.2	Normal operating procedures.....8-17
8-9.3	Alarm acknowledgment8-17
8-9.3.1	Abnormal conditions are indicated in four ways.....8-17
8-9.3.2	To acknowledge alarms sounded by EMS.....8-18
8-9.4	System editing.....8-18
8-9.4.1	Accessing edit mode.....8-18
8-9.4.2	Level 1 editing8-19
8-9.4.2.1	Using EDIT MENU option 1 to activate/deactivate sensors8-19
8-9.4.2.2	Using EDIT MENU option 1 to change or set reference markers8-21
8-9.4.2.3	Using EDIT MENU option 2 to activate/deactivate switches8-22
8-9.4.2.4	Using EDIT MENU option 3 to activate/deactivate totalizers8-23
8-9.4.2.5	Using EDIT MENU option 4 to set time and date on EMS dock.....8-24
8-9.4.3	Level 2 editing procedures.....8-25
8-9.5	Edit termination8-25
8-9.6	Shutdown procedures8-26
8-9.7	Operation under extreme conditions8-26
CHAPTER 9	CHLORINATION SYSTEM.....9-1
Section I	General9-1
9-1	General9-1
9-2	Description9-1
9-3	Capabilities.....9-1
9-4	Special limitations.....9-1
9-5	Performance characteristics9-1
Section II	Description of operation9-1
9-6	General9-1
9-7	Preparation for operation9-7
9-8	Non-operating chlorination system.....9-7

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
Section III	Operating instructions9-7
9-9	Operating controls and indicators.....9-7
9-10	Prestart procedures9-7
9-11	Operating procedures9-9
9-12	Normal chlorination system operation9-20
9-13	Brine tank and holding tank priming.....9-23
9-14	Chlorine generation and recirculation.....9-24
9-15	Chlorination unit descaling.....9-25
9-15.1	Initial flushing with seawater9-25
9-15.2	Flushing with acid.....9-25
9-15.2.1	Acid tank preparation.....9-25
9-15.2.2	Acid flush.....9-26
9-16	Shutdown procedure9-27
9-17	Emergency shutdown9-27
9-17.1	General9-27
9-17.2	Emergency shutdown procedures9-28
Section IV	Operation under extreme conditions9-28
9-18	Operation under extreme conditions9-28
9-18.1	Operation in extreme cold.....9-28
9-18.2	Operation in extreme heat9-28
9-18.2.1	Lubricants.....9-28
9-18.2.2	Motor.....9-28
CHAPTER 10	WORKBOAT AND BOW CRANE10-1
Section I	General10-1
10-1	General10-1
10-2	Description10-1
10-3	Capabilities.....10-5
10-4	Special limitations.....10-5
10-5	Performance characteristics10-5
Section II	Operating instructions10-5
10-6	Controls and indicators10-5
10-6.1	Searchlight10-5
10-6.2	Operator's electrical control panel.....10-5
10-6.3	Windshield wiper10-5

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
10-6.4	Boat horn..... 10-5
10-6.5	Bilge pump switches and indicators 10-7
10-6.6	Outboard drive controls 10-7
10-6.7	Magnetic compass..... 10-7
10-6.8	Steering pump filler 10-7
10-6.9	Engine hourmeter 10-7
10-6.10	Fuel gauge 10-7
10-6.11	Volvo engine instrument panel..... 10-7
10-6.12	Master switch..... 10-8
10-6.13	Ignition/electrical switch 10-8
10-6.14	Throttle and shift control 10-8
10-6.15	Marine band VHF/FM radio..... 10-8
10-6.16	Depthfinder controls and indicators..... 10-8
10-6.17	Engine maintenance controls and indicators 10-8
10-7	Prestart procedures 10-11
10-8	Starting procedures 10-11
10-9	Operating procedures 10-15
10-9.1	Radio operations..... 10-15
10-9.2	Depthfinder operations..... 10-16
10-9.3	Workboat operations..... 10-17
10-10	Emergency procedures..... 10-17
10-10.1	General 10-17
10-10.2	Fire prevention 10-17
10-10.3	Firefighting techniques..... 10-18
10-10.4	Running aground prevention..... 10-18
10-10.5	Recovery procedures when aground..... 10-18
10-11	Operations under unusual conditions 10-19
10-11.1	General 10-19
10-11.2	Being towed by another boat..... 10-19
10-11.3	Towing another boat 10-19
10-12	Shutdown procedures 10-20
10-13	Deployment and recovery..... 10-21
10-13.1	General 10-21
10-13.2	Bow crane 10-21

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
10-13.3	Operating controls 10-21
10-13.4	Prestart procedures 10-21
10-13.5	Procedures for deploying workboat 10-25
10-13.6	Bow crane shutdown procedures..... 10-26
10-13.7	Workboat recovery procedures 10-26
10-14	Operations under extreme conditions..... 10-30
10-14.1	Operations in extreme heat..... 10-30
10-14.2	Operations in high humidity conditions..... 10-30
10-14.3	Operations in extreme cold 10-30
CHAPTER 11	SEAWATER SYSTEM..... 11-1
Section I	General 11-1
11-1	General 11-1
11-2	Description 11-1
11-2.1	ROWPU and ballast seawater supply 11-1
11-2.2	Air conditioner cooling seawater and chlorination unit supply 11-1
11-2.3	Diesel engine generator seawater cooling 11-1
11-3	Seawater supply 11-1
11-4	Special limitations..... 11-1
Section II	Description of operation 11-9
11-5	ROWPU seawater supply 11-9
11-6	Ballast seawater supply 11-9
11-7	Air conditioning unit seawater supply 11-9
11-8	Chlorination unit seawater supply..... 11-9
11-9	Diesel generators seawater supply..... 11-9
Section III	Operating instructions 11-12
11-10	Operating controls and indicators..... 11-12
11-11	Prestart procedures 11-12
11-12	Normal and alternate operating procedures 11-12
11-12.1	Supplying seawater to ROWPU's from seachest (deep water) using seawater pump(s) 1 and/or 2 11-21
11-12.1.1	Normal Procedures..... 11-21
11-12.1.2	Alternate procedures..... 11-23

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
11-12.2	Supplying seawater to ROWPU's from starboard shell penetration (shallow water) using seawater pump(s) 1 and/or 2..... 11-23
11-12.2.1	Normal procedures 11-23
11-12.2.2	Alternate procedures..... 11-24
11-12.3	Supplying seawater from seawater pumps to chlorination and air conditioning units..... 11-24
11-12.4	Supplying seawater from cooling pump to air conditioning and chlorination units 11-25
11-12.5	Filling ballast tank (to correct a bow high condition) 11-26
11-12.5.1	Filling ballast tank from forward seachest 11-26
11-12.5.2	Filling ballast tank from starboard shell..... 11-26
11-12.6	Draining ballast tank (to correct a stem high condition) 11-27
11-12.7	Supplying seawater for generator cooling 11-27
11-12.8	Seachest blowdown 11-28
11-12.8.1	Forward seachest blowdown 11-28
11-12.8.2	Aft seachest blowdown 11-29
11-13	Seawater system shutdown procedures 11-29
11-13.1	Shutdown seawater supply to ROWPU's..... 11-30
11-13.2	Shutdown generator cooling seawater supply..... 11-30
11-13.3	Shutdown seawater supply to air conditioning and/or chlorination units when using cooling pump..... 11-30
11-14	Emergency shutdown 11-30
11-14.1	General 11-30
11-14.2	Emergency shutdown procedures 11-31
CHAPTER 12	COMPRESSED AIR SYSTEM..... 12-1
Section I	General 12-1
12-1	General 12-1
12-2	Description 12-1
12-3	Capabilities..... 12-1
12-4	Special limitations..... 12-1
Section II	Description of operation 12-1
12-5	Activation 12-1
12-6	Air flow 12-1
Section III	Operating instructions..... 12-5
12-7	Operating controls and indicators..... 12-5
12-7.1	Controls..... 12-5
12-7.2	Indicators..... 12-9

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
12-8	Prestart procedures 12-10
12-8.1	Startup after extended shutdown 12-10
12-8.2	Startup after temporary shutdown 12-12
12-9	Operating procedures 12-12
12-9.1	General 12-12
12-9.2	Operating compressed air stations 1 thru 5 and 7 12-12
12-9.3	Using air impact wrench with air stations 1 thru 5 and 7 12-13
12-9.3.1	Pre-operational procedures..... 12-13
12-9.3.2	Operating the air impact wrench 12-14
12-9.4	Operating compressed air station 6 to power the PIG 12-14
12-9.5	Operating compressed air system for seachests blowdown 12-16
12-10	Shutdown procedures 12-16
12-10.1	Temporary shutdown (less than 12 hours)..... 12-16
12-10.2	Extended shutdown 12-16
12-11	Emergency shutdown 12-17
12-11.1	General 12-17
12-11.2	Emergency shutdown procedures 12-17
CHAPTER 13	ROWPU SYSTEM..... 13-1
Section I	General 13-1
13-1	General 13-1
13-2	System description 13-1
13-3	Component description 13-1
13-3.1	Pretreatment skid assembly..... 13-1
13-3.2	Media filters..... 13-3
13-3.3	High Pressure (HP) pump skid..... 13-8
13-3.4	Reverse Osmosis (RO) block assembly 13-8
13-4	System Capabilities 13-8
13-5	Limitations 13-8
13-6	Performance characteristics 13-8
Section II	Description of operation 13-9
13-7	Reverse Osmosis process 13-9
13-8	ROWPU system operation..... 13-9

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
Section III	Operating instructions..... 13-11
13-9	Operating controls and indicators..... 13-11
13-10	Prestart procedures 13-12
13-11	Operating procedures 13-26
13-11.1	General 13-26
13-11.2	Startup procedures 13-26
13-11.3	Operating procedures 13-30
13-12	Shutdown procedures 13-32
13-12.1	Normal shutdown..... 13-32
13-12.2	Emergency shutdown 13-33
13-12.2.1	General 13-33
13-12.2.2	Emergency shutdown procedures 13-34
CHAPTER 14	DRINKING WATER SYSTEM 14-1
Section I	General 14-1
14-1	General 14-1
14-2	Description 14-1
14-3	Capabilities..... 14-1
14-4	Limitations 14-1
14-5	Performance characteristics 14-1
Section II	Description of operation 14-5
14-6	Drinking water supply..... 14-5
14-7	Drinking water supplied to shore or port discharge valve..... 14-5
14-8	Drinking water for onboard use 14-8
Section III	Operating instructions..... 14-8
14-9	Operating controls and indicators..... 14-8
14-10	Prestart procedures 14-8
14-11	Operating procedures 14-8
14-11.1	General 14-8
14-11.2	Filling drinking water storage tanks 14-18
14-11.3	Discharging drinking water to shore 14-19
14-11.4	Discharging drinking water through port discharge valve..... 14-22
14-11.4.1	Discharging drinking water to another vessel 14-22
14-11.4.2	Emptying storage tanks by discharging overboard 14-23
14-11.5	Supplying storage tank drinking water to pressure set for use on barge..... 14-24

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
14-11.6	Filling drinking water reserve tank..... 14-24
14-11.6.1	Filling drinking water reserve tank from storage tanks..... 14-24
14-11.6.2	Filling drinking water reserve tank from other vessel or shore supply..... 14-25
14-11.7	Supplying drinking water on barge from reserve tank..... 14-25
14-11.8	Supplying drinking water to dayroom, washdown stations, chlorination unit, and shower 14-26
14-12	Shutdown procedures 14-26
14-12.1	Normal shutdown..... 14-26
14-12.2	Emergency shutdown 14-27
14-12.2.1	General 14-27
14-12.2.2	Emergency shutdown procedures 14-27
CHAPTER 15	SHORE DISCHARGE SYSTEM 15-1
Section I	General 15-1
15-1	General 15-1
15-2	Description 15-1
15-3	Capabilities..... 15-1
15-4	Special limitations..... 15-1
15-5	Performance characteristics 15-1
Section II	Description and data 15-1
15-6	Shore winch installation 15-1
15-7	Hose deployment..... 15-1
15-8	Pumping water to shore 15-1
15-9	Hose retrieval 15-1
Section III	Operating instructions..... 15-4
15-10	Operating controls and indicators..... 15-4
15-11	Prestart procedures 15-4
15-12	Operating procedures 15-4
15-12.1	Discharge hose deployment..... 15-4
15-12.1.1	Predeployment procedures 15-4
15-12.1.1.1	Shore winch installation 15-4
15-12.1.1.2	Preparation of discharge hose 15-6
15-12.1.1.3	Preparation of shore discharge hose, reel winch, and hydraulic power system 15-6
15-12.1.1.4	Deployment of messenger (tow) line..... 15-17
15-12.1.2	Deployment of discharge hose (hose out) 15-18
15-12.1.3	Controlling a runaway discharge hose..... 15-20

TABLE OF CONTENTS (Continued)

VOLUME 1

	<u>Page</u>
15-12.1.4	Unpowered discharge hose deployment..... 15-20
15-12.2	Discharging drinking water to shore 15-21
15-13	Shutdown procedures 15-22
15-13.1	Discharge hose pigging (hose blowout)..... 15-22
15-13.2	Discharge hose retrieval (hose in)..... 15-22
15-13.3	Emergency shutdown 15-24
15-13.3.1	General 15-24
15-13.3.2	Emergency shutdown procedures 15-25
CHAPTER 16	BARGE DEPLOYMENT 16-1
Section I	General 16-1
16-1	General 16-1
Section II	Considerations in docking 16-1
16-2	General 16-1
Section III	Towing procedures 16-1
16-3	General 16-1
16-4	Preparation for towing..... 16-1
16-5	Towing bridle installation 16-3
16-6	Towing operations 16-3
16-7	Towing bridle storage..... 16-3
Section IV	Anchoring site selection considerations 16-5
16-8	Barge requirements 16-5
16-9	Beach and shore requirements 16-5
16-10	Oceanographic requirements 16-5
16-11	Support requirements 16-6
16-12	Anchoring site selection 16-6
Section V	Anchoring methods..... 16-6
16-13	General 16-6
16-14	Anchoring with four anchors..... 16-6
16-15	Modified anchoring with four anchors..... 16-7
16-16	Anchoring with two anchors 16-10
16-17	Anchoring with single anchor 16-10

**TABLE OF CONTENTS (Continued)
VOLUME 1**

	<u>Page</u>
Section VI	Retrieving anchors 16-12
16-18	General 16-12
16-18.1	Retrieving an anchor with assistance of auxiliary boat 16-12
16-18.2	Retrieving an anchor with assistance of tug 16-12
Section VII	Anchor winch procedures 16-12
16-19	Operating controls and indicators 16-12
16-20	Prestart procedures 16-14
16-21	Operating procedures with power 16-17
16-22	Operating procedures without power 16-17
16-23	Shutdown procedures 16-19
16-23.1	Anchors deployed 16-19
16-23.2	Anchors retrieved 16-19
16-24	Emergency shutdown 16-19
16-24.1	General 16-19
16-24.2	Emergency shutdown procedures 16-20

LIST OF APPENDICES

A	REFERENCES A-1
B	MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS (see applicable volumes)

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BILL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

LIST OF ILLUSTRATIONS

<u>Figure</u>	<u>Page</u>		
1-1	Major Components of ROWPU Barge Systems and Equipment - Deckhouse Roof.....		1-2
2-1	Reverse Osmosis Demonstration		2-2
2-2	ROWPU and Ballast Seawater Supply Block Diagram		2-5
2-3	ROWPU System Block Diagram		2-6
2-4	Drinking Water System Block Diagram (Barge 1)		2-7

TABLE OF CONTENTS (Continued)
VOLUME 1
LIST OF ILLUSTRATIONS

Figure		Page
2-5	Drinking Water System Block Diagram (Barges 2 and 3)	2-8
3-1	Switchboard Distribution Circuit Breakers (Barge 1)	3-3
3-2	Switchboard Distribution Circuit Breakers (Barges 2 and 3)	3-4
3-3	Power Panel 1 Circuit Breakers, 440 Vac	3-5
3-4	Power Distribution Panel 2, 440 Vac	3-6
3-5	Power Distribution Panel 3,120 Vac	3-7
3-6	Power Distribution Panel 4, 440 Vac (Barge 1)	3-8
3-7	Deck Lighting Panel	3-9
3-8	Void Lighting Panel	3-10
3-9	Receptacle Panel	3-11
3-10	Overall View of Switchboard Control Panels	3-14
3-11	Typical Switchboard Generator Control Panel	3-15
3-12	Switchboard Distribution Panel (Barge 1)	3-17
3-13	Switchboard Distribution Panel (Barges 2 and 3)	3-18
3-14	Paralleling and Control Panel	3-19
3-15	Switchboard Miscellaneous Controls and Indicators	3-20
3-16	Location of Controls for Emergency Shutdown Systems	3-28
3-17	Emergency Electrical System Diagram	3-30
3-18	24 Vdc Power Panel	3-31
3-19	Emergency Lighting Panel	3-32
3-20	Battery Charger	3-33
3-21	Battery Bank	3-34
4-1	Front Panel of Marine Smoke Detector Cabinet	4-2
5-1	Radio Communications System Major Components	5-4
5-3	Marine Radio Equipment Interface	5-4
5-4	Walkie-Talkie Equipment Interface	5-5
5-5	Army Radio Power Supply PP-6224 A/U Controls and Indicators (Barge 1)	5-9
5-6	Army Radio Power Supply PP-2953/U Controls and Indicators (Barges 2 and 3)	5-10
5-7	Army Radio Controls and Indicators	5-11
5-8	Marine Radio Controls and Indicators	5-13
5-10	Walkie-Talkie Controls and Indicators	5-14
5-11	Foghorn Major Component Location	5-22

TABLE OF CONTENTS (Continued)
VOLUME 1
LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
5-12	Telephone System Major Component Location	5-25
5-13	Telephone Station Selector Box Controls	5-30
5-14	System Operator Telephone Handset Station	5-31
5-15	Telephone Headset Controls and Plug	5-32
5-16	Telephone Headset Station	5-33
5-17	Telephone Speaker	5-35
6-1	Normal Interior Lighting Arrangement	6-2
6-2	Emergency Interior Lighting Arrangement	6-4
6-3	10A Rotary Snap Switch (Barge 1 only)	6-7
6-4	30A 3-Way Rotary Snap Switch 6	6-7
6-5	Power Panel 3	6-8
6-6	Deck Lighting Panel	6-9
6-7	Void Lighting Panel	6-10
6-8	Emergency Lighting Panel	6-11
6-9	Exterior Lighting System Arrangement	6-13
6-10	24 Vdc Power Panel	6-18
6-11	Searchlight	6-19
7-1	Example of Light-Proof Louvered Hatches on Deckhouse Port and Starboard Bulkheads	7-2
7-2	Example of Covered Fan Motors on Deckhouse Top	7-3
7-3	Power Panel 2, 440 Vac	7-4
7-4	Ventilation System Operating Controls	7-7
7-5	Voids Ventilation Fan Motors on Port and Starboard Deckhouse Bulkheads (Portside Shown)	7-10
7-6	Example of Vertical Fan Motors near ROWPU Space Aft Bulkhead	7-11
7-7	Example of Round Blower Covers on Port and Starboard Bulkhead Exteriors	7-12
7-8	Voids Ventilation Emergency Shutdown Controls	7-13
7-9	Heating and AC Selector Switch	7-16
7-10	Heating and AC System Controls	7-17
7-11	Location of Seawater Valves Affecting AC Unit	7-20
7-12	Heating Systems Locations (Barge 1)	7-23
7-13	Heater Controls	7-25

TABLE OF CONTENTS (Continued)
VOLUME 1
LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
7-14	Switchboard Distribution Panel (Barge 1)	7-26
7-15	Power Distribution Panel 4, 440 Vac (Barge 1)	7-27
8-1	Equipment Monitoring System Block Diagram	8-3
8-2	Equipment Monitoring System Arrangement	8-4
8-3	Potable Water Tanks Display Page	8-6
8-4	Salinity Display Page	8-6
8-5	System Status Display Page	8-7
8-6	Generator Alarms Display Page	8-8
8-7	High Pressure Water Pumps Display Page	8-8
8-8	Bilge Alarms Display Page	8-9
8-9	Chlorine Status Display Page	8-10
8-10	Tank Levels Display Page	8-10
8-11	24 Vdc Power Panel	8-13
8-12	Equipment Monitoring System Main Processor	8-14
8-13	Equipment Monitoring System Keyboard.....	8-15
8-14	Main Processor Battery Charger	8-16
9-1	Chlorination System Installation (Barge 1)	9-2
9-2	Chlorination System Installation (Barges 2 and 3)	9-3
9-3	Chlorination System General Working (Block) Diagram	9-5
9-4	Chlorination System Flowchart	9-6
9-5	Chlorination Unit Controls and Indicators	9-10
9-6	Chlorine Metering Pump Controls	9-11
9-7	Chlorine Metering Pump Control Unit Controls and Indicators	9-12
9-8	Chlorine Metering Pump Motor Controller	9-13
9-9	Chlorination Unit Control Cabinet Controls and Indicators	9-14
9-10	Interior of Chlorination Control Unit Cabinet	9-15
9-11	EMS Keyboard	9-16
9-12	EMS Chlorine Status Display Page	9-17
9-13	EMS Status Display Page	9-17
10-1	Workboat Profile	10-2
10-2	Location of Workboat Components	10-3
10-3	Workboat Operator Controls and Indicators	10-6

TABLE OF CONTENTS (Continued)

VOLUME 1

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
10-4	VHF/FM Marine Radio Control Panel	10-9
10-5	Depthfinder Controls and Indicators	10-10
10-6	Engine Maintenance Controls and Indicators	10-12
10-7	Messenger Line Reel Unit	10-13
10-8	Bow Crane in Traveling (Stowed) Configuration	10-22
10-9	Bow Crane Control Panel (Barge 1)	10-23
10-10	Bow Crane Control Panel (Barges 2 and 3)	10-24
10-11	Standard Military Hand Signals for Controlling Cranes	10-27
10-12	Workboat Cradle Tie-Down with Ratchet	10-28
10-13	Bow Crane Lifts Workboat with Three-Point Suspension Harness	10-29
11-1	ROWPU and Ballast Seawater Supply	11-2
11-2	ROWPU and Ballast Seawater Supply Block Diagram	11-4
11-3	Air Conditioner Cooling Seawater and Chlorination Unit Seawater Supply	11-5
11-4	Air Conditioner and Chlorination Seawater Cooling Block Diagram	11-7
11-5	Diesel Engine Generator Cooling Seawater	11-8
11-6	Diesel Engine Generator Cooling Seawater Block Diagram (Barge 1)	11-10
11-7	Diesel Engine Generator Cooling Seawater Block Diagram (Barges 2 and 3)	11-11
11-8	Seawater System's Electrical Controls	11-14
11-9	ROWPU Control Station (ROWPU 1 Station Shown)	11-15
11-10	Ballast Tank Liquid Level Indicator	11-16
12-1	Location of Compressed Air System Components (Barge 1)	12-2
12-2	Location of Compressed Air System Components (Barges 2 and 3)	12-3
12-3	Air Compressor Electric Controller	12-6
12-4	Barge 1 Air Compressor/Receiver	12-7
12-5	Barges 2 and 3 Air Compressor/Receiver	12-8
12-6	Exterior View of Air Pressure Regulator with Gauge	12-9
12-7	Exterior View of Air Filter 1 and Air Filter 2	12-11
12-8	Air Station Valve and Quick Disconnect	12-13
12-9	PIG Launcher Controls	12-15
13-1	ROWPU 1 Installation	13-4
13-2	ROWPU 2 Installation	13-5
13-3	ROWPU System Block Diagram	13-6

TABLE OF CONTENTS (Continued)

VOLUME 1

LIST OF ILLUSTRATIONS

<u>Figure</u>	<u>Page</u>
13-4 ROWPU System Flow Diagram	13-7
13-5 Reverse Osmosis Demonstration	13-10
13-6 ROWPU Control Station (ROWPU 1 Station Shown)	13-13
13-7 HP Pump Diesel Engine Controls and Indicators (Sheet 1 of 2)	13-14
13-7 HP Pump Diesel Engine Controls and Indicators (Sheet 2 of 2)	13-15
13-8 RO Block Valves and Indicators	13-16
13-9 Pretreatment Skid Valves and Temperature Indicator	13-17
13-10 Coagulant and Inhibitor Pump Controls (Sheet 1 of 2)	13-18
13-10 Coagulant and Inhibitor Pump Controls (Sheet 2 of 2)	13-19
13-11 Monitoring System Salinity Display Page	13-20
13-12 Monitoring System High Pressure Water Pumps Display Page	13-20
13-13 High Pressure Diesel Pump Lubrication	13-25
14-1 Drinking Water System Installation (Barge 1)	14-2
14-2 Drinking Water System Installation (Barges 2 and 3).....	14-3
14-3 Drinking Water System Block Diagram (Barge 1)	14-6
14-4 Drinking Water System Block Diagram (Barges 2 and 3)	14-7
14-5 Drinking Water System Electrical Controls	14-10
14-6 Tank Liquid Level Indicator	14-11
14-7 Drinking Water Discharge Pressure Gauge, Flow Rate Meter, and Associated Monitoring System Display	14-12
14-8 Drinking Water Salinity Sensor and Monitoring System Display	14-13
14-9 Potable Water Tanks Monitoring System Display	14-14
14-10 Drinking Water Pressure Set Pressure Gauge	14-15
15-1 Shore Discharge System Installation	15-2
15-2 Shore Discharge System Winch Controls and Indicators (Barge 1)	15-7
15-3 Shore Discharge System Winch Controls and Indicators (Barges 2 and 3)	15-8
15-4 Hydraulic Power Unit Control Panel and Remote Start/Stop Switch	15-9
15-5 Hose Winch Hydraulic Power Unit	15-10
15-6 Hydraulic Power Unit Gauges (Barges 2 and 3)	15-11
15-7 Valves and PIG Launcher Controls.....	15-12
15-8 Hydraulic Disc Brake Release Controls	15-13

TABLE OF CONTENTS (Continued)

VOLUME 1

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
15-9	Band Brake Hand Pump Controls and Indicators	15-14
15-10	Levelwind Controls (Barges 2 and 3)	15-15
16-1	Tug with Barge "on the Hip"	16-2
16-2	Towing Equipment Installation	16-4
16-3	Positions of Tug, Barge, Shore Facility, and Anchors	16-8
16-4	Sequence of Movements for Barge and Tug in Normal Anchoring	16-9
16-5	Position of Barge, Shore Facility, and Shore Discharge Hose when Using Only	
	One Anchor	16-11
16-6	Anchor Winch Control Panel	16-13
16-7	Outer Side of Anchor Winch	16-15
16-8	Inner Side of Anchor Winch (handle in)	16-16
16-9	Servicing Points on Anchor Winch Gear Motor Reduction Box.....	16-18

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1-1	Barge Operation and Maintenance Technical Manuals	1-1
3-1	Electrical Power System Major Components	3-12
3-2	Barge Normal Electrical Power Distribution	3-13
3-3	Major Components of Emergency Electrical System	3-27
5-1	Radio Communications System Major Components	5-2
5-2	Frequency/Channel Chart for Commercial Marine Radios in USA	5-18
5-3	Foghorn Major Components	5-21
5-4	Locations of Telephone Stations and Equipment	5-24
5-5	Telephone System Major Components	5-26
5-6	Circuit Breakers	5-28
6-1	Normal Interior Lighting System Components	6-3
6-2	Emergency Interior Lighting System Components	6-5
6-3	Exterior Lighting System Components	6-14
7-1	Major Components of Deckhouse Ventilation System	7-5
7-2	Major Components of Voids Ventilation System	7-9
7-3	Major Components of Heating and Air Conditioning System	7-18
8-1	Equipment Monitoring System Main Components	8-2

TABLE OF CONTENTS (Continued)

VOLUME 1

LIST OF TABLES

<u>Table</u>	<u>Page</u>
8-2 Equipment Monitoring System Sensor Data	8-5
8-3 EMS Operating Controls and Indicators	8-12
9-1 Major Components of Chlorination System.....	9-4
9-2 Operating Controls and Indicators	9-8
9-3 Chlorination System Valves	9-18
11-1 Major Components of ROWPU and Ballast Seawater Supply	11-3
11-2 Major Components of Air Conditioner Cooling Seawater and.....	
Chlorination Unit Seawater Supply	11-6
11-3 Major Components of Diesel Engine Generator Cooling Seawater	11-9
11-4 Operating Controls and Indicators	11-13
11-5 Seawater System Valves	11-17
12-1 Compressed Air System Major Components	12-4
13-1 ROWPU System Components	13-2
13-2 Operating Controls and Indicators	13-11
13-3 ROWPU System Valves	13-21
14-1 Major Components of Drinking Water System	14-4
14-2 Operating Controls and Indicators	14-9
14-3 Drinking Water System Valve Label Identification	14-16
15-1 Components of Shore Discharge System	15-3
15-2 Operating Controls and Indicators	15-5
15-3 Shore Discharge System Valves	15-16

TABLE OF CONTENTS (Continued)

VOLUME 2

	<u>Page</u>
CHAPTER 1 INTRODUCTION	1-1
Section I. General Information	1-1
1-1 Purpose	1-1
1-2 Scope	1-1
1-3 Warranties and guarantees	1-1
1-4 Maintenance forms and records	1-1
1-5 Destruction of Army materiel to prevent enemy use	1-1
1-6 Storage	1-1
Section II. Description and data	1-1
1-7 Description	1-1
1-7.1 ROWPU and ballast seawater supply	1-1
1-7.2 Air conditioner cooling seawater and chlorination unit seawater supply	1-1
1-7.3 Diesel engine generator cooling seawater	1-1
1-8 Capabilities	1-11
1-8.1 System capability definitions	1-11
1-9 Special limitations	1-11
1-10 Performance characteristics	1-11
1-11 Equipment specifications	1-11
1-12 Items furnished	1-26
1-13 Items required but not furnished	1-26
1-14 Tools and test equipment	1-26
CHAPTER 2 DESCRIPTION OF OPERATION	2-1
2-1 ROWPU seawater supply	2-1
2-2 Ballast seawater supply	2-1
2-3 Air conditioning unit seawater supply	2-1
2-4 Chlorination unit seawater supply	2-1
2-5 Diesel generators seawater supply	2-1
CHAPTER 3 OPERATING INSTRUCTIONS	3-1
Section I. Operating controls and indicators	3-1
3-1 Operating controls and indicators	3-1

TABLE OF CONTENTS (Continued)

VOLUME 2

	<u>Page</u>
Section II. Prestart procedures	3-1
3-2 Prestart procedures	3-1
Section III. Operating procedures	3-1
3-3 Normal and alternate operating procedures.....	3-1
3-3.1 Supplying seawater to ROWPU's from seachest (deep water) using	
seawater pump(s) 1 and/or 2.....	3-10
3-3.1.1 Normal procedures	3-10
3-3.1.2 Alternate procedures	3-11
3-3.2 Supplying seawater to ROWPU's from starboard shell penetration	
(shallow water) using seawater pump(s) 1 and/or 2	3-11
3-3.2.1 Normal procedures	3-12
3-3.2.2 Alternate procedures	3-12
3-3.3 Supplying seawater from seawater pumps to chlorination and air conditioning units...	3-13
3-3.4 Supplying seawater from cooling pump to air conditioning and chlorination units	3-14
3-3.5 Filling ballast tank (to correct a bow high condition)	3-14
3-3.5.1 Filling ballast tank from forward seachest	3-14
3-3.5.2 Filling ballast tank from starboard shell	3-15
3-3.6 Draining ballast tank (to correct a stem high condition)	3-15
3-3.7 Supplying seawater for generator cooling	3-16
3-3.8 Seachest blowdown	3-17
3-3.8.1 Forward seachest blowdown	3-17
3-3.8.2 Aft seachest blowdown	3-17
3-4 Seawater system shutdown procedures	3-18
3-4.1 Shutdown seawater supply to ROWPU's	3-18
3-4.2 Shutdown generator cooling seawater supply	3-18
3-4.3 Shutdown seawater supply to air conditioning and/or chlorination units when	
using cooling pump	3-18
3-5 Emergency shutdown	3-18
3-5.1 General	3-19
3-5.2 Emergency shutdown procedures	3-19

TABLE OF CONTENTS (Continued)

VOLUME 2

	<u>Page</u>
Section IV. Operation under extreme conditions	3-19
3-6 Operation under extreme conditions	3-19
3-6.1 Operation in extreme cold	3-19
3-6.2 Operation in extreme heat	3-19
CHAPTER 4 MAINTENANCE INSTRUCTIONS	4-1
Section I. General	4-1
4-1 Maintenance concept	4-1
4-2 Maintenance instruction	4-1
Section II. Preventive maintenance checks and services	4-1
Section III. Troubleshooting	4-1
4-4 Component	4-1
4-5 Seawater system	4-1
Section IV. Maintenance procedures.....	4-1
4-6 General	4-1
4-7 Seawater system	4-7
4-7.1 Lubrication	4-8
4-7.2 Repair or replacement of system components	4-8
4-7.2.1 Seawater discharge pump assembly	4-8
4-7.2.2 Seachest (Void 2 starboard or Void 4 port)	4-9
4-7.2.3 Seawater strainer	4-9
4-7.2.4 Strainer inlet and outlet pressure gauges	4-11
4-7.2.5 Seawater filter 1 and 2 (Lakos separator)	4-12
4-7.2.6 Seawater discharge pump OFF/ON/START and local START/STOP.....	
switches.....	4-12
4-7.2.7 Cooling pump motor controller	4-14

TABLE OF CONTENTS (Continued)

VOLUME 2

	<u>Page</u>
4-7.2.8 Cooling pump	4-17
4-7.2.9 Pressure regulator (chlorination unit seawater supply line)	4-18
4-7.2.10 Pressure gauge (chlorination unit seawater supply line)	4-18
4-7.2.11 Seawater to chlorination in-line filter 3	4-19
4-7.2.12 Seachest and ballast tank air escape valve	4-19
4-7.2.13 Generator cooling inlet and outlet temperature gauges	4-20
4-7.2.14 Ballast tank	4-20
4-7.2.15 Ballast tank liquid level indicator	4-21
4-7.2.16 Piping and valves	4-22
CHAPTER 5 STORAGE	5-1
5-1 Short-term storage	5-1
5-2 Administrative storage	5-1
5-2.1 Administrative storage procedures, generators in use	5-1
5-2.2 Administrative storage procedures, generators off	5-2
5-2.3 Administrative storage inspection	5-2
5-3 Long-term storage	5-2
CHAPTER 6 MANUFACTURER'S SERVICE MANUALS/INSTRUCTIONS	6-1
6-1 General	6-1
CHAPTER 7 MANUFACTURERS' WARRANTIES/GUARANTEES	7-1
7-1 General	7-1

LIST OF APPENDICES

A REFERENCES	A-1
B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	B-1
C PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

MAINTENANCE ALLOCATION CHART (MAC)
 TOOLS AND TEST EQUIPMENT LIST (TTEL)
 EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
 REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
 REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series are in TM 55-1930-209-14&P-20.

COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BILL)
 ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

TABLE OF CONTENTS (Continued)

VOLUME 2

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Barge Major Components	1-2
1-2	ROWPU and Ballast Seawater Supply	1-5
1-3	ROWPU and Ballast Seawater Supply Block Diagram	1-7
1-4	Air Conditioner Cooling Seawater and Chlorination Unit, Seawater Supply	1-8
1-5	Air Conditioner and Chlorination Unit Cooling Seawater Block Diagram	1-10
1-6	Diesel Engine Generator Cooling Seawater	1-22
1-7	Diesel Engine Generator Cooling Seawater Block Diagram (Barge 1)	1-24
1-8	Diesel Engine Generator Cooling Seawater Block Diagram (Barges 2 and 3)	1-25
3-1	Seawater System's Electrical Controls	3-3
3-2	ROWPU Control Station (ROWPU 1 Station Shown)	3-4
3-3	Ballast Tank Liquid Level Indicator.....	3-5
3-4	Location of Control Buttons for Emergency Shutdown Systems.....	3-20
4-1	ROWPU Control Station Schematic.....	4-2
4-2	Cooling Pump Motor Controller Schematic.....	4-3

LIST OF TABLES

<u>TABLES</u>		<u>Page</u>
1-1	Major Components of ROWPU and Ballast Seawater Supply.....	1-6
1-2	Major Components of Air Conditioner Cooling Seawater and Chlorination Unit Seawater Supply	1-9
1-3	Major Components of Diesel Engine Generator Cooling Seawater	1-23
3-1	Operating Controls and Indicators	3-2
3-2	Seawater System Valves	3-6
4-1	Seawater Discharge Pump and Cooling Pump Troubleshooting	4-2
4-2	Cooling Pump Motor Controller Troubleshooting	4-3
4-3	Seawater System Troubleshooting	4-4

TABLE OF CONTENTS

VOLUME 3

		<u>Page</u>
CHAPTER 1	INTRODUCTION	1-1
Section I.	General information	1-1
1-1	Purpose	1-1
1-2	Scope	1-1
1-3	Warranties and guarantees	1-1
1-4	Maintenance forms and records	1-1
1-5	Destruction of Army materiel to prevent enemy use	1-1
1-6	Storage	1-1
Section II.	Description and data	1-1
1-7	System description	1-1
1-8	Component description	1-1
1-8.1	Pretreatment skid assembly	1-1
1-8.2	Media filters	1-5
1-8.3	HP pump skid	1-5
1-8.4	RO block assembly	1-5
1-9	System capabilities	1-7
1-10	Limitations	1-7
1-11	Performance characteristics	1-12
1-12	Equipment specifications	1-12
1-13	Items furnished	1-18
1-14	Items required but not furnished	1-18
1-15	Tools and test equipment	1-18
CHAPTER 2	DESCRIPTION OF OPERATION.....	2-1
2-1	RO process	2-1
2-2	ROWPU system operation	2-1
CHAPTER 3	OPERATING INSTRUCTIONS	3-1
Section I.	Operating controls and indicators	3-1
3-1	Operating controls and indicators	3-1
Section II.	Prestart procedures	3-1
3-2	Prestart procedures	3-1
Section III.	Operating procedures	3-13
3-3	General.....	3-13
3-4	Startup procedures	3-13
3-5	Operating procedures	3-17
3-6	Shutdown	3-19

TABLE OF CONTENTS (Continued)

VOLUME 3

		<u>Page</u>
3-6.1	Normal shutdown	3-19
3-6.1	Normal shutdown	3-19
3-6.2	Emergency shutdown	3-19
3-6.2.1	General	3-19
3-6.2.2	Emergency shutdown procedures	3-20
CHAPTER 4	MAINTENANCE INSTRUCTIONS	4-1
Section I.	General	4-1
4-1	Maintenance concept	4-1
4-2	Maintenance instructions	4-1
Section II.	Preventive maintenance checks and services	4-1
Section III.	Troubleshooting	4-1
4-4	ROWPU system	4-1
4-5	Trouble evaluation	4-1
Section IV.	Maintenance procedures	4-1
4-6	General	4-1
4-7	Component servicing	4-5
4-7.1	Pretreatment skid	4-8
4-7.1.1	Changing cartridge cage assembly (filter elements)	4-8
4-7.1.2	Cartridge filter elements replacement	4-11
4-7.1.3	Coagulant or inhibitor drum replacement	4-12
4-7.1.4	Chemical metering pump check valves cleaning	4-13
4-7.1.5	Chemical metering pump priming	4-14
4-7.2	Media filters	4-15
4-7.2.1	Preliminary procedures	4-15
4-7.2.2	Backwashing media filter 1	4-16
4-7.2.3	Backwashing media filter 2	4-17
4-7.2.4	Backwashing media filter 3	4-17
4-7.2.5	Flushing media filters	4-17
4-7.3	HP pump assembly	4-17
4-7.3.1	Diesel engine oil and filter change	4-17
4-7.3.2	Draining water from diesel engine fuel filter	4-18
4-7.3.3	Diesel engine alternator fan belt adjustment	4-18
4-7.3.4	Diesel engine air filter cleaning and replacement	4-19
4-7.3.5	Diesel engine cooling system 500 hour service	4-21
4-7.3.6	Diesel engine cooling system replenishment	4-21
4-7.3.7	Diesel engine coolant (anti-freeze) change	4-22

TABLE OF CONTENTS (Continued)

VOLUME 3

	<u>Page</u>
4-7.3.8 Diesel engine cooling system cleaning	4-22
4-7.3.9 HP pump pedestal bearing oil change	4-23
4-7.3.10 HP pump oil breather cleaning	4-23
4-7.3.11 HP pump V-belt adjustment	4-23
4-7.3.12 HP pump mechanical seal replacement	4-26
4-7.3.13 HP pump belt tensioner bearings lubrication	4-27
4-7.3.14 Power takeoff oil replenishment	4-27
4-7.3.15 Power takeoff oil change	4-27
4-7.3.16 Power takeoff bearings lubrication	4-28
4-7.4 RO block	4-28
4-7.4.1 Preliminary procedures	4-28
4-7.4.2 RO block membrane cleaning procedures	4-29
4-7.4.3 Membrane cleaning agent drum replacement	4-30
4-7.4.4 RO block throttling valve lubrication	4-31
4-8 Component repair or replacement	4-31
4-8.1 Pretreatment skid	4-31
4-8.1.1 Chemical metering pump replacement	4-31
4-8.1.2 Chemical metering pump diaphragm replacement	4-32
4-8.1.3 Chemical metering pump fuse replacement	4-32
4-8.1.4 Chemical metering pump tubing and cap replacement	4-32
4-8.1.5 Flow indicator (F1) replacement	4-32
4-8.1.6 Temperature gauge (T1) and pressure gauge (P1 thru P5) replacement	4-33
4-8.1.7 Control station indicator light bulb replacement	4-33
4-8.1.8 Control station fuse replacement	4-33
4-8.2 Media filters	4-33
4-8.2.1 Media replacement	4-33
4-8.2.2 Air eliminator (air vent) replacement	4-34
4-8.3 HP pump assembly	4-35
4-8.3.1 Diesel engine replacement	4-35
4-8.3.2 Diesel engine alternator testing	4-36
4-8.3.3 Diesel engine alternator replacement	4-36
4-8.3.4 Diesel engine emergency shutdown cable replacement	4-37
4-8.3.5 Diesel engine muffler replacement	4-37
4-8.3.6 Diesel engine fuel filter replacement	4-38
4-8.3.7 Diesel engine fuel system bleeding	4-38
4-8.3.8 Diesel engine starter replacement	4-38

TABLE OF CONTENTS (Continued)

VOLUME 3

	<u>Page</u>
4-8.3.9 Diesel engine throttle cable replacement	4-40
4-8.3.10 HP pump replacement	4-40
4-8.3.11 HP pump V-belt replacement	4-42
4-8.4 RO block	4-43
4-8.4.1 RO block membrane element removal and replacement	4-43
4-8.5 RO block sampling valve repair/replacement	4-44
4-8.6 RO block product tube assembly repair/replacement	4-47
4-8.7 RO block pressure tube seals replacement	4-48
4-8.8 Valve repair/replacement	4-49
CHAPTER 5 STORAGE	5-1
5-1 Short-term storage	5-1
5-2 Administrative storage	5-1
5-2.1 Administrative storage procedures	5-2
5-2.2 Administrative storage inspection	5-2
5-3 Long-term storage	5-2

LIST OF APPENDICES

A REFERENCES	A-1
B PREVENTIVE MAINTENANCE CHECKS AND SERVICES	B-1
C MANUFACTURERS' SERVICE MANUAUINSTRUCTIONS	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

MAINTENANCE ALLOCATION CHART (MAC)
 TOOLS AND TEST EQUIPMENT LIST (TTEL)
 EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
 REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
 REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BILL)
 ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Location of Barge Major Components	1-2
1-2	ROWPU 1 Installation	1-8
1-3	ROWPU 2 Installation	1-9

TABLE OF CONTENTS (Continued)
VOLUME 3
LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-4	ROWPU System Block Diagram	1-10
1-5	ROWPU System Flow Diagram	1-11
2-1	Reverse Osmosis Demonstration	2-2
3-1	ROWPU Control Station (ROWPU 1 Station shown).....	3-5
3-2	HP Pump Diesel Engine Controls and Indicators	3-6
3-3	RO Block Valves and Indicators	3- 8
3-4	Pretreatment Skid Valves and Temperature Indicator	3-9
3-5	Coagulant and Inhibitor Pump Controls	3-10
3-6	Monitoring System SALINITY Display Page	3-12
3-7	Monitoring System HIGH PRESSURE WATER PUMPS Display Page	3-12
3-8	Location of Control Buttons for Emergency Shutdown Systems	3-21
4-1	Cartridge Filter Assembly (Sheet 1 of 2)	4-9
4-2	Chemical Metering Pump Maintenance	4-14
4-3	Chemical Metering Pump Priming	4-15
4-4	HP Pump Diesel Engine Oil Filter	4-18
4-5	HP Pump Diesel Engine Fuel Filter	4-19
4-6	HP Pump Diesel Engine Alternator	4-20
4-7	HP Pump Diesel Engine Air Filter	4-20
4-8	HP Pump Diesel Engine Cooling System	4-24
4-9	HP Pump Pedestal Bearing	4-25
4-10	HP Pump Oil Breather	4-25
4-11	HP Pump V-belt	4-26
4-12	HP Pump Mechanical Seal	
4-13	HP Pump Grease Fittings	4-28
4-14	Media Tank Air Vent	4-35
4-15	HP Pump Diesel Engine Muffler	4-39
4-16	HP Pump Diesel Engine Fuel System Bleeding	4-39
4-17	HP Pump Diesel Engine Electric Starter	4-40
4-18	HP Pump V-belt Pulley	4-41
4-20	RO Block Pressure Tube Assembly (sheet 1 of 2).....	4-45
4-20	RO Block Membrane Element Removal Tool	4-47
4-21	RO Block Product Tubes	4-47

TABLE OF CONTENTS (Continued)
VOLUME 3
LIST OF TABLES

<u>Table</u>	<u>Page</u>
1-1 ROWPU System Components	1-6
3-1 Operating Controls and Indicators	3-1
3-2 ROWPU System Valves	3-2
4-1 ROWPU System Troubleshooting	4-2
4-2 Trouble Evaluation	4-5
4-3 Torque Values for Fasteners	4-6

**TABLE OF CONTENTS
VOLUME 4**

	<u>Page</u>
CHAPTER 1 INTRODUCTION.....	1-1
Section I. General Information	1-1
1-1 Purpose	1-1
1-2 Scope	1-1
1-3 Warranties and guarantees	1-1
1-4 Maintenance forms and records	1-1
1-5 Destruction of Army materiel to prevent enemy use	1-1
1-6 Storage	1-1
Section II. Description and data	1-1
1-7 Description	1-1
1-8 Capabilities	1-9
1-9 Special limitations	1-9
1-10 Performance characteristics	1-9
1-11 Equipment specifications	1-9
1-12 Items furnished	1-14
1-13 Items required but not furnished	1-14
1-14 Tools and test equipment	1-14
CHAPTER 2 DESCRIPTION OF OPERATION	2-1
2-1 General	2-1
2-2 Preparation for operation	2-1
2-3 Non-operating chlorination system	2-2
CHAPTER 3 OPERATING INSTRUCTIONS	3-1
Section I. Operating controls and indicators	3-1
3-1 Operating controls and indicators	3-1
Section II. Prestart procedures	3-1
3-2 Prestart procedures	3-1
Section III. Operating procedures	3-15
3-3 Operating procedures	3-15
3-4 Normal chlorination system operation	3-15
3-5 Brine tank and holding tank priming	3-18

**TABLE OF CONTENTS (Continued)
VOLUME 4**

	<u>Page</u>
3-6 Chlorine generation and recirculation	3-20
3-7 Chlorination unit descaling	3-21
3-7.1 Initial flushing with seawater	3-21
3-7.2 Flushing with acid	3-22
3-7.2.1 Acid tank preparation	3-22
3-7.2.2 Acid flush	3-22
3-8 Shutdown procedure	3-23
3-9 Emergency shutdown	3-23
3-9.1 General	3-23
3-9.2 Emergency shutdown procedures	3-24
Section IV. Operation under extreme conditions	3-24
3-10 Operation under extreme conditions	3-24
3-10.1 Operation in extreme cold	3-24
3-10.2 Operation in extreme heat	3-24
3-10.2.1 Lubricants	3-24
3-10.2.2 Motors	3-24
CHAPTER 4 MAINTENANCE INSTRUCTIONS	4-1
Section I. General	4-1
4-1 Maintenance concept	4-1
4-2 Maintenance procedures	4-1
Section II. Preventive maintenance checks and services	4-1
Section III. Troubleshooting	4-1
4-4 Major components	4-1
4-4.1 Metering pump	4-1
4-4.2 Chlorination unit	4-1
4-4.3 Metering pump control unit	4-1
4-5 Chlorination system	4-1

**TABLE OF CONTENTS (Continued)
VOLUME 4**

		<u>Page</u>
Section IV.	Maintenance procedures	4-4
4-6	General	4-4
4-7	Chlorination system	4-5
4-7.1	Repair or replacement of system components	4-5
4-7.1.1	Chlorination unit	4-5
4-7.1.2	Chlorination unit brine pump assembly	4-5
4-7.1.3	Chlorination unit circulation pump assembly	4-6
4-7.1.4	Chlorination unit control cabinet	4-7
4-7.1.5	Sump pump	4-8
4-7.1.6	Sump pump switch	4-9
4-7.1.7	Drip pan and sump	4-10
4-7.1.8	Metering pump	4-10
4-7.1.9	Metering pump motor controller	4-11
4-7.1.10	Metering pump control unit (Analyzer/XMTR)	4-12
4-7.1.11	Chlorine sensor	4-12
4-7.1.12	Portable eyewash	4-13
4-7.1.13	Flow switch	4-13
4-7.1.14	Chlorination unit holding tank air escape valve	4-14
4-7.1.15	Piping and valves	4-14
4-7.1.16	Electrical wiring and cables	4-14
4-7.1.17	Hoses	4-14
CHAPTER 5	STORAGE	5-1
Section I.	Short-term storage	5-1
5-1	Short-term storage	5-1
Section II.	Administrative storage	5-1
5-2	Administrative storage	5-1
5-2.1	Administrative storage procedures	5-1
5-2.2	Administrative storage inspection	5-2
Section III.	Long-term storage	5-2
5-3	Long-term storage	5-2

**TABLE OF CONTENTS (Continued)
VOLUME 4**

		<u>Page</u>
CHAPTER 6	MANUFACTURER'S SERVICE MANUALS/INSTRUCTIONS	6-1
6-1	General	6-1
CHAPTER 7	MANUFACTURERS' WARRANTIES/GUARANTEES	7-1
7-1	General	7-1

LIST OF APPENDICES

APPENDIX A	REFERENCES	A-1
APPENDIX B	MANUFACTURER'S SERVICE MANUALS/INSTRUCTIONS	B-1
APPENDIX C	PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (CTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BIIL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Location of Barge Major Components	1-2
1-2	Chlorination System Installation (Barge 1)	1-5
1-3	Chlorination System Installation (Barges 2 and 3)	1-6
1-4	Chlorination System General Working (Block) Diagram	1-8
3-1	Chlorination Unit Controls and Indicators	3-6
3-2	Chlorine Metering Pump Controls	3-7

TABLE OF CONTENTS (Continued)
VOLUME 4
LISTS OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
3-3	Chlorine Metering Pump Control Unit Controls and Indicators	3-8
3-4	Chlorine Metering Pump Motor Controller	3-9
3-5	Chlorination Unit Control Cabinet Controls and Indicators	3-10
3-6	Interior of Chlorination Unit Control Cabinet	3-11
3-7	EMS Keyboard	3-12
3-8	EMS Chlorine Status Display Page	3-13
3-9	EMS Status Display Page	3-14
3-10	Location of Controls for Emergency Shutdown Systems	3-25
4-1	Replacement of Crimped Terminals	4-5

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1-1	Major Components of Chlorination System.....	1-7
3-1	Operating Controls and Indicators	3-2
3-2	Chlorination System Valves	3-3
4-1	Chlorination System Troubleshooting	4-2

TABLE OF CONTENTS

VOLUME 5

		<u>Page</u>
CHAPTER 1	INTRODUCTION	1-1
Section I	General information	1-1
1-1	Purpose	1-1
1-2	Scope	1-1
1-3	Warranties and guarantees	1-1
1-4	Maintenance forms and records	1-1
1-5	Destruction of Army materiel to prevent enemy use	1-1
1-6	Storage	1-1
Section II	Description and data	1-1
1-7	Description	1-1
1-8	Capabilities	1-12
1-9	Limitations	1-12
1-10	Performance characteristics	1-12
1-11	Equipment specifications	1-12
1-12	Items furnished	1-20
1-13	Items required but not furnished	1-20
1-14	Tools and test equipment	1-20
CHAPTER 2	DESCRIPTION OF OPERATION.....	2-1
2-1	Drinking water supply	2-1
2-2	Drinking water supplied to shore or port discharge valve	2-1
2-3	Drinking water for onboard use	2-2
CHAPTER 3	OPERATING INSTRUCTIONS	3-1
Section I	Operating controls and indicators	3-1
3-1	Operating controls and indicators	3-1
Section II	Prestart procedures	3-1
3-2	Prestart procedures	3-1
Section III	Operating procedures	3-1
3-3	Normal operating procedures	3-1
3-4	Filling drinking water storage tanks	3-9

TABLE OF CONTENTS (Continued)

VOLUME 5

	<u>Page</u>
3-5	Discharging drinking water to shore 3-10
3-6	Discharging drinking water through port discharge valve 3-13
3-6.1	Discharging drinking water to another vessel 3-13
3-6.2	Emptying storage tanks by discharging overboard 3-14
3-7	Supplying storage tank drinking water to pressure set for use on barge..... 3-14
3-8	Filling drinking water reserve tank 3-15
3-8.1	Filling drinking water reserve tank from storage tanks 3-15
3-8.2	Filling drinking water reserve tank from other vessel or shore supply 3-16
3-9	Supplying drinking water on barge from reserve tank 3-16
3-10	Supplying drinking water to dayroom, washdown stations, chlorination unit, and shower 3-16
3-11	Shutdown procedures 3-17
3-12	Emergency shutdown 3-17
3-12.1	General 3-17
3-12.2	Emergency shutdown procedures 3-18
Section IV	Operation under extreme conditions 3-18
3-13	Operation under extreme conditions 3-18
3-13.1	Operation in extreme cold 3-18
3-13.2	Operation in extreme heat 3-18
CHAPTER 4	MAINTENANCE INSTRUCTIONS 4-1
Section I.	General 4-1
4-1	Maintenance concept 4-1
4-2	Maintenance instructions 4-1
Section II.	Preventive maintenance checks and services 4-1
Section III.	Troubleshooting 4-1
4-4	Components 4-1
4-4.1	Discharge pump 4-1
4-4.2	Pressure set 4-1
4-5	Drinking water system 4-1
Section IV.	Maintenance procedures 4-2
4-6	General..... 4-2
4-6.1	General maintenance practices 4-2
4-7	Drinking water system 4-6
4-7.1	Lubrication 4-6
4-7.2	Repair or replacement of system components..... 4-6

TABLE OF CONTENTS (Continued)

VOLUME 5

		<u>Page</u>
4-7.2.1	Discharge pump assembly	4-6
4-7.2.2	Pressure set	4-9
4-7.2.3	Water filter	4-11
4-7.2.4	Salinity cell sensor	4-11
4-7.2.5	Turbine flow meter	4-13
4-7.2.6	Pressure sensor	4-14
4-7.2.7	Pressure gauge	4-15
4-7.2.8	Storage tanks	4-15
4-7.2.9	Reserve tank	4-15
4-7.2.10	Storage tank liquid level indicator	4-15
4-7.2.11	Reserve tank liquid level indicator	4-16
4-7.2.12	Washdown stations	4-16
4-7.2.13	Shower	4-17
4-7.2.14	Discharge pump motor controller	4-17
4-7.2.15	Discharge pump remote switch	4-19
4-7.2.16	Pressure set motor controller	4-20
4-7.2.17	Pump and storage tank selector switch	4-22
4-7.2.18	Water and chlorine mixer.....	4-23
4-7.2.19	Tank air escape valve	4-23
4-7.2.20	Piping and valves	4-23
CHAPTER 5	STORAGE	5-1
5-1	Short-term storage	5-1
5-2	Administrative storage	5-1
5-2.1	Administrative storage procedures	5-1
5-2.2	Administrative storage inspection	5-2
5-3	Long-term storage	5-2
CHAPTER 6	MANUFACTURER'S SERVICE MANUALS/INSTRUCTIONS	6-1
6-1	General	6-1
CHAPTER 7	MANUFACTURERS' WARRANTIES/GUARANTEES	7-1
7-1	General	7-1

LIST OF APPENDICES

		<u>Page</u>
A	REFERENCES	A-1
B	MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	B-1
C	PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

TABLE OF CONTENTS (Continued)

VOLUME 5

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BILL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1-1 Barge Major Components	1-2
1-2 Drinking Water System Installation (Barge 1)	1-5
1-3 Drinking Water System Installation (Barges 2 and 3)	1-6
1-4 Drinking Water System Block Diagram (Barge 1)	1-10
1-5 Drinking Water System Block Diagram (Barges 2 and 3)	1-11
3-1 Drinking Water System Electrical Controls	3-4
3-2 Tank Liquid Level Indicator	3-5
3-3 Drinking Water Discharge Pressure Gauge, Flow Rate Meter and Associated Monitoring System Display	3-6
3-4 Drinking Water Salinity Sensor and Monitoring System Display	3-7
3-5 Potable Water Tanks Monitoring System Display	3-8
3-6 Drinking Water Pressure Set Pressure Gauge	3-8
3-7 Location of Control Buttons for Emergency Shutdown Systems	3-19
4-1 Pressure Set Pump Assembly, Exploded View	4-19
4-2 Drinking Water Discharge Pump No. 1 and No. 2	4-30
4-3 Drinking Water Pressure Motor Controller	4-34

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1-1 Major Components of Drinking Water System	1-7
3-1 Operating Controls and Indicators	3-1
3-2 Drinking Water System	3-2
4-1 Drinking Water System Troubleshooting	4-5

TABLE OF CONTENTS

VOLUME 6

		<u>Page</u>
CHAPTER 1	INTRODUCTION	1-1
Section I	General	1-1
1-1	Purpose	1-1
1-2	Scope	1-1
1-3	Warranties and guarantees	1-1
1-4	Maintenance forms and records	1-1
1-5	Destruction of Army materiel to prevent enemy use	1-1
1-6	Storage	1-1
Section II	Description and data	1-1
1-7	Description	1-1
1-8	Capabilities	1-1
1-9	Special limitations	1-1
1-10	Performance characteristics	1-1
1-11	Equipment specifications	1-6
1-12	Items furnished	1-8
1-13	Items required but not furnished	1-8
1-14	Tools and test equipment	1-8
CHAPTER 2	DESCRIPTION OF OPERATION	2-1
Section I	Description and data	2-1
2-1	Shore winch installation	2-1
2-2	Hose deployment	2-1
2-3	Pumping water to shore	2-1
2-4	Hose retrieval	2-1
CHAPTER 3	OPERATING INSTRUCTIONS	3-1
Section I.	Operating controls and indicators	3-1
3-1	Operating controls and indicators	3-1
Section II	Prestart procedures	3-1
3-2	Prestart procedures	3-1
Section III	Operating procedures	3-1
3-3	Discharge hose deployment	3-1
3-3.1	Predeployment procedures	3-1
3-3.1.1	Shore winch installation	3-1
3-3.1.2	Preparation of discharge hose	3-1
3-3.1.3	Preparation of shore discharge hose reel winch and hydraulic power system	3-1
3-3.1.4	Deployment of messenger (tow) line	3-13

TABLE OF CONTENTS (Continued)

VOLUME 6

	<u>Page</u>
3-3.2	Deployment of discharge hose (hose out) 3-15
3-3.3	Controlling a runaway discharge hose 3-17
3-3.4	Unpowered discharge hose deployment 3-17
3-4	Discharging drinking water to shore 3-18
3-5	Shutdown procedures 3-18
3-5.1	Discharge hose pigging (hose blowout) 3-19
3-5.2	Discharge hose retrieval (hose in) 3-21
3-5.3	Emergency shutdown 3-21
3-5.3.1	General 3-21
3-5.3.2	Emergency shutdown procedures 3-21
Section IV	Operation under extreme conditions 3-21
3-6	Operation under extreme conditions 3-21
3-6.1	Operation in extreme cold 3-21
3-6.2	Operation in extreme heat 3-21
CHAPTER 4	MAINTENANCE INSTRUCTIONS 4-1
Section I	General 4-1
4-1	Maintenance concept 4-1
4-2	Maintenance procedures 4-1
Section II	Preventive maintenance checks and services 4-1
Section III.	Troubleshooting 4-1
4-4	Component 4-1
4-4.1	Winch hydraulic drive motor 4-1
4-4.2	Levelwind hydraulic drive motor 4-1
4-5	Shore discharge system 4-1
Section IV.	Maintenance procedures 4-3
4-6	General 4-3
4-7	Component 4-4
4-8	Shore discharge system 4-4
4-9	Lubrication 4-4
4-9.1	Hydraulic power unit 4-4
4-9.1.1	Adding fluid 4-4
4-9.1.2	Changing fluid 4-5
4-9.2	Levelwind reduction gear box 4-5

TABLE OF CONTENTS (Continued)
VOLUME 6

	<u>Page</u>
4-9.2.1 Adding oil	4-5
4-9.2.1 Adding oil	4-5
4-9.2.2 Changing oil	4-5
4-9.3 Levelwind secondary reduction gear box (Barge 1 only)	4-6
4-9.3.1 Adding oil	4-6
4-9.3.2 Changing oil	4-6
4-9.4 Main winch reduction gear box	4-6
4-9.4.1 Adding oil	4-6
4-9.4.2 Changing oil	4-6
4-9.5 Bearings	4-6
4-9.6 Hydraulic power unit electric motor	4-6
4-9.7 Swivel joint	4-7
4-9.8 Motor/pump coupling	4-7
4-10 Hydraulic winch repair	4-7
4-10.1 Discharge hose repair	4-7
4-10.2 Winch hydraulic motor repair	4-7
4-10.3 Handpump replacement	4-7
4-10.3.1 Removal	4-7
4-10.3.2 Installation	4-7
4-10.4 Winch disc brake	4-9
4-11 Hydraulic power unit repair	4-9
4-11.1 Suction filter replacement	4-9
4-11.2 Return filter replacement	4-9
4-11.3 Gear pump coupling replacement	4-9
4-11.3.1 Removal	4-9
4-11.3.2 Installation	4-9
4-11.4 Gear pump repair	4-10
4-11.4.1 Removal	4-10

TABLE OF CONTENTS (Continued)
VOLUME 6

	<u>Page</u>
4-12.2	Levelwind hydraulic motor repair 4-10
4-12.2.2	Disassembly, inspection, repair, and assembly 4-10
4-12.2.3	Installation 4-10
4-12.3	Levelwind primary reduction gear box repair 4-10
4-12.4	Levelwind secondary reduction gear box repair 4-10
4-12.5	Swivel joint seal replacement 4-10
4-13	Valve replacement 4-10
CHAPTER 5	STORAGE 5-1
5-1	Short-term storage 5-1
5-1.1	Discharge hose deployed 5-1
5-1.2	Discharge hose retrieved 5-1
5-2	Administrative storage 5-2
5-2.1	Processing for administrative storage 5-2
5-2.2	Administrative storage inspection 5-2
5-3	Long-term storage 5-2
CHAPTER 6	MANUFACTURER'S SERVICE MANUALS/INSTRUCTIONS 6-1
6-1	General 6-1
CHAPTER 7	MANUFACTURERS' WARRANTIES/GUARANTEES 7-1
7-1	General 7-1

LIST OF APPENDICES

	<u>Page</u>
A	REFERENCES A-1
B	MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS B-1
C	PREVENTIVE MAINTENANCE CHECKS AND SERVICES C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.
 MAINTENANCE ALLOCATION CHART (MAC)
 TOOLS AND TEST EQUIPMENT LIST (TTEL)
 EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
 REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
 REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.
 COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BILL)
 ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

TABLE OF CONTENTS (Continued)

VOLUME 6

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Barge Major Components	1-2
1-2	Shore Discharge System Installation	1-5
3-1	Shore Discharge System Winch Controls and Indicators (Barge 1)	3-3
3-2	Shore Discharge System Winch Controls and Indicators (Barges 2 and 3)	3-4
3-3	Hydraulic Power Unit Control Panel and Remote Start/Stop Switch	3-5
3-4	Hose Winch Hydraulic Power Unit	3-6
3-5	Hydraulic Power Unit Gauges (Barges 2 and 3).....	3-7
3-6	Valves and PIG Launcher Controls	3-8
3-7	Hydraulic Disc Brake Release Controls	3-9
3-8	Band Brake Hand Pump Controls and Indicators	3-10
3-9	Levelwind Controls (Barges 2 and 3)	3-11
3-10	Location of Circuit Breaker P12 on Switchboard	3-14
3-11	Emergency System Shutoff Buttons	3-22
4-1	Replacement of Crimped Terminals	4-4
4-2	Repair of Outer Jacket Damage on Discharge Hose	4-8
4-3	Typical Stainless Steel Band Installation on Discharge Hose.....	4-9

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1-1	Components of Shore Discharge System	1-6
3-1	Operating Controls and Indicators	3-2
3-2	Shore Discharge System Valves	3-12
4-1	Shore Discharge System Troubleshooting	4-2

TABLE OF CONTENTS

VOLUME 7

		<u>Page</u>
CHAPTER 1	INTRODUCTION	1-1
Section I	General	1-1
1-1	Purpose	1-1
1-2	Scope	1-1
1-3	Warranties and guarantees	1-1
1-4	Maintenance forms and records	1-1
1-5	Destruction of Army materiel to prevent enemy use	1-1
1-6	Storage	1-1
Section II	Description and data	1-1
1-7	Description	1-1
1-7.1	System capabilities defined	1-1
1-8	Capabilities	1-1
1-9	Special limitations	1-1
1-10	Performance characteristics	1-1
1-11	Equipment specifications.....	1-8
1-12	Items furnished	1-11
1-13	Items required but not furnished	1-11
1-14	Tools and test equipment.....	1-11
CHAPTER 2	DESCRIPTION OF OPERATION	2-1
2-1	Activation	2-1
2-2	Air flow	2-1
CHAPTER 3	OPERATING INSTRUCTIONS	3-1
Section I	Operating controls and indicators	3-1
3-1	Operating controls and indicators	3-1
3-1.1	Controls	3-1
3-1.2	Indicators	3-1
Section II	Prestart procedures	3-5
3-2	Prestart.....	3-5
3-2.1	Startup after extended shutdown	3-5
3-2.2	Startup after temporary shutdown	3-7
Section III	Operating procedures	3-7
3-3	General.....	3-7
3-4	Operating compressed air stations 1 thru 5 and 7.....	3-8
3-5	Using air impact wrench with air stations 1 thru 5 and 7.....	3-8

TABLE OF CONTENTS (Continued)

VOLUME 7

	<u>Page</u>
3-5.1	Pre-operational procedures 3-8
3-5.2	Operating the air impact wrench 3-8
3-6	Operating compressed air station 6 to power the PIG 3-9
3-7	Operating compressed air system for seachests blowdown 3-10
3-8	Shutdown procedures 3-10
3-8.1	Temporary shutdown..... 3-10
3-8.2	Extended shutdown 3-12
3-9	Emergency shutdown 3-12
3-9.1	General 3-12
3-9.2	Emergency shutdown procedures 3-13
Section IV.	Operation under extreme conditions 3-13
3-10	General 3-13
3-10.1	Operating in extreme heat 3-13
3-10.2	Operating in high humidity 3-13
3-10.3	Operating in extreme cold 3-13
CHAPTER 4	MAINTENANCE INSTRUCTIONS..... 4-1
Section I.	General 4-1
4-1	Maintenance concept 4-1
4-2	Maintenance procedures 4-1
Section II.	Preventive maintenance checks and services 4-1
Section III.	Troubleshooting 4-1
4-4	Troubleshooting procedures 4-1
Section IV.	Maintenance procedures 4-3
4-5	General 4-3
4-5.1	Air pressure regulators 1 and 2 4-3
4-5.1.1	Repair 4-3
4-5.1.2	Replacement 4-4
4-5.2	Air filter 1 4-4
4-5.2.1	Repair 4-4
4-5.2.2	Replacement 4-6
4-5.3	Air filter 2 4-6
4-5.3.1	Repair 4-6
4-5.3.2	Replacement 4-9
4-5.4	Safety valve 4-9
4-5.5	Automatic air pressure regulator (pressure switch) 4-9
4-5.6	Compressor oil change (Barge 1) 4-10

TABLE OF CONTENTS (Continued)

VOLUME 7

	<u>Page</u>
4-5.7 Compressor oil change (Barges 2 and 3)	4-10
4-5.8 Compressor air filter change (Barge 1)	4-10
4-5.9 Compressor air filters change (Barges 2 and 3)	4-11
4-5.10 Pulleys and belts	4-11
4-5.10.1 Pulleys and belts inspections (Barges 2 and 3)	4-11
4-5.10.2 Compressor pulley replacement (Barges 2 and 3)	4-12
4-5.10.3 Motor pulley replacement (Barges 2 and 3)	4-13
4-5.11 Air compressor - general	4-13
4-5.12 Valve replacement	4-13
CHAPTER 5 STORAGE	5-1
Section I Short-term storage	5-1
5-1 General	5-1
Section II Administrative storage	5-1
5-2 General	5-1
5-2.1 Administrative storage procedures	5-1
5-2.2 Administrative storage inspection	5-1
Section III Long-term storage	5-1
5-3 General	5-1
CHAPTER 6 MANUFACTURER'S SERVICE MANUALS/INSTRUCTIONS	6-1
6-1 General	6-1
CHAPTER 7 MANUFACTURERS' WARRANTIES/GUARANTEES	7-1
7-1 General	7-1

TABLE OF CONTENTS (Continued)

VOLUME 7

LIST OF APPENDICES

	<u>Page</u>
A REFERENCES.....	A-1
B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	B-1
C PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BIIL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Barge Major Components	1-2
1-2	Location of Compressed Air System Components - Barge 1	1-5
1-3	Location of Compressed Air System Components - Barges 2 and 3	1-6
3-1	Air Compressor Electric Controller	3-2
3-2	Barge 1 Air Compressor/Receiver	3-3
3-3	Barges 2 and 3 Air Compressor/Receiver.....	3-4
3-4	Exterior View of Air Pressure Regulator with Gauge.....	3-5
3-5	Exterior View of Air Filter 1 and Air Filter 2	3-6
3-6	Air Station Air Valve and Quick Disconnect	3-9
3-7	PIG Launcher Controls	3-11
3-8	Location of Controls for Emergency Shutdown Systems.....	3-14
4-1	Air Pressure Regulators 1 and 2, Exploded View.....	4-5
4-2	Air Filter 1, Exploded View	4-8
4-3	Air Filter 2, Exploded View	4-9

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1-1	Compressed Air System Major Components	1-7
4-1	Troubleshooting Procedures for Compressed Air System.....	4-2

TABLE OF CONTENTS

VOLUME 8

		<u>Page</u>
CHAPTER 1	INTRODUCTION	1-1
Section I.	General	1-1
1-1	Purpose	1-1
1-2	Scope	1-1
1-3	Warranties and guarantees	1-1
1-4	Maintenance forms and records	1-1
1-5	Destruction of Army materiel to prevent enemy use	1-1
1-6	Storage	1-1
Section II.	Description and data	1-1
1-7	Description	1-1
1-7.1	System Capabilities.....	1-1
1-8	Capabilities	1-1
1-9	Performance characteristics	1-6
1-10	Equipment specifications	1-7
1-11	Items furnished	1-10
1-12	Items required but not furnished	1-10
1-13	Tools and test equipment	1-10
CHAPTER 2	DESCRIPTION OF OPERATION	2-1
2-1	General	2-1
2-1.1	Storage tanks	2-1
2-1.2	Day tank.....	2-1
2-1.3	Draining tanks	2-1
2-1.4	Workboat fueling	2-1
CHAPTER 3	OPERATING INSTRUCTIONS	3-1
Section I.	Operating controls and indicators	3-1
3-1	Operating controls and indicators	3-1
Section II.	Prestart procedures	3-1
3-2	Prestart procedures	3-1

TABLE OF CONTENTS (Continued)
VOLUME 8

	<u>Page</u>
Section III. Operating procedures	3-1
3-3 Operating procedures	3-1
3-3.1 Filling fuel oil storage tanks	3-8
3-3.2 Transferring fuel oil from storage tanks to day tank	3-9
3-3.3 Transferring fuel oil from day tank to diesel engines	3-10
3-3.4 Fueling workboat	3-10
3-3.5 Transferring fuel oil from storage tank to storage tank.....	3-11
3-3.6 Draining day tank to storage tanks or sludge tank	3-12
3-3.7 Draining storage tanks to off-barge facility	3-12
3-4 Shutdown	3-13
3-4.1 General	3-13
3-4.1.1 Shutdown procedures	3-13
3-4.2 Emergency shutdown	3-13
3-4.2.1 General	3-13
3-4.2.2 Emergency shutdown procedures	3-14
Section IV. Operation under extreme conditions	3-14
3-5 Operation under extreme conditions	3-14
3-5.1 Operation in extreme heat	3-14
3-5.2 Operation in extreme cold	3-14
CHAPTER 4 MAINTENANCE INSTRUCTIONS	4-1
Section I. General	4-1
4-1 Maintenance concept	4-1
4-2 Maintenance procedures	4-1
Section II. Preventive maintenance checks and services	4-1
Section III. Troubleshooting	4-1
4-4 Component	4-1
4-5 Fuel oil system	4-1

TABLE OF CONTENTS (Continued)

VOLUME 8

	<u>Page</u>
Section IV. Maintenance instructions	4-1
4-6 General	4-1
4-7 Fuel oil system	4-9
4-7.1 Fuel transfer pump adjustment	4-9
4-7.2 Repair	4-10
4-7.3 Fuel filter element replacement	4-10
4-7.4 Valve replacement	4-10
4-7.5 Liquid level indicator	4-10
CHAPTER 5 STORAGE	5-1
5-1 Short-term storage	5-1
5-2 Administrative storage	5-1
5-3 Long-term storage	5-2
CHAPTER 6 MANUFACTURER'S SERVICE MANUALS/INSTRUCTIONS	6-1
6-1 General	6-1
CHAPTER 7 MANUFACTURERS' WARRANTIES/GUARANTEES	7-1
7-1 General	7-1

LIST OF APPENDICES

	<u>Page</u>
A REFERENCES	A-1
B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	B-1
C PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BIIL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

TABLE OF CONTENTS (Continued)

VOLUME 8

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Barge Major Components	1-2
1-2	Fuel Oil System Block Diagram	1-5
3-1	Tank Liquid Level Indicator	3-2
3-2	Monitoring System Generator Alarms Display	3-3
3-3	Fuel Oil Transfer Pump Motor Controller.....	3-4
3-4	Location of Fuel Oil System Valves	3-5
3-5	Monitoring System Fuel Oil and Ballast Tank Page Display.....	3-8
3-6	Location of Controls for Emergency Shutdown Systems.....	3-15
4-1	Fuel Oil Filter	4-2
4-2	Replacement of Crimped Terminals	4-9

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1-1	Major Components of Fuel Oil System	1-6
3-1	Fuel Oil System Valves	3-6
4-1	Fuel Oil System Troubleshooting	4-2

TABLE OF CONTENTS

VOLUME 9-1

	<u>Page</u>
CHAPTER 1 INTRODUCTION	1-1
Section I. General Information	1-1
1-1 Purpose	1-1
1-2 Scope	1-1
1-2.1 Normal electrical system	1-1
1-2.2 Emergency electrical system	1-1
1-3 Warranties and guarantees	1-1
1-4 Maintenance forms and records	1-1
1-5 Destruction of Army materiel to prevent enemy use	1-1
1-6 Storage	1-1
CHAPTER 2 NORMAL ELECTRICAL SYSTEM	2-1
Section I. Description and data	2-1
2-1 Description	2-1
2-2 Capabilities	2-7
2-3 Special limitations	2-7
2-4 Performance characteristics	2-7
2-5 Equipment specifications	2-12
2-6 Items furnished	2-15
2-7 Items required but not furnished	2-15
2-8 Tools and test equipment	2-15
Section II. Description of operation	2-15
2-9 Description of operation	2-15
Section III. Operating instructions	2-15
2-10 Operating controls and indicators	2-15
2-10.1 General	2-15
2-10.2 Generator control panels	2-16
2-10.3 Switchboard distribution panel	2-16
2-10.4 Paralleling and control panels	2-16
2-10.5 Miscellaneous controls and indicators	2-17
2-11 Prestart procedures from switchboard	2-17
2-12 Generator set alarm and shutoff systems	2-24

TABLE OF CONTENTS (Continued)

VOLUME 9-1

	<u>Page</u>
2-12.1 Alarm systems	2-24
2-12.2 Shutoff systems	2-24
2-13 Operating procedures from switchboard	2-25
2-14 Paralleling generators and transferring load	2-26
2-14.1 Correcting reverse power situation	2-27
2-15 Operating procedures using shore power	2-27
2-16 Operating other electrical panels and controls	2-27
2-17 Normal shutdown procedures from switchboard	2-28
2-18 Emergency shutdown	2-28
2-18.1 General	2-28
2-18.2 Emergency shutdown procedures	2-28
2-18.3 Electrical power emergency shutdown procedures	2-30
2-19 Operation under extreme conditions	2-30
2-19.1 General	2-30
2-19.2 Extreme humidity	2-30
Section IV. Maintenance instructions	2-30
2-20 General.....	2-30
2-20.1 Maintenance concept	2-30
2-20.2 Maintenance procedures	2-30
2-21 Preventive maintenance checks and services	2-31
2-22 Troubleshooting	2-31
2-23 Maintenance procedures	2-31
2-23.1 Cleaning	2-31
2-23.2 Inspection	2-31
Section V. Storage	2-32
2-24 Short-term storage	2-32
2-25 Administrative storage	2-32
2-25.1 Administrative storage procedures	2-32
2-26 Long-term storage	2-32

TABLE OF CONTENTS (Continued)

VOLUME 9-1

		<u>Page</u>
CHAPTER 3	EMERGENCY ELECTRICAL SYSTEM	3-1
Section I.	Description and data	3-1
3-1	Description	3-1
3-2	Capabilities	3-1
3-3	Special limitations	3-1
3-4	Performance characteristics	3-1
3-5	Equipment specifications	3-3
3-6	Items furnished	3-5
3-7	Items required but not furnished	3-5
3-8	Tools and test equipment	3-5
Section II.	Description of operation	3-5
3-9	Description of operation	3-5
3-9.1	Normal operations	3-5
3-9.2	Emergency operations	3-5
3-9.3	Restoration of normal source of electricity	3-6
Section III.	Operating instructions	3-6
3-10	Operating controls and indicators	3-6
3-11	Prestart checks	3-6
3-12	Normal operating procedures	3-8
3-13	Emergency operating procedures	3-10
3-14	Return to normal power source	3-11
3-15	Shutdown procedures	3-11
3-15.1	Normal shutdown procedures	3-11
3-15.2	Emergency shutdown procedures	3-11
3-16	Operation under extreme conditions	3-11

TABLE OF CONTENTS (Continued)

VOLUME 9-1

	<u>Page</u>
Section IV. Maintenance instructions	3-12
3-17 General	3-12
3-17.1 Maintenance concept	3-12
3-17.2 Maintenance procedures	3-12
3-18 Preventive maintenance checks and services	3-12
3-19 Troubleshooting	3-12
3-20 Maintenance procedures	3-12
3-20.1 Cleaning	3-12
3-20.2 Inspection	3-13
Section V. Storage	3-13
3-21 Short-term storage	3-13
3-22 Administrative storage	3-13
3-22.1 Administrative storage procedures	3-13
3-23 Long-term storage	3-13
CHAPTER 4 155 KW SHIP SERVICE GENERATORS	4-1
Section I. Description and data	4-1
4-1 Description	4-1
4-1.1 3306TA diesel engine	4-1
4-1.2 SR4 generator	4-1
4-2 Capabilities	4-1
4-3 Special limitations	4-1
4-4 Performance characteristics	4-1
4-5 Equipment specifications	4-1
4-5.1 3306TA diesel engine data	4-2
4-5.2 SR4 generator data	4-2
4-6 Items furnished	4-2
4-7 Items required but not furnished	4-2
4-8 Tools and test equipment	4-2
Section II. Description of operation	4-2
4-9 Description of operation	4-2
4-9.1 Remote control and startup requirements	4-3

TABLE OF CONTENTS (Continued)

VOLUME 9-1

	<u>Page</u>
Section III. Operating instructions	4-3
4-10 Operating controls and indicators	4-3
4-10.1 3306TA diesel engine	4-3
4-10.1.1 Controls for operating engine at the SSG	4-3
4-10.1.2 Engine indicators	4-3
4-10.2 SR4 generator controls	4-4
4-11 Prestart procedures	4-4
4-12 Starting procedures at the engine	4-5
4-13 Operating procedures	4-6
4-14 Shutdown procedures	4-6
4-14.1 Shutdown procedures at engine	4-6
4-14.2 Emergency shutdown	4-7
4-15 Operation under extreme conditions	4-7
4-15.1 Temperature extremes	4-7
4-15.2 High humidity	4-7
Section IV. Maintenance instructions	4-7
4-16 General.....	4-7
4-16.1 Maintenance concept	4-7
4-16.2 Maintenance procedures	4-7
4-17 Preventive maintenance checks and services	4-7
4-18 Troubleshooting	4-8
4-18.1 3306TA engine	4-8
4-18.2 SR4 generator	4-8
4-19 Maintenance procedures	4-8
Section V. Storage	4-8
4-20 Short-term storage	4-8
4-21 Administrative storage	4-8
4-21.1 Administrative storage procedures	4-8
4-21.1.1 3306TA engine	4-8
4-21.1.2 SR4 generator	4-8
4-22 Long-term storage	4-8

TABLE OF CONTENTS (Continued)

VOLUME 9-1

	<u>Page</u>
Section VI. Manufacturers' service manuals/instructions	4-9
4-23 General.....	4-9
Section VII. Manufacturers' warranties/guarantees	4-10
4-24 General.....	4-10
CHAPTER 5 20 KW SHIP AUXILIARY GENERATOR SET	5-1
Section I. Description and data	5-1
5-1 Description.....	5-1
5-2 Capabilities	5-1
5-3 Special limitations	5-1
5-4 Performance characteristics	5-1
5-5 Equipment specifications	5-2
5-6 Items furnished	5-2
5-7 Items required but not furnished	5-2
5-8 Tools and test equipment	5-2
Section II. Description of operation	5-2
5-9 Description of operation	5-2
Section III. Operating instructions	5-3
5-10 Operating controls and indicators	5-3
5-10.1 4.236M diesel engine	5-3
5-10.1.1 Engine instruments	5-3
5-10.1.2 Engine indicators	5-3
5-10.1.3 Engine controls	5-3
5-10.2 SC144E generator	5-4
5-11 Prestart procedures	5-4
5-12 Starting procedures	5-5
5-13 Operating procedures	5-6
5-14 Shutdown procedures	5-6
5-14.1 Shutdown procedures at engine	5-6
5-14.2 Emergency shutdown	5-6
5-15 Operation under extreme conditions	5-7
5-15.1 Temperature extremes	5-7
5-15.2 High humidity	5-7

TABLE OF CONTENTS (Continued)

VOLUME 9-1

	<u>Page</u>
Section IV. Maintenance instructions	5-7
5-16 General	5-7
5-16.1 Maintenance concept	5-7
5-16.2 Maintenance procedures	5-7
5-17 Preventive maintenance checks and services	5-7
5-18 Troubleshooting	5-7
5-18.1 4.236M diesel engine	5-7
5-18.2 SC144E generator	5-7
5-19 Maintenance procedures	5-7
Section V. Storage	5-8
5-20 Short-term storage	5-8
5-21 Administrative storage	5-8
5-21.1 Administrative storage procedures	5-8
5-22 Long-term storage	5-8
Section VI. Manufacturers' service manuals/instructions	5-8
5-23 General	5-8
Section VII. Manufacturers' warranties/guarantees	5-10
5-24 General	5-10

LIST OF APPENDICES

<u>Appendix</u>	<u>Page</u>
APPENDIX A REFERENCES	A-1
APPENDIX B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS.....	B-1
APPENDIX C PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

TABLE OF CONTENTS (Continued)

VOLUME 9-1

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.
 COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BILL)
 ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Major ROWPU Barge Components - Deckhouse Roof (Sheet 1 of 3)	1-2
1-1	Major ROWPU Barge Components - Deckhouse (Sheet 2 of 3)	1-3
1-1	Major ROWPU Barge Components - Voids (Sheet 3 of 3)	1-4
2-1	Switchboard Distribution Circuit Breakers (Barge 1)	2-2
2-2	Switchboard Distribution Circuit Breakers (Barges 2 and 3)	2-3
2-3	Power Panel 1 Circuit Breakers, 440 Vac	2-4
2-4	Power Distribution Panel 2, 440 Vac	2-5
2-5	Power Distribution Panel 3, 120 Vac	2-6
2-6	Power Distribution Panel 4 (Barge 1)	2-8
2-7	Deck Lighting Panel	2-9
2-8	Void Lighting Panel	2-10
2-9	Receptacle Panel	2-11
2-10	Overall View of Switchboard Control Panels	2-18
2-11	Typical Switchboard Generator Control Panel	2-19
2-12	Switchboard Distribution Panel (Barge 1)	2-20
2-13	Switchboard Distribution Panel (Barges 2 and 3)	2-21
2-14	Paralleling and Control Panels	2-22
2-15	Switchboard Miscellaneous Controls and Indicators	2-23
2-16	Location of Controls for Emergency Shutdown Systems	2-29

TABLE OF CONTENTS (Continued)

VOLUME 9-1

LIST OF ILLUSTRATIONS (Continued)

<u>Figure</u>		<u>Page</u>
3-1	Emergency Electrical System Diagram	3-2
3-2	24 Vdc Power Panel	3-7
3-3	Emergency Lighting Panel	3-8
3-4	Battery Charger	3-9
3-5	Battery Bank	3-10

LIST OF TABLES

<u>Table</u>		<u>Page</u>
2-1	Electrical Power System Major Components	2-7
2-2	Barge Normal Electrical Power Distribution	2-15
3-1	Major Components of Emergency Electrical System	3-3

VOLUME 9-2

	<u>Page</u>
APPENDIX B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS.....	B-1

VOLUME 9-3

	<u>Page</u>
APPENDIX B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS.....	B-1
Continued from TM 55-1903-209-14&P-9-2	

VOLUME 9-4

	<u>Page</u>
APPENDIX B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS.....	B-1
Continued from TM 55-1903-209-14&P-9-3	

TABLE OF CONTENTS

VOLUME 10

	<u>Page</u>
CHAPTER 1 INTRODUCTION	1-1
Section I. General	1-1
1-1 Purpose	1-1
1-2 Scope	1-1
1-3 Warranties and guarantees	1-1
1-4 Maintenance forms and records	1-1
1-5 Destruction of Army materiel to prevent enemy use	1-1
1-6 Storage	1-1
CHAPTER 2 INTERIOR LIGHTING SYSTEM.....	2-1
Section I. Description and data	2-1
2-1 Description.....	2-1
2-2 Equipment specifications	2-1
2-3 Items furnished	2-3
2-4 Items required but not furnished	2-3
2-5 Tools and test equipment	2-3
Section II. Description of operation	2-3
2-6 General.....	2-3
Section III. Operating instructions	2-7
2-7 Operating controls and indicators	2-7
2-8 Prestart procedures	2-9
2-9 Operating procedures	2-9
2-9.1 Normal lighting	2-9
2-9.2 Emergency lighting	2-9
2-10 Shutdown procedures	2-14
2-10.1 Normal lighting	2-14
2-10.2 Emergency lighting	2-14
Section IV. Maintenance instructions	2-14
2-11 General.....	2-14
2-11.1 Maintenance concept	2-14
2-11.2 Maintenance procedures	2-14
2-12 Preventive maintenance checks and services	2-14
2-13 Troubleshooting	2-15

TABLE OF CONTENTS (Continued)

VOLUME 10

	<u>Page</u>
Section V. Storage	2-18
2-14 Short-term storage	2-18
2-15 Administrative storage	2-18
2-16 Long-term storage	2-18
CHAPTER 3 EXTERIOR LIGHTING SYSTEM	3-1
Section I. Description and data	3-1
3-1 Description	3-1
3-2 Equipment specifications	3-1
3-3 Items furnished	3-5
3-4 Items required but not furnished	3-6
3-5 Tools and test equipment	3-6
Section II. Description of operation	3-6
3-6 General.....	3-6
Section III. Operating instructions	3-6
3-7 Operating controls and indicators	3-6
3-8 Prestart procedures	3-6
3-9 Operating procedures	3-6
3-9.1 Exterior side lights	3-6
3-9.2 Floodlights	3-6
3-9.3 Searchlights	3-8
3-9.4 Shore discharge hose deployment status lights	3-8
3-9.5 Anchor light	3-8
3-9.6 Navigation running lights	3-8
3-10 Shutdown procedures	3-8
3-10.1 Exterior side lights	3-8
3-10.2 Floodlights	3-8
3-10.3 Searchlights	3-8
3-10.4 Shore discharge hose deployment status lights	3-10
3-10.5 Anchor light	3-10
3-10.6 Navigation running lights	3-10

TABLE OF CONTENTS (Continued)

VOLUME 10

	<u>Page</u>
Section IV. Maintenance instructions	3-10
3-11 General	3-10
3-11.1 Maintenance concept	3-10
3-11.2 Maintenance procedures	3-10
3-12 Preventive maintenance checks and services	3-10
3-13 Troubleshooting	3-10
3-14 Maintenance procedures	3-10
3-14.1 General	3-10
3-14.2 Cleaning and replacing bulbs	3-10
3-14.2.1 Exterior side lights	3-12
3-14.2.2 Floodlights	3-12
3-14.2.3 Searchlights	3-13
3-14.2.4 Shore discharge hose deployment status lights	3-13
3-14.2.5 Anchor light	3-13
3-14.2.6 Navigation lights	3-14
Section V. Storage	3-14
3-15 Short-term storage	3-14
3-16 Administrative storage	3-14
3-17 Long-term storage	3-14
CHAPTER 4 EMERGENCY SHUTDOWN	4-1
4-1 General.....	4-1
CHAPTER 5 MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	5-1
5-1 General.....	5-1
CHAPTER 6 MANUFACTURERS' WARRANTIES/GUARANTEES	6-1
6-1 General.....	6-1

LIST OF APPENDICES

APPENDIX A REFERENCES	A-1
APPENDIX B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	B-1
APPENDIX C PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

TABLE OF CONTENTS (Continued)

VOLUME 10

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BIIL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

NOTE

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Barge Major Components	1-2
2-1	Normal Interior Lighting Arrangement.....	2-4
2-2	Emergency Interior Lighting Arrangement	2-6
2-3	1 OA Rotary Snap Switch (Barge 1 only)	2-8
2-4	30A 3-Way Rotary Snap Switch	2-8
2-5	Power Panel 3	2-10
2-6	Deck Lighting Panel	2-11
2-7	Void Lighting Panel	2-12
2-8	Emergency Lighting Panel	2-13
3-1	Exterior Lighting System Arrangement	3-4
3-2	24 Vdc Power Panel	3-7
3-3	Searchlight	3-9

LIST OF TABLES

<u>Table</u>		<u>Page</u>
2-1	Normal Interior Lighting System Components	2-5
2-2	Emergency Interior Lighting System Components	2-7
2-3	Normal Interior Lighting System Troubleshooting	2-15
2-4	Emergency Interior Lighting System Troubleshooting	2-16
3-1	Exterior Lighting System Components	3-5
3-2	Exterior Lighting System Troubleshooting	3-12

TABLE OF CONTENTS

VOLUME 11

		<u>Page</u>
CHAPTER 1	INTRODUCTION	1-1
Section I.	General	1-1
1-1	Purpose	1-1
1-2	Scope	1-1
1-3	Warranties and guarantees	1-1
1-4	Maintenance forms and records	1-1
1-5	Destruction of Army materiel to prevent enemy use	1-1
1-6	Storage	1-1
Section II.	Description and data	1-1
1-7	Description	1-1
1-8	Capabilities	1-1
1-9	Special limitations	1-1
1-10	Performance characteristics	1-1
1-11	Equipment specifications	1-9
1-12	Items furnished	1-10
1-13	Items required but not furnished	1-10
1-14	Tools and test equipment	1-10
CHAPTER 2	DESCRIPTION OF OPERATION.....	2-1
2-1	General.....	2-1
2-2	Power supply	2-1
CHAPTER 3	OPERATING INSTRUCTIONS	3-1
Section I.	Operating controls and indicators	3-1
3-1	Operating controls and indicators	3-1
Section II.	Prestart procedures	3-1
3-2	Prestart procedures	3-1
Section III.	Operating procedures	3-1
3-3	Startup procedures	3-1
3-4	Normal operating procedures	3-2
3-5	Alarm acknowledgment	3-13
3-5.1	Abnormal conditions are indicated in four ways	3-13
3-5.2	To acknowledge alarms sounded by EMS	3-13

TABLE OF CONTENTS (Continued)

VOLUME 11

	<u>Page</u>
3-6	System editing 3-13
3-6.1	Accessing edit mode 3-14
3-6.2	Level 1 editing 3-14
3-6.2.1	Using EDIT MENU option 1 to activate/deactivate sensors 3-15
3-6.2.2	Using EDIT MENU option 1 to change or set reference markers 3-16
3-6.2.3	Using EDIT MENU option 2 to activate/deactivate switches 3-17
3-6.2.4	Using EDIT MENU option 3 to activate/deactivate totalizers 3-18
3-6.2.5	Using EDIT MENU option 4 to set time and date on EMS dock 3-19
3-6.3	Level 2 editing procedures 3-20
3-7	Edit termination 3-21
3-8	Shutdown procedures 3-21
Section IV.	Operation under extreme conditions 3-21
3-9	General..... 3-21
CHAPTER 4	MAINTENANCE INSTRUCTIONS 4-1
4-1	Maintenance concept 4-1
4-2	Maintenance instructions 4-1
4-3	Preventive maintenance checks and services 4-1
4-4	General..... 4-1
4-5	General..... 4-3
4-6	Main processor 4-3
4-7	Keyboard 4-5
4-8	Video monitor 4-6
4-9	Alarm relay module 4-7
4-10	Bilge alarm module 4-8
4-11	Main power switch 4-9
4-12	Horn 4-10
4-13	Strobe light 4-11
4-14	Buzzer 4-13
4-15	Inverter/Battery Charger 4-13
4-16	Battery 4-14
4-17	Electrical wiring and cables 4-15
4-18	Terminal box 4-15

TABLE OF CONTENTS (Continued)

VOLUME 11

		<u>Page</u>
CHAPTER 5	STORAGE	5-1
5-1	Short-term storage	5-1
5-2	Administrative storage	5-1
5-2.1	Administrative storage procedures	5-1
5-2.2	Administrative storage inspection	5-1
5-3	Long-term storage	5-1
CHAPTER 6	MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	6-1
6-1	General.....	6-1
CHAPTER 7	MANUFACTURERS' WARRANTIES/GUARANTEES	7-1
7-1	General	7-1

LIST OF APPENDICES

APPENDIX A	REFERENCES	A-1
APPENDIX B	MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	B-1
APPENDIX C	PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

MAINTENANCE ALLOCATION CHART (MAC)
 TOOLS AND TEST EQUIPMENT LIST (CTTEL)
 EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
 REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
 REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BIIL)
 ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

TABLE OF CONTENTS (Continued)

VOLUME 11

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Major ROWPU Barge Components - Deckhouse Roof (Sheet 1 of 3)	1-2
1-1	Major ROWPU Barge Components - Deckhouse (Sheet 2 of 3)	1-3
1-1	Major ROWPU Barge Components - Voids (Sheet 3 of 3)	1-4
1-2	Equipment Monitoring System Block Diagram	1-6
1-3	Equipment Monitoring System Arrangement	1-7
3-1	24 Vdc Power Panel	3-4
3-2	Equipment Monitoring System Main Processor	3-5
3-3	Equipment Monitoring System Keyboard	3-6
3-4	Main Processor Battery Charger	3-7
3-5	Potable Water Tanks Display Page	3-8
3-6	Salinity Display Page	3-8
3-7	System Status Display Page	3-9
3-8	Generator Alarms Display Page	3-10
3-9	High Pressure Water Pumps Display Page	3-10
3-10	Bilge Alarms Display Page	3-11
3-11	Chlorine Status Display Page	3-12
3-12	Tank Levels Display Page	3-12

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1-1	Equipment Monitoring System Main Components	1-5
1-2	Equipment Monitoring System Sensor Data	1-8
3-1	EMS Operating Controls and Indicators	3-3
4-1	Troubleshooting Procedures	4-1

TABLE OF CONTENTS

VOLUME 12

	<u>Page</u>
CHAPTER1 INTRODUCTION	1-1
CHAPTER 1 INTRODUCTION	1-1
1-1 Purpose	1-1
1-2 Scope	1-1
1-2.1 Radio communications equipment	1-1
1-2.1.1 Army radio	1-1
1-2.1.2 Commercial marine radios	1-1
1-2.1.3 Walkie-talkies	1-1
1-2.2 Foghorn equipment	1-1
1-2.3 Telephone system	1-1
1-3 Warranties and guarantees	1-1
1-4 Maintenance forms and records	1-1
1-5 Destruction of Army materiel to prevent enemy use	1-1
1-6 Storage	1-1
CHAPTER 2 RADIO COMMUNICATIONS SYSTEM	2-1
Section I. Description and data	2-1
2-1 Description	2-1
2-2 Capabilities	2-1
2-2.1 Army radio	2-1
2-2.2 Commercial marine radios	2-1
2-2.3 Walkie-talkies	2-1
2-3 Special limitations	2-1
2-4 Performance characteristics	2-6
2-5 Equipment specifications	2-6
2-6 Items furnished	2-8
2-7 Items required but not furnished	2-8
2-8 Tools and test equipment	2-8
Section II. Description of operation	2-8
2-9 General	2-8
2-9.1 Receiving radio messages	2-8
2-9.2 Transmitting radio messages	2-8

TABLE OF CONTENTS (Continued)

VOLUME 12

	<u>Page</u>
Section III	Operating instructions 2-8
2-10	Operating controls and indicators 2-8
2-11	Prestart procedures 2-8
2-12	Operating procedures 2-9
2-12.1	Army radio 2-9
2-12.2	Commercial marine radios 2-10
2-12.3	Walkie-talkies 2-11
2-13	Shutdown procedures 2-12
2-13.1	Army radio 2-12
2-13.2	Marine radio 2-12
2-13.3	Walkie-talkies 2-12
2-14	Operation under extreme conditions 2-12
Section IV.	Maintenance instructions 2-21
2-15	General 2-21
2-15.1	Maintenance concept 2-21
2-15.2	Maintenance instructions 2-21
2-16	Preventive maintenance checks and services 2-21
2-17	Troubleshooting 2-21
2-17.1	Army radio 2-21
2-17.2	Commercial marine radios 2-21
2-17.3	Walkie-talkies 2-21
2-18	General maintenance 2-21
2-18.1	Cleaning 2-22
2-18.2	Fuse replacement 2-22
2-18.3	Indicator lamps 2-22
2-18.4	Cable replacement 2-22
2-18.5	Equipment 2-24
2-18.5.1	Army radio 2-24
2-18.5.2	Commercial marine radios 2-24
2-18.5.3	Walkie-talkies 2-24
2-18.5.4	Battery charger 2-24

TABLE OF CONTENTS (Continued)

VOLUME 12

	<u>Page</u>
Section V. Storage	2-24
2-19 Short-term storage	2-24
2-20 Administrative storage	2-25
2-21 Long-term storage	2-25
Section VI. Manufacturers' service manuals/instructions	2-25
2-22 General	2-25
Section VII. Manufacturers' warranties/guarantees	2-26
2-23 General.....	2-26
CHAPTER 3 FOGHORN EQUIPMENT	3-1
Section I. Description and data	3-1
3-1 Description.....	3-1
3-2 Capabilities	3-1
3-3 Special limitations	3-1
3-4 Performance characteristics	3-1
3-5 Equipment specifications	3-1
3-6 Items furnished	3-1
3-7 Items required but not furnished	3-3
3-8 Tools and test equipment	3-3
Section II. Description of operation	3-3
Section III. Operating instructions	3-3
3-9 Operating controls and indicators	3-3
3-10 Prestart procedures	3-3
3-11 Operating procedures	3-3
3-12 Shutdown procedure	3-3
3-13 Operation under extreme conditions	3-3

TABLE OF CONTENTS (Continued)

VOLUME 12

	<u>Page</u>
Section IV. Maintenance instructions	3-4
3-14 General	3-4
3-14.1 Maintenance concept	3-4
3-14.2 Maintenance instructions	3-4
3-15 Preventive maintenance checks and services	3-4
3-16 Troubleshooting	3-4
3-17 Maintenance procedures	3-5
3-17.1 General maintenance	3-5
3-17.2 Equipment maintenance.....	3-5
3-17.3 Foghorn remote control assembly circuit test	3-5
3-17.4 Foghorn remote control assembly switch replacement	3-8
3-17.5 Regulator converter assembly replacement	3-8
3-17.6 Foghorn replacement	3-8
Section V. Storage	3-8
3-18 Short-term storage	3-8
3-19 Administrative storage	3-8
3-20 Long-term storage	3-8
Section VI. Manufacturers' service manuals/instructions	3-9
3-21 General	3-9
Section VII. Manufacturers' warranties/guarantees	3-9
3-22 General.....	3-9
CHAPTER 4 TELEPHONE SYSTEM	4-1
Section I. Description and data	4-1
4-1 Description	4-1
4-2 Capabilities	4-1
4-3 Special limitations	4-1
4-4 Performance characteristics	4-1
4-5 Equipment specifications	4-4
4-6 Items furnished	4-5
4-7 Items required but not furnished	4-5
4-8 Tools and test equipment.....	4-5

TABLE OF CONTENTS (Continued)

VOLUME 12

	<u>Page</u>
Section II. Description of operation	4-6
4-9 General.....	4-6
4-9.1 Paging from system operator to crew personnel	4-6
4-9.2 Paging from crew personnel to system operator	4-6
4-9.3 Two-way communications between crew personnel	4-6
Section III. Operating instructions	4-6
4-10 Operating controls and indicators	4-6
4-11 Prestart procedures	4-6
4-12 Operating procedures	4-7
4-12.1 Talking with telephone station from operator station in dayroom	4-7
4-12.2 Talking with system operator from crew telephone station	4-10
4-12.3 Talking between telephone stations	4-10
4-13 Shutdown procedures	4-10
4-14 Operation under extreme conditions	4-14
Section IV. Maintenance instructions	4-14
4-15 General	4-14
4-15.1 Maintenance concept	4-14
4-15.2 Maintenance procedures	4-14
4-16 Preventive maintenance checks and services	4-14
4-17 Troubleshooting	4-14
4-18 Maintenance procedures	4-16
4-18.1 General maintenance	4-16
4-18.2 Equipment maintenance	4-16
4-18.2.1 Handset station (desk telephone)	4-16
4-18.2.2 Handset adapter module	4-17
4-18.2.3 Indoor speaker monitor	4-17
4-18.2.4 Station selector box assembly	4-18
4-18.2.5 Power control module and power amplifier	4-20
4-18.2.6 Headset	4-24
4-18.2.7 Headset station	4-24
4-18.2.8 Strobe light	4-25
4-18.2.9 Station buzzer	4-27
4-18.2.10 Electrical wiring and cables	4-28

TABLE OF CONTENTS (Continued)

VOLUME 12

	<u>Page</u>
Section V. Storage	4-28
4-19 Short-term storage	4-28
4-20 Administrative storage	4-28
4-21 Long-term storage	4-29
Section VI. Manufacturers' service manuals/instructions	4-29
4-22 General.....	4-29
Section VII. Manufacturer's warranties/guarantees	4-29
4-23 General	4-30

LIST OF APPENDICES

	<u>Page</u>
A REFERENCES	A-1
B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	B-1
C PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all 'TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BIIL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

TABLE OF CONTENTS (Continued)

VOLUME 12

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Barge Major Components	1-2
2-1	Radio Communications System Major Components	2-2
2-2	Army Radio Equipment Interface	2-4
2-3	Marine Radio Equipment Interface	2-4
2-4	Walkie-Talkie Equipment Interface	2-5
2-5	Army Radio Power Supply PP-6224 A/U Controls and Indicators (Barge 1)	2-13
2-6	Army Radio Power Supply PP-2953/U Controls and Indicators (Barges 2 and 3).....	2-14
2-7	Army Radio Controls and Indicators	2-15
2-8	Marine Radio Controls and Indicators	2-16
2-9	Walkie-Talkie Battery Charger Controls and Indicators	2-17
2-10	Walkie-Talkie Controls and Indicators	2-18
2-11	Replacement of Crimped Terminals	2-22
3-1	Foghorn Major Component Location	3-2
3-2	Foghorn Wiring Diagram	3-7
4-1	Telephone System Major Component Location	4-2
4-2	Telephone Station Selector Box Controls	4-8
4-3	System Operator Telephone Handset Station	4-9
4-4	Telephone Headset Controls and Plug	4-11
4-5	Telephone Headset Station	4-12
4-6	Telephone Speaker	4-13
4-7	Station Selector Switch	4-19
4-8	Schematic Diagram, Model M3116, Power Control Module	4-22
4-9	Schematic Diagram, Model M3131, Power Amplifier	4-23
4-10	Schematic Diagram, Model M3141, Headset Station	4-26

TABLE OF CONTENTS (Continued)

VOLUME 12

LIST OF TABLES

<u>Table</u>	<u>Page</u>
2-1 Radio Communications System Major Components	2-3
2-2 Frequency/Channel Chart for Commercial Marine Radios in USA	2-19
2-3 Commercial Marine Radio Troubleshooting	2-23
2-4 VHF/FM Marine Handheld Transceiver Troubleshooting	2-23
3-1 Foghorn Major Components	3-3
3-2 Foghorn Equipment Troubleshooting	3-4
4-1 Telephone System Major Components	4-3
4-2 Circuit Breaker Safety Guide	4-7
4-3 Telephone System Troubleshooting	4-14

TABLE OF CONTENTS

VOLUME 13

	<u>Page</u>
CHAPTER 1 INTRODUCTION	1-1
1-1 Purpose	1-1
1-2 Scope	1-1
1-3 Warranties and guarantees	1-1
1-4 Maintenance forms and records	1-1
1-5 Destruction of Army materiel to prevent enemy use	1-1
1-6 Storage	1-1
CHAPTER 2 BRIDGE CRANE SYSTEM	2-1
Section I Description and data	2-1
2-1 Description	2-1
2-2 Capabilities	2-1
2-3 Limitations	2-1
2-4 Performance characteristics	2-1
2-5 Equipment specifications	2-1
2-6 Items furnished	2-6
2-7 Items required but not furnished	2-6
2-8 Tools and test equipment	2-6
2-8.1 Special devices	2-6
Section II Description of operation	2-9
2-9 General	2-9
Section III Operating instructions	2-9
2-10 Operating controls	2-9
2-11 Operating procedures	2-9
2-11.1 Using portside or starboardside crane	2-9
2-11.2 Using crossover for trolley transfer	2-14
2-11.3 Using jib rail for moving loads through sliding door.....	2-14
2-11.4 Placing jib rail in stowed position	2-14
2-12 Operation under extreme conditions	2-14
Section IV Maintenance instructions	2-17
2-13 General.....	2-17
2-13.1 Maintenance concept	2-17
2-13.2 Maintenance instructions	2-17
2-14 Preventive maintenance	2-17

TABLE OF CONTENTS (Continued)

VOLUME 13

	<u>Page</u>
2-15	Troubleshooting 2-17
2-16	Maintenance procedures 2-17
2-16.1	General 2-18
2-16.2	Repair or replacement of bridge crane system components 2-20
2-16.2.1	5-ton geared trolley hoist 2-20
2-16.2.2	Cleaning and inspection 2-21
2-16.3	Cable reel 2-21
2-16.3.1	Cleaning and inspection 2-21
2-16.3.2	Test 2-22
2-16.3.3	Repair 2-22
2-16.3.4	Replacement 2-22
2-16.4	Bridge crane assembly 2-22
2-16.4.1	Cleaning and inspection 2-23
2-16.4.2	Testing 2-23
2-16.4.2.1	Load proof and function test and safety inspection 2-23
2-16.4.2.2	Electrical test and repair 2-23
2-16.5	Bridge crane trolley brake 2-26
2-16.5.1	Cleaning and inspection 2-26
2-16.5.2	Repair 2-29
2-16.5.2.1	Friction disk replacement 2-29
2-16.5.2.2	Magnet assembly replacement 2-29
2-16.5.3	Adjustment 2-29
2-16.5.3.1	Friction disk 2-29
2-16.5.3.2	Torque adjustment 2-29
2-16.5.4	Replacement 2-29
2-16.6	Lifting slings and rigs 2-29
2-16.6.1	Cleaning and inspection 2-30
2-16.6.2	Test 2-30
2-16.6.3	Repair 2-30
2-16.6.3.1	Shackles 2-30
2-16.6.3.2	Hook 2-30
2-16.6.3.3	Wire Rope 2-30

TABLE OF CONTENTS (Continued)

VOLUME 13

	<u>Page</u>
2-16.7 Electrical wiring and cables	2-30
2-16.7.1 Cleaning and inspection	2-30
2-16.7.2 Repair and replacement	2-30
2-16.8 Threaded parts	2-30
Section V. Storage	2-30
2-17 Short-term storage	2-30
2-18 Administrative storage	2-31
2-19 Long-term storage	2-31
Section VI Manufacturers' service manuals/instructions	2-31
2-20 General.....	2-31
Section VII Manufacturers' warranties/guarantees	2-32
2-21 General.....	2-32
CHAPTER 3 BOW CRANE SYSTEM	3-1
Section I Description and data	3-1
3-1 Description	3-1
3-2 Capabilities	3-1
3-3 Limitations	3-7
3-4 Performance characteristics	3-7
3-5 Equipment specifications	3-7
3-6 Items furnished	3-7
3-7 Items required but not furnished	3-8
3-8 Tools and test equipment	3-8
Section II Description of operation	3-8
3-9 General.....	3-8
3-9.1 Workboat	3-8
3-9.2 Bow Crane	3-9
Section III Operating instructions	3-9
3-10 Operating controls	3-9
3-11 Bow crane prestart procedures	3-9
3-12 Bow crane procedures for deploying workboat	3-10
3-13 Workboat recovery procedures	3-11
3-14 Bow crane shutdown procedures	3-15
3-15 Operation under extreme conditions.....	3-15

TABLE OF CONTENTS (Continued)

VOLUME 13

	<u>Page</u>
Section IV	Maintenance instructions 3-15
3-16	General 3-15
3-16.1	Maintenance concept 3-15
3-16.2	Maintenance instructions 3-16
3-17	Preventive maintenance checks and services 3-16
3-18	Troubleshooting 3-16
3-19	Maintenance procedures 3-17
3-19.1	General 3-17
3-19.2	Bow crane system 3-18
3-19.2.1	Lubrication 3-18
3-19.2.2	Repair or replacement of system components 3-18
3-19.2.2.1	Bow Crane 3-18
3-19.2.2.1.1	Cleaning and Inspection 3-18
3-19.2.2.1.2	Test 3-18
3-19.2.2.1.3	Repair 3-19
3-19.2.2.2	Bow crane anti-2-block control panel 3-19
3-19.2.2.2.1	Cleaning and inspection 3-19
3-19.2.2.2.2	Test 3-19
3-19.2.2.2.3	Repair 3-21
3-19.2.2.2.4	Switch replacement 3-21
3-19.2.2.3	Bow crane remote station 1 and 2 START/STOP switches 3-21
3-19.2.2.3.1	Cleaning and inspection 3-22
3-19.2.2.3.2	Test and repair 3-22
3-19.2.2.3.3	Replacement 3-23
3-19.2.2.4	Hydraulic power unit motor controller 3-23
3-19.2.2.4.1	Cleaning and inspection 3-23
3-19.2.2.4.2	Test and repair 3-24
3-19.2.2.4.3	Replacement 3-25
3-19.2.2.5	Hydraulic power unit 3-27
3-19.2.2.5.1	Cleaning and inspection 3-27
3-19.2.2.5.2	Repair 3-27
3-19.2.2.5.3	Replacement 3-28

TABLE OF CONTENTS (Continued)

VOLUME 13

	<u>Page</u>
Section V. Storage	3-29
3-20 Short-term storage	3-29
3-21 Administrative storage	3-29
3-21.1 Administrative storage inspection	3-29
3-22 Long-term storage	3-29
Section VI Manufacturers' service manuals/instructions	3-29
3-23 General.....	3-29
Section VII Manufacturers' warranties/guarantees	3-30
3-24 General.....	3-30
CHAPTER 4 VOID 4 TROLLEY HOIST	4-1
Section I Description and data	4-1
4-1 Description	4-1
4-2 Capabilities	4-1
4-3 Performance characteristics	4-1
4-4 Equipment specifications	4-1
4-5 Items furnished	4-1
4-6 Items required but not furnished	4-1
4-7 Tools and test equipment	4-1
Section II Description of operation	4-1
4-8 General	4-1
Section III Operating instructions	4-3
4-9 Operating controls	4-3
4-10 Prestart procedures	4-3
4-11 Operating procedures	4-3
4-12 Shutdown procedures	4-3
4-13 Operation under extreme conditions	4-3
Section IV Maintenance instructions	4-3
4-14 General	4-3
4-14.1 Maintenance concept	4-3
4-14.2 Maintenance instructions	4-4
4-15 Preventive maintenance checks and services	4-4

TABLE OF CONTENTS (Continued)

VOLUME 13

	<u>Page</u>
4-16 Troubleshooting	4-4
4-17 Maintenance procedures	4-4
4-17.1 General	4-4
4-17.2 Lubrication	4-4
4-17.3 Cleaning and inspection	4-4
4-17.4 Test	4-5
4-17.5 Repair	4-5
4-17.6 Replacement	4-5
Section V Storage	4-6
4-18 Short-term storage	4-6
4-19 Administrative storage	4-6
4-20 Long-term storage	4-6
Section VI Manufacturers' service manuals/instructions	4-6
4-21 General.....	4-6
Section VII Manufacturers' warranties/guarantees	4-6
4-22 General	4-6 4

LIST OF APPENDICES

A REFERENCES	A-1
B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	B-1
C PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BILL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

TABLE OF CONTENTS (Continued)

VOLUME 13

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Barge Major Components	1-2
2-1	Bridge Crane	2-4
2-2	Bridge Crane Route Diagram (Typical Layout)	2-5
2-3	Hoisting Rigs and Lifting Slings	2-7
2-4	Bridge Crane Jib Rail (Stowed Toward Aft)	2-11
2-5	Bridge Crane Hand-Held Control	2-12
2-6	Two-Ton Hoist Hand-Held Control	2-13
2-7	Bridge Crane Crossover Assembly	2-15
2-8	Bridge Crane Jib Rail (Deployed)	2-16
2-9	Replacement of Crimped Terminals	2-18
2-10	Bridge Crane System Schematic	2-27
3-1	Bow Crane in Traveling (Stowed) Position	3-2
3-2	Bow Crane Operating Controls (Barge 1)	3-3
3-3	Bow Crane Operating Controls (Barges 2 and 3)	3-4
3-4	Hydraulic Power Unit Motor Controller	3-5
3-5	Standard Military Hand Signals	3-6
3-6	START/STOP Control Station and Anti-2-Block Control Box on Deckhouse Top	3-12
3-7	Bow Crane Base	3-13
3-8	Workboat Cradle Tie-Down with Ratchet	3-14
3-9	Replacement of Crimped Terminals	3-17
3-10	Anti-2-Block Control Panel	3-20
3-11	Hydraulic Power Unit Motor Controller Schematic	3-26
4-1	Void 4 Trolley Hoist	4-2

TABLE OF CONTENTS (Continued)

VOLUME 13

LIST OF TABLES

<u>Table</u>		<u>Page</u>
2-1	Weights, Measurements, and Locations of Movable Equipment in Voids and Deckhouse	2-10
2-2	Bridge Crane Troubleshooting	2-19
3-1	Bow Crane Performance Characteristics and Load Limitations with Barge on an Even Keel	3-8
3-2	Bow Crane Troubleshooting	3-16
4-1	Void 4 Trolley Hoist Troubleshooting	4-5

TABLE OF CONTENTS

VOLUME 14

	<u>Page</u>
CHAPTER 1 INTRODUCTION	1-1
1-1 Purpose	1-1
1-2 Scope	1-1
1-3 Warranties and guarantees	1-1
1-4 Maintenance forms and records	1-1
1-5 Destruction of Army materiel to prevent enemy use	1-1
1-6 Storage	1-1
CHAPTER 2 ANCHORING AND MOORING EQUIPMENT	2-1
Section I. Description and data	2-1
2-1 Description.....	2-1
2-2 Capabilities	2-1
2-3 Limitations	2-1
2-4 Performance characteristics.....	2-2
2-5 Equipment specifications.....	2-2
2-6 Items furnished	2-4
2-7 Items required but not furnished	2-4
2-8 Tools and test equipment	2-4
Section II. Operating Instructions	2-4
2-9 Operating controls and indicators	2-4
2-10 Prestart procedures	2-8
2-11 Operating procedures with power	2-10
2-12 Operating procedures without power	2-11
2-13 Shutdown procedures	2-11
2-13.1 Anchors deployed	2-11
2-13.2 Anchors retrieved	2-11
2-14 Emergency shutdown	2-12
2-14.1 General.....	2-12
2-14.2 Emergency shutdown procedures	2-12
2-15 Operations under extreme conditions	2-12

TABLE OF CONTENTS (Continued)

VOLUME 14

	<u>Page</u>
Section III. Maintenance instructions	2-14
2-16 General.....	2-14
2-16.1 Maintenance concept	2-14
2-16.2 Maintenance instructions	2-14
2-17 Preventive maintenance checks and services.....	2-14
2-18 Troubleshooting	2-14
2-19 Maintenance procedures	2-16
2-19.1 General	2-16
2-19.2 Lubrication	2-17
2-19.3 Repair or replacement of anchor winch components	2-17
2-19.3.1 Anchor winch electric brake repair and replacement	2-17
2-19.3.2 Anchor winch roller chain adjustment	2-22
2-19.3.3 Manual brake system repair	2-22
2-19.3.4 Anchor cable replacement	2-22
2-19.3.5 Anchor winch control panel repair and replacement.....	2-22
2-19.3.6 Anchor winch heater test and repair	2-26
2-19.4 Fairlead maintenance	2-26
2-19.5 Anchor replacement	2-28
Section IV. Storage	2-28
2-20 Short-term storage	2-28
2-21 Administrative storage	2-28
2-22 Administrative storage inspections	2-29
2-23 Long-term storage	2-29
Section V. Manufacturers' service manuals/instructions	2-29
2-24 General	2-29
Section VI. Manufacturers' warranties/guarantees	2-30
2-25 General.....	2-30

TABLE OF CONTENTS (Continued)

VOLUME 14

	<u>Page</u>
CHAPTER 3 TOWING EQUIPMENT	3-1
Section I. Description and data	3-1
3-1 Description	3-1
3-2 Capabilities	3-1
3-3 Limitations	3-1
3-4 Equipment specifications	3-1
3-5 Items furnished	3-3
3-6 Items required but not furnished	3-3
3-7 Tools and test equipment	3-3
Section II. Description of operation	3-3
3-8 General	3-3
Section III. Operating instructions	3-3
3-9 Towing bridle installation	3-3
3-10 Preparation for towing	3-4
3-11 Towing operations	3-4
3-12 Towing bridle storage	3-4
Section IV. Maintenance instructions	3-5
3-13 General	3-5
3-13.1 Maintenance concept	3-5
3-13.2 Maintenance instructions	3-5
3-14 Preventive maintenance	3-6
3-15 Maintenance procedures	3-6
Section V. Storage	3-6
3-16 General	3-6

LIST OF APPENDICES

A REFERENCES	A-1
B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	B-1
C PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

MAINTENANCE ALLOCATION CHART (MAC)
 TOOLS AND TEST EQUIPMENT LIST (TTEL)
 EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
 REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
 REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BIIL)
 ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

TABLE OF CONTENTS (Continued)

VOLUME 14

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Barge Major Components.....	1-2
2-1	Anchor Winch Control Panel	2-5
2-2	Outer Side of Anchor Winch	2-6
2-3	Inner Side of Anchor Winch	2-7
2-4	Servicing Points on Anchor Winch Gear Motor Reduction Box	2-9
2-5	Location for Controls for Emergency Shutdown Systems	2-13
2-6	Replacement of Crimped Terminals	2-17
2-7	Spring Set Disc Brake	2-20
2-8	Self-Adjust Maintenance	2-21
2-9	Tensioning of Roller Chain	2-23
2-10	Anchor Winch Control Panel	2-27
3-1	Towing Equipment Installation	3-2

LIST OF TABLES

<u>Table</u>		<u>Page</u>
2-1	Anchoring Components	2-2
2-2	Mooring Components	2-2
2-3	Anchor Winch Troubleshooting	2-15

TABLE OF CONTENTS

VOLUME 15

		<u>Page</u>
CHAPTER 1	INTRODUCTION	1-1
1-1	Purpose	1-1
1-2	Scope	1-1
1-3	Warranties and guarantees	1-5
1-4	Maintenance forms and records	1-5
1-5	Destruction of Army materiel to prevent enemy use	1-5
1-6	Storage	1-5
CHAPTER 2	DAYROOM EQUIPMENT	2-1
Section I.	Description and data	2-1
2-1	Description	2-1
2-2	Equipment specifications	2-1
2-3	Items furnished	2-4
2-4	Items required but not furnished	2-4
2-5	Tools and test equipment	2-4
Section II.	Operating instructions	2-4
2-6	Operating controls and indicators	2-4
2-7	Prestart procedures	2-4
2-8	Operating procedures	2-4
2-8.1	Hotplate	2-4
2-8.2	Drinking fountain	2-4
2-8.3	Coffeemaker	2-6
2-8.4	Refrigerator	2-6
2-8.5	Range hood	2-6
2-9	Shutdown procedures	2-6
2-9.1	Emergency shutdown	2-6
2-9.1.1	General	2-6
2-9.1.2	Emergency shutdown procedures	2-8
2-10	Operation under extreme conditions	2-8
Section III.	Maintenance instructions	2-8
2-11	General	2-8
2-11.1	Maintenance concept	2-8
2-11.2	Maintenance procedures	2-8
2-12	Preventive maintenance	2-8
2-13	Troubleshooting	2-9
2-13.1	Drinking fountain	2-9
2-13.2	Refrigerator	2-9

TABLE OF CONTENTS (Continued)

VOLUME 15

	<u>Page</u>
2-14 Maintenance procedures	2-9
2-14.1 Hotplate	2-9
2-14.2 Drinking fountain	2-9
2-14.2.1 Installation	2-9
2-14.2.2 Adjustments to drinking water temperature and flow.....	2-9
2-14.2.3 Maintenance	2-9
2-14.2.4 Repair	2-9
2-14.3 Refrigerator	2-9
2-14.3.1 Installation	2-9
2-14.3.2 Maintenance	2-9
2-14.3.3 Repair	2-9
2-14.4 Range hood	2-11
2-14.4.1 Installation	2-11
2-14.4.2 Maintenance	2-11
2-14.4.3 Repair	2-11
Section IV. Storage	2-11
2-15 Short-term storage	2-11
2-16 Administrative storage	2-11
2-17 Long-term storage	2-11
Section V. Manufacturers' service manuals/instructions	2-13
2-18 General	2-13
Section VI. Manufacturers' warranties/guarantees	2-14
2-19 General.....	2-14
CHAPTER 3 WORKSHOP EQUIPMENT AND ROWPU SPACE ARC WELDER	3-1
Section I. Description and data	3-1
3-1 Description	3-1
3-2 Equipment specifications	3-1
3-3 Items furnished	3-3
3-4 Items required but not furnished	3-3
3-5 Tools and test equipment	3-3
Section II. Operating instructions	3-4
3-6 Operating controls and indicators	3-4
3-6.1 Drill press	3-4
3-6.2 Grinder with dust collector	3-4
3-6.3 Arc welder	3-4

TABLE OF CONTENTS (Continued)

VOLUME 15

	<u>Page</u>
3-7	Prestart procedures 3-4
3-7.1	Drill press and grinder 3-4
3-7.2	Arc welder 3-4
3-8	Operating procedures 3-4
3-8.1	Drill press 3-4
3-8.2	Grinder with dust collector 3-5
3-8.3	Arc welder 3-9
3-8.3.1	Operating procedures for arc welder 3-10
3-9	Shutdown procedures 3-11
3-9.1	Jaw vise..... 3-11
3-9.2	Arbor press 3-11
3-9.3	Drill press 3-11
3-9.4	Grinder with dust collector 3-11
3-9.5	Emergency shutdown 3-11
3-10	Operation under extreme conditions 3-11
Section III.	Maintenance instructions 3-11
3-11	General 3-11
3-11.1	Maintenance concept 3-11
3-11.2	Maintenance procedures 3-11
3-12	Preventive maintenance 3-11
3-13	Maintenance procedures 3-11
3-13.1	Drill press 3-12
3-13.1.1	Installation 3-12
3-13.1.2	Adjustments and calibrations..... 3-12
3-13.1.3	Repair 3-12
3-13.2	Grinder with dust collector 3-12
3-13.2.1	Installation 3-12
3-13.2.2	Repair 3-12
3-13.3	Arc welder..... 3-12
Section IV.	Storage 3-12
3-14	Short-term storage 3-12
3-15	Administrative storage 3-13
3-16	Long-term storage 3-13
Section V.	Manufacturers' service manuals/instructions 3-13
3-17	General 3-13

TABLE OF CONTENTS (Continued)

VOLUME 15

	<u>Page</u>
Section VI. Manufacturers' warranties/guarantees	3-14
3-18 General.....	3-14
CHAPTER 4 ACCESSES AND GUARD RAILS	4-1
Section I. Description and data	4-1
4-1 Description.....	4-1
4-1.1 Deckhouse doors and portholes	4-1
4-1.2 Accesses to voids and doors between voids	4-1
4-1.3 Guard rails	4-1
4-2 Equipment specifications	4-1
4-3 Items furnished	4-5
4-4 Items required but not furnished	4-5
4-5 Tools and test equipment	4-5
Section II. Maintenance instructions	4-5
4-6 General.....	4-5
4-6.1 Maintenance concept	4-5
4-6.2 Maintenance procedures	4-5
4-7 Preventive maintenance checks and services	4-5
4-8 Maintenance instructions	4-6
4-8.1 Insulation	4-6
4-8.2 Exterior doors	4-6
Section III. Storage	4-6
4-9 Short-term storage	4-6
4-10 Administrative storage	4-6
4-11 Long-term storage	4-6
Section IV. Manufacturer's service manuals instructions	4-6
4-12 General	4-6
CHAPTER 5 SANITATION SYSTEMS	5-1
Section I. Description and data	5-1
5-1 Description	5-1
5-1.1 Ship's toilet functions	5-1
5-1.2 Bilge system functions	5-1
5-2 Special limitations	5-5
5-3 Performance characteristics	5-5
5-4 Equipment specifications	5-5

TABLE OF CONTENTS (Continued)

VOLUME 15

	<u>Page</u>
5-5	Items furnished 5-9
5-6	Items required but not furnished 5-9
5-7	Tools and test equipment 5-9
Section II.	Operating instructions 5-9
5-8	Operating controls and indicators for bilge system and ship's toilets 5-9
5-9	Prestart procedures 5-18
5-9.1	Ship's toilets 5-18
5-9.2	Bilge system 5-18
5-10	Operating procedures 5-18
5-10.1	Ship's toilets 5-18
5-10.2	Bilge system 5-18
5-10.2.1	Transferring bilge water from voids to sludge tank 5-19
5-10.2.2	Transferring void bilge water to sludge facility 5-19
5-10.2.3	Sludge tank draining to offboard sludge facility. 5-20
5-10.2.4	Draining diesel generator crankcase oil using bilge pump 5-21
5-10.2.5	Draining ROWPU HP pump crankcase using bilge pump 5-21
5-10.2.6	Draining spillage catchments with ball valve 5-22
5-10.2.7	Transferring bilge water from void to void 5-22
5-11	Shutdown procedures for bilge system 5-22
5-11.1	Emergency shutdown 5-22
5-12	Operation under extreme conditions 5-22
Section III.	Maintenance instructions 5-23
5-13	General 5-23
5-13.1	Maintenance concept for sanitation systems 5-23
5-14	Preventive maintenance 5-23
5-15	Troubleshooting ship's sanitation systems 5-23
5-15.1	Ship's toilets 5-23
5-15.2	Bilge system 5-23
5-16	Maintenance procedures 5-23
5-16.1	General 5-23
5-16.2	Ship's toilet repair 5-28
5-16.3	Bilge system repair 5-29
5-16.3.1	Bilge pump repair 5-29
5-16.3.2	Strainer basket cleaning or replacement..... 5-29

TABLE OF CONTENTS (Continued)

VOLUME 15

	<u>Page</u>
Section IV. Storage	5-30
5-17 Short-term storage	5-30
5-18 Administrative storage	5-30
5-19 Long-term storage	5-31
Section V. Manufacturers' service manuals/instructions	5-32
5-20 General.....	5-32
Section VI. Manufacturers' warranties/guarantees	5-32
5-21 General.....	5-32
CHAPTER 6 ADDITIONAL MISCELLANEOUS EQUIPMENT	6-1
Section I. Description and data	6-1
6-1 Description	6-1
6-1.1 Eyewash stations	6-1
6-1.2 Guard rails	6-1
6-1.3 Fendering system	6-1
6-1.4 Removable deck covering.....	6-1
6-1.5 Storage areas	6-1
6-1.6 Component identification and functional labels	6-1
6-1.7 Operational instruction placards	6-1
6-1.8 Notice, caution, warning, and danger signs	6-1
6-2 Equipment specifications	6-1
6-3 Items furnished	6-4
6-4 Items required but not furnished	6-4
6-5 Tools and test equipment	6-4
Section II. Operating instructions	6-4
6-6 Eyewash station	6-4
6-7 Removable floor	6-4
6-8 Storage areas	6-4
6-9 Operation under extreme conditions	6-5
Section III. Maintenance instructions	6-5
6-10 General	6-5
6-10.1 Maintenance concept	6-5
6-10.2 Maintenance procedures	6-5
6-11 Preventive maintenance checks and services	6-5

TABLE OF CONTENTS (Continued)

VOLUME 15

	<u>Page</u>
Section IV. Storage	6-5
6-12 Short-term storage	6-5
6-13 Administrative storage	6-5
6-14 Long-term storage	6-5

LIST OF APPENDICES

APPENDIX A REFERENCES	A-1
APPENDIX B MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	B-1
APPENDIX C PREVENTIVE MAINTENANCE CHECKS AND SERVICES	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

MAINTENANCE ALLOCATION CHART (MAC)
 TOOLS AND TEST EQUIPMENT LIST (TTEL)
 EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
 REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
 REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BILL)
 ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

LIST OF ILLUSTRATIONS

<u>Figure</u>	<u>Page</u>
1-1 Location of Barge Major Components	1-2
2-1 Deckhouse Dayroom Arrangement	2-2
2-2 Dayroom Equipment Controls/Indicators	2-5
2-3 Location of Controls for Emergency Shutdown Systems	2-7
2-4 Drinking Fountain Adjustments	2-10
2-5 Drinking Fountain - Rear View	2-12
3-1 Deckhouse Workshop Arrangement	3-2
3-2 Drill Press	3-6
3-3 Grinder with Dust Collector	3-7
3-4 Arc Welder Controls and Indicators	3-8
4-1 Deckhouse Doors and Portholes and Doors between Voids	4-2
5-1 Bilge System Major Components	5-2

TABLE OF CONTENTS (Continued)

VOLUME 15

LIST OF ILLUSTRATIONS

<u>Figure</u>	<u>Page</u>
5-2 Bilge System Flowchart	5-3
5-3 Bilge Pump Motor Controller	5-12
5-4 Tank Visual Level Indicator	5-13
5-5 EMS Bilge Alarms Page Key	5-14
5-6 EMS Bilge Alarms Display Page	5-15
5-7 EMS System Status Display Page	5-16
5-8 Ship's Toilets	5-17

LIST OF TABLES

<u>Table</u>	<u>Page</u>
4-1 Deckhouse Doors and Portholes	4-3
4-2 Accesses to Voids and Doors Between Voids	4-3
5-1 Major Components of Bilge System	5-4
5-2 Bilge System Valves	5-10
5-3 Bilge System Troubleshooting	5-24

TABLE OF CONTENTS

VOLUME 16

		<u>Page</u>
CHAPTER 1	INTRODUCTION	1-1
Section I.	General information	1-1
1-1	Purpose	1-1
1-2	Scope	1-1
1-3	Warranties and guarantees	1-1
1-4	Maintenance forms and records	1-1
1-5	Destruction of Army materiel to prevent enemy use	1-1
1-6	Storage	1-1
CHAPTER 2	DECKHOUSE VENTILATION SYSTEM	2-1
Section I.	Description and data	2-1
2-1	Description	2-1
2-2	Capabilities	2-1
2-3	Performance characteristics	2-1
2-4	Equipment specifications	2-1
2-5	Items furnished	2-6
2-6	Items required but not furnished	2-6
2-7	Tools and test equipment	2-6
Section II.	Operating instructions	2-6
2-8	Operating controls and indicators	2-6
2-9	Prestart procedures	2-6
2-10	Operating procedures	2-6
2-10.1	Increasing ventilation	2-6
2-10.2	Decreasing ventilation	2-6
2-11	Shutdown procedures	2-7
2-11.1	Normal shutdown for less than 72 hours	2-7
2-11.2	Normal shutdown for more than 72 hours	2-7
2-12	Emergency shutdown	2-7
2-12.1	General	2-7
2-12.2	Emergency shutdown procedures	2-9

TABLE OF CONTENTS (Continued)

VOLUME 16

	<u>Page</u>
Section III. Maintenance instructions	2-9
2-13 General	2-9
2-13.1 Maintenance concept	2-9
2-13.2 Maintenance instructions	2-9
2-14 Preventive maintenance checks and services	2-9
2-15 Troubleshooting	2-9
2-16 Maintenance procedures	2-12
2-16.1 Servicing ventilation systems fans and motors	2-12
2-16.2 Replacing ventilation systems fans and motors	2-12
2-16.3 Replacing gaskets on ventilation watertight hatches	2-13
Section IV. Storage	2-13
2-17 Short-term storage	2-13
2-18 Administrative storage	2-13
2-18.1 Administrative storage procedures	2-13
2-18.2 Administrative storage inspection	2-13
2-19 Long-term storage	2-13
Section V. Manufacturers' service manuals/instructions	2-13
2-20 General.....	2-13
Section VI. Manufacturers' warranties/guarantees	2-14
2-21 General.....	2-14
CHAPTER 3 VOIDS VENTILATION SYSTEM	3-1
Section I. Description and data	3-1
3-1 Description	3-1
3-2 Capabilities	3-1
3-3 Performance characteristics	3-1
3-4 Equipment specifications	3-1
3-5 Items furnished	3-7
3-6 Items required but not furnished	3-7
3-7 Tools and test equipment	3-7

TABLE OF CONTENTS (Continued)

VOLUME 16

	<u>Page</u>
Section II. Operating instructions	3-7
3-8 Operating controls and indicators	3-7
3-9 Prestart procedures	3-7
3-10 Operating procedures	3-8
3-11 Shutdown procedures	3-8
3-11.1 Normal shutdown for less than 72 hours	3-8
3-11.2 Normal shutdown for more than 72 hours	3-8
3-12 Emergency shutdown	3-8
3-12.1 General	3-8
3-12.2 Emergency shutdown procedures	3-11
Section III. Maintenance instructions	3-11
3-13 General.....	3-11
3-13.1 Maintenance concept	3-11
3-13.2 Maintenance instructions	3-11
3-14 Preventive maintenance checks and services	3-11
3-15 Troubleshooting	3-11
3-16 Maintenance procedures	3-11
Section IV. Storage	3-11
3-17 Short-term storage	3-11
3-18 Administrative storage	3-11
3-18.1 Administrative storage procedures	3-12
3-18.2 Administrative storage inspection	3-12
3-19 Long-term storage	3-12
Section V. Manufacturers' service manuals/instructions	3-12
3-20 General	3-12
Section VI. Manufacturers' warranties/guarantees	3-12
3-21 General.....	3-12

TABLE OF CONTENTS (Continued)

VOLUME 16

	<u>Page</u>
CHAPTER 4 HEATING AND AIR CONDITIONING (HAC) SYSTEM	4-1
Section I. Description and data	4-1
4-1 Description	4-1
4-2 Capabilities	4-1
4-3 Special limitations	4-1
4-4 Performance characteristics	4-1
4-5 Equipment specifications	4-4
4-6 Items furnished	4-4
4-7 Items required but not furnished	4-4
4-8 Tools and test equipment	4-4
Section II. Operating instructions	4-5
4-9 Operating controls and indicators	4-5
4-10 Prestart procedures	4-5
4-11 Operating procedures	4-6
4-11.1 AC unit	4-6
4-11.2 Heating unit	4-6
4-12 Shutdown procedures	4-8
4-12.1 AC unit	4-8
4-12.2 Heating unit	4-8
4-13 Emergency shutdown procedures	4-8
4-13.1 General	4-8
4-13.2 Emergency shutdown procedures	4-8
Section III. Maintenance instructions	4-8
4-14 General	4-8
4-14.1 Maintenance concept	4-8
4-14.2 Maintenance instructions	4-9
4-15 Preventive maintenance checks and services	4-9
4-16 Troubleshooting	4-9
4-17 Maintenance procedures	4-9
4-17.1 Air conditioning unit	4-9

TABLE OF CONTENTS (Continued)

VOLUME 16

	<u>Page</u>
4-17.2	Air filter replacement 4-9
4-17.2	Air filter replacement 4-9
4-17.3	Fan belt replacement 4-9
4-17.4	Condenser servicing 4-11
4-17.5	Heater element 4-11
4-17.5.1	Repair 4-11
4-17.5.2	Replacement 4-11
Section IV.	Storage 4-12
4-18	Short-term storage 4-12
4-19	Administrative storage 4-12
4-19.1	Administrative storage procedures 4-12
4-19.2	Administrative storage inspection 4-12
4-20	Long-term storage 4-12
Section V.	Manufacturers' service manuals/instructions 4-12
4-21	General 4-12
Section VI.	Manufacturers' warranties/guarantees 4-12
4-22	General 4-12
CHAPTER 5	ROWPU SPACE AND VOIDS HEATING SYSTEMS 5-1
Section I.	Description and data 5-1
5-1	Description 5-1
5-2	Capabilities 5-1
5-3	Special limitations 5-1
5-4	Performance characteristics 5-1
5-5	Equipment specifications 5-1
5-6	Items furnished 5-1
5-7	Items required but not furnished 5-1
5-8	Tools and test equipment 5-1

TABLE OF CONTENTS (Continued)

VOLUME 16

	<u>Page</u>
Section II.	Operating instructions.....5-3
5-9	Operating controls and indicators.....5-3
5-10	Prestart procedures5-4
5-11	Operating procedures5-4
5-12	Shutdown procedures5-4
5-13	Emergency shutdown procedures5-4
5-13.1	General5-4
5-13.2	Emergency shutdown procedures5-4
Section III.	Maintenance instructions5-7
5-14	General5-7
5-14.1	Maintenance concept.....5-7
5-15	Preventive maintenance checks and services.....5-7
5-16	Troubleshooting.....5-7
5-17	Maintenance procedures.....5-8
5-17.1	Fuses5-8
5-17.2	Heater replacement5-8
Section IV.	Storage.....5-8
5-18	Short-term storage.....5-8
5-19	Administrative storage5-8
5-19.1	Administrative storage procedures.....5-8
5-19.2	Administrative storage inspection5-9
5-20	Long-term storage5-9
Section V.	Manufacturers' service manuals/instructions.....5-9
5-21	General5-9
Section VI.	Manufacturers' warranties/guarantees.....5-9
5-22	General5-9

LIST OF APPENDICES

APPENDIX A	REFERENCES.....A-1
APPENDIX B	MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONSB-1
APPENDIX C	PREVENTIVE MAINTENANCE CHECKS AND SERVICES.....C-1

TABLE OF CONTENTS (Continued)

VOLUME 16

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BIIL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Major Components of ROWPU Barge Systems and Equipment.....	1-2
2-1	Example of Light-proof Louvered Hatches on Deckhouse Port and Starboard Bulkheads	2-2
2-2	Example of Covered Fan Motors on Deckhouse Top	2-3
2-3	Power Panel No.2, 440 Vac	2-4
2-4	Ventilation System Operating Controls	2-8
2-5	Location of Controls for Emergency Shutdown Systems	2-10
3-1	Voids Ventilation Fan Motors on Port and Starboard Deckhouse Bulkhead (Portside Shown)	3-5
3-2	Example of Vertical Fan Motors Near ROWPU Space Aft Bulkhead.....	3-6
3-3	Example of Round Blower Covers On Port and Starboard Bulkhead Exteriors.....	3-9
3-4	Voids Ventilation Emergency Shutdown Controls.....	3-10
4-1	Heating and AC Selector Switch	4-2
4-2	Heating and AC System Controls.....	4-3
4-3	Location of Seawater Valves Affecting AC Unit.....	4-7
5-1	Heating Systems Locations and Operating Controls.....	5-2
5-2	Heater Controls	5-3
5-3	Switchboard Distribution Panel (Barge 1).....	5-5
5-4	Power Distribution Panel No.	5-6

TABLE OF CONTENTS (Continued)

VOLUME 16

LIST OF TABLES

<u>Table</u>		<u>Page</u>
2-1	Major Components of Deckhouse Ventilation System	2-5
2-2	Troubleshooting Procedures for Deckhouse and Voids Ventilation Systems.....	2-11
3-1	Major Components of Voids Ventilation System.....	3-4
4-1	Major Components of Heating and Air Conditioning System	4-1
4-2	Troubleshooting Procedures for HAC System	4-10
5-1	Troubleshooting Procedures for Forced Air Space Heaters	5-7

TABLE OF CONTENTS

VOLUME 17

	<u>Page</u>
CHAPTER 1	INTRODUCTION..... 1-1
1-1	Purpose..... 1-1
1-2	Scope..... 1-1
1-3	Warranties and guarantees..... 1-1
1-4	Maintenance forms and records..... 1-1
1-5	Destruction of Army materiel to prevent enemy use..... 1-1
1-6	Storage..... 1-1
CHAPTER 2	WORKBOAT 2-1
Section I.	Description and data..... 2-1
2-1	Purpose..... 2-1
2-2	Description and components..... 2-1
2-3	Capabilities..... 2-2
2-4	Special limitations..... 2-2
2-5	Performance characteristics 2-5
2-6	Equipment specifications 2-5
2-7	Items furnished..... 2-5
2-8	Items required but not furnished 2-5
2-9	Tools and test equipment..... 2-5
Section II.	Operating instructions..... 2-6
2-10	Controls and indicators 2-6
2-10.1	Searchlight 2-6
2-10.2	Operator's electrical control panel..... 2-6
2-10.3	Windshield wiper 2-6
2-10.4	Boat horn..... 2-6
2-10.5	Bilge pump switches and indicators 2-7
2-10.6	Outboard drive controls 2-7
2-10.7	Magnetic compass..... 2-7
2-10.8	Steering pump filler 2-7
2-10.9	Engine hourmeter..... 2-7
2-10.10	Fuel gauge 2-7
2-10.11	Volvo engine instrument panel..... 2-7
2-10.12	Master switch..... 2-9
2-10.13	Ignition/electrical switch..... 2-9
2-10.14	Throttle and clutch controls..... 2-10
2-10.15	Marine band VHF/FM radio..... 2-10
2-10.16	Depthfinder controls and indicators..... 2-11

TABLE OF CONTENTS (Continued)

VOLUME 17

	<u>Page</u>
2-10.17	Engine maintenance controls and indicators2-11
2-11	Prestart procedures2-11
2-12	Starting procedures2-12
2-13	Operating procedures2-15
2-13.1	Radio operations.....2-15
2-13.2	Depthfinder operations.....2-18
2-13.3	Workboat operations.....2-19
2-14	Emergency procedures2-20
2-14.1	General2-20
2-14.2	Fire prevention2-20
2-14.3	Firefighting techniques.....2-20
2-14.4	Running aground prevention.....2-21
2-14.5	Recovery procedures when aground.....2-21
2-15	Operations under unusual conditions2-21
2-15.1	General2-21
2-15.2	Being towed by another boat.....2-21
2-15.3	Towing another boat2-22
2-16	Shutdown procedures2-22
2-17	Deployment and recovery.....2-23
2-17.1	General2-23
2-17.2	Bow crane procedures2-23
2-17.2.1	Bow crane operating procedures.....2-23
2-17.2.2	Bow crane prestart procedures2-23
2-17.3	Workboat deployment procedures2-28
2-17.4	Workboat recovery procedures.....2-31
2-17.5	Bow crane shutdown procedures.....2-31
2-18	Operations under extreme conditions.....2-33
2-18.1	Operations in extreme heat.....2-33
2-18.2	Operations in high humidity conditions.....2-33
2-18.3	Operations in extreme cold.....2-33
Section III.	Maintenance instructions2-33
2-19	Maintenance concept.....2-33
2-20	Preventive maintenance checks and services.....2-33
2-21	Troubleshooting.....2-34
2-22	Maintenance instructions2-34

TABLE OF CONTENTS (Continued)

VOLUME 17

	<u>Page</u>
Section IV. Storage.....	2-34
2-23 Short-term storage.....	2-34
2-24 Administrative storage	2-34
2-24.1 Administrative storage procedures.....	2-34
2-24.2 Administrative storage inspection	2-34
2-25 Long-term storage	2-34
Section V. Manufacturers' manuals/instructions	2-35
2-26 General	2-35
Section VI. Warranties/guarantees.....	2-36
2-27 General	2-36
CHAPTER 3 LIFESAVING EQUIPMENT	3-1
Section I. Description and data	3-1
3-1 Description	3-1
3-1.1 Liferrafts	3-1
3-1.2 Lifevests.....	3-1
3-1.3 Lifesaving ring buoys.....	3-1
3-2 Capabilities.....	3-1
3-3 Special limitations.....	3-1
3-4 Performance characteristics	3-1
3-5 Equipment specifications	3-3
3-6 Items furnished.....	3-4
3-7 Items required but not furnished	3-4
3-8 Tools and test equipment.....	3-4
Section II. Operating instructions.....	3-4
3-9 Manual operation of eight-person life raft.....	3-4
3-10 Automatic deployment of eight-person life raft.....	3-4
3-11 Using life buoys	3-5
3-12 Using lifevests	3-5
Section III. Maintenance instructions	3-5
3-13 General	3-5
3-13.1 Maintenance concept.....	3-5
3-13.2 Maintenance instructions	3-5
3-14 Preventive maintenance checks and services.....	3-5

TABLE OF CONTENTS (Continued)

VOLUME 17

	<u>Page</u>
Section IV. Storage.....	3-8
3-15 Short-term storage.....	3-8
3-15.1 Administrative storage	3-8
3-15.2 Administrative storage procedures.....	3-8
3-16 Long-term storage	3-8
Section V. Warranties/guarantees.....	3-8
3-17 General	3-8
CHAPTER 4 FIREFIGHTING EQUIPMENT	4-1
Section I. Description and data.....	4-1
4-1 Description	4-1
4-1.1 Halon 1301 system.....	4-1
4-1.2 CO ₂ hose/reel units.....	4-1
4-1.3 Marine smoke detector system	4-1
4-1.4 Portable fire extinguishers	4-1
4-1.4.1 CO ₂ fire extinguishers.....	4-1
4-1.4.2 Dry chemical fire extinguishers	4-1
4-1.5 Self-contained breathing apparatus (SCBA).....	4-7
4-1.6 Portable firefighting pump, PE-250	4-7
4-2 Capabilities.....	4-7
4-2.1 Halon 1301 system	4-7
4-2.2 CO ₂ hose/reel units.....	4-7
4-2.3 Marine smoke detector system	4-7
4-2.4 Portable fire extinguishers	4-7
4-2.5 Self-contained breathing apparatus (SCBA).....	4-7
4-2.6 Portable firefighting pump, PE-250	4-9
4-3 Special limitations.....	4-9
4-3.1 Halon 1301 system	4-9
4-3.2 CO ₂ system	4-9
4-3.3 Marine smoke detector system	4-9
4-3.4 Portable fire extinguishers	4-9
4-3.5 Hazardous fumes and chemicals from fires	4-9

TABLE OF CONTENTS (Continued)

VOLUME 17

	<u>Page</u>
4-3.6	Self-contained breathing apparatus (SCBA).....4-9
4-3.7	Portable firefighting pump, PE-250.....4-9
4-4	Equipment specifications.....4-11
4-4.1	Halon 1301 system.....4-11
4-4.2	CO ₂ hose/reel unit.....4-13
4-4.3	Marine smoke detector system.....4-13
4-4.4	Portable fire extinguisher, CO ₂4-14
4-4.5	Portable fire extinguisher, dry chemical.....4-14
4-4.6	Fireman's axe.....4-14
4-4.7	Self-contained breathing apparatus in carrying case.....4-14
4-4.8	Self-contained breathing apparatus (SCBA).....4-15
4-4.9	Portable firefighting pump, PE-250.....4-15
4-4.10	Smoke detector alarm bell.....4-15
4-5	Items furnished.....4-15
4-6	Items required but not furnished.....4-15
4-7	Tools and test equipment.....4-15
Section II.	Operating instructions.....4-15
4-8	Halon 1301 system.....4-15
4-9	CO ₂ hose/reel units.....4-16
4-10	Marine smoke detector system.....4-17
4-10.1	Prestart procedures.....4-17
4-10.2	Normal operations.....4-21
4-10.3	Emergency procedures for smoke.....4-21
4-10.4	Emergency procedures for malfunctions.....4-21
4-11	Portable fire extinguishers.....4-22
4-11.1	General.....4-22
4-11.2	Dry chemical portable extinguishers.....4-22
4-11.3	CO ₂ portable extinguishers.....4-23
4-12	Self-contained breathing apparatus (SCBA).....4-23
4-12.1	Preparing and putting on SCBA.....4-23
4-12.2	Using SCBA.....4-25
4-12.3	Removing SCBA.....4-25
4-13	Portable firefighting pump, PE-250.....4-25
4-14	Recovery from fire.....4-25
4-15	Operations under extreme conditions.....4-26

TABLE OF CONTENTS (Continued)

VOLUME 17

	<u>Page</u>
Section III. Maintenance instructions	4-26
4-16 General	4-26
4-16.1 Maintenance concept.....	4-26
4-16.2 Maintenance instructions	4-26
4-17 Preventive maintenance checks and services.....	4-26
4-18 Troubleshooting.....	4-26
4-19 Maintenance procedures.....	4-27
Section IV. Storage.....	4-27
4-20 Short-term storage.....	4-27
4-21 Administrative storage	4-27
4-21.1 Administrative storage procedures.....	4-27
4-22 Long-term storage	4-27
Section V. Manufacturers' service manuals/instructions.....	4-27
4-23 General	4-27
Section VI. Warranties/guarantees.....	4-28
4-24 General	4-28

LIST OF APPENDICES

A	REFERENCES	A-1
B	MANUFACTURERS' SERVICE MANUALS/INSTRUCTIONS	B-1
C	PREVENTIVE MAINTENANCE CHECKS AND SERVICES.....	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

MAINTENANCE ALLOCATION CHART (MAC)
 TOOLS AND TEST EQUIPMENT LIST (TTEL)
 EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
 REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
 REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BIIL)
 ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

TABLE OF CONTENTS (Continued)

VOLUME 17

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Major ROWPU Barge Components-Deckhouse Roof (Sheet 1 of 3)	1-2
1-1	Major ROWPU Barge Components-Deckhouse (Sheet 2 of 3).....	1-3
1-1	Major ROWPU Barge Components-Voids (Sheet 3 of 3)	1-4
2-1	Workboat Profile.....	2-3
2-2	Location of Workboat Components.....	2-4
2-3	Typical Workboat Operator Controls and Indicators	2-6
2-4	Workboat Instrument Panel and Operating Controls	2-8
2-5	Ignition/Electrical Switch Operating Positions	2-9
2-6	VHF/FM Marine Radio Control Panel.....	2-10
2-7	Depthfinder Controls and Indicators.....	2-11
2-8	Engine Maintenance Controls and Indicators	2-13
2-9	Messenger Line Reel Unit.....	2-14
2-10	Bow Crane in Traveling (Stowed) Configuration.....	2-25
2-11	Bow Crane Control Panel (Barges 2 and 3).....	2-26
2-12	Bow Crane Control Panel (Barge 1)	2-27
2-13	Standard Military Hand Signals for Controlling Cranes.....	2-29
2-14	Workboat Cradle Tie-Down with Ratchet	2-30
2-15	Bow Crane Lifts Workboat with Three-Point Suspension Harness.....	2-32
3-1	Location of Lifesaving Equipment.....	3-2
3-2	Eight-Man Liferafts-Manual and Automatic Operation	3-6
4-1	Location of Firefighting Equipment	4-2
4-2	Halon 1301 System Weighing Bar	4-3
4-3	Sketch of Halon Manifold Assembly.....	4-4
4-4	CO ₂ Hose/Reel Units	4-5
4-5	Front Panel of Marine Smoke Detector Cabinet.....	4-6
4-6	Self-Contained Breathing Apparatus (SCBA)	4-8
4-7	Portable Firefighting Pump, PE-250.....	4-10
4-8	Halon System Remote Control Box	4-18
4-9	Halon System Cylinder Activation Station.....	4-19
4-10	Operation of CO ₂ Hose/Reel Unit.....	4-20

TABLE OF CONTENTS (Continued)

VOLUME 17

LIST OF TABLES

<u>Table</u>		<u>Page</u>
2-1	Frequency/Channel Chart for Commercial Marine Radio in USA	2-16

TABLE OF CONTENTS

VOLUME 18

LIST OF ILLUSTRATIONS

		<u>Page</u>
CHAPTER 1	INTRODUCTION.....	1-1
Section I.	General Information.....	1-1
1-1	Purpose.....	1-1
1-2	Scope.....	1-1
1-3	Maintenance forms and records.....	1-1
1-4	Reporting equipment improvement recommendations (EIRs).....	1-1
1-5	Destruction of army material to prevent enemy use.....	1-1
1-6	Abbreviations and terms.....	1-1
1-7	Warranty information.....	1-1
Section II.	Equipment Description and Data.....	1-6
1-8	Equipment description, safety, case, and handling.....	1-6
CHAPTER 2	OPERATING INSTRUCTIONS.....	2-1
CHAPTER 3	PREVENTIVE MAINTENANCE INSTRUCTIONS.....	3-1

LIST OF APPENDICES

APPENDIX A	REFERENCES.....	A-1
APPENDIX B	MAINTENANCE ALLOCATION CHART (MAC).....	B-1
APPENDIX C	TOOLS AND TEST EQUIPMENT LIST (TTEL).....	C-i
APPENDIX D	REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL).....	D-1
APPENDIX E	EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (ESML).....	E-i

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

MAINTENANCE ALLOCATION CHART (MAC)
 TOOLS AND TEST EQUIPMENT LIST (ITEL)
 EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
 REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
 REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BILL)
 ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

TABLE OF CONTENTS (Continued)

VOLUME 18

<u>Figure</u>		<u>Page</u>
1-1	Tug With Barge On Its Hip.....	1-2
1-2	Major Components of ROWPU Barge Systems and Equipment - Deckhouse Roof (Sheet 1 of 3).....	1-3
1-2	Major Components of ROWPU Barge Systems and Equipment - Deckhouse (Sheet 2 of 3)	1-4
1-2	Major Components of ROWPU Barge Systems and Equipment - Voids (Sheet 3 of 3).....	1-5

TABLE OF CONTENTS

VOLUME 19

	<u>Page</u>
CHAPTER 1	INTRODUCTION..... 1-1
1-1	Purpose..... 1-1
1-2	Scope..... 1-1
1-3	Maintenance forms and records..... 1-1
1-4	Destruction of Army materiel to prevent enemy use..... 1-1
1-5	PMCS definitions..... 1-1
1-6	Maintenance concept..... 1-1
1-7	Introduction to PMCS..... 1-5
CHAPTER 2	SEAWATER SYSTEM PMCS 2-1
2-1	Introduction..... 2-1
2-2	Major components 2-1
2-3	Seawater system description 2-2
CHAPTER 3	REVERSE OSMOSIS WATER PURIFICATION UNIT (ROWPU) PMCS 3-1
3-1	Introduction..... 3-1
3-2	Major components 3-1
3-3	ROWPU system description 3-5
CHAPTER 4	CHLORINATION SYSTEM PMCS 4-1
4-1	Introduction..... 4-1
4-2	Major components 4-1
4-3	Chlorination system description 4-2
CHAPTER 5	DRINKING WATER SYSTEM 5-1
5-1	Introduction..... 5-1
5-2	Major components 5-1
5-3	Drinking water system description..... 5-2
CHAPTER 6	SHORE DISCHARGE SYSTEM 6-1
6-1	Introduction..... 6-1
6-2	Major components 6-1
6-3	Shore discharge system description..... 6-1

TABLE OF CONTENTS (Continued)

VOLUME 19

	<u>Page</u>
CHAPTER 7	COMPRESSED AIR SYSTEM.....7-1
7-1	Introduction.....7-1
7-2	Major components7-1
7-3	Compressed air system description7-8
CHAPTER 8	FUEL OIL SYSTEM.....8-1
8-1	Introduction.....8-1
8-2	Major components8-1
8-3	Fuel oil system description.....8-2
CHAPTER 9	ELECTRICAL POWER SYSTEMS9-1
9-1	Introduction.....9-1
9-2	Major components9-1
9-3	System description9-2
9-3.1	Normal electrical system description.....9-2
9-3.2	Emergency electrical system9-2
9-3.3	155 kW ship service generators.....9-3
9-3.4	20 kW service auxiliary generator.....9-3
CHAPTER 10	LIGHTING SYSTEM.....10-1
10-1	Introduction.....10-1
10-2	Major components10-1
10-3	Interior lighting system description10-3
CHAPTER 11	EQUIPMENT MONITORING SYSTEM.....11-1
11-1	Introduction.....11-1
11-2	Major components11-1
11-3	Equipment monitoring system description.....11-2

TABLE OF CONTENTS (Continued)

VOLUME 19

	<u>Page</u>
CHAPTER 12	COMMUNICATIONS SYSTEM..... 12-1
12-1	Introduction..... 12-1
12-2	Major components 12-1
12-3	Communications system description 12-3
12-3.1	Radio communications equipment 12-3
12-3.2	Army radio 12-3
12-3.3	Commercial marine radios 12-3
12-3.4	Walkie-talkies 12-3
12-3.5	Foghorn equipment..... 12-3
12-3.6	Telephone system 12-3
CHAPTER 13	HANDLING EQUIPMENT 13-1
13-1	Introduction..... 13-1
13-2	Major components 13-1
13-3	Handling equipment description 13-1
13-3.1	Bridge crane system 13-1
13-3.2	Bow crane system 13-1
13-3.3	Void 4 trolley hoist 13-4
CHAPTER 14	ANCHOR, MOORING, AND TOWING EQUIPMENT SYSTEM 14-1
14-1	Introduction..... 14-1
14-2	Major components 14-1
14-3	Anchor mooring and towing equipment system description 14-2
CHAPTER 15	MISCELLANEOUS EQUIPMENT 15-1
15-1	Introduction..... 15-1
15-2	Major components 15-1
15-3	Miscellaneous equipment description..... 15-1
15-3.1	Dayroom equipment 15-1
15-3.2	Workshop equipment..... 15-1
15-3.3	Accesses system 15-1
15-3.4	Sanitation systems..... 15-1
15-3.4.1	Ship's toilet..... 15-1
15-3.4.2	Bilge system 15-6

TABLE OF CONTENTS (Continued)

VOLUME 19

	<u>Page</u>
CHAPTER 16	VENTILATION, HEATING, AND AIR CONDITIONING SYSTEMS 16-1
16-1	Introduction..... 16-1
16-2	Major components 16-1
16-2.1	Deckhouse ventilation system..... 16-1
16-2.2	Voids ventilation system 16-2
16-2.3	Heating and air conditioning system 16-3
16-3	Systems description..... 16-3
16-3.1	Deckhouse ventilation system description..... 16-3
16-3.2	Voids ventilation system description 16-6
16-3.3	Heating and air conditioning system 16-8
CHAPTER 17	WORKBOAT, LIFESAVING, AND FIREFIGHTING EQUIPMENT SYSTEM 17-1
17-1	Introduction..... 17-1
17-2	Major components 17-1
17-3	Workboat, lifesaving and firefighting equipment system description..... 17-7
CHAPTER 18	DOUBLE DRUM WINCH PMCS 18-1
18-1	Introduction..... 18-1
18-2	Major components 18-1
18-3	System description 18-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BIIL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

TABLE OF CONTENTS (Continued)

VOLUME 19

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Barge Major Components	1-2
2-1	ROWPU and Ballast Seawater Supply.....	2-3
2-2	ROWPU and Ballast Seawater Supply Block Diagram.....	2-4
2-3	Air Conditioner Seawater Cooling and Chlorination Unit Supply.....	2-5
2-4	Air Conditioner and Chlorination Seawater Cooling Block Diagram.....	2-6
2-5	Diesel Engine Generator Seawater Cooling	2-7
2-6	Diesel Generator Seawater Cooling Block Diagram	2-8
4-1	Chlorination System (Barge 1).....	4-3
42	Chlorination System (Barges 2 and 3).....	4-4
5-1	Drinking Water System.....	5-3
6-1	Shore Discharge System-	6-2
7-1	Barge 1 Air Compressor/Receiver.....	7-2
7-2	Barges 2 and 3 Air Compressor/Receiver	7-3
7-3	Exterior View of Air Filter 1 and Air Filter 2	7-4
7-4	Air Station Air Valve and Quick Disconnect	7-6
7-5	PIG Launcher Controls	7-7
7-6	Location of Compressed Air System Components-Barge 1	7-9
7-7	Location of Compressed Air System Components-Barges 2 and 3.....	7-10
8-1	Fuel Oil System.....	8-2

LIST OF ILLUSTRATIONS (Continued)

VOLUME 19

	<u>Page</u>
10-1	Normal Interior Lighting Arrangement 10-3
10-2	Emergency Interior Lighting 10-4
11-1	Equipment Monitoring System Block Diagram 11-3
13-1	Bridge Crane 13-2
13-2	Bow Crane in Traveling (Stowed) Position 13-3
13-3	Void 4 Trolley Hoist 13-5
15-1	Dayroom Arrangement 15-2
15-2	Workshop Arrangement 15-3
15-3	Accesses System 15-4
15-4	Ship's Toilet 15-5
15-5	Bilge System 15-6
16-1	Example of Light-proof Louvered Hatches on Deckhouse Port and Starboard Bulkheads 16-4
16-2	Example of Covered Fan Motors on Deckhouse Top 16-5
16-3	VOIDS Ventilation Fan Motors on Port and Starboard Deckhouse Bulkheads (Portside Shown) 16-6
16-4	Example of Vertical Fan Motors near ROWPU Space Aft Bulkhead 16-7
16-5	Heating Systems Locations and Operating Controls 16-9
17-1	Workboat Components and Location 17-2
17-2	Lifesaving Equipment and Location 17-4
17-3	Firefighting Equipment and Location 17-6
18-1	Winch Assembly Top View 18-1
18-2	Winch Assembly Side View 18-2

LIST OF TABLES (Continued)

VOLUME 19

<u>Table</u>		<u>Page</u>
2-1	Major Components of ROWPU and Ballast Seawater Supply	2-1
2-2	Major Components of Air Conditioner Cooling Seawater and Chlorination Unit Seawater Supply	2-2
2-3	Major Components of Diesel Engine Generator Cooling Seawater.....	2-3
2-4	Preventive Maintenance Checks and Services for Seawater System.....	2-9
3-1	ROWPU System Components.....	3-1
3-2	ROWPU System Valves	3-3
3-3	Preventive Maintenance Checks and Services for ROWPU System.....	3-5
4-1	Major Components of Chlorination System	4-1
4-2	Preventive Maintenance Checks and Services for Chlorination System.....	4-5
5-1	Major Components of Drinking Water System	5-1
5-2	Preventive Maintenance Checks and Services for Drinking Water System	5-4
6-1	Major Components of Shore Discharge System.....	6-1
6-2	Preventive Maintenance Checks and Services for Shore Discharge System.....	6-2
7-1	Major Components of Compressed Air System.....	7-1
7-2	Preventive Maintenance Checks and Services for Compressed Air System.....	7-11
8-1	Major Components of Fuel Oil System	8-1
8-2	Preventive Maintenance Checks and Services for Fuel Oil System	8-3
9-1	Major Components of Electrical Power System.....	9-1
9-2	Major Components of Emergency Electrical System.....	9-2
9-3	Preventive Maintenance Checks and Services for Electrical Power Systems.....	9-4
10-1	Major Components of Interior Lighting System.....	10-1
10-2	Major Components of Exterior Lighting System	10-2
10-3	Preventive Maintenance Checks and Services for Lighting System	10-5
11-1	Major Components of Equipment Monitoring System.....	11-1
11-2	Equipment Monitoring System Sensor Data.....	11-2
11-3	Preventive Maintenance Checks and Services for Equipment Monitoring System	11-4

LIST OF TABLES (Continued)

VOLUME 19

<u>Table</u>		<u>Page</u>
12-1	Major Components of Radio System.....	12-1
12-1	Major Components of Radio System.....	12-1
12-2	Major Components of Foghorn	12-2
12-3	Major Components of Telephone System	12-2
12-4	Preventive Maintenance Checks and Services for Communications Systems.....	12-4
13-1	Preventive Maintenance Checks and Services for Handling Equipment.....	13-6
14-1	Anchoring Components	14-1
14-2	Mooring Components.....	14-1
14-3	Towing Components.....	14-2
14-4	Preventive Maintenance Checks and Services for Anchor, Mooring, & Towing Equipment.....	14-3
15-1	Preventive Maintenance Checks and Services for Miscellaneous Equipment	15-7
16-1	Major Components of Deckhouse Ventilation System	16-1
16-2	Major Components of Voids Ventilation System.....	16-2
16-3	Major Components of Heating and Air Conditioning System	16-3
16-4	Preventive Maintenance Checks and Services for Ventilation, Heating and Air Conditioning System	16-10
17-1	Workboat Components	17-1
17-2	Lifesaving Components	17-3
17-3	Firefighting Components.....	17-3
17-4	Preventive Maintenance Checks and Services for Workboat, Lifesaving, and Firefighting Systems	17-8
18-1	Preventive Maintenance Checks and Services for Double Drum Winch.....	18-3

TABLE OF CONTENTS

VOLUME 20

		<u>Page</u>
CHAPTER 1	INTRODUCTION.....	1-1
Section I.	General Information.....	1-1
1-1	Purpose.....	1-1
1-2	Scope.....	1-1
1-3	Maintenance forms and records.....	1-1
1-4	Reporting equipment improvement recommendations (EIRs).....	1-1
1-5	Destruction of Army material to prevent enemy use.....	1-1
1-6	Abbreviations and terms.....	1-1
1-7	Warranty information.....	1-1
Section II.	Equipment Description and Data.....	1-5
1-8	Equipment description, safety, case, and handling.....	1-5
CHAPTER 2	OPERATING INSTRUCTIONS.....	2-1
CHAPTER 3	PREVENTIVE MAINTENANCE INSTRUCTIONS.....	3-1

LIST OF APPENDICES

		<u>Page</u>
A	REFERENCES.....	A-1
B	COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS LIST (BIIL).....	B-1
C	ADDITIONAL AUTHORIZATION LIST (AAL).....	C-1
D	GLOSSARY.....	D-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BILL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

LIST OF ILLUSTRATIONS

VOLUME 20

<u>Figure</u>		<u>Page</u>
1-1	Major Components of ROWPU Barge Systems and Equipment - Deckhouse Roof (Sheet 1 of 3).....	1-2
1-1	Major Components of ROWPU Barge Systems and Equipment - Deckhouse (Sheet 2 of 3)	1-3
1-1	Major Components of ROWPU Barge Systems and Equipment - Voids (Sheet 3 of 3).....	1-4

TABLE OF CONTENTS

VOLUME 21

	<u>Page</u>
CHAPTER 1	INTRODUCTION..... 1-1
Section I.	General Information..... 1-1
1-1	Purpose..... 1-1
1-2	Scope..... 1-1
1-3	Maintenance forms and records..... 1-1
1-4	Destruction of Army materiel to prevent enemy use..... 1-1
1-5	Administrative storage of equipment..... 1-1
1-6	Equipment serviceability criteria..... 1-1
1-7	Calibration..... 1-1
Section II.	Description and data..... 1-5
1-8	Description..... 1-5
1-9	Identification and tabulated data..... 1-5
1-10	Differences in models..... 1-10
1-11	Repair and replacement standards..... 1-10
1-12	Spring specifications..... 1-10
1-13	Torque data..... 1-10
CHAPTER 2	OPERATING INSTRUCTIONS
Section I.	Operating procedure..... 2-1
2-1	General..... 2-1
2-2	Controls and instruments..... 2-1
2-3	Preparation for operation..... 2-1
2-4	Starting the diesel engine..... 2-1
2-5	Stopping the diesel engine..... 2-4
2-6	Operation of the winch..... 2-4
Section II.	Operation Under Unusual Conditions..... 2-7
2-7	Operation in extreme cold (below 0 °F)..... 2-7
2-8	Operation in extreme heat..... 2-7
2-9	Operation at high altitudes..... 2-8
2-10	Operation in dusty or sandy areas..... 2-8
2-11	Operation in rainy or humid conditions..... 2-8
2-12	Operation in salt areas..... 2-8

TABLE OF CONTENTS (Continued)

VOLUME 21

	<u>Page</u>
CHAPTER 3	OPERATOR/CREW MAINTENANCE INSTRUCTIONS
3-1	Detailed lubrication information3-1
3-2	Points of lubrication3-1
Section I.	Lubrication instructions3-1
Section I.	Preventive Maintenance Checks and Services3-1
3-3	General3-1
Section III.	Operator/Crew Troubleshooting3-6
3-4	General3-6
3-5	Troubleshooting table3-6
Section IV	Maintenance Procedures3-11
3-6	General3-11
3-7	Air cleaner3-11
3-8	Fuel filter3-12
3-9	Oil filter service3-13
3-10	Fan drive belt3-14
3-11	Front and rear winch drum brake adjustment3-15
3-12	Drum clutch adjustment3-17
CHAPTER 4	ORGANIZATIONAL MAINTENANCE INSTRUCTIONS
Section I.	Service Upon Receipt of Equipment4-1
4-1	Inspect and servicing equipment.....4-1
4-2	Installation and setting up instructions.....4-1
Section II.	Movement to a New Worksite4-5
4-3	Dismantling for movement.....4-5
4-4	Reinstallation after movement4-5
Section III.	Preventive Maintenance Checks and Services4-5
4-5	Preventive Maintenance checks and services.....4-5
Section IV.	Organizational Maintenance Troubleshooting4-7
4-6	Organizational troubleshooting chart.....4-7
Section V.	Maintenance of the Diesel Engine.....4-11
4-7	General4-11
4-8	Thermostat4-11
4-9	Engine fan guard4-13
4-10	Alternator fan drive bells.....4-13
4-11	Battery.....4-13

TABLE OF CONTENTS (Continued)

VOLUME 21

		<u>Page</u>
4-12	Engine oil pressure switch	4-14
4-13	Engine cooling water overheat switch	4-14
Section VI.	Maintenance of Winch	4-14
4-14	General	4-14
4-15	Winch gear and brake drum guard.....	4-14
4-16	Drive chain case	4-14
4-17	Drive chain adjustment	4-14
Section VII.	Maintenance of Brake.....	4-18
4-18	Brake system.....	4-18
4-19	Brake assembly removal	4-18
4-20	Drum brake installation	4-20
CHAPTER 5	DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE INSTRUCTIONS	
Section I.	Special Tools and Equipment	5-1
5-1	Special tools and equipment.....	5-1
Section II.	Direct Support Troubleshooting.....	5-1
5-2	General	5-1
5-3	Direct support maintenance troubleshooting	5-1
Section III.	General Maintenance Instructions.....	5-4
5-4	General	5-4
5-5	General cleaning instructions.....	5-4
5-6	General inspection instructions	5-5
5-7	General repair instructions.....	5-6
Section IV.	Removal and Installation of Major Components and Assemblies	5-6
5-8	General	5-6
5-9	Engine assembly removal and installation	5-7
5-10	Torque converter removal	5-7
5-11	Torque converter installation.....	5-9
5-12	Engine removal	5-9
5-13	Engine installation	5-10
Section V.	Removal, Repair and Installation of Chain Drive Components.....	5-10
5-14	Chain drive housing removal	5-10
5-15	Chain drive assembly repair	5-10
5-16	Chain drive assembly installation.....	5-12
Section VI.	Winch Shafts Removal and Installation	5-12
5-17	General	5-12
5-18	Winch drive shaft removal.....	5-12

TABLE OF CONTENTS (Continued)

VOLUME 21

	<u>Page</u>
5-19	Winch drive shaft installation5-13
5-20	Winch drum and drum shaft removal.....5-13
5-21	Winch drum assembly removal.....5-13
5-22	Drum and drum shaft installation5-16
5-23	Winch head shaft removal5-16
5-24	Winch head shaft installation5-16
Section VII.	Alternator and Voltage Regulator5-17
5-25	General5-17
5-26	Alternator and voltage regulator inspection and repair5-22
5-27	Alternator reassembly and reinstallation5-23
Section VIII.	Starting Motor and Solenoid5-23
5-28	General5-23
5-29	Starting motor cleaning, inspection and repair5-25
5-30	Starting motor reassembly and installation.....5-27
Section IX.	Fuel Injectors.....5-27
5-31	General5-27
5-32	Fuel injector timing5-30 3
5-33	Fuel injector removal, test and disassembly.....5-30
5-34	Fuel injector cleaning, inspection and repair5-37
5-35	Fuel injector reassembly and installation.....5-40
Section X.	Fuel Pump and Fuel Filters.....5-44
5-36	General5-44
5-37	Fuel pump removal and disassembly.....5-44
5-38	Fuel pump cleaning, inspection and repair.....5-49
5-39	Fuel pump reassembly and installation5-49
Section XI.	Variable Speed Governor5-50
5-40	General5-50
5-41	Governor operation check.....5-50
5-42	Governor adjustment5-53
5-43	Governor removal and assembly5-56
Section XII.	Radiator and Hood.....5-58
5-44	Radiator assembly inspection and repair5-58
5-45	Radiator assembly test and installation5-58
Section XIII.	Water Pump and Fan5-60
5-46	General5-60
5-47	Water pump disassembly5-60 5

TABLE OF CONTENTS (Continued)

VOLUME 21

	<u>Page</u>
5-48	Water pump cleaning, inspection and repair5-60
5-49	Water pump reassembly and installation5-61
5-50	Fan assembly, disassembly5-62
5-51	Fan assembly, cleaning, inspection and repair.....5-62
5-52	Fan assembly, reassembly and installation5-63
Section XIV.	Oil Cooler and Oil Filter5-63
5-53	General5-63
5-54	Oil cooler, removal and disassembly5-63
5-55	Oil cooler cleaning, test, inspection, and repair.....5-64
5-56	Oil cooler reassembly and installation.....5-66
Section XV.	Air Shutdown Housing and Blower5-67
5-57	General5-67
5-58	Blower inspection (blower installed)5-67
5-59	Blower removal and disassembly.....5-69
5-60	Blower drive coupling, removal and disassembly.....5-70
5-61	Blower drive coupling, cleaning, inspection, and repair5-70
5-62	Blower drive coupling, reassembly and installation5-70
Section XVI.	Rocker Arms and Cylinder Head.....5-70
5-63	General5-70
5-64	Rocker arm and cam follower removal and disassembly.....5-72
5-65	Rocker arm and cam follower cleaning, inspection, and repair.....5-72
5-66	Rocker arm and cam follower reassembly and installation5-76
5-67	Rocker arm and valve adjustment5-77
5-68	Cylinder head, removal and disassembly.....5-79
5-69	Cylinder head installation.....5-79
Section XVII.	Oil Pan5-82
5-70	General5-82
5-71	Oil pan removal.....5-82
5-72	Oil pan cleaning, inspection, and repair5-83
5-73	Oil pan installation5-83
Section XVIII.	Flywheel and Flywheel Housing.....5-83
5-74	General5-83
5-75	Flywheel removal and disassembly.....5-83
5-76	Flywheel cleaning, inspection, and repair.....5-85
5-77	Flywheel reassembly and installation5-85
5-78	Flywheel housing, removal and disassembly5-86
5-79	Flywheel housing cleaning, inspection and repair.....5-86
5-80	Flywheel housing reassembly and installation.....5-86

TABLE OF CONTENTS (Continued)

VOLUME 21

	<u>Page</u>
Section XIX	Torque Converter Assembly5-90
5-81	General5-90
5-82	Torque converter removal and inspection5-90
5-83	Torque converter installation.....5-90
5-84	Clutch assembly removal and inspection5-94
5-85	Clutch assembly inspection and repair.....5-96
5-86	Clutch assembly reassembly5-100
Section XX	Winch Drive Shaft and Drum Assembly Repair Instructions5-100
5-87	Heavy components.....5-100
Section XXI.	Drive Shafts and Drums.....5-101
5-88	Winch drive shaft removal.....5-101
5-89	Drive shaft inspection and repair.....5-103
5-90	Winch drive shaft reassembly and installation5-103
5-91	Winch drum removal5-104
Section XXII.	Drum Brakes5-107
5-92	Drum brake assemblies5-107
Section XXIII.	Clutches5-112
5-93	Clutch assemblies.....5-112
5-94	Drum reassembly and installation5-115
Section XXIV.	Winch Head Drive and Guide Removal, Inspection, Repair and Installation.....5-116
5-95	General5-116
5-96	Winch head assembly removal.....5-116
5-97	Winch head disassembly inspection and repair.....5-116
5-98	Winch head shaft assembly installation5-118
5-99	Winch head guide.....5-118
5-100	Winch head guide removal, repair and reassembly.....5-119
CHAPTER 6	GENERAL SUPPORT MAINTENANCE INSTRUCTIONS
Section I.	Repair Parts, Special Tools and Equipment.....6-1
6-1	Special tools and equipment.....6-1
Section II.	General Support Troubleshooting6-1
6-2	General6-1
6-3	General support maintenance troubleshooting6-1
Section III	General Maintenance Instructions.....6-1
6-4	General6-1
6-5	General cleaning instructions.....6-1

TABLE OF CONTENTS (Continued)
VOLUME 21

Section IV.	Variable Speed Governor	6-3
6-6	General	6-3
6-7	Governor disassembly	6-4
6-8	Governor cleaning, inspection and repair	6-9
6-9	Governor reassembly and installation	6-12
Section V.	Air Shutdown Housing and Blower	6-16
6-10	General	6-16
6-11	Air shutdown housing disassembly	6-16
6-12	Blower cleaning, inspection and repair	6-19
6-13	Blower reassembly and installation	6-19
Section VI.	Rocker Arms and Cylinder Head	6-27
6-14	General	6-27
6-15	Cylinder head maintenance	6-27
6-16	Cylinder head cleaning test, inspection and repair	6-32
6-17	Cylinder head reassembly and installation	6-32
Section VII.	Oil Pan and Oil Pump	6-41
6-18	General	6-41
6-19	Oil pump removal and disassembly	6-41
6-20	Oil pump cleaning, inspection and repair	6-44
6-21	Oil pump reassembly and installation	6-46
Section VIII.	Engine Front Cover, Camshaft, Balance Shaft and Timing Gears	6-46
6-22	General	6-46
6-23	Camshaft and balance shaft removal and disassembly	6-48
6-24	Camshaft and balance shaft cleaning, inspection and repair.....	6-49
6-25	Camshaft and balance shaft bearing removal and repair	6-50
6-26	Camshaft and balance shaft bearing installation	6-53
6-27	Camshaft and balance shaft reassembly and installation	6-53
6-28	Gear train removal and disassembly	6-54
6-29	Gear train cleaning, inspection and repair	6-55
6-30	Gear train reassembly and installation	6-56
Section IX.	Pistons, Connecting Rod and Cylinder Liners	6-57
6-31	General	6-57
6-32	Piston and connecting rod removal and disassembly	6-58
6-33	Piston and connecting rod cleaning, inspection and repair	6-59
6-34	Piston and connecting rod, reassembly and installation	6-63
6-35	Cylinder liner removal	6-65

TABLE OF CONTENTS (Continued)
VOLUME 21

6-36	Cylinder liner cleaning, inspection and repair	6-65
6-37	Cylinder liner installation	6-66
Section X.	Crankshaft and Main Bearing	6-69
6-38	General	6-69
6-39	Crankshaft and main bearing removal and disassembly	6-69
6-40	Crankshaft and main bearing cleaning, inspection and repair	6-70
6-41	Crankshaft and main bearing reassembly and installation	6-73
Section XI.	Cylinder Block and Engine End Plates	6-75
6-42	General	6-75
6-43	Cylinder block and end plates removal and disassembly	6-76
6-44	Cylinder block and end plates, cleaning, inspection and repair	6-76
6-45	Cylinder block and end plates reassembly and installation	6-78
Section XII.	Torque Converter Disassembly, Inspection and Repair	6-80
6-46	Torque converter disassembly	6-80
6-47	Torque converter inspection	6-82
6-48	Torque converter reassembly	6-84
Section XIII.	Winch Frame	6-88
6-49	General	6-88
6-50	Winch frame disassembly, inspection and repair	6-88
Section XIV.	Air System	6-88
6-52	General	6-88
6-53	Air compressor	6-89
6-54	Air distribution	6-91
6-55	Controls	6-91

TABLE OF CONTENTS (Continued)
VOLUME 21
LIST OF APPENDICES

	<u>Page</u>
A REFERENCES	A-1
B MAINTENANCE ALLOCATION CHART	B-1
C REPAIR PARTS AND SPECIAL TOOLS LIST	C-1

NOTE

The following appendices, common to all TM's in this series, are in TM-55-1930-209-14&P-18.

- MAINTENANCE ALLOCATION CHART (MAC)
- TOOLS AND TEST EQUIPMENT LIST (TTEL)
- EXPENDABLE /DURABLE SUPPLIES AND MATERIALS LIST (ESML)
- REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)
- REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST

NOTE

The following appendices, common to all TM's in this series, are in TM 55-1930-209-14&P-20.

- COMPONENTS OF END ITEM LIST (COEIL) AND BASIC ISSUE ITEMS LIST (BIIL)
- ADDITIONAL AUTHORIZED ITEMS LIST (AAL)

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1-1	Major Components of ROWPU Barge Systems and Equipment - Deckhouse Roof (Sheet 1 of 3)	1-2
1-1	Major Components of ROWPU Barge Systems and Equipment - Deckhouse (Sheet 2 of 3)	1-3
1-1	Major Components of ROWPU Barge Systems and Equipment - Voids (Sheet 3 of 3)	1-4
1-2	Winch Assembly Right Side View	1-6
1-3	Winch Assembly Top View	1-7
2-1	Engine Instruments	2-2

LIST OF ILLUSTRATIONS (Continued)
VOLUME 21

<u>Figure</u>		<u>Page</u>
2-2	Winch Controls	2-3
2-3	Fleet Angle	2-6
3-1	Lubrication Chart	3-2
3-2	Engine Air Cleaner Service	3-11
3-3	Fuel Filter and Fuel Strainer spect	3-12
3-4	Engine Oil Filter Service	3-13
3-5	Fan Dive Belt Adjustment	3-14
3-6	Front and Rear Brake Drum Covers	3-15
3-7	Front and Rear Brake Drum Acdjustment	3-16
3-8	Drum Clutch Adjustments	3-17
4-1	Mounting Dimensions-Winch to Sid	4-2
4-2	Battery Installation	4-4
4-3	Hoisting Sling	4-6
4-4	Thermostat Removal and Installation	4-12
4-5	Gear Guard Removal and Installation	4-15
4-6	Drive Chain Case Removal and Installation	4-17
4-7	Drum Brake Assembly	4-19
5-1	Torque Converter Removal and Installation	5-8
5-2	Chain Drive Mechanism	5-11
5-3	Winch Drive Shaft	5-14
5-4	Winch Drum Assembly	5-15
5-5	Delcotron Alternator Cross Section	5-18
5-6	Delcotron Alternator Internal Wiring Diagram	5-19
5-7	Delcotron Alternator Illustrated Parts	5-21
5-8	Starting Motor	5-24
5-9	Starting Motor Illustrated Parts	5-26
5-10	Fuel Injector	5-28
5-11	Fuel Injector Timing	5-31
5-12	Fuel Injector Removal and Installation	5-32
5-13	Fuel Injector Installed in Tester	5-34
5-13	Fuel Injector High Pressure Tests	5-34
5-13	Fuel Injector in Calibrator	5-34
5-14	Checking Injector Spray Tip Concentricity	5-42
5-15	Fuel Pump Removal and Installation	5-45
5-16	Fuel Pump Disassembly and Reassembly	5-46

LIST OF ILLUSTRATIONS (Continued)
VOLUME 21

<u>Figure</u>		<u>Page</u>
5-17	Fuel Pump Seal Removal	5-47
5-17	Fuel Pump Seal Installation	5-48
5-18	Viable Speed Mechanical Governor	5-51
5-18	Variable Speed Governor Mount	5-52
5-19	Governor Cover Details	5-54
5-20	Governor Control Housing	5-57
5-21	Radiator Disassembly and Reassembly	5-59
5-22	Water Pump Disassembly and Reassembly	5-61
5-23	Fan Disassembly and Reassembly	562
5-24	Oil Cooler Disassembly and Reassembly	5-65
5-25	Blower Installation	5-68
5-26	Cam Followers and Cylinder Head	5-71
5-27	Rocker Arm Shaft Bracket	5-73
5-28	Cam Follower Disassembly and Reassembly	5-74
5-29	Valve Adjustment	5-78
5-30	Cylinder Head Plugs and Studs	5-80
5-31	Cylinder Head Bolt Tightening Sequence	5-81
5-32	Fuel Injector Control Tube Removal	5-82
5-33	Flywheel Removal and Installation	5-84
5-34	Flywheel Housing Removal and Installation	5-87
5-35	Flywheel Housing Bolt Tightening Sequence	5-89
5-36	Diesel Fuel Piping System	5-91
5-37	Torque Converter Assembly	5-92
5-38	Fluid Line Installation	5-95
5-39	Clutch Assembly Removal	5-97
5-40	Clutch Assembly	5-98
5-41	Clutch Assembly Disassembly and Reassembly	5-99
5-42	Drive Shaft Disassembly and Reassembly	5-102
5-43	Winch Drum Disassembly and Reassembly	5-105
5-44	Drum Brake Assembly	5-108
5-45	Brake Band Assembly	5-109
5-46	Brake Actuating Arm Assembly and Disassembly	5-111
5-47	Drum Clutch	5-114
5-48	Winch Head Disassembly and Reassembly	5-117

LIST OF ILLUSTRATIONS (Continued)
VOLUME 21

<u>Figure</u>		<u>Page</u>
6-3	Removing Variable Speed Spring Plunger Guide	6-7
6-4	Governor Weight Housing Details	6-8
6-5	Remove Governor Weight and Shaft Assembly	6-9
6-6	Variable Speed Spring Housing and Shaft Details	6-10
6-7	Install Speed Control Shaft Bearings in Spring Housing	6-12
6-8	Blower Assembly and Disassembly	6-17
6-9	Installing Oil Sealing Carrier On Rotor	6-21
6-10	Blower Rotor Clearances	6-25
6-11	Cam Followers and Cylinder Head	6-28
6-12	Fuel Injector Control Tube Removal	6-29
6-13	Exhaust Valve Guide Removal	6-30
6-14	Exhaust Valve Seat Removal	6-31
6-15	Cylinder Head Plugs and Studs	6-34
6-16	Valve Guide Installation	6-35
6-17	Valve Seat Grinding Specifications	6-37
6-18	Cam Follower Disassembly and Reassembly	6-38
6-19	Injector Tube Clearance/Reaming	6-40
6-20	Rocker Arm Shaft Bracket	6-42
6-21	Engine Oil Pump Disassembly and Reassembly	6-43
6-22	Engine Front Cover Installation	6-45
6-23	Gear Train	6-47
6-24	Loosening Nut on Camshaft or Balance Shaft	6-49
6-25	Camshaft and Balance Shaft Assembly	6-52
6-26	Idle Gear Assembly	6-54
6-27	Piston Assembly	6-58
6-28	Connecting Rod Magnetic Particle Inspection Lines	6-61
6-29	Cylinder Liner Dimensional Inspection	6-67
6-30	Crankshaft Assembly	6-71
6-31	Crankshaft Critical Loading Zones	6-73
6-32	Crankshaft End Play	6-75
6-33	Cylinder Block End Plates	6-79
6-34	Torque Converter Assembly	6-81
6-35	Seal Carrier Assembly	6-83
6-36	Fluid Line Installation	6-87

**LIST OF ILLUSTRATIONS (Continued)
VOLUME 21**

<u>Figure</u>		<u>Page</u>
6-37	Air Compressor Disassembly and Reassembly	6-90
6-38	Air Distribution Compression and Storage	6-92
6-39	Winch Control Panel	6-93

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1-1	Specifications, New Clearances and Wear Limits	1-8
1-2	Diesel Engine Spring Specifications	1-14
1-3	Torque Data	1-15
1-4	Pipe Plug Torque Data	1-20
2-1	Anti-Freeze Mixture	2-9
3-1	Operator Preventive Maintenance Checks and Services.....	3-6
3-2	Operator/Crew Troubleshooting	3-15
4-1	Organizational Preventive Checks and Services	4-2
4-2	Organizational Maintenance Troubleshooting	4-10
5-1	Direct and General Support Maintenance Instructions.....	5-2
6-1	Fuel Check Chart	6-1

CHAPTER 1 INTRODUCTION TO MANUAL

Section I. General information

1-1 Purpose. This technical manual (TM) provides the supplemental data for parts and material which support the Water Purification Barges (Figure 1-1). Unless otherwise specified, the data is applicable to Barges 1, 2 and 3. Location of major barge components is shown in Figures 1-2a, 1-2b and 1-2c.

1-2 Scope. This chapter contains general information concerning the use of this TM and its data. Chapter 2 contains reference information for operation and maintenance for the Reverse Osmosis Water Purification Unit (ROWPU) barge. Chapter 3 refers to preventive maintenance information, and the Appendices contain the Maintenance Allocation Chart, Tools and Test Equipment List and the Repair Parts and Special Tools List.

1-3 Maintenance forms and records. For an explanation and examples of the required maintenance forms and records, see DA PAM-738-750, the Army Maintenance Management System (TAMMS).

1-4 Destruction of Army materiel to prevent enemy use. This shall be as directed in TM 750-244-3.

1-5 Reporting Equipment Improvement Recommendations (EIR's). If your ROWPU barge needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at USATROSCOM, 4300 Goodfellow Blvd., ATTN: AMSTR-MOF, St. Louis, MO t3120-1798.

1-6 Abbreviations and Terms. Definition of abbreviations and unusual terms used in this TM are contained in the glossary and in MIL-STD-12, Abbreviations for Use on Drawings, and in Specifications, Standards, and Technical Documents.

1-7 Warranty Information. Authorized commercial equipment or system components assigned to the ROWPU barge may be warranted against operating defect or failure for a specific period of item (e.g., 12 months or 500 hours of operation). Warranty starts on the date found on DA Form 2410 or DA Form 240-8-16 in the logbook. Report all defects in material or workmanship to your supervisor who will take appropriate action.

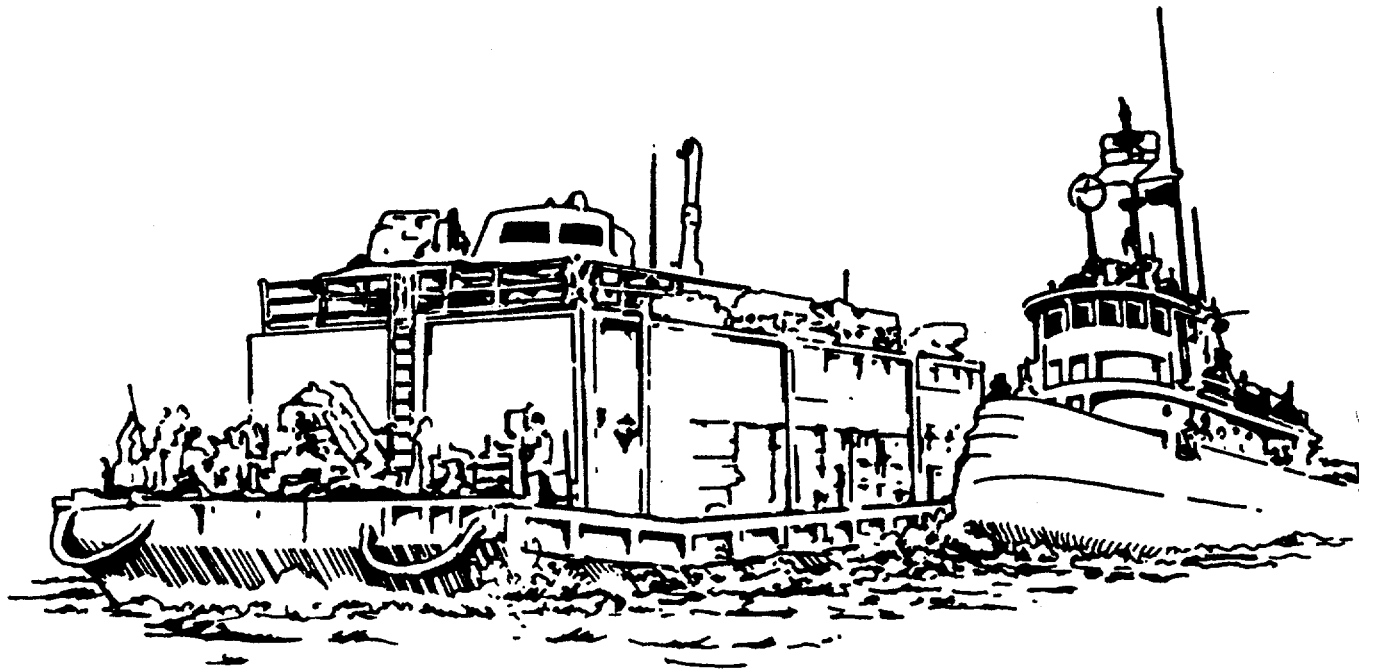


Figure 1-1. Tug with Barge on its Hip

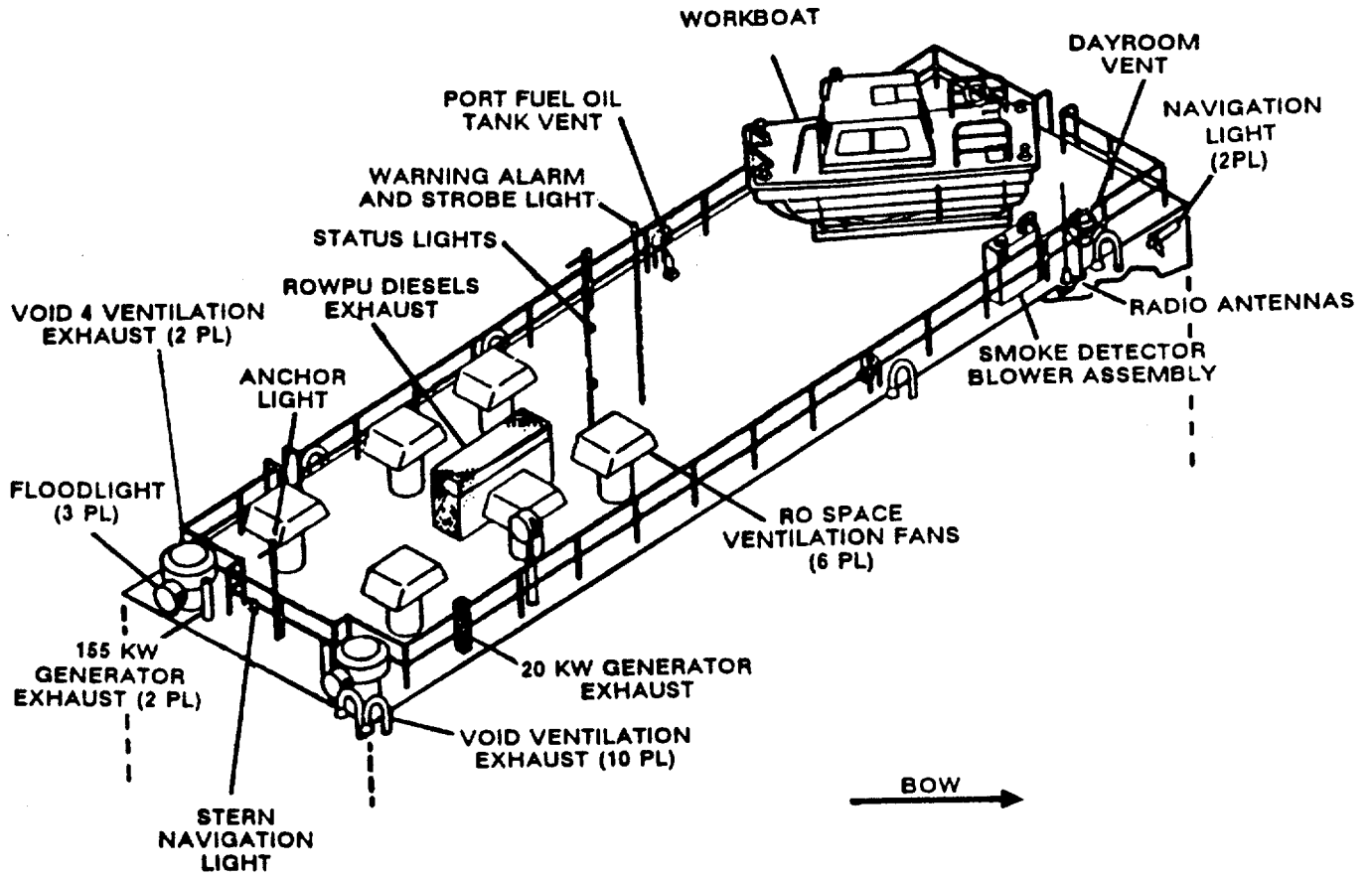


Figure 1-2. Major Components of ROWPU Barge Systems and Equipment - Deckhouse Roof
(Sheet 1 of 3)

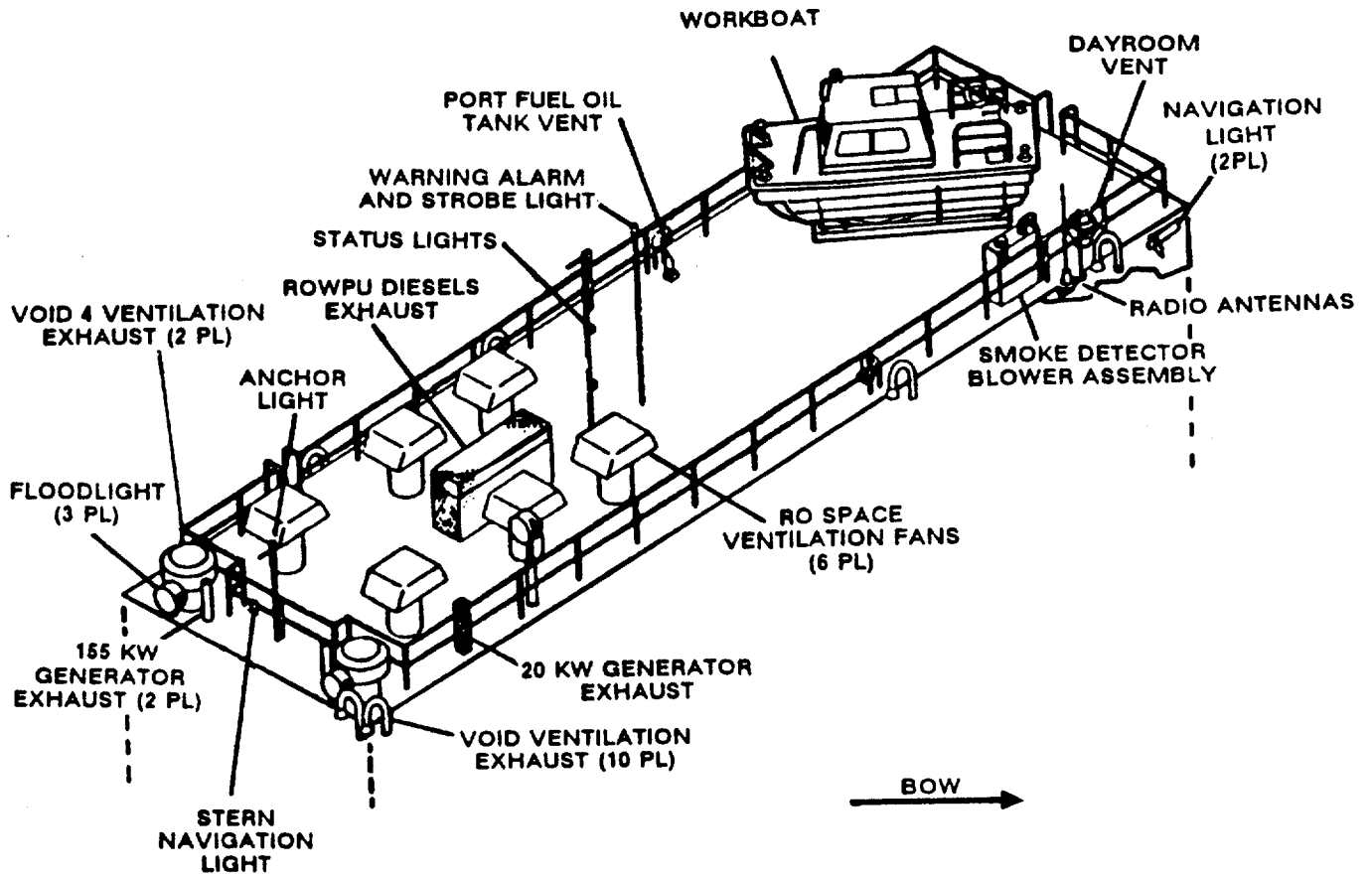


Figure 1-2. Major Components of ROWPU Barge Systems and Equipment - Deckhouse
(Sheet 2 of 3)

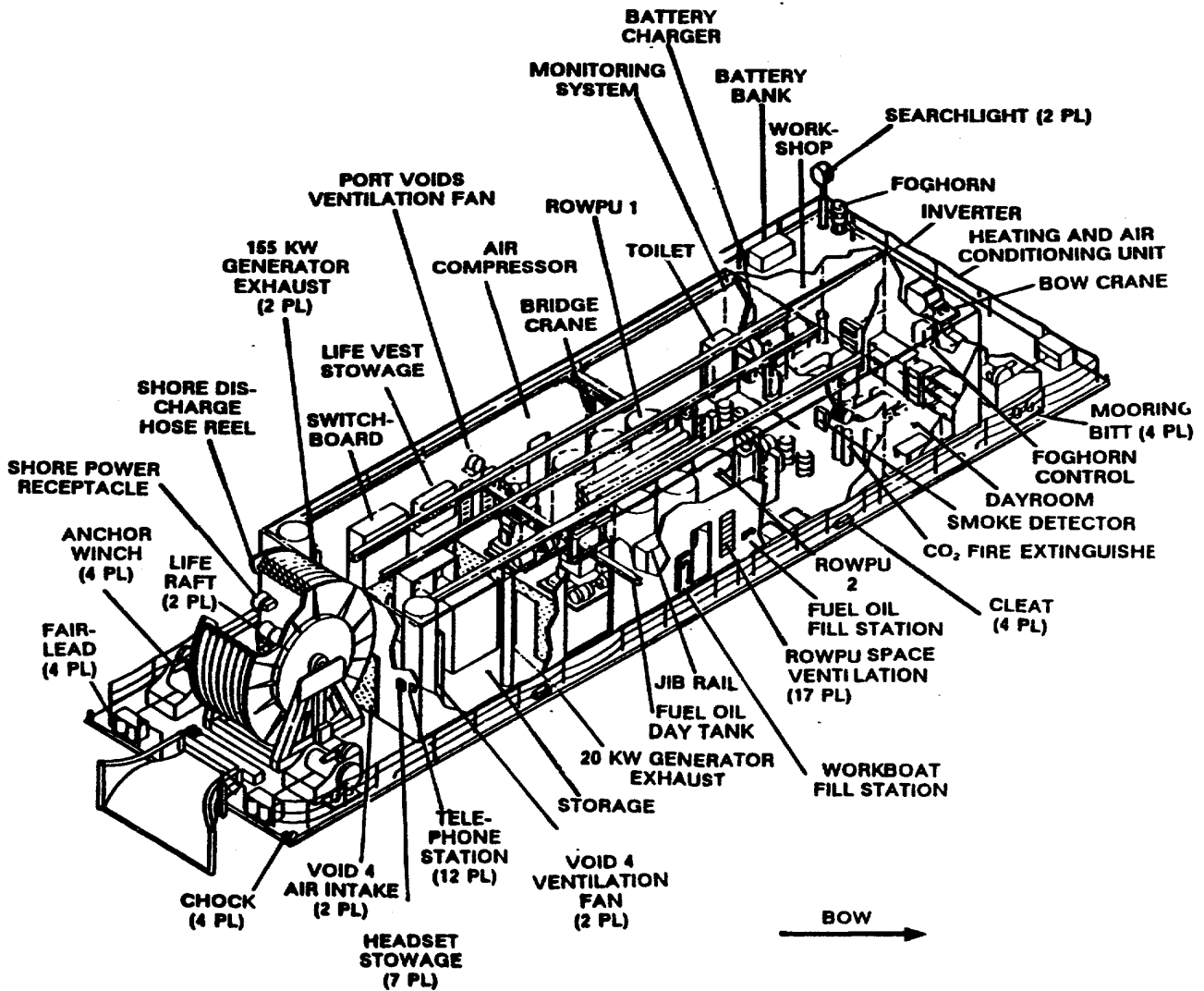


Figure 1-2. Major Components of ROWPU Barge Systems and Equipment - Voids
(Sheet 3 of 3)

Section II. Equipment Description and Data

1-8 Equipment description, safety, case, and handling

a. Description

1. A ROWPU barge consists of two 150,000 gpd reverse osmosis water purification units installed onboard a nonpropelled deck cargo barge modified to permanently house and support these water purification units, processing and support equipment, necessary supplies and material, and operating personnel.

2. Drinking water can be produced from seawater, or other water sources such as estuaries, rivers, or inland bodies of water to which a ROWPU barge may be towed.

b. Performance characteristics. Under ideal conditions and with both onboard ROWPUs operating at least 10 hours out of every 12 (average 2 hours per unit for periodic maintenance and servicing), drinking water production should be:

1. Each ROWPU unit - 150,000 gal per 24 hours.
2. Total barge capacity - 300,000 gal per 24 hours.

c. Equipment specifications

1. Length overall 120 ft
2. Beam, molded 33 ft
3. Depth, molded 10.5 ft
4. Displacement:
 - (a) Light 425 tons
 - (b) Loaded 505 tons
5. Draft:
 - (a) Light 5ft
 - (b) Loaded 5 ft 8 in
6. Tank capacities:
 - (a) Drinking water storage tanks (4) 15,000 gal total
 - (b) Water reserve tank 250 gal
 - (c) Fuel oil storage tanks (2) 7,200 gal
 - (d) Fuel oil day tank 320 gal
 - (e) Sludge tank 500 gal
 - (f) Ballast tank 10,000 gal
 - (g) PE-250 fire & bilge pump gasoline tank 6 gal

7. Personnel allowance:

- (a) Assigned TO/E manning per barge 15
- (b) Support personnel as directed

d. Special limitations

- 1. Barge cannot operate where water depth is less than 15 ft at low tide.
- 2. Barge cannot be safely anchored in waters deeper than 50 ft.
- 3. Barge cannot provide drinking water to a shore facility if anchored more than 2000 ft from shoreline.
- 4. Barge cannot operate in sea conditions exceeding Sea State 3. Barge may weather Sea State 4 if riding on one anchor rigged with bridle to bow winches and shore discharge hose is retrieved.
- 5. Barge cannot be towed in Sea State 3 at speeds in excess of 8 knots.
- 6. Barge cannot operate beyond 7 day without refueling. Other consumables onboard may last about 90 days.
- 7. Barge crews must be billeted ashore and transported to barge as crews change.
- 8. Barge bilge and waste matter must be contained for disposal in accordance with regulations and environmental requirements.
- 9. Barge personnel must follow all safety procedures and requirements while attending to the ROWPU barge and its operations.

CHAPTER 2

OPERATING INSTRUCTIONS

Operating and maintenance instructions for each operating system on the ROWPU barge are contained in TM 55-1930-209-14&P-1 thru TM 55-1930-209-14&P-17, TM 55-1930-209-14&P-19 and TM 55-1930-209-14&P-21. See Appendix A of this TM for a complete system listing of the TM's.

CHAPTER 3

PREVENTIVE MAINTENANCE INSTRUCTIONS

Preventive maintenance checks and services instructions for each operating system or component on the ROWPU are contained as an appendix to each volume and are consolidated in TM 55-1930-209-14&P-19. See Appendix A of this TM.

APPENDIX A
REFERENCES

A-1 Scope

This appendix lists all forms, field manuals, technical manuals, and miscellaneous publications referenced in this manual.

A-2 Forms

Equipment Inspection and Maintenance Worksheet	DA Form 2404
Quality Deficiency Report	SF368
Recommended Changes to Publications and Blank Forms	DA Form 2028
Recommended Changes to Equipment Technical Publications	DA Form 2028-2
	DA Form 2410
	DA Form 2408-16

A-3 Field Manuals

First Aid for Soldiers	FM 21 -11
------------------------	-----------

A-4 Technical Manuals

Destruction of Material to Prevent Enemy Use	TM 750-244-3
Repair Parts and Special Tools List For 150,000 Gallons Per Day (GPD) Reverse Osmosis Water Purification Unit	TM 10-4610-229-24P
Water Purification Barges Technical Manuals:	
Normal Operations	TM 55-1930-209-14&P-1
Seawater System	TM 55-1930-209-14&P-2
Reverse Osmosis Water Purification Unit (ROWPU) System	TM 55-1930-209-14&P-3
Chlorination System	TM 55-1930-209-14&P-4
Drinking Water System	TM 55-1930-209-14&P-5
Shore Discharge System	TM 55-1930-209-14&P-6
Compressed Air System	TM 55-1930 209-14&P-7

Fuel Oil System	TM 55-1930-209-14&P-8
Electrical Power Systems	TM 55-1930-209-14&P-9
Lighting System	TM 55-1930-209-14&P-10
Equipment Monitoring System	TM 55-1930-209-14&P-11
Communications System	TM 55-1930-209-14&P-12
Handling Equipment	TM 55-1930-209-14&P-13
Anchoring, Mooring, and Towing Equipment	TM 55-1930-209-14&P-14
Miscellaneous Equipment: Dayroom, Workshop, Accesses, and Sanitation Systems	TM 55-1930-209-14&P-15
Ventilation, Heating, and Air Conditioning Systems	TM 55-1930-209-14&P-16
Workboat, Lifesaving, and Firefighting Equipment	TM 55-1930-209-14&P-17
Supporting Appendices	TM 55-1930-209-14&P-18
Preventive Maintenance Checks and Services	TM 55-1930-209-14&P-19
Supplemental Data	TM 55-1930-209-14&P-20
Shore Winch	TM 55-1930-209-14&P-21

A-5 Miscellaneous Publications

The Army Maintenance Management System (TAMMS)	DA PAM 738-750
Abbreviations for Use on Drawings, and in Specifications, Standards, and Technical Documents	MIL-STD-12

APPENDIX B**MAINTENANCE ALLOCATION CHART****Section I. Introduction****B-1 GENERAL**

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.

b. The Maintenance Allocation Chart (MAC) in Section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.

c. Section III lists the special tools and test equipment required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions or explanatory notes for a particular maintenance function.

B-2 MAINTENANCE FUNCTIONS

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i. e. , to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning on an equipment system.

h. Replace. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services (inspect, test, service, adjust, align, calibrate, or replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul. That maintenance effort (services/actions) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i. e. , DMWR) in appropriate technical publications. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

C-3 COLUMN ENTRIES

Columns used in the maintenance allocation chart will be limited to those shown. Entries for those columns are explained below.

a. Column 1. Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next high assembly.

b. Column 2. Components/Assembly. Column 2 contains the noun names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3. Maintenance Functions. Column 3 lists the functions to be performed on the items listed in Column 2. (For detailed explanation of these functions see paragraph B-2.)

d. Column 4. Maintenance Level. Column 4 specifies, by the listing of a "work time" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in Column 3. This figure presents the active time required to perform the maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance functions varies at different maintenance levels, an appropriate "work time" figure will be shown for each level. The number of man-hours specified by the "work time" figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition. The symbol designations for the various maintenance levels are as follows:

- C Operator or Crew
- O Organizational Maintenance
- F Direct Support Maintenance
- H General Support Maintenance
- D Depot Maintenance

e. Column 5. Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

f. Column 6. Remarks. Column 6 contains a letter code in alphabetical order which shall be keyed to the remarks contained in Section IV.

B-4 COLUMN ENTRIES USED IN TOOL AND TEST EQUIPMENT REQUIREMENTS

- a. Column 1. Tool or Test Equipment Reference Code. The tool and test equipment reference code correlates with a maintenance function on the identified end item or component.
- b. Column 2. Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.
- c. Column 3. Nomenclature. Name or identification of the tool or test equipment.
- d. Column 4. National/NATO Stock Number. The national or NATO stock number of the tool or test equipment.
- e. Column 5. Tool Number. The manufacturer's part number.

B-5 EXPLANATION FOR COLUMNS IN SECTIONS IV

- a. Reference Code. The code scheme recorded in Column 6, Section II.
- b. Remarks. This column lists information pertinent to the maintenance function being performed as indicated on the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
01	Fuel Oil System (97403-13226E1894)	Inspect Service Repair	0.5 0.2 0.5					1,2	
0101	Pump Assy.Pos. Displ. (63097-Model H432D)	Inspect Test Service Adjust Repair	0.1 0.2		0.5 0.5			1,2,4, 5 1,2 1,2	
0102	Filter. Fuel Oil (12989) (GP16-01)	Inspect Service Repair	0.1 0.3 0.2					1,2	
0103	Valves and Piping	Inspect Replace Repair	0.1					1,2 1,2	
0104	Indicator. Liquid Level (04034-86210, Type 2)	Inspect Service Replace Repair	0.2 0.8					1,2 1, 2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
02	Drinking Water System (97403-13226E1896)								
0201	Pump Assembly. Centrifugal (04579-Series 421 3x4x14A)	Inspect Service Replace Repair	0.1	0.2	0.5 2.0 1.0			1,2 1,2 1,2	
0202	Pressure Set. Drinking Water (25795-No.3P648)	Inspect Service Replace Repair	0.1 0.2		4.0 2.0			1,2 1,2	
0203	Filter, Water (05430-LM020S-1/2")	Inspect Service Replace	0.1 0.2	0.5				1, 2	
0204	Cell. Salinity (-23236-01)	Inspect Test Replace	0.1		0.2 1.0			3 1,2	
0205	Meter, Flow. Turbine (-23235-01)	Inspect Test Replace	0.1		0.2 1.0			1,2	
0206	Sensor. Pressure (-22723-01)	Inspect Test Replace	0.1		0.2 1.0			3 1,2	
0207	Gauge. Pressure	Inspect Service Replace	0.1	0.1	0.5			1,2	
0208	Tanks, Storage	Inspect Service Repair	0.1 0.2	1.0				1,2	
0209	Tank. Reserve	Inspect Service Repair	0.1 0.2	1.0				1,2	
0210	Indicator, Liquid Level, Storage Tank (04034-86615, Type C)	Inspect Test Service Replace	0.1 0.2		0.2 2.0			3 1,2	
0211	Indicator. Liquid Level .Reserve Tank (04034-86210, Type 1)	Inspect Service Replace	0.1 0.2		1.0			1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
0212	Washdown Stations	Inspect Repair	0.1	0.2				1,2	
0213	Shower	Inspect Service Repair	0.1 0.2	0.2				1,2	
0214	Controller, Motor Discharge Pump (8147-8538-21-ACFT-440/110V, 3 ph, 60 Hz)	Inspect Test Service Replace Repair	0.1 0.2	1.5 0.2	1.0			3 1,2 1,2	
0215	Switch, Remote Discharge Pump (81478-BW240)	Inspect Test Service Replace Repair	0.1 0.2	0.5 0.5	0.5			3 1,2 1,2	
0216	Switch. Selection Discharge Pump and Storage Tank	Inspect Test Service Replace Repair	0.1 0.2	1.0 1.0	1.0			3 1,2 1,2	
0217	Controller. Motor, Pressure Set (81487-8538-SBA-21 -AFT-440/110V, 3 ph.60 Hz)	Inspect Test Service Replace Repair	0.1 0.2	1.0 1.0	1.0			3 1,2 1,2	
0218	Mixer.3 Stage. Static. Water and Chlorine (-X040-080-PCV-033-33)	Inspect Replace	0.2	0.5				1,2	
0219	Valve, Air Escape. Storage and Reserve Tanks (79128-Type 1600W) (79128-Type 1600T)	Inspect Service Replace	0.1 0.2	0.5				1,2	
0220	Piping and Valve Assemblies	Inspect Replace Repair	0.2	0.5 0.5				1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
03	Seawater System (97403-13226E1898)								
0301	Seachest	Inspect Service Repair	0.1 0.1	0.5				1,2	
0301	Strainer, Duplex w/Basket (73124-Seres No. 50)	Inspect Service Replace Repair	0.1 0.3	1.0 0.5				1,2 1,2	
0302	Gauge. Pressure Strainer. Inlet and Outlet (72256-Fig.45)	Inspect Service Replace	0.1 0.1	0.5				1,2	
0303	Pump Assembly Centrifugal. Seawater Discharge (52484-TC-30)	Inspect Service Replace Repair	0.1 0.1	1.0	1.0			1,2 1,2	
0304	Separator (57266-L-4042-FD-SC)	Inspect Service Replace	0.1 0.1	1.5				1,2 1,2	
0305	Switch. OFF/ON/ START Seawater Discharge Pump	Inspect Test Service Replace	0.1 0.1	0.5 0.5				3 1,2	
0306	Switch. START/ STOP, Local, Seawater Discharge Pump (81487-BW 240)	Inspect Service Test Replace	0.1 0.2	0.5 1.0				3 1,2	
0307	Pump Assembly Cooling. Centrifugal (04579-SER 110. MOD M4)	Inspect Test Service Repair	0.1 0.2	0.2	0.5			3 1,2	
0308	Controller Motor. Cooling Pump. Air Conditioning (81487-8538-SBA-21- AFT-440/110V-3 ph- 60 Hz)	Inspect Test Service Replace Repair	0.1 0.2	1.0 1.0	1.0			3 1,2 1,2	
0309	Regulator. Pressure (04198-F-810A-02-046)	Inspect Service Replace	0.1 0.2	0.5				1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
0310	Gauge, Pressure, (04198-1009)	Inspect Service Replace	0.1 0.1	0.5				1,2	
0311	Filter (05430-LM0105)	Inspect Service Replace	0.1 0.2	0.5				1,2	
0312	Valve, Air Escape. Seachest (79128-1600T)	Inspect Service Replace	0.1 0.2	0.5				1,2	
0313	Piping and Valves	Inspect Replace Repair	0.2	0.5 0.5				1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
04	ROWPU Installation (97403-13226E1900)								
0401	Media Filter (52484-52034)	Inspect Test Service Repair	0.1 0.2	0.5 1.0	4.0			1,2 1,2, 8-14	
0402	RO Block Assembly (52484-52001)	Inspect Test Service Replace Repair	0.1 0.2 0.3 8.0	1.0				1,2 1.2,8-14	
0403	Pretreatment Skid (52484-52003-1)	Inspect Test Service Replace Repair	0.1 0.2 0.3 0.3	0.1 0.2 1.0	8.0			1,2 1,2,8-14 1,2,8-14	
0404	High-Pressure Pump Skid Assembly (11242-2914301-1)	Inspect Test Service Adjust Replace Repair	0.1 0.3	0.4 0.4 0.3 0.3	0.5 0.5 8.0 1.0	2.0		1,2 1,2,8-14,18	
0405	Salinity Cell (-23236-01)	Inspect Test Replace	0.1	0.2	0.2 1.0			1,2	
0406	Eyewash. Portable (39428-5388T65)	Inspect Service	0.1 0.1						
0407	Piping and Valves	Inspect Replace Repair	0.1	0.5 0.5				1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
05	Hydraulic System (97403-13226E1901)	Inspect Service	0.2 0.2						
0501	Hydraulic Power Unit (Crane) (-F10.3F(M))	Inspect Service Replace Repair	0.2 0.3						
				3.0				1,2	
				0.7				1,2	
0502	Hydraulic Power Unit (Hose Reel) (-840464-B3)	Inspect Service Replace Repair	0.2						
				0.3					
					3.0			1,2	
			0.2		1.0			1,2	
0503	Hydraulic Lines and Hoses	Inspect Replace Repair	0.2						
				0.5				1,2	
				0.5				1,2	
0504	Controller Motor, Hydraulic Power Unit (Crane)	Inspect Test Service Replace Repair	0.1						
				1.0				3	
			0.2		1.0			1,2	
				1.0			1,2		

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
06	Accesses to Voids and Ladders (97403-13226E1902)	Inspect Service Repair	0.1 0.2	1.0				1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
07	Voids, Ventilation (97403-13226E1903)	Inspect Service	0.5 1.0						
0701	Blower (07077-S105MJ)	Inspect Service	0.2 0.3						
0702	Valves	Inspect Replace	0.2		0.5			1.2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
08	Mooring System (97403-1322E1905)	Inspect Service	0.5 8.0						
0801	Winch. Anchor (77134-W- 102183-IR) (77134-W-102183-IL)	Inspect Test Service Repair	0.2 1.0 1.0 4.0	1.0 1.0 4.0	8.0			1,2	
0802	Fairlead (16228-Model 475)	Inspect Service Repair	0.1 0.2	1.0				1,2	
0803	Anchor (50194-1000 lb Standard Danforth)	Inspect Replace	0.1	1.0				1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
09	Deck House Enclosure (97403-13226E1906)	Inspect Service	0.2 0.2						
0901	Door, Exterior. WTRTT (05570-M195 DD)	Inspect Service Repair	0.1 0.5	1.0				6 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
10	Thermal/Sound Insulation (97403-13226E1907)	Inspect Repair	0.2 1.0					1, 2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
11	Voids, Decking (97403-16226E1908)	Inspect Service	0.2 0.4						

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
12	Guard Rails (97403-13226E1909)	Inspect Service	0.2 0.2						
1201	Guard. Safety Lines	Inspect Service	0.2 1.0						

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
13	Dayroom & Workshop (97403-13226E1910)	Inspect Service Replace Repair	0.1 0.2 0.5 0.2						

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
14	Generators, Cooling System (97403-13226E1911)	Inspect Service Repair	0.2 0.2 0.5		0.5			1,2	
1401	Seachest	Inspect Service Repair	0.1 0.1 0.5					1,2	
1402	Strainer, Duplex w/Basket (73124-Series No 51)	Inspect Service Repair	0.1 0.3 0.2					1,2	
1403	Gauge. Pressure Strainer. Inlet and Outlet (72256-Fig 45)	Inspect Service Replace	0.1 0.1	0.5				1,2	
1404	Gauge, Temperature (72256-Mod 758)	Inspect Service Replace	0.1 0.1	0.5				1,2	
1405	Valve. Air Escape. Seachest (79128-1600T)	Inspect Service Replace	0.1 0.2	0.5				1, 2	
1406	Piping and Valves	Inspect Service Replace	0.1	0.5 0.5				1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
15	Bilge System and Drains (97403-13226E1912)								
1501	Strainer, Simplex (73124-Series No. 72)	Inspect Service Replace Repair	0.1 0.3	1.0 0.5				1,2 1,2	
1502	Pump. Pos. Displ. Bilge (58148-35651) Replace Repair	Inspect Test Service	0.1 0.2 0.2	1.0	1.0			1,2 1,2	
1503	Controller, Motor Bilge Pump (81487-8538-SBA-21 -AFT440/11OV-3PH- 6-Hz)	Inspect Test Service Replace Repair	0.1 1.0 0.2 1.0		1.0			3 1,2 1,2	
1504	Tank, Sludge	Inspect Service Replace Repair	0.1 0.2	1.0		3.0		1,2 1,2	
1505	Indicator, Liquid Level, Visual. Sludge Tank (04034-88615 Type C)	Inspect Service Replace	0.1 0.2		1.0			1,2	
1506	Switch. High Level. Liquid. Sludge Tank	Inspect Test Replace	0.1	0.2	0.5			3 1,2	
1507	Valve. Air Escape. Sludge Tank (791281600T)	Inspect Service Replace	0.1 0.2	0.5				1,2	
1508	Switch, Level. Bilge (0403443765)	Inspect Test Replace	0.1	0.2				3	
1509	Piping and Valve Assemblies	Inspect Replace Repair	0.2	0.5 0.5				1,2 1,2	
1510	Cable Assembly. Electrical	Inspect Replace Repair	0.2	0.5 1.0				1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
1511	Hoses	Inspect Replace Repair	0.2	0.5 0.5				1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
16	Misc. Foundations (97403-13226E1914)	Inspect Service	0.1 0.2						
1601	Hoist, Trolley (80735-1322-1 1/2)	Inspect Test Service Replace Repair	0.1 0.2		1.0 3.0 2.0				1,2 1,2
1602	Welding Machine (75677-DC250MK)	Inspect Service	0.1 0.2						

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
17	Life Saving/Fire Ex- tinguishing Equipment (97403-13226E1915)	Inspect Service	0.1 0.1						
1701	Fire Extinguishing System (62142-Model HR-1)	Inspect Test Service	0.3 0.5 0.8						
1702	Pump. Centrifugal 81884-PE-250)	Inspect Service Repair	0.1 0.2	0.5				1,2	
1703	Illumination Marker (18560-ACR/SM-2)	Inspect Test Service Repair	0.1 0.1 0.1 0.2						
		B-22							

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
18	Spillage Catchments (97403-13226E1916)	Inspect Service	0.2 0.3						
1801	Valves	Inspect Repair Replace	0.1	0.5 0.5				1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
19	Bridge Crane System (97403-13226E1917)								
1901	Hoist, Geared Trolley, 5-Ton, (80735-1422-5)	Inspect Test Service Replace Repair	0.1 0.2		0.2 0.5 6.0 1.0			6 1,2 1,2	
1902	Reel, Cable, Crane (82366-0931 -06-204)	Inspect Service Replace	0.1 0.2	1.0				1,2 1,2	
1903	Bridge Crane Assembly (-NS-83-92580-A2)	Inspect Test Service Repair	0.1 0.2	0.5 0.5 1.0	0.5 1.0			1,2	
1904	Hoist, Electric, 2-Ton (39428-3316T261)	Inspect Test Service Replace Repair	0.1 0.5 0.2	0.5	0.3			1,2 1,2	
1905	Brake, Trolley, Bridge Crane	Inspect Test Service Adjust Replace Repair	0.1 0.2	0.5 0.3	0.5 1.0			3 1,2 1,2	
1906	Slings and Rigs, Lifting	Inspect Test Service Repair	0.2 0.2		0.2 0.5			1,2	
1907	Cables, Electric	Inspect Replace Repair	0.2	0.5 1.0				1,2	
1908	Parts, Threaded	Inspect Replace Repair	0.1	0.2 0.3				1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
20	Towing Arrangement (97403-13226E1918)	Inspect Service Install Repair	0.1 0.2 1.0 0.5					1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
21	Ship Toilet (97403-13226E1919)								
2101	Toilet, Incinerating (23989-WB/TR III)	Inspect Test Service Replace Repair	0.1 0.2	 0.5 1.0 1.0				3 1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
22	Compressed Air System (97403-13226E1920)	Inspect	0.2						
		Service	0.2					1,2	
		Repair	0.5					1,2	
2201	Compressor. Air w/RCVR (16327-1Z785D)	Inspect	0.2						
		Service	0.3						
		Repair			8.0			1,2	
2202	Regulator. Pressure (04049-0/8R513A)	Inspect	0.1						
		Service	0.2						
		Replace		0.6				1,2	
		Repair	0.3					1,2	
2203	Filter. Air Line. No. 1 (04049-OBF53A)	Inspect	0.1						
		Service	0.3						
		Replace		0.5				1,2	
		Repair	0.2					1,2	
2204	Filter. Oil Removing. No 2 (11F51E)	Inspect	0.1						
		Service	0.3						
		Replace		0.5				1,2	
		Repair	0.2					1,2	
2205	Regulator. Pressure w/Switch UWB (1) (04049-07R311 A)	Inspect	0.1						
		Service	0.2						
		Replace		0.6				1,2	
		Repair	0.3	0.5				1,2	
2206	Piping and Valve Assemblies	Inspect	0.1						
		Replace		0.5				1,2	
		Repair		0.5				1,2	
2207	Valve, Safety	Inspect	0.1						
		Replace		0.5				1, 2	
2208	Pulley, Belt	Inspect	0.1						
		Replace	0.5					1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
23	Diesel Generators and Foundations (97403-13226E1922)	Inspect Service	0.3 0.3						
2301	Generator Set, 155kW (11083-3306TA)	Inspect Test Service Adjust Repair	0.2 0.2		0.5 0.5 0.5			1,2 1,2 1,2	
2302	Generator Set, 20kW (13446-4.236M)	Inspect Test Service Adjust Repair	0.2 0.2		0.5 0.5 0.5			1,2 1,2 1,2	
2302	Piping and Valves	Inspect Replace Repair	0.1		0.5 0.5				

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
24	Chlorination System (97403-13226E1923)								
2401	Chlorination Unit (Model 49R/A)	Inspect Test Service Replace Repair	0.2 0.3 1.0	0.5	16.0 1.0			1,2 1,2	
2402	Pump. Brine Chlorination Unit (52147-Model 5R132-73)	Inspect Test Service Replace Repair	0.2 0.2 0.5	0.5 0.7				3 1,2 1,2	
2403	Pump. Circulating (21198-Model TE-7R-MD)	Inspect Test Service Replace Repair	0.2 0.2 0.5	0.5 0.7				1,2 1,2	
2404	Cabinet. Control Chlorination Unit	Inspect Test Service Replace Repair	0.1 0.2	1.0 1.0	1.0			1,2 1,2	
2405	Pump. Sump (-BW173)	Inspect Test Service Replace	0.1 0.2 0.2	0.5				1,2	
2406	Filter. Water (05430-LM0105)	Inspect Service Replace	0.1 0.2	0.5				1,2	
2407	Switch. Sump Pump	Inspect Service Replace	0.1 0.1 0.5					1,2	
2408	Pan. Drip	Inspect Service Repair	0.1 0.2	0.5					
2409	Pump. Metering (52147-Model R162-96:	Inspect Test Service Replace Repair	0.2 0.2 0.5	0.5 0.7				3 1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
2410	Controller, Motor, Metering Pump (81487-8538-SBA-21 -AFT-440/11 OV-3PH-60 Hz)	Inspect Test Service Repair Replace	0.1 0.2	1.0 1.0	1.0			3 1,2 1,2	
2411	Control Unit. Metering Pump (29924-Model 924)	Inspect Test Service Replace Repair	0.1 0.2	0.5	1.0 1.0			3 1,2 1,2	
2412	Sensor. Chlorine (29924-931XXX Series)	Inspect Test Service Replace Repair		0.4 0.5 0.3	0.5 0.5			3 1,2	
2413	Eyewash, Portable (39428-5388T65)	Inspect Service Replace	0.1 0.1 0.3	0.2				1,2	
2414	Switch, Flow (04034-FS-550-29609)	Inspect Test Replace Repair	0.2	0.5 0.3 0.5 0.5				3 1,2 1,2	
2415	Valve, Air Escape Chlorination Unit Holding Tank (79128-1600W)	Inspect Service Replace	0.1 0.2 0.5					1,2	
2416	Piping and Valves	Inspect Replace Repair	0.2	0.5 0.5				1,2 1,2	
2417	Cable Assembly Electrical	Inspect Replace Repair	0.2	0.5 0.5				1,2 1,2	
2418	Hose	Inspect Replace Repair	0.2	0.5 0.5				1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
25	Crane and Boat Foundations (97403-13226E1924)	Inspect Service	0.2 0.2						
2501	Crane, Hydraulic. Bow (-110.3F)	Inspect Test Service Repair	0.2		0.5			1,2 1,2	
2502	Boat. Work (07921-2308-CLF)	Inspect Service Repair	0.5 0.5 0.3	0.7 0.7				1,2, 15, 16 1,2, 16	
2503	Panel. Control. Anti-2-Block. Bow Crane (58584-9009-HCMC)	Inspect Test Service Replace Repair	0.1 0.2	1.0 1.0 1.0				3 1,2 1,2	
2504	Switch, Start/Stop Bow Crane (81487-BW 240)	Inspect Test Service Replace	0.1 0.2	0.5 0.5				3 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
26	Storage Area Arrangement (97403-13226E1925)	Inspect Service Repair	0.1 0.2 0.2					1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
27	Deckhouse Ventilation System (97403-13226E1926)	Inspect Service	0.2 0.3						
2701	Fan. Exhaust (6MO80-HD361SP4XY)	Inspect Service	0.2 0.3						
2702	Hatch. 18" x 60" (6U135-413-A-I)	Inspect Repair	0.1 0.4					1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
28	Engine Exhaust System (97403-13226E1927)	Inspect Service Repair	0.3 0.3	2.0				1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
29	Alarm/Casualty Monitoring System (97403-13226E1928)								
2901	Processor (-PMS 6050 D)	Inspect Test Service Calibrate Replace Repair	0.1 0.1 		1.0 1.0 1.0 0.5		0.5	1,2 1,2	
2902	Keyboard Light	Inspect Test Service Replace Repair	0.1 0.1 0.1 		0.5 0.5 0.5			1,2 1,2	
2903	Monitor, Video	Inspect Test Service Adjust Replace Repair	0.1 0.1 	0.3	0.5 0.5 0.5			1,2 1,2	
2904	Module, Relay. Alarm	Inspect Test Service Replace Repair	0.1 0.1 		0.5 0.5 0.5			1,2	
2905	Module. Alarm. Bilge	Inspect Test Service Replace	0.1 0.1 		0.5 0.5			1,2	
2906	Switch, Main Power (08556-D221)	Inspect Test Replace Repair	0.1 0.2		0.3 0.5			1,2 1,2	
2907	Horn (28199-IC/H3D3)	Inspect Test Replace	0.1 	0.3 0.5				1,2	
2908	Light. Strobe (10402-WMB-R)	Inspect Test Replace Repair	0.1 0.3	0.3 0.5				1,2 1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
2909	Buzzer (28199-IC-Z1 D3)	Inspect Test Replace	0.1	0.3 0.5				1,2	
2910	Inverter/Battery Charger. Constant Float (92731-A46-16-24V-A1)	Inspect Test Service Replace Repair	0.1 0.1	0.2	0.5 0.2			3 1,2 1,2	
2911	Battery (99028-GC1260-1)	Inspect Test Service Replace	0.1 0.1	0.2 0.3				3 1,2	
2912	Cable. Electrical	Inspect Replace Repair	0.2	1.0 0.5				1,2 1,2	
2913	Box 60 Terminal, (80064-9000S 6202-74131 REVO)	Inspect Service Replace	0.1 0.1		1.0			1,2	
2914	Box 40 Terminal (81349-M24558/6- 0433.1)	Inspect Service Replace	0.1 0.1		1.0			1.2	

Section II. MAINTENANCE ALLOCATION CHART (Cont.)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	MAINTENANCE LEVEL CATEGORY					(5) TOOLS AND EQUIP.	(6) REMARKS
			C	O	F	H	D		
30	Shore Discharge Hose Reel (97403-13226E1929)	Inspect Service Repair	0.2 0.3	0.5				1,2	
3001	Winch, Hydraulic (-830426-1)	Inspect Service Repair	0.5 0.5		0.5			1,2	
3002	Levelwind (-830426-1-6)	Inspect Service Repair	0.2 0.5		0.7			1,2	
3003	Winch, Shore (62303-Model 270)								
3004	Piping and Valves	Inspect Replace Repair	0.1		0.5 0.5			1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
31	Dayroom and Workshop Arrangement (97403-13226E1930)								
3101	Grinder, w/Pedestal (05472-8123W/DC8)	Inspect Service Repair	0.1 0.2		0.2			1,2 1,2	
3102	Drilling Machine (83738-17-543)	Inspect Service Repair	0.2 0.2		0.3 0.3			1,2 1,2	
3103	Refrigerator (03824-BR-16)	Inspect Service Repair	0.1 0.2		0.5 0.5	1.0 1.0		1,2,20-24	
3104	Hood. Filter. Range (39428-2159K42)	Inspect Service	0.1 0.2					1,2	
3105	Fountain, Drinking (27775-HF4)	Inspect Service Adjust Repair	0.1 0.3 0.3		0.5			1,2 1,2 1,2 1,2, 3	
3106	Brewer. Coffee (39248-6159T16)	Inspect Service	0.1 0.2		0.5				
3107	Range. Table Top (25795-5H321)	Inspect Service Repair	0.1 0.2 0.1					1,2	
3108	Oxy Acetylene Welder	Inspect Service Repair		0.3 0.5		0.5		1,2	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
32	Heating and Air Conditioning Dayroom and Workshop (97403-13226E1931)	Inspect Service Repair	0.3 0.3	0.5				1,2	
3201	Air Conditioning Unit (57107-NAC600)	Inspect Test Service Adjust Repair	0.1	0.5 0.5 0.5 1.0				3 1,2	
3202	Thermostat (27319-T6052A)	Inspect Test Replace	0.1 0.2	0.5				1,2	
3203	Filter Air Conditioning	Inspect Service Replace	0.2 0.3	0.3				1,2	
3204	Belt, Fan	Inspect Replace	0.1	1.0				1,2	
3205	Condenser	Inspect Service	0.1. 0.2						
3206	Heater Element, Electric (23251-Series DC3)	Inspect Replace	0.1	0.3				1,2	
3207	Heater Space, Electric (17032-20743.0-3)	Inspect Replace Repair	0.1	0.3 0.3				1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
33	Communication System (97403-13226E1933)								
3301	Receiver-Transmitter (80058-RT-524-VRC)								
3302	Regulator, Converter Assembly (28763-9040-0033)	Inspect Test Replace	0.2	0.2 0.5				3 1,2	
3303	Desk Telephone (21260-WE-2)	Inspect Test Replace	0.1	0.1 0.2				1,2	
3304	Strobe Light (04106-6850-138)	Inspect Test Replace Repair	0.1	0.2 0.5				3 1,2 1,2	
3305	Telephone Set, Head (71483-H3342)	Inspect Test Service	0.1 0.2	0.2				3 1,2	
3306	Radio, Marine, VHF, FM (61057-C866S)	Inspect Test Fault Locate Replace Repair	0.1	0.2 0.3 0.5 0.5		0.4		3 1,2 1,2	
3307	Speaker Indoor Monitor (52782-801-401)	Inspect Test Replace	0.1	0.1 0.2				3 1,2	
3308	Station Selector Box	Inspect Test Replace Repair	0.1 0.1		0.2 0.1			3 1,2	
3309	Remote Control Assembly (28763-9001-0454)	Inspect Test Replace	0.1	0.1 0.3	0.1			3	
3310	Fog Horn (28763-FA-390/1)	Inspect Test Replace	0.1	0.1 0.3				3 1,2	
3311	Transceiver, Handheld VHF/FM (61057-HX500S)	Inspect Test	0.1	0.1					

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
3312	Battery Charger, Handset (61057-CSB5DAM))	Inspect Test Repair Replace	0.1	0.1 0.2 0.2	0.1			3	
3313	Handset Adptr Mdl Telephone (71483-M3146)	Inspect Test Replace	0.1 0.1		0.2			1,2	
3314	Headset Station (71483-M3141)	Inspect Test Replace	0.1 0.1		0.2			1.2	
3315	Telephone Station Buzzer (1C/Z1 S4)	Inspect Test Replace	0.1	0.2 0.5					
3316	Wiring/Cables	Inspect Test Replace	0.1	0.2 0.3					

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
34	Electric Power System Layout (94703-13226E1935)	Inspect Test Service	0.5	0.3 0.3					
3401	Switchboard, 440 VAC, Marine Type (-55-1930)	Inspect Test Service Repair	0.1	0.2 0.3 0.2			3 1,2		
3402	Panels, Distribution	Inspect Test Service	1.1	0.2 0.3			3		
3403	Starters	Inspect Test Service Repair	0.1	0.2 0.3 0.4			3 1,2		
3404	Analyzer/XMTR, Chlorine (29924-Model 924)	Inspect Test Service Repair	0.1	0.2 0.3 0.4			3 1,2		
3405	Transformers	Inspect Test Replace	0.1	0.3	0.3		1,2		
3406	Panel, Ground Detector (81349-M24395/1-001)	Inspect Test Repair	0.1 0.2	0.5					
3407	Anti-2-Block System	Inspect Test Repair	0.2 0.3	0.3					

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
35	Normal Lighting System (97403-13226E1937)	Inspect Test Service	1.0 0.5 0.5						
3501	Panel, Power Dist. (81349-M23928/1-15 DP)	Inspect Test Service	0.1	1.0 1.0					
3502	Fixture, Fluorscent 81349-M 16377/8-333 1)	Inspect Test Service Repair	0.1 0.1 0.5	1.0					
3503	Lamp, Desk (81349-M16377/16-141.2)	Inspect Test Repair	0.1 0.1 0.2						
3504	Transformer (03512-9T21B1001G02)	Inspect Test Replace	0.1	0.1 0.3 0.3			1,2		
3505	Panel, Power Dist (81349-M2398/2-04 DP)	Inspect Test Service	0.1	1.0 1.0					
3506	Switch, Rotary	Inspect Test Repair	0.4 0.5	0.2			1,2		
3507	Switch, Door	Inspect Test Repair	0.4 0.5	0.2			1,2		

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
36	Emergency Electrical Power Lighting System (97403-13226E1938)	Inspect Test Service Repair	1.0 0.5	1.0				1,2	
3601	Panel, Power Dist. (81349-M23928/2-04 TE)	Inspect Test Service	0.1	1.0 1.0					
3602	Fixture, Fluorescent (81349-M16377/8-331.1)	Inspect Test Service Repair	0.1 0.1 0.5	1.0					
3603	Fixture, Lighting Incandescent (81349-M 16377/27-93.2)	Inspect Test Service Repair	0.1 0.1 0.2	0.5					
3604	Charger, Battery (92731-A-33-60-24V)	Inspect Test Repair	0.1	0.5	1.0			3 1,2	
3605	Inverter, Standby (92731-A51-1.5K-24V)	Inspect Test Adjust Repair	0.1	0.5 0.1	1.0			3 1,2	
3606	Battery, Marine (-NS-305)	Inspect Test Service Replace	0.1 0.2 0.3	1.0				7 1,2	
3607	Power Supply, Modular, Marine Radio (04879-NH-113)	Inspect Test Repair	0.1		0.2 0.2				
3608	Switch, Toggle	Inspect Test Repair	0.5	0.2 0.2 0.2				1,2	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
37	Navigation/Exterior Lighting (97403-13226E1940)	Inspect Test Service	0.5 0.5 0.5						
3701	Light, Green (46576-FIG. 1127GA)	Inspect Test Repair	0.1 0.1	0.3					
3702	Light, Red (46576-FIG. 1127-RA)	Inspect Test Repair	0.1 0.1	0.3					
3703	Light (46576-FIG. 1 129A)	Inspect Test Repair	0.1 0.1	0.3					
3704	Floodlight (81349M 16377/61-303.1)	Inspect Test Repair	0.1 0.1	0.3					
3705	Fixture, Lighting Vaportight (78011-LVWA 15G)	Inspect Test Repair	0.1 0.1	0.3					
3706	Light, White (-Aqua Signal 70)	Inspect Test Repair	0.1 0.1	0.5			1,2		
3707	Light, Red (-Aqua Signal 70)	Inspect Test Repair	0.1 0.1	0.5			1,2		
3708	Light, White (46576FIG. 1130A)	Inspect Test Repair	0.1 0.1	0.5					
3709	Searchlight (465764800 Series FIG. 883-2)	Inspect Service Repair	0.1 0.1 0.2				1,2		
3710	Switch, Rotary	Inspect Test Repair	0.4 0.5	0.2			1,2		

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
38	Ballast System (97403-13226E1942)								
3801	Tank, Ballast	Inspect Service Repair	0.1 0.2	1.0				1,2	
3802	Indicator, Liquid Level, Ballast Tank (04034-86210, Type 1)	Inspect Test Service Replace Repair	0.1 0.2		0.2 2.0 1.5			3 1,2 1,2	
3803	Valve Air Escape. Ballast Tank (79128-1600W)	Inspect Replace Repair	0.1 0.2	0.5					
3804	Piping and Valves	Inspect Replace Repair	0.2	0.5 0.5				1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
39	Void No. 4 Ventilation System (97402-13226E1936)	Inspect Service	0.2 0.3						
3901	Fan w/Motor (6MO80-TD3012P4XY)	Inspect Service	0.2 0.3						

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
40	Battery Box (97403-13226E1943)	Inspect Service Repair	0.1 0.2	1.0				1,2	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
41	Fendering System (97403-13226E1939)	Inspect Service Repair	0.1 0.2	1.0				1,2	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
42	Equipment Shutdown System (97403-13226E1944)	Inspect Test Service Repair	0.2 0.3 0.3 0.5	0.3 0.5				1,2	
4201	Valves, Solenoid	Inspect Repair	0.1		0.5			1,2	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
43	ROWPU Modification (97403-13226E1945)	Inspect Service	0.1 0.2						
4301	Valves	Inspect Replace Repair	0.1 0.5 0.5					1,2 1,2	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
44	Removable Floor Covering (97403-13226E1 946)	Inspect Service	0.2 0.4						

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
45	Smoke Detector System (97403-13226E1947)	Inspect Test Service	0.5 0.5 0.5						
4501	Detector Cabinet Assembly (62142-486149-08)	Inspect Test Repair			0.1 0.2 0.7			1, 2	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
46	Halon System (97403-13226E1948)	Inspect Test Service	0.3		0.5 0.8			17	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
47	WINCH, DOUBLE DRUM 40,000 LB. CAPACITY								
4701	ENGINE HOOD, PANELS. WINCH GEAR AND CHAIN CASES								
470101	Engine Hood., Panels and Fan Guard	Inspect Replace Repair	0.2	1.0	2.5				
470102	Winch Gear Guard Drive	Inspect Replace Repair	0.2	1.0	1.0				
470103	Case, Drive Chain	Inspect Replace Repair	0.2		1.0 1.0				
4702	ENGINE ASSEMBLY								
470201	Engine, Diesel	Inspect Service Replace Repair	0.5 1.0		8.0 40.0	20.0			
470202	Cleaner, Air	Service Replace	0.5 0.3					A	
470203	Manifold Exhaust	Inspect Replace Repair	0.2	1.5 2.0				B	
470204	Head, Cylinder	Inspect Replace Repair			0.2 2.0 4.0			C	
470205	Air Shut Down Housing and Blower	Inspect Replace Repair		0.2 0.7 1.0	1.0 3.0	4.0			
470206	Pan, Oil	Inspect Replace Repair	0.5		1.5 2.0				
470207	Bearings, Main	Inspect Replace			3.0	5.0			
	Oil Cooler	Inspect Test Replace Repair	0.1	0.2	1.4 1.0 1.5				
	Oil Filter	Inspect Replace Repair	0.1	0.5 0.3					

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
4702	ENGINE ASSEMBLY (CONT).								
470208	Crankshaft Assembly	Inspect Replace Repair				3.0 6.0 2.0			
470209	Pistons, Connecting Rods, Bearings, Pins, Rings	Inspect Replace				3.0 8.0			
470210	Flywheel Assembly	Inspect Replace			1.0 11.0				
470211	Rocker Arms and Cam Follower	Inspect Adjust Repair			1.0 0.5 3.0				
470213	Camshaft and Bearings	Inspect Repair				2.0 4.0			
470214	Gears, Timing	Inspect Replace				1.5 3.0			
470215	Pump, Oil	Inspect Replace Repair			1.0	2.0 3.0			
470218	Radiator Assembly, Guard, Thermostat, and Hoses	Inspect Replace Repair	0.2	2.0 1.0	2.5				
470219	Cylinder Block and Engine End Plates	Inspect Replace Repair				1.0 10.0 15.0			
470220	Water Pump Assembly	Inspect Replace Repair	0.2	1.5	3.0				
470221	Fan Assembly and Bearings	Inspect Service Replace Repair	0.2 0.5	1.5	1.5				H
470222	Belts	Inspect Adjust Replace	0.2	0.5 0.8					
470223	Fuel Lines & Fittings	Inspect Replace	1.0	2.0					

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
4702	ENGINE ASSEMBLY (CONT.)								
470224	Injectors, Fuel	Inspect Replace		1.0	2.0				
470225	Filter, Fuel	Inspect Replace	0.3	1.0					
470226	Pump, Fuel	Inspect Replace Repair	0.2		1.0 2.0				
470227	Strainer, Fuel	Inspect Service Replace	0.3	0.8 1.0				K	
470228	Tank Assembly, Fuel	Inspect Replace Repair	0.2	2.0	2.5				
470229	Exhaust System Muffler, Rain Cap & Flange	Inspect Replace	0.1	1.0					
470230	Governor, Engine Speed	Inspect Adjust Replace Repair		0.1	1.0 2.0 1.0	3.0		M	
470231	Engine Electrical Wiring	Inspect Replace	0.2		4.0				
470232	Alternator Assembly	Inspect Replace Repair	0.1	0.7	2.0				
470233	Starter, Engine	Inspect Replace Repair	0.1	0.7	2.0				
470234	Batteries	Inspect Service Replace	0.2 0.2	0.1 0.5				N	
470235	Controls & Instrument Panel	Inspect Replace	0.4	1.0					
470236	Torque Converter. Clutch & Housing	Inspect Service Adjust Replace Repair		0.3 1.0	1.3 0.5 3.0	5.0		O P	

Section II. MAINTENANCE ALLOCATION CHART

(1) GROUP NO.	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			C	O	F	H	D		
4703	WINCH								
470301	Drive Shafts and Drum	Inspect Adjust Repair			0.5 1.0 8.0				R
470302	Drum Brakes	Inspect Repair			0.5 8.0				
470303	Clutches	Inspect Repair			0.2 8.0				
470304	Winch Head Drive and Guide	Inspect Repair		0.2	4.0				
4704	WINCH FRAME								
470401	Winch Frame	Inspect Repair			0.2	15.0			
470402	Air Station	Inspect Repair		0.2	2.0				

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	C, F	Toolkit		Sears 404 Piece
2	C, F	Toolkit		Sears 90 Piece
3	F	Multimeter		
4	F	Vacuum Gauge		
5	F	Pressure Gauge		
6	F	Grease Gun		
7	F	Hydrometer		
8	C, F	Torque Wrench		2914447-1
9	C, F	Crows Foot Wrench		2914441-1
10	C, F	Spanner Wrench		2914440-1
11	C, F	Extension 1/2-inch Drive X 20-inch		2914442-1
12	C, F	Ratchet Handle		2914451-1
13	C, F	Strap Wrench 41N CPV Ftgs		2914448-1
14	C, F	Gauge Fuel Level		2914292-1
15	C, F	Filler Tube and Funnel		
16	C, F	Engine Hatch Tool		
17	F	Scale, Halon		807800
18	F	Tester, V-Belt Tension		2914154-1
19	F	Wrench, Impact, Air		2Z853C
20	F	Cap, 1/4 SAE		NFTS4
21	F	Torch Tap w/Propane Tank		T60F37
22	F	Adapter 1/8 MFT X 1/4 SAE A		V14A
23	F	Gauges Manifold		40152
24	F	Detector, Leak		684176-22008

Section IV. REMARKS

Reference Code	Remarks
A	All inspections are visual. Look for exterior damage, leaks, frayed insulation, loose wires, etc. Inspections are made prior to deployment, during normal operation, whenever there are indications of an equipment problem, and after shutdown.
B	Test by performing daily checks, initial adjustments, and self-tests.
C	Repair at operator level is accomplished by removing and replacing batteries, fuses, filters, and light bulbs. (Note: Fuses, filters, and light bulbs are throwaway items. They appear only in this MAC note.)
D	Repair by removing and replacing worn-out basket and gasket.
E	Service is to clean, drain, paint, or replenish fuel, lubricant, chemical fluids or compressed air supplies.
F	Repair is by removing/replacing mufflers, hoses, or solenoid valves.
G	Repair by removing/replacing assembly, subassembly, or component.
H	Repair by tightening or replacing fittings or gaskets.
I	All valves 3 inches and smaller will be repacked if possible. All valves greater than 3 inches will be removed/replaced.
J	Clear ducts and terminals.
K	Repair of winch motor or disc brake.
L	GFE. Consult applicable technical publications.
M	Inspection of internal parts.
N	Test to verify repair.
O	End clearance adjustment.
P	Replenish Coagulant Aid (Hydropol -50), Scale Inhibitor (Hydrapol1 -100), and Ro Block Cleaner (Hydrakleen-20).
Q	Service is to clean exterior and lubricate pump.
R	Service is internal cleaning of pump.
S	Repair by replacement of internal parts such as gaskets, packing, bearings, rings, bushings, and sleeves.
T	Service is to clean and ensure proper drainage. No lubrication expected in normal pump service.

Section IV. REMARKS (Cont.)

Reference Code	Remarks
U	Repair by replacement of ring, seal, impeller, diffuser, rubber diffuser, gasket kit, or air volume control kit.
V	Repair by replacement of heater, catalyst, thermostats, or indicator lamp.
W	Service by cleaning impeller, exterior of motor, air intake and exit and lubricating motor.
X	Repair by replacement of door gasket.
Y	Repair by using tape and adhesive to mend rips and tears in insulation.
Z	Repair by replacement of stator, mechanical seal, or flexible joint.
AA	Repair by replacement of flash tube.
AB	Repair by replacement of residue jar or vapor filter element in crankcase ventilation.
AC	Repair by replacement of parts in bridge control panel.
AD	Operational test of hoist that has been repaired or unused for the previous 12 months.
AE	Repair by replacement of parts in electric brake or control station.
AF	Monthly and 6-month services and checks.
AG	Repair by replacing safety valve.
AH	Repair by replacing sleeve, pressure switch, or cushion connector.
AI	Refer to applicable service manual for services and adjustments.
AJ	Repair limited to replacement of filters, elements. glow plugs, batteries, belts, gaskets, and thermostat.
AK	Repair by replacement of gaskets, thermostat, seals, filters, freshwater pump, seawater pump impeller, heat exchanger, oil cooler assembly, diodes, varistor, bearing, or voltage regulator.
AL	Service by tightening fittings, cleaning, painting, and lubricating crane and following other manufacturer's Periodic Maintenance Instructions.
AM	Repair by replacing seals, o-rings, retaining rings, and high pressure hose.
AN	Service by tightening fittings, cleaning. painting. and lubricating power unit and changing hydraulic fluid and filter.
AO	Repair limited to fittings. gaskets. and hoses.

Section IV. REMARKS

Reference Code	Remarks
AP	Service by cleaning impeller, exterior of motor, air intake, and exit and lubricate motor.
AQ	Repair limited to removal and replacement of corrugated metal hoses, silencers, and muffler.
AR	Check and replace fluids for two winch shaft bearings and main winch reduction gear.
AS	Use repair kit to fix cuts and gouges in 2,500-foot pipe.
AT	Service by keeping unit clean, especially suction strainer and electric motor.
AU	Service by lubricating electric motor and gear pump.
AV	Repair by changing section and return filters.
AW	Repair by replacing hydraulic hoses or fittings.
AX	Repair by replacing gear pump coupling, replacing counterbalance valve cartridge, repairing gear pump, repairing motor/heater control, replacing hand pump seal.
AY	Service by cleaning unit and lubricating reductions and levelwind traveller head.
AZ	Repair of primary or secondary reduction, levelwind coupling, or levelwind motor.
BA	Repair by replacement of grinding wheel.
BB	Service by lubricating quill and pinion gear occasionally with medium oil, spindle return clock spring twice a year with light machine oil, raising support collar with medium oil, and spindle splines every 3 months with gear oil.
BC	Repair by replacing variable speed belt.
BD	Periodically remove dirt, dust, and lint from condenser. All moving parts have an adequate supply of oil within their housings and generally require no additional lubrication during the life of the unit.
BE	Repair by replacing hose, filter-drier, and refrigerant.
BF	Service by weekly cleaning of filters, yearly lubrication of motor, and changing light bulb when required.
BG	Service by cleaning condenser, water regulating valve strainer screen, drain strainer, and exterior of unit. Lubricate binding parts in water regulating valve with tasteless grease.
BH	Adjust waterflow or temperature.
BI	Repair by replacement of fuse only.

Section IV. REMARKS

Reference Code	Remarks
BJ	Service by cleaning ventilator and air intake and draining louvers.
BK	Repair limited to replacing fuses and fixing broken wires and connectors.
BL	Service by adding distilled water and checking electrolyte solution.
BM	Service by maintaining fluid levels, cleaning strainers, and changing filters.
BN	Service by checking seawater pump impeller, checking glow plugs, checking battery status with hydrometer, lubricating Morse controls, lubricating hydraulic steering, and lubricating steering shaft bearings.
BO	Repair by replacing fuses, windshield wiper blades and arm, and filters and gaskets.
BP	Repair by replacing seawater pump impeller, zinc anodes, glow plugs, v-belt, propeller, gauges, meters, instrument panel, switches, control cables, helm pump, and bilge pump.
BQ	Smoke Test and Alarm Test/Trouble Test.
BR	Verify repair by Alarm Test/Trouble Test.
BS	Repair by replacing smoke detector module, blank module, lamps, fuses, or relays.
BT	Monthly check for obstructions and proper pressure on installed gauges.
BU	Semi-annually weigh cylinder assembly.
BV	Remove expended cylinder assembly, place spare cylinder into service, and send expended cylinder to qualified maintenance facility for recharging. Clean Halon residue from Void 4 with water.
BW	Monthly check for obstructions or mechanical damage.
BX	Yearly remove and weight cylinders.
BY	Every 2 years blow out entire system with air or CO ₂ .
BZ	Remove discharged cylinder and send to appropriate facility for recharging. Place charged cylinder into service.
CA	Repair by replacing relays, fuses, bulbs, lenses, auto start module, or light module.
CB	Self-test.
CC	Repair by replacement of fuses or bulbs only.
CD	Repair by replacement of battery, spark plugs, or filters.

Section IV. REMARKS

Reference Code	Remarks
CE	Test operation monthly.
CF	Remove condensation.
CG	Replace batteries at least once a year. Check o-rings for nicks and cuts when reassembling and replace if required. Grease with silicone compound.
CH	Refer to Table 4-1, Fuel Oil System Troubleshooting, in Volume 8 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CI	Refer to Technical Service Manual Installation, Start Up, Troubleshooting, Preventive Maintenance, Do's and Don'ts in Appendix B to Volume 8 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CJ	Refer to Table 4-1, Drinking Water Troubleshooting, in Volume 5 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CK	Refer to the Trouble Shooting Chart in the Operating Instructions and Parts Manual for Model 3P648A in Appendix B to Volume 5 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CL	Refer to Table 4-1, Seawater System Troubleshooting, in Volume 2 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CM	Refer to Table 4-1, ROWPU System Troubleshooting, in Volume 3 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CN	Refer to the Cosmodyne Operation and Maintenance Manual in Appendix B to Volume 3 of the Technical Manual for Operation and Maintenance of Water Purification Barges. Paragraph 5 in Appendix E to the Cosmodyne Manual describes troubleshooting the chemical metering pumps.
CO	Refer to the Cosmodyne Operation and Maintenance Manual in Appendix B to Volume 3 of the Technical Manual for Operation and Maintenance of Water Purification Barges. The Troubleshooting Chart in Appendix C to the Cosmodyne Manual describes troubleshooting the high pressure pump.
CP	Refer to Table 2-2, Troubleshooting Procedures for Barge Ventilation Systems, in Volume 16 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CQ	Refer to Table 4-2, Troubleshooting Procedures for HAC System, in Volume 16 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CR	Refer to Chapter 5, Troubleshooting Analysis, in the Commercial Technical Manual for the Marine Air Conditioner in Appendix B to Volume 16 of the Technical Manual for Operation and Maintenance of Water Purification Barges.

Section IV. REMARKS

Reference Code	Remarks
CS	Refer to Paragraph 4-16, Troubleshooting, in Volume 17 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CT	Refer to Fault Tracing Scheme in Volvo Penta Owner's Manual for Marine Engine in Appendix B to Volume 17 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CU	Refer to Table 2-3, Bridge Crane Troubleshooting, in Volume 13 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CV	Refer to Table 2-2, Troubleshooting Procedures for Normal Electrical System, in Volume 9 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CW	Refer to Troubleshooting in the Installation Instruction Manual for Model No. A33-60-24V-A1 in Appendix B to Volume 9 of the Technical Manual for Operation and Maintenance of Water purification Barges.
CX	Refer to Troubleshooting Guide in the Instruction Manual for Model A-51 Inverter in Appendix B to Volume 9 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CY	Refer to Troubleshooting in the Caterpillar Systems Operation Testing and Adjusting Manual in Appendix B to Volume 9 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
CZ	Refer to the Troubleshooting Chart in the Perkins Operators Manual for Marine Diesel Engines in Appendix B to Volume 9 of the Technical Manual for operation and Maintenance of Water Purification Barges.
DA	Refer to Table 4-1, Troubleshooting Procedures for Compressed Air System, in Volume 7 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DB	Refer to Troubleshooting Chart in Form 5S1408, Operating Manual and Service Guide for Dayton Speedaire Compressors, in Appendix B to Volume 7 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DC	Refer to Table 4-1, Chlorination System Troubleshooting, in Volume 4 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DD	Refer to Section VIII, System Troubleshooting, in Installation and Operating Instructions Biocidal System Recycle/Accumulating in Appendix B to Volume 4 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DE	Refer to Section 6. Trouble Shooting Chart, in the Instruction Manual mRoy Controlled Volume Pump in Appendix B to Volume 4 of the Technical Manual for Operation and Maintenance of Water Purification Barges.

Section IV. REMARKS

Reference Code	Remarks
DF	Refer to Troubleshooting Section of the Instruction Manual for Model 924, Chlorine FAC/TFC Analyzer/Transmitter in Appendix B to Volume 4 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DG	Monthly check of membrane and gold cathode.
DH	Repair by replenishment of electrolyte solution and replacement of membrane and O-rings.
DI	Refer to Table 4-1, Troubleshooting Procedures, in Volume 11 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DJ	Refer to Table 4-1, Shore Discharge System Troubleshooting, in Volume 6 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DK	Refer to Troubleshooting Guide in Appendix 20 to Appendix B to Volume 6 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DL	Refer to Troubleshooting Guide in Appendix 27 to Appendix B in Volume 6 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DM	Refer to Table 4-2, Foghorn Troubleshooting, and Table 5-2, Telephone System Troubleshooting, in Volume 12 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DN	Refer to Table 2-3, Marine Radio Troubleshooting, in Volume 12 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DO	Refer to Table 2-3, Normal Interior Lighting System Troubleshooting, in Volume 10 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DP	Refer to Table 3-2, Exterior Lighting System Troubleshooting, in Volume 10 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DQ	Refer to Table 5-3, Bilge System Troubleshooting, in Volume 15 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DR	Refer to Troubleshooting in the Service Manual Moyno SP Pumps in Appendix B to Volume 15 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DS	Refer to Troubleshooting and Service Chart in the Instruction Manual Model BR 16 BSSC Marine Refrigerator in Appendix B to Volume 15 of the Technical Manual for Operation and Maintenance of Water Purification Barges.

Section IV. REMARKS

Reference Code	Remarks
DT	Refer to Chapter IV, Troubleshooting, in the Service Manual, Self-Contained Electric Water Coolers, in Appendix B to Volume 15 of the Technical Manual for Operation and Maintenance of Water Purification Barges.
DU	Replenish refrigerant.
DV	Replace paddle.
DW	Refer to suggestions of Fault Finding in the Fassi Gru Idrauliche Use and Maintenance Instructions in Appendix B to Volume 13 of the Technical Manual for Operation and Maintenance of Water Purification Barges.

APPENDIX C

TOOLS AND TEST EQUIPMENT LIST

C-1 SCOPE

This appendix lists tools you will need to operate and maintain the ROWPU Barge. These items are contained in the Sears Tool Kits.

C-2 EXPLANATION OF COLUMNS

- a. FSCM. The Federal Supply Code for Manufacturer (FSCM) is a five digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies this item.
- b. Part Number. Indicates the primary number used by the manufacturer.
- c. Description. Indicates the item name.

SECTION II. TOOLS AND TEST EQUIPMENT LIST

<u>FSCM</u>	<u>Part Number</u>		<u>Description</u>	
53800	43481	5/32	Socket 6 Pt. Std.	1/4 Drive
53800	43491	3/16	Socket 6 Pt. Std.	1/4 Drive
53800	43493	1/4	Socket 6 Pt. Std.	1/4 Drive
53800	43494	9/32	Socket 6 Pt. Std.	1/4 Drive
53800	43495	5/16	Socket 6 Pt. Std.	1/4 Drive
53800	43496	11/32	Socket 6 Pt. Std.	1/4 Drive
53800	43497	3/8	Socket 6 Pt. Std.	1/4 Drive
53800	43499	1/2	Socket 6 Pt. Std.	1/4 Drive
53800	43574	9/32	Socket 6 Pt. Dp.	1/4 Drive
53800	43576	11/32	Socket 6 Pt. Dp.	1/4 Drive
53800	43578	7/16	Socket 6 Pt. Dp.	1/4 Drive
53800	43589	1/2	Socket 6 Pt. Dp.	1/4 Drive
53800	43505	4mm	Socket 6 Pt. Dp. Met.	1/4 Drive
53800	43501	5mm	Socket 6 Pt. Pt. Met.	1/4 Drive
53800	43502	6mm	Socket 6 Pt. Met.	1/4 Drive
53800	43503	7mm	Socket 6 Pt. Met.	1/4 Drive
53800	43504	8mm	Socket 6 Pt. Met.	1/4 Drive
53800	43507	9mm	Socket 6 Pt. Met.	1/4 Drive
53800	43514	13mm	Socket 6 Pt. Met.	1/4 Drive
53800	4354	4 1/2	Slide Bar	1/4 Drive
53800	4257	3/8	Screwdriver Bit	1/4 Drive
53800	42681	#1	Phillips Bit	1/4 Drive
53800	42682	#2	Phillips Bit	1/4 Drive
53800	42701	3/16	Hex Socket	1/4 Drive
53800	42702	7/32	Hex Socket	114 Drive
53800	42703	1/4	Hex Socket	1/4 Drive
53800	42704	5/16	Hex Socket	1/4 Drive
53800	42705	3/8	Hex Socket	1/4 Drive

SECTION II. TOOLS AND TEST EQUIPMENT LIST

<u>FSCM</u>	<u>Part Number</u>		<u>Description</u>	
53800	44331	3/4	Socket 12 Pt. Std.	3/8 Drive
53800	44332	7/16	Socket 12 Pt. Std.	3/8 Drive
53800	44333	1/2	Socket 12 Pt. Std.	3/8 Drive
53800	44334	9/16	Socket 12 Pt. Std.	3/8 Drive
53800	44335	5/8	Socket 12 Pt. Std.	3/8 Drive
53800	44336	11/16	Socket 12 Pt. Std.	3/8 Drive
53800	44337	3/4	Socket 12 Pt. Std.	3/8 Drive
53800	44338	13/16	Socket 12 Pt. Std.	3/8 Drive
53800	43333	3/8	Socket 6 Pt. Dp.	3/8 Drive
53800	43331	7/16	Socket 6 Pt. Dp.	3/8 Drive
53800	43332	1/2	Socket 6 Pt. Dp.	3/8 Drive
53800	43334	9/16	Socket 6 Pt. Dp.	3/8 Drive
53800	43335	5/8	Socket 6 Pt. Dp.	3/8 Drive
53800	43336	11/16	Socket 6 Pt. Dp.	3/8 Drive
53800	43337	3/4	Socket 6 Pt. Dp.	3/8 Drive
53800	43338	13/16	Socket 6 Pt. Dp.	3/8 Drive
53800	44342	5/16	Socket 8 Pt. Std.	3/8 Drive
53800	44343	3/8	Socket 8 Pt. Std.	3/8 Drive
53800	44344	7/16	Socket 8 Pt. Std.	3/8 Drive
53800	44345	1/2	Socket 8 Pt. Std.	3/8 Drive
53800	43261	3/8	Socket 6 Pt. Flex	3/8 Drive
53800	43262	7/16	Socket 6 Pt. Flex	3/8 Drive
53800	43263	1/2	Socket 6 Pt. Flex	3/8 Drive
53800	43264	9/16	Socket 6 Pt. Flex	3/8 Drive
53800	43265	5/8	Socket 6 Pt. Flex	3/8 Drive
53800	47571	5/16	Socket 6 Pt. Imp.	3/8 Drive
53800	47573	7/16	Socket 6 Pt. Imp.	3/8 Drive
53800	47575	9/16	Socket 6 Pt. Imp.	3/8 Drive
53800	43322	5/8	Socket 6 Pt. Flex Sp. Pig.	3/8 Drive
53800	43323	13/16	Socket 6 Pt. Flex Sp. Pig.	3/8 Drive
53800	43314	5/8	Socket 6 Pt. Sp. Pig.	3/8 Drive
53800	44301	9mm	Socket 12 Pt. Met.	3/8 Drive
53800	44425	9mm	Socket 6 Pt. Met. Dp.	3/8 Drive
53800	44432	15mm	Socket 6 Pt. Met. Dp.	3/8 Drive
53800	44434	17mm	Socket 6 Pt. Met. Dp.	3/8 Drive
53800	44435	18mm	Socket 6 Pt. Met. Dp.	3/8 Drive
53800	44436	19mm	Socket 6 Pt. Met. Dp.	3/8 Drive
53800	43781	F.T.W.R.	Ratchet	3/8 Drive
53800	42793	Q.R.	Flex Ratchet	3/8 Drive
53800	44363	10"	Flex T Handle	3/8 Drive
53800	4428	7"	Slide Bar	3/8 Drive
53800	4256	1/4	Soc. Adapter	3/8 Drive
53800	44261	6"	Extension Bar	3/8 Drive
53800	4435		Universal Joint	3/8 Drive
53800	42651	.030	Screwdriver Bit	3/8 Drive
53800	42652	.039	Screwdriver Bit	3/8 Drive
53800	42653	.055	Screwdriver Bit	3/8 Drive
53800	44371	#2	Phillips Bit	3/8 Drive
53800	44373	#4	Phillips Bit	3/8 Drive

SECTION II. TOOLS AND TEST EQUIPMENT LIST

<u>FSCM</u>	<u>Part Number</u>		<u>Description</u>	
53800	46669	5/32	Hex Socket	3/8 Drive
53800	46661	3/16	Hex Socket	3/8 Drive
53800	46662	7/32	Hex Socket	3/8 Drive
53800	46663	1/4	Hex Socket	3/8 Drive
53800	46664	5/16	Hex Socket	3/8 Drive
53800	46665	3/8	Hex Socket	3/8 Drive
53800	43611	3/8	Crowfoot Wrench	3/8 Drive
53800	43621	7/16	Crowfoot Wrench	3/8 Drive
53800	43622	1/2	Crowfoot Wrench	3/8 Drive
53800	43623	9/16	Crowfoot Wrench	3/8 Drive
53800	43624	5/8	Crowfoot Wrench	3/8 Drive
53800	43625	11/16	Crowfoot Wrench	3/8 Drive
53800	43626	3/4	Crowfoot Wrench	3/8 Drive
53800	43627	13/16	Crowfoot Wrench	3/8 Drive
53800	43628	7/8	Crowfoot Wrench	3/8 Drive
53800	47501	7/16	Socket 12 Pt. Std	1/2 Drive
53800	47502	1/2	Socket 12 Pt. Std	1/2 Drive
53800	47503	9/16	Socket 12 Pt. Std	1/2 Drive
53800	47505	5/8	Socket 12 Pt. Std	1/2 Drive
53800	47507	11/16	Socket 12 Pt. Std	1/2 Drive
53800	47508	3/4	Socket 12 Pt. Std	1/2 Drive
53800	47511	13/16	Socket 12 Pt. Std	1/2 Drive
53800	47512	7/8	Socket 12 Pt. Std	1/2 Drive
53800	47513	15/16	Socket 12 Pt. Std	1/2 Drive
53800	47514	1"	Socket 12 Pt. Std	1/2 Drive
53800	47515	1 1/16	Socket 12 Pt. Std	1/2 Drive
53800	47516	1 1/8	Socket 12 Pt. Std	1/2 Drive
53800	47517	1 1/4	Socket 12 Pt. Std	1/2 Drive
53800	47521	1/2	Socket 12 Pt. Dp.	1/2 Drive
53800	47523	5/8	Socket 12 Pt. Dp.	1/2 Drive
53800	47524	11/16	Socket 12 Pt. Dp.	1/2 Drive
53800	47525	3/4	Socket 12 Pt. Dp.	1/2 Drive
53800	47527	13/16	Socket 12 Pt. Dp.	1/2 Drive
53800	47528	7/8	Socket 12 Pt. Dp.	1/2 Drive
53800	47529	15/16	Socket 12 Pt. Dp.	1/2 Drive
53800	47531	1"	Socket 12 Pt. Dp.	1/2 Drive
53800	47533	1 1/8	Socket 12 Pt. Dp.	1/2 Drive
53800	44221	7/16	Socket 8 Pt. Std.	1/2 Drive
53800	44222	1/2	Socket 8 Pt. Std.	1/2 Drive
53800	44223	9/16	Socket 8 Pt. Std.	1/2 Drive
53800	44224	5/8	Socket 8 Pt. Std.	1/2 Drive
53800	44225	11/16	Socket 8 Pt. Std.	1/2 Drive
53800	44226	3/4	Socket 8 Pt. Std.	1/2 Drive
53800	44242	24 mm	Socket 12 Pt. Met.	1/2 Drive
53800	44977	F.T.Q.R.	Ratcher	1/2 Drive
53800	44984	Q.R.	Flex Ratcher	1/2 Drive
53800	4458		Stud Extractor	1/2 Drive
53800	44133	3"	Extension Bar	1/2 Drive
53800	44131	6"	Extension Bar	1/2 Drive

SECTION II. TOOLS AND TEST EQUIPMENT LIST

<u>FSCM</u>	<u>Part Number</u>		<u>Description</u>
53800	44132	10"	Extension Bar 1/2 Drive
53800	44804	Q.R.	Ratchet 3/4 Drive
53800	4441	8"	Extension Bar 3/4 Drive
53800	44699	1/4	Combination Wrench
53800	44691	5/16	Combination Wrench
53800	44692	11/32	Combination Wrench
53800	44693	3/8	Combination Wrench
53800	44694	7/16	Combination Wrench
53800	44695	1/2	Combination Wrench
53800	44696	9/16	Combination Wrench
53800	44697	5/8	Combination Wrench
53800	44698	11/16	Combination Wrench
53800	44701	3/4	Combination Wrench
53800	44702	13/16	Combination Wrench
53800	44703	7/8	Combination Wrench
53800	44704	15/16	Combination Wrench
53800	44705	1"	Combination Wrench
53800	44706	1 1/16	Combination Wrench
53800	44707	1 1/8	Combination Wrench
53800	44708	1 1/4	Combination Wrench
53800	42911	7mm	Metric Combination Wrench
53800	42912	8mm	Metric Combination Wrench
53800	42913	9mm	Metric Combination Wrench
53800	42914	10mm	Metric Combination Wrench
53800	42915	11 mm	Metric Combination Wrench
53800	42916	12mm	Metric Combination Wrench
53800	42917	13mm	Metric Combination Wrench
53800	42918	14mm	Metric Combination Wrench
53800	42919	15mm	Metric Combination Wrench
53800	42924	16mm	Metric Combination Wrench
53800	42929	17mm	Metric Combination Wrench
53800	42925	18mm	Metric Combination Wrench
53800	42921	19mm	Metric Combination Wrench
53800	42937	20mm	Metric Combination Wrench
53800	42938	21 mm	Metric Combination Wrench
53800	42922	22mm	Metric Combination Wrench
53800	42939	23mm	Metric Combination Wrench
53800	42923	24mm	Metric Combination Wrench
53800	44571	1/4x5/16	Open End Wrench
53800	44572	3/8x7/16	Open End Wrench
53800	44582	5/8x3/4	Open End Wrench
53800	44591	11/16x13/16	Open End Wrench
53800	44584	3/4x7/8	Open End Wrench
53800	44585	15/16x1	Open End Wrench
53800	44586	1/16x11 1/8	Open End Wrench
53800	44502	6x8mm	Metric Open End Wrench
53800	44503	7x9mm	Metric Open End Wrench
53800	44504	10x1 mm	Metric Open End Wrench
53800	44506	12x14mm	Metric Open End Wrench

SECTION II. TOOLS AND TEST EQUIPMENT LIST

<u>FSCM</u>	<u>Part Number</u>		<u>Description</u>
53800	44507	13x1 5mm	Metric Open End Wrench
53800	44521	16x18mm	Metric Open End Wrench
53800	44508	17x19mm	Metric Open End Wrench
53800	44509	22x24mm	Metric Open End Wrench
53800	43866	3/8x7/16	Short Box Wrench
53800	43864	1/2x9/16	Short Box Wrench
53800	43865	5/8x11/16	Short Box Wrench
53800	44173	5/8x11 1/16	Flare Nut Wrench
53800	44175	9x11 mm	Flare Nut Wrench
53800	44176	10x12mm	Flare Nut Wrench
53800	44177	13x14mm	Flare Nut Wrench
53800	44178	15x17mm	Flare Nut Wrench
53800	44179	19x21 mm	Flare Nut Wrench
53800	44475	3/8x7/16	Tappet Wrench
53800	44471	7/16x17/32	Tappet Wrench
53800	44472	1/2x9/16	Tappet Wrench
53800	44473	5/8x11/16	Tappet Wrench
53800	44474	3/4x7/8	Tappet Wrench
53800	42544	3/8	Open End & Socket Wrench
53800	43541	7/16	Open End & Socket Wrench
53800	42542	1/2	Open End & Socket Wrench
53800	42543	9/16	Open End & Socket Wrench
53800	42545	5/8	Open End & Socket Wrench
53800	42547	11/16	Open End & Socket Wrench
53800	42546	3/4	Open End & Socket Wrench
53800	43441	10 pc.	Combination Ignition Wrench Set
53800	41971	1/4	Nutdriver
53800	41972	5/16	Nutdriver
53800	41973	11/32	Nutdriver
53800	41974	3/8	Nutdriver
53800	41975	7/16	Nutdriver
53800	41976	1/2	Nutdriver
53800	41977	3/16	Nutdriver
53800	41981	5mm	Metric Nutdriver
53800	41982	6mm	Metric Nutdriver
53800	46677	20	Pc. Metric Hex Key Set
53800	46666	17mm	Hex Key w/pouch
53800	46667	12mm	Hex Key w/pouch
53800	52151	59 Pc.	Tap & Die Set
53800	52096	59 Pc.	Metric Tap & Die Set
53800	38463	8 oz.	Ball Pein Hammer
53800	38464	12 oz.	Ball Pein Hammer
53800	40801		Ignition Gauge
53800	4118	#2	Phillips Stubby Screwdriver
53800	47296	#2x8	Phillips Screwdriver
53800	41297	#3	Phillips Screwdriver
53800	41298	#4	Phillips Screwdriver
53800	41581	3/16x4	Screwdriver
53800	41582	3/16x9	Screwdriver

SECTION II. TOOLS AND TEST EQUIPMENT LIST

<u>FSCM</u>	<u>Part Number</u>		<u>Description</u>
53800	41585	1/4x12	Screwdriver
53800	41586	5/16x1 3/4	Screwdriver
53800	41588	3/8x12	Screwdriver
53800	4301	5 Pc. (5)	Punch & Chisel Set
53800	45386	12 1/2	Arc Joint Pliers
53800	3559		Hacksaw
53800	65874		Hacksaw Blades (2 Pkgs. of 5)

APPENDIX D
REPAIR PARTS AND SPECIAL TOOLS UST
(RPSTL)

Section I. INTRODUCTION

D-1 SCOPE

This appendix lists spare and repair parts; special tools; special test, measurement and diagnostic equipment (TMDE); and other special support equipment required for performance of organizational, intermediate direct/ general support of the ROWPU. The RPSTL illustrations, figures FO-1 through FO-66, are located at the end of this volume. Use Appendix F, Repair Parts List to Figure Number Cross-Reference List, to relate the RPSTL to the illustrations.

D-2 GENERAL

This Repair Parts and Special Tools List is divided into the following:

a. Section II. Repair Parts List. A list of spares and repair parts authorized for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in numeric sequence, with the parts in each group listed in figure and item number sequence.

b. Section III. Special Tools Lists. A list of special tools; special TMDE, and other special support equipment authorized for the performance of maintenance (Not Applicable).

c. Section IV. National Stock Number and Part Number Index. A list, in National item identification number (NIIN) sequence, of all National stock numbers (NSN) appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and parts numbers are cross-referenced in each figure illustration and item number appearance.

D-3 EXPLANATION OF COLUMNS. (Sections II and III)

a. Illustration. This column is divided as follows:

1. Figure Number. Indicates the group number as directly related to the Maintenance Allocation Chart (MAC). Refer to Appendix F for the Repair Parts List to Figure Number Cross-Reference List. The figures appear as foldouts at the end of this volume.

2. Item Number. The number used to identify item called out in the illustration.

(a) Numeric item numbers are the find numbers on Figures FO-1 through FO-66 located at the end of this volume. For example, item number 44 for group number 01, Fuel Oil System, is find number 44 on Figure Number FO-6, Fuel Oil System.

(b) Item numbers which begin with "VM" refer to the Manufacturers' Service Manuals/Instructions portion, Appendix B, of the Technical Manual for Operation and Maintenance of the Water Purification Barge. The number after "VM" is the applicable volume number. For example, item number VM8 indicates that the part is illustrated in Appendix B of volume 8.

b. SMR Code. The Source, Maintenance, and Recoverability (SMR) code is a five position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction.

1. Source Code. Source codes indicate the manner of acquiring support items for maintenance, repair, or overhaul of end items. Source codes are entered in the first and second positions of the uniform SMR Code format as follows:

Code	Explanation
PA	Stocked items; use the applicable NSN to request/requisition item with these source codes. They are authorized to the category indicated by the code entered in the third position of the SMR code. **Note: Items coded PC are subjected to deterioration.
PB	
PC*	
PD	
PE	
PR	
PG	Items with these codes are not to be requested/requisitioned individually. They are part of the kit which is authorized to the maintenance category indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.
KD	
KF	
KB	
XC	Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.
XD	Item is not stocked. Order an "XD" coded item through normal supply channels using the FSCM and part number given, if no NSN is available.

Note: Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes.

2. Maintenance Code. Maintenance codes tells you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR Code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following levels of maintenance.

Code	Application/Explanation
C	Crew or operator maintenance done within organizational or aviator unit maintenance.
O	Organizational or aviation unit category can remove, replace, and use the item.
F	Direct support or aviation intermediate level can remove, replace, and use the item.
H	General support level can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized repair functions). (Note: Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.) This position will contain one of the following maintenance codes.

Code	Application/Explanation
O	Organizational or aviator unit is the lowest level that can do complete repair of the item.
F	Direct support or aviation intermediate is the lowest level that can do complete repair of the item.
H	General support is the lowest level that can do complete repair on the item.
Z	Nonrepairable. No repair is authorized.
B	No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded item). However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

3. Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR code as follows:

Recoverability Code	Application/Explanation
Z	Nonrepairable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in third position of SMR code.
F	Repairable item. When uneconomically repairable, condemn and dispose of the item at the direct support or aviation intermediate level.
H	Repairable item. When uneconomically repairable, condemn and dispose of the item at the general support level.
D	Repairable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level.

c. National Stock Number. Indicates the national stock number assigned to the item and which will be used for requisitioning.

d. FSCM. The Federal Supply Code for Manufacturer (FSCM) is a five digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

e. Part Number. Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

Note: When you use a NSN to requisition an item, the item you receive may have a different part number from the part ordered.

f. Description. Indicates the Federal item name and, if required, a minimum description to identify the item. Items that are included in kits and sets are listed below the name of the kit or set with the quantity of each item in the kit or set indicated in the unit column. When the part to be used differs between serial numbers of the same model, the effective serial numbers are shown as the last line of the description. In the Special Tools List, the initial basis of issue (BOI) appears as the last line in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the BOI, the total authorization is increased accordingly.

g. Unit of Measure (U/M). Indicates the standard of the basic quantity of the listed item as used in performing the actual maintenance function. This measure is expressed by a two character alphabetical abbreviation (e.g., ea., in, pr, etc.). When unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

h. QTY. The QTY (quantity per figure column) indicates the quantity of the item used in the breakout shown on the illustration figure which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

D-4 EXPLANATION OF COLUMNS (Section IV)

Not Applicable.

D-5 SPECIAL INFORMATION

Use the following subparagraphs as applicable:

a. Usable on Codes. The usable on code appears in the lower left corner of the Description column heading. Usable on codes are shown as "UOC:" in the Description Column (justified left) on the first line applicable item description/nomenclature. Uncoded items are applicable to all models.

b. Fabrication Instructions. Bulk materials required to manufacture items are listed in the Bulk Material Functional Group of the RPSTL Part numbers for bulk materials are also referenced in the description column of the / line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for item source codes to be manufactured or fabricated are found in Volume 1 through Volume 17.

D-6 HOW TO LOCATE REPAIR PARTS

a. When National Stock Number or Part Number is Not Known.

1. First. Using the table of contents, determine the assembly or subassembly group to which the items belongs. This is necessary because figures are prepared for assembly and subassembly groups and listings are divided into the same groups.

2. Second. Find the figure covering the assembly or subassembly group to which the item belongs. (Use Volume 1 thru Volume 18).

3. Third. Identify the item on the figure.

4. Fourth. Refer to the Repair Parts List for the part number.

5. Fifth. Refer to the Part Numbers to find the NSN, if assigned.

D-7 ABBREVIATIONS

Not Applicable.

D-8 REFERENCES.

In addition to this Appendix, refer to TM 10-4610-229-24P, Repair Parts and Special Tools List for the 150,000 Gallons Per Day (GPD) Reverse Osmosis Water Purification Unit (ROWPU), for ROWPU specific part numbers.

SECTION II. REPAIR PARTS LIST

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 00 ROWPU BARGE ARRANGEMENT (97403-13226E1892)		
00	1	XCDDD		97403	13226E1893	LIST OF LABEL PLATES	EA	1
00	2	XCDDD		97403	13226E1894	FUEL OIL SYSTEM	EA	1
00	3	XCDDD		97403	13226E1895	PLACARD OPERATIONAL INSTRUCTIONS	EA	1
00	4	XCDDD		97403	13226E1896	DRINKING WATER SYSTEM	EA	1
00	5	XCDDD		97403	13226E1897	PLACARD, INSTRUCTION	EA	1
00	6	XCDDD		97403	13226E1898	SEAWATER SYSTEM	EA	1
00	7	XCDDD		97403	13226E1899	PLACARD, INSTRUCTION	EA	1
00	8	XCDDD		97403	13226E1900	ROWPU INSTALLATION	EA	1
00	9	XCDDD		97403	13226E1901	HYDRAULIC SYSTEM	EA	1
00	10	XCDDD		97403	13226E1902	ACCESSES TO VOIDS AND LADDERS	EA	1
00	11	XCDDD		97403	13226E1903	VOIDS VENTILATION	EA	1
00	12	XCDDD		97403	13226E1904	PLACARD, INSTRUCTION	EA	1
00	13	XCDDD		97403	13226E1905	MOORING SYSTEM	EA	1
00	14	XCDDD		97403	13226E1906	DECK HOUSE	EA	1
00	15	XCDDD		97403	13226E1907	THERMAL/SOUND INSULATION	EA	A
00	16	XCDDD		97403	13226E1908	VOIDS DECKING	EA	1
00	17	XCDDD		97403	13226E1909	GUARD RAILS	EA	1
00	18	XCDDD		97403	13226E1910	DAYROOM AND WORKSHOP STRUCTURE	EA	1
00	19	XCDDD		97403	13226E1911	GENERATORS COOLING SYSTEM	EA	1
00	20	XCDDD		97403	13226E1912	BILGE SYSTEM AND DRAINS	EA	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
00	21	XCDDD		97403	13226E1913	PLACARD, INSTRUCTION	EA	1
00	22	XCDDD		97403	13226E1914	MISCELLANEOUS FOUNDATIONS	EA	1
00	23	XCDDD		97403	13226E1915	LIFESAVING/FIRE EXTINGUISHING EQUIPMENT	EA	1
00	24	XCDDD		97403	13226E1916	SPILLAGE CATCHMENTS	EA	1
00	25	XCDDD		97403	13226E1917	BRIDGE CRANE SYSTEM	EA	1
00	26	XCDDD		97403	13226E1918	TOWING ARRANGEMENT	EA	1
00	27	XCDDD		97403	13226E1919	SHIP TOILET	EA	1
00	28	XCDDD		97403	13226E1920	COMPRESSED AIR SYSTEM	EA	1
00	29	XCDDD		97403	13226E1921	PLACARD, INSTRUCTION	EA	1
00	30	XCDDD		97403	13226E1922	DIESEL GENERATORS AND FOUNDATIONS	EA	1
00	31	XCDDD		97403	13226E1923	CHLORINATION SYSTEM	EA	1
00	32	XCDDD		97403	13226E1924	CRANE AND PERSONNEL BOAT FOUNDATIONS	EA	1
00	33	XCDDD		97403	13226E1925	STORAGE AREA ARRANGEMENT	EA	1
00	34	XCDDD		97403	13226E1926	DECK HOUSE VENTILATION SYSTEM	EA	1
00	35	XCDDD		97403	13226E1927	ENGINE EXHAUST SYSTEM	EA	1
00	36	XCDDD		97403	13226E1928	ALARM/CASUALTY MONITORING SYSTEM	EA	1
00	37	XCDDD		97403	13226E1929	SHORE DISCHARGE HOSE REEL INSTALLATION	EA	1
00	38	XCDDD		97403	13226E1930	DAYROOM AND WORKSHOP ARRANGEMENT	EA	1
00	39	XCDDD		97403	13226E1931	HEATING AND AIR CONDITIONING, DAYROOM AND WORKSHOP	EA	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
00	40	XCDDD		97403	13226E1932	ELECTRICAL POWER SCHEMATIC	EA	1
00	41	XCDDD		97403	13226E1933	COMMUNICATION SYSTEM	EA	1
00	42	XCDDD		97403	13226E1934	DOCKING PLAN, ZINC ARRANGEMENT	EA	1
00	43	XCDDD		97403	13226E1935	ELECTRICAL POWER SYSTEM LAYOUT	EA	1
00	44	XCDDD		97403	13226E1936	VOID NO. 4 VENTILATION SYSTEM	EA	1
00	45	XCDDD		97403	13226E1937	LIGHTING SYSTEM	EA	1
00	46	XCDDD		97403	13226E1938	EMERGENCY ELECTRICAL POWER/LIGHTING SYSTEM	EA	1
00	47	XCDDD		97403	13226E1939	MOTOR CONTROLLER SCHEMATIC	EA	1
00	48	XCDDD		97403	13226E1940	NAVIGATION/EXTERIOR LIGHTING	EA	1
00	49	XCDDD		97403	13226E1941	PLACARD, INSTRUCTION	EA	1
00	50	XCDDD		97403	13226E1942	BALLAST SYSTEM	EA	1
00	51	XCDDD		97403	13226E1943	BATTERY BOX	EA	1
00	52	XCDDD		97403	13226E1944	EQUIPMENT SHUTDOWN SYSTEM	EA	1
00	53	XCDDD		97403	13226E1945	ROWPU MODIFICATION	EA	1
00	54	XCDDD		97403	13226E1946	REMOVABLE FLOOR COVERING	EA	1
00	55	XCDDD		97403	13226E1947	SMOKE DETECTOR SYSTEM	EA	1
00	56	XCDDD		97403	13226E1948	HALON SYSTEM	EA	1
00	58	XCDDD		97403	13226E1950	FENDERING SYSTEM	EA	1
00	59	XCDDD		97403	13226E1951	CAUTION, WARNING AND DANGER SIGNS	EA	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 01: FUEL OIL SYSTEM (97403-13226E1984)		
01	43	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	72
01	44	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	72
01	41	XDFZZ		81349	MIL-G-1149TYPE 1, CLASS 5	GASKET	SH	3
01	40	XDFZZ		81346	ASTM A36	PLATE, BOLTING	EA	3
01	3	XDFDD		63097	MODEL H432D	PUMP, POS DISPL	EA	1
01	89	XDFZZ	4730-01-036-7498	96906	MS27029-6	PLUG, QUICK DISCONNECT	EA	1
01	88	XDFZZ	4730-00-845-6678	96906	MS27024-6	COUPLING HALF, QUICK	EA	3
01	4	XDFZZ	4730-00-266-3907	81348	WWU531-05TA	UNION, PIPE	EA	18
01	76	XDFZZ	4730-00-266-3908	81348	WWU531-04TA	UNION, PIPE	EA	1
01	48	XDFZZ		04034	86615, TYPE C	INDICATOR LEVEL	EA	2
01	84	XDFZZ		81348	WWU531-03TA	UNION 102 IN 150LB	EA	2
01	49	XDFZZ		04034	86210, TYPE 2	INDICATOR LEVEL	EA	1
01	20	XCFDD		12989	GP16-01	FILTER, FUEL OIL	EA	1
01	10	XDFDD		79128	TYPE 1600-W	VALVE, AIR ESC 3IN	EA	2
01	14	XDFDD		80204	ANSB16.34TYPE I, SVCE G	VALVE, GAGE THD1 IN	EA	11
01	47	XDFZZ	4730-00-266-3908	81348	WWU531-07TA	UNION, PIPE	EA	4
01	23	XDFZZ		80204	ANS B16.3 CLASS 150	CAP, PIPE, 1 IN	EA	1
01	15	XDFDD		80204	ANSB16.34 TYPE II, SVCE G	VALVE, GLOBE THD1 IN	EA	5

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
01	19	XDFDD		79128	TYPE 1600-T	VALVE, AIR ESCAPE	EA	1
01	52	XDFZZ	5305-00-068-0500	96906	MS90725-3	SCREW, CAP, HEXAGON	EA	2
01	60	XDFZZ		39428	3619T441	CHAIN	IN	3
01	16	XDFZZ		80204	ANS B16.3 CLASS 150	CAP, PIPE2 1/2 IN	EA	1
01	51	XDFZZ	5310-00-763-8920	96906	MS51967-20	NUT, PLAIN, HEXAGON	EA	4
01	80	XDFZZ	5310-00-820-6653	96906	MS35338-50	WASHER, LOCK	EA	4
01	79	XDFZZ	5305-00-724-5936	96906	MS90725-170	SCREW, CAP HEXAGON	EA	4
01	78	XDFZZ		81349	MIL-G-1149TYPE 1, CLASS 1	GASKET, 1/16IN	SH	V
01	77	XDFZZ		80204	ANS B16.5CLASS 150	FLANGE 2 1/2	EA	2
01	25	XDFDD		81349	MIL-V-18434TY2, SVCE G	VALVE, GLOBE BW	EA	3
01	34	XDFZZ		81348	WWU531-02	UNION 3/8IN 150LB	EA	20
01	54	XDFZZ		50556	4721-S	FITTING, HOSE	EA	10
01	55	XDFZZ		50556	4722-S	FITTING, HOSE	EA	10
01	56	XDFZZ		50556	FC-234	HOSE, STEEL BRAID	EA	10
01	30	XDFDD		39428	4473K12	VALVE, GLOBE, 3/8	EA	10
01	38	XDFDD		81349	MIL-V-18436GP B, TYPE III	VALVE, SWING CHECK	EA	2
01	71	XDFZZ		57472	TYPE 18-8	NUT, NO. 10.10-24	EA	12
01	70	XDFZZ		57472	TYPE 18-8	BOLT, NO. 10-24UNC	EA	12
01	63	XDFZZ		80120	TYPE 304	HINGE	EA	3

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
01	69	XDFZZ		04150	OPW-811	NOZZLE, MANUAL	EA	1
01	75	XDFZZ		11288	751/SER7662	COUPLING, REUSABLE	EA	2
01	61	XDFDD		19243	FIG. 3210	VALVE, GLOBE 3/4IN	EA	1
01	67	XDFZZ		11288	7111-752BL	HOSE, MARINE REFUELING	EA	1
01	73	XDFDD		80204	ANS B16.34 TYPE I, SVCE G	VALVE, GATE 3/4IN	EA	1
01	83	XDFZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON	EA	4
01	82	XDFZZ	5310-00-823-8804	96906	MS27183-9	WASHER, FLAT	EA	4
01	81	XDFZZ	5305-00-068-0501	96906	MS90725-5	SCREW, HEXAGON H	EA	4
01	45	XDFZZ		81349	MIL-M-17194TY2, CLASS 2	METAL, EXPANDED	EA	V
01	95	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
01	94	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
01	93	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
01	92	XDFZZ		84483	008-703	STUD, WELD	EA	V
01	91	XDFZZ		96906	MS20604	RIVET		
01	46	XDFZZ		97403	13226E1895-1	PLACARD, INSTRUCTION	EA	1
01	85	XDFZZ		97403	13226E1895-2	PLACARD, INSTRUCTION	EA	1
01	90	XDFZZ		97403	13226E1895-3	PLACARD, INSTRUCTION	EA	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
0101	VM8	PBFZZ	5330-00-652-2400	63097	3-309-001-999	GROUP 0101: PUMP, POS DISPL GASKET	EA	1
0101	VM8	PBFZZ	3120-01-172-1968	63097	2-095-010-880-02	BUSHING, SLEEVE	EA	1
0101	VM8	PBFZZ	3120-00-617-1641	63097	2-095-012-880	BUSHING, SLEEVE	EA	1
0101	VM8	PBFZZ	4320-00-736-2031	63097	2-473-003-999	SEAL ASSEMBLY, S	EA	1
0101	VM8	PBFZZ	5315-01-172-1815	63097	2-433-003-291	PIN, STRAIGHT, HE	EA	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
0102	VM8	PBCZZ		12989	GP-16	GROUP 0102: FILTER FUEL OIL ELEMENT	EA	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 02: DRINKING WATER SYSTEM (97403-1 3226E1896)		
02	59	XDFZZ		39428	7484T1	NOZZLE, ADJUSTMENT	EA	2
02	72	XDFZZ		39428	7453T17	HOSE, RUBBER 3/4IN	EA	2
02	90	PBOZZ		05430	C20P-P	CARTRIDGE, FILTER	EA	1
02	13	XDFDD		05430	LM020S-1/2 IN	FILTER, WATER	EA	1
02	10	XDFDD		25795	NO. 3P648	PRESSURE SET	EA	1
02	78	XDFZZ	5310-00-764-6609	96906	MS51971-7	NUT, PLAIN, HEXAGON	EA	V
02	79	XDFZZ	5310-00-937-0453	96906	MS35338-145	WASHER, LOCK	EA	V
02	77	XDFZZ	5305-00-943-2092	96906	MS35307-468	SCREW, CAP, HEXAGON H	EA	V
02	68	XDFZZ		81349	MIL-G-1149 TYPE I, CLASS 1	GASKET 1/16 IN	SH	V
02	88	XDFZZ	5310-00-768-0321	96906	MS51971-5	NUT, PLAIN HEX	EA	V
02	89	XDFZZ	5310-00-926-5880	96906	MS35338-162	WASHER, LOCK	EA	V
02	87	XDFZZ	5305-00-103-2072	96906	MS35307-419	SCREW, CAP, HEXAGON H	EA	V
02	5	XDFDD		04579	SERIES 421 3X4X1 4A	PUMP, CENTRIFUGAL	EA	2
02	85	XDFZZ		COMML	22723-01	SENSOR, PRESSURE	EA	1
02	84	XDFZZ		COMML	23235-01	METER, FLOW TURBINE	EA	1
02	83	XDFZZ		COMML	23236-01	SALINITY, CELL	EA	1
02	18	XDFZZ		04034	86120, TYPE 1	INDICATOR LEVEL	EA	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
02	93	XDFZZ		81348	WWU531-03TA	UNION, 1/2IN 150LB	EA	2
02	101	XDFZZ		04034	86615, TYPE C	INDICATOR LEVEL	EA	4
02	103	XDFZZ	4730-00-266-3907	81348	WWU531-05TA	UNION, PIPE	EA	10
02	104	XDFZZ	4820-00-720-4488	96906	MS35782-2	COCK, DRAIN	EA	5
02	99	XDFZZ		80204	ANS B16.3 CLASS 150	COUPLING, HALF 1/4IN	EA	5
02	100	XDFZZ		80204	ANS B16.3 CLASS 150	COUPLING, HALF 1IN	EA	10
02	92	XDFZZ		80204	ANS B16.3 CLASS 150	COUPLING, HALF 1/2IN	EA	3
02	74	XDFZZ		80204	ANS B16.3 CLASS 150	CAP, PIPE 1 IN THD	EA	2
02	44	XDFZZ	5310-00-763-8921	96906	MS51967-23	NUT, PLAIN, HEXAGON	EA	48
02	43	ZDFZZ	5310-00-584-7888	96906	MS35338-51	WASHER, LOCK	EA	48
02	42	XDFZZ	5305-00-939-9204	96906	MS90725-187	SCREW, CAP, HEXAGON H	EA	48
02	70	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	120
02	71	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	120
02	38	XDFZZ		25795	NO. 1P942	FAUCET, SINGLE SELF	EA	1
02	2	XDFZZ		12168	FIG.771	FLANGE, 4IN, 150LB	EA	25
02	6	XDFZZ		COMML	X040-080-PVC- 033-33	MIXER, 3 STAGE STATIC	EA	1
02	39	XDFDD		76364	1590	VALVE, GLOBE 1/2IN	EA	5
032	105	XDFZZ		39428	5458K3	COCK, HOSE 3/8IN	EA	1
02	60	XDFZZ		76581	M-222	BIBB, HOSE 1/2IN	EA	5

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
02	96	XDFZZ		80204	ANS B16.3CLASS 150	COUPLING, REDUCING	EA	1
02	97	XDFDD		79128	TYPE 1600-T	VALVE, AIR ESC 1 1/2	EA	1
02	36	XDFDD		79128	TYPE 1600-W	VALVE, AIR ESC 3 1/2	EA	2
02	30	XDFZZ		12168	FIG.771	FLANGE, 3 IN.	EA	3
02	27	XDFDD		14959	4197	VALVE, GLOBE 3 IN 150	EA	5
02	20	XDFDD		79342	141F	VALVE, GATE 4 IN FLG	EA	6
02	23	XDFDD		76364	1169	VALVE, GATE 1 1/4IN	EA	2
02	102	XDFDD		81349	MIL-V-18436 GP A, TYPE III	VALVE, CHECK 1 1/4IN	EA	1
02	33	XDFDD		76364	1590	VALVE, GLOBE 2IN	EA	1
02	26	XDFDD	4820-00-851-0161	14959	4033	VALVE, CHECK 4IN 150	EA	2
02	64	XDFDD		76364	1502	VALVE, GLOBE 3/8IN	EA	1
02	7	XDFDD		79342	FIG. 115F	VALVE, GLOBE 21/2	EA	1
02	81	XDFZZ		97403	13226E1897	PLACARD INSTRUCTION	EA	1
02	8	XDCZZ	4510-01-187-2557	39428	3024K11	SHOWER HEAD	EA	1
02	65	XDCZZ		39428	2708K6	HOOK, SNAP	EA	24
02	64	XDCZZ		39428	3028K8	CURTAIN, SHOWER	EA	1
02	57	XDFZZ		81349	M1183/3-03N	COUPLING, STRAIGHT	EA	1
02	107	XDFZZ		39428	4608K32	VALVE, SHOWER	EA	1
02	113	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
02	112	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
02	111	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
02	110	XDFZZ		84483	008-703	STUD, WELD	EA	V
02	109	XDFZZ		96906	MS20604	RIVET	EA	V

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 0201: PUMP, CENTRIFUGAL		
0201	VM5	PBFZZ	3110-01-061-2877	04579	068-0455-647	BEARING	EA	1
0201	VM5	PBFZZ	3110-01-061-2878	04579	068-1908-647	BEARING	EA	1
0201	VM5	PBFZZ		04579	136-1321-208	BUSHING	EA	1
0201	VM5	PBFZZ	3120-01-134-1649	04579	136-1412-208	BUSHING, SLEEVE	EA	2
0201	VM5	PBFZZ	4320-00-423-7664	04579	204-0120-190	CLAMP, PACKING GLAND	EA	4
0201	VM5	PBFZZ	5330-01-057-0838	04579	364-1206-507	GASKET	EA	4
0201	VM5	PBFZZ		04579	364-1226-598	GASKET	EA	1
0201	VM5	PBFZZ	5330-00-575-6154	04579	364-1310-614	GASKET	EA	2
0201	VM5	PBFZZ	5310-01-077-4449	04579	544-0109-190	NUT	EA	4
0201	VM5	PBFZZ		04579	564-0175-730	PACKING	EA	10
0201	VM5	PBFZZ		04579	592-0361-107	PIN RING CAP	EA	5
0201	VM5	PBFZZ		04579	592-0375-107	PIN RING CAP	EA	2
0201	VM5	PBFZZ	4320-01-084-1250	04579	676-0930-088	RING	EA	1
0201	VM5	PBFZZ		04579	676-1009-208	RING	EA	2
0201	VM5	PBFZZ		04579	712-6325-653	SEAL	EA	1
0201	VM5	PBFZZ	5330-00-575-6175	04579	712-6326-653	GASKET	EA	2
0201	VM5	PBFZZ	4320-00-126-8449	04579	756-0036-208	SLEEVE	EA	2
0201	VM5	PBFZZ		04579	756-0081-208	SLEEVE	EA	1
0201	VM5	PBFZZ		04579	764-1019-478	SLINGER	EA	1
0201	VM5	PBFZZ		04579	764-1020-478	SLINGER	EA	2

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 0202: PRESSURE SET, DRINKING WATER		
0202	VM5	PBFZZ		16327	132583	RING	EA	1
0202	VM5	PBFZZ	4320-01-130-9968	16327	1R307	SEAL ASSEMBLY, S	EA	1
0202	VM5	PBFZZ		16327	132613	IMPELLER	EA	1
0202	VM5	PBFZZ		16327	132424	DIFFUSER	EA	1
0202	VM5	PBFZZ	4320-01-172-0656	16327	132428	DIFFUSER, PUMP	EA	1
0202	VM5	PBFZZ		16327	132404	GASKET KIT	KT	1
0202	VM5	PBFZZ		16327	128045	AIR VOLUME CONTROL KIT	KT	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
0203	VM5	PBCZZ		05430	C20P-P	GROUP 0203: FILTER, WATER FILTER, CARTRIDGE	EA	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 03: SEAWATER SYSTEM (97403-13226E 1898)		
03	134	XDFZZ	5310-00-913-5476	96906	MS51969-8	NUT, PLAIN, HEXAGON	EA	V
03	133	XDFZZ	5310-00-680-6823	96906	MS35338-108	WASHER, LOCK	EA	V
03	132	XDFZZ		96906	MS35309-493	SCREW, CAP, HEXAGON	EA	V
03	109	XDFZZ		81349	MIL-G-1149 TYPE I, CLASS 1	GASKET, 1/8 IN THK	SH	V
03	2	XDFZZ		80204	ANS B16.24	FLANGE, 6IN	EA	13
03	15	XDFZZ		80204	ANS B16.5	FLANGE, 6IN 150LB	EA	1
03	1	XDFDD		48422	1414G	VALVE GATE 6IN, FLG	EA	7
03	8	XDFDD		73124	SERIES NO. 50	STRAINER, DUPLEX	EA	2
03	136	XDFZZ	5310-00-913-5475	96906	MS51969-7	NUT, PLAIN, HEXAGON	EA	V
03	137	XDFZZ	5310-00-187-2417	96906	MS35338-107	WASHER, LOCK	EA	V
03	135	XDFZZ		96906	MS35309-469	SCREW, CAP, HEXAGON H	EA	V
03	12	XDFZZ		80204	ANS B16.24	FLANGE, 4IN 150LB	EA	35
03	10	XDFDD		79342	1A1F	VALVE, GATE 4IN FLG	EA	7
03	11	XDFDD		21368	FIG. 090	VALVE, GLOBE 4IN FLG	EA	6
03	13	XDFZZ		80204	ANS B16.24	FLANGE, 4IN 250LB	EA	2
03	14	XDFDD		14959	4033	VALVE, CHECK 4IN 250	EA	2
03	16	XDFZZ		80204	ANS B16.5	FLANGE, 4IN 150LB	EA	2
03	138	XDFZZ	5305-00-550-3925	96906	MS35309-468	SCREW, CAP, HEXAGON	EA	V
03	35	XDFZZ		80204	ANS B16.5	FLANGE, 2 1/2IN	EA	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
03	36	XDFZZ		80204	ANS B16.24	FLANGE, 2 1/2IN	EA	1
03	37	XDFDD		48422	FIG. 515	VALVE, GATE 2 1/2IN	EA	1
03	140	XDFZZ	5310-00-913-5474	96906	MS51969-5	NUT, PLAIN HEXAGON	EA	V
03	141	XDFZZ	5310-00-577-5354	96906	MS35338-105	WASHER, LOCK	EA	V
03	139	XDFZZ	5305-00-558-8365	96906	MS35309-417	SCREW, CAP, HEX H	EA	V
03	62	XDFZZ		80204	ANS B16.24	FLANGE, 1 1/2 IN 150LB	EA	V
03	61	XDFDD		48422	FIG. 513	VALVE, GATE 1 1/2IN	EA	1
03	66	XDFDD		73124	SERIES NO.50	STRAINER DUPLEX	EA	1
03	142	XDFZZ	5305-00-498-6781	96906	MS35309-416	SCREW, CAP, HEXAGON H	EA	V
03	84	XDFZZ		80204	ANS B16.24	FLANGE, 3/4IN	EA	1
03	85	XDFZZ		80204	ANS B16.5	FLANGE, 3/4IN150LB	EA	1
03	55	XDFDD		48422	FIG. 1531	VALVE, GLOBE, 1 1/2IN	EA	2
03	59	XDFZZ		80204	ANS B16.24	FLANGE, 3IN 150LB	EA	2
03	51	XDFDD		79128	TYPE 1600-T	VALVE, AIR ESCAPE	EA	1
03	42	XDFZZ		80064	803-1385866	CONNECTION, 2IN DECK	EA	3
03	45	XDFZZ	4730-00-240-1672	81348	WWU531-08TA	UNION, 2IN 150LB	EA	5
03	144	XDFDD		76364	T-2884	VALVE, GATE, 2IN	EA	1
03	86	XDFDD		76364	1509	VALVE, CHECK 3/4IN	EA	1
03	87	XDFDD		76364	1509	VALVE, CHECK 1/2IN	EA	1
03	88	XDFZZ		80064	803-1385866	CONNECTION, 1/2IN	EA	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
03	76	XDFZZ		80064	803-1385866	CONNECTION, 1 IN DECK	EA	6
03	92	XDFZZ		81348	WW-P-460	COUPLING, 1/4IN FEM	EA	6
03	93	XDFZZ		02570	B-400-1-4	CONNECTOR, MALE	EA	13
03	95	XDFDD		48422	FIG. 512	VALVE, GATE 1/4IN	EA	6
03	94	XDFZZ		72256	FIG. 45	GAUGE, 3-1/2 IN	EA	6
03	73	XDFDD		80064	803-4384536	VALVE, GLOBE 1IN	EA	2
03	65	XDFDD		76364	1590	VALVE, GLOBE 1 1/2	EA	1
03	78	XDFZZ		81349	M1183/3-05N	COUPLING, 1IN	EA	2
03	79	XDFDD		76364	1169	VALVE, GATE 1'	EA	2
03	23	XDFZZ		80064	803-1385866	CONNECTION, 4IN DECK	EA	7
03	32	XDFZZ		80064	803-1385866	CONNECTION, 3IN DECK	EA	4
03	34	XDFZZ		80064	803-1385866	CONNECTION, 2 1/2IN	EA	1
03	43	XDFZZ		80064	803-1385866	CONNECTION, 2IN 8INL	EA	1
03	24	XDFDD		57266	L-4042-FD-SC	SEPARATOR, LAKOS	EA	2
03	124	XDFZZ	5310-00-763-8920	96906	MS51967-20	NUT, PLAIN, HEXAGON	EA	16
03	125	XDFZZ	5310-00-820-6653	96906	MS35338-50	WASHER, LOCK	EA	16
03	123	XDFZZ	5305-00-724-5913	96906	MS90725-166	SCREW, CAP, HEXAGON H	EA	16
03	145	XDFZZ		01276	1590901	HOSE, 2-WIRE BRAID	EA	2
03	146	XDFZZ		01276	117-190655-4-64	FITTING, HOSE END	EA	4
03	60	XDFDD		52484	TC-30	PUMP, CENTRIFUGAL	EA	2

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
03	119	XDFZZ	5305-40-269-3215	96906	MS90725-65	SCREW, CAP, HEXAGON H	EA	4
03	148	XDFZZ		81349	M1183/10-13N3	UNION, 3/4IN	EA	1
03	74	XDFDD		04579	SER 110, MOD M4	PUMP, CENTRIFUGAL	EA	1
03	110	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	23
03	111	XDFZZ	5310-00-637-9541	96906	MS3533846	WASHER, LOCK	EA	23
03	112	XDFZZ		81349	MIL-A-18001	ZINC, ANODE PROT	EA	2
					CLASS I, TYPE ZSS			
03	115	XDFZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEXAGON	EA	6
03	116	XDFZZ	5310-00-584-5272	96906	MS35338-48	WASHER, LOCK	EA	6
03	114	XDFZZ	5305-00-782-9495	96906	MS90725-111	SCREW, CAP, HEXAGON H	EA	6
03	128	XDFZZ		81349	MIL-S-1222TY1	BOLT, HEX 3/16IN-12UN	EA	24
03	129	XDFZZ		81349	MIL-S-1222TY 1	BOLT, HEX 7/16IN-14UN	EA	6
03	143	XDFZZ		97403	13226E1899-1	PLACARD INSTRUCTION	EA	1
03	21	XDFZZ		81349	M1183/3-12N	COUPLING, 4 IN.	EA	1
03	154	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
03	153	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
03	152	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
03	151	XDFZZ		84483	008-703	STUD, WELD	EA	V
03	150	XDFZZ		96906	MS20604	RIVET	EA	V
03	26	XDFZZ		97403	13226E1899-4	PLACARD, INSTRUCTION	EA	2
03	121	XDFZZ		97403	13226E1899-3	PLACARD, INSTRUCTION	EA	1
03	120	XDFZZ		97403	13226E1899-2	PLACARD, INSTRUCTION	EA	1

SECTION II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
0301	VM2	XDCZZ				GROUP 0301: STRAINER DUPLEX, W/BSKT		
						BASKET	EA	2
0301	VM2	XDCZZ				GASKET, COVER	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 0302: PUMP, CENTRIFUGAL		
0302	VM3	XDFZZ		11243	2914575-1	BEARING KIT	KT	1
0302	VM3	XDFZZ		11243	2602502-1	FLANGE, SEAL	EA	1
0302	VM3	XDFZZ	5330-01-220-2609	11243	2602503-1	SEAL, CERAMI	EA	1
0302	VM3	XDFZZ	5330-01-220-2630	11243	2602506-1	PACKING WITH RETAIN	EA	1
0302	VM3	XDFZZ		11243	2602501-3	GASKET, VOLUTE	EA	1
0302	VM3	XDFZZ	5330-00-171-6758	96906	MS28782-23	RETAINER, PACKING	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
0304	VM2	XDCZZ				GROUP 0304: STRAINER, DUPLEX		
						BASKET	EA	2
0304	VM2	XDCZZ				GASKET, COVER	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
0305	VM2	PBFZZ		04579	476-0111-6 44	GROUP 0305: PUMP, CENTRIFUGAL REPAIR KIT	KT	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 04: ROWPU IN- STALLATION (97403-13226E1900)		
04	69	XDCZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	8
04	70	XDCZZ	5310-00-087-7493	96906	MS27183-13	WASHER, FLAT	EA	8
04	68	XDCZZ	5305-00-269-3214	96906	MS90725-64	SCREW, CAP, HEXAGON H	EA	8
04	6	PACZZ	6850-01-163-4532	52484	52052-1	55 GAL, HYDRAPOL-100	GL	110
04	7	PACZZ	6850-01-163-4705	52484	52053-1	55 GAL, HYDRAPOL-50	GL	110
04	67	XDCZZ	1670-00-725-1437	98313	FDC-1040M1	TIE DOWN, CARGO, AIR C	EA	2
04	5	PACZZ	6850-01-163-4531	52484	52063-1	55 GAL, HYDRAKLEEN20	GL	110
04	79	XDFZZ	5315-00-013-7228	96906	MS24665-423	PIN, COTTER	EA	2
04	72	XDFZZ		96906	MS35692-1010	NUT, CASTELI-ATED, HEX	EA	2
04	80	XDFZZ		80204	ANS B18.2.1	BOLT	EA	2
04	75	XDFZZ		96906	MS17989-423	PIN QIK RLSE	EA	2
04	76	XDFZZ	5306-00402-5746	96906	MS16992-501	BOLT LAG	EA	8
04	61	XDFZZ	5310-00-582-5965	96906	MS35338-44	WASHER, LOCK	EA	8
04	74	XDFZZ		81348	MM-L-736TYPE 1	WOOD	EA	2
04	83	XDFZZ	5310-00-913-5474	96906	MS51969-5	NUT, PLAIN HEXAGON	EA	V
04	84	XDFZZ	5310-00-577-5354	96906	MS35338-105	WASHER, LOCK	EA	V
04	82	XDFZZ		96906	MS35309-420	SCREW, CAP, HEXAGON H	EA	V
04	60	XDFZZ		81349	MIL-G1149 TYPE I, CLASS 1	GASKET 1/16IN	SH	V
04	21	XDFZZ		39428	1514A11	HINGE	EA	4
04	28	XDFZZ		96906	MS27020-16	COUPLING HALF, QUICK	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
04	43	XDFZZ		96906	MS27024-16	COUPLING HALF, QUICK	EA	2
04	3	XDFDD	4610-01-211-1780	52484	52003-1	PRETREATMENT SKID	EA	2
04	33	XDFZZ		79154	HP-70ES	COUPLING VICTUALIC	EA	2
04	34	XDFZZ		79154	HIGH PRESSURE	ADAPTER 90DEG 31N	EA	2
04	1	XDFDD		52484	52034-1	MEDIA FILTER	EA	6
04	42	XDFDD		COMML	23236-01	SALINITY CELL	EA	2
04	2	XDFDD		52484	52001-1	RO BLOCK ASSY	EA	2
04	4	XDFDD	4320-01-211-9561	11243	2914301-1	HI PRESS PUMP SKID	EA	2
04	36	XDFZZ		72256	FIG. E-57-4	SIGHT GLASS	EA	2
04	35	XDFZZ		39428	5388T65	EYEWASH PORTABLE	EA	1
04	49	XDFZZ		01276	2652-412-48-1900 16-3-48-24	HOSE ASSY.	EA	2
04	53	XDFZZ	5310-00-924-5897	96906	MS51971-8	NUT, PLAIN, HEXAGON	EA	V
04	54	XDFZZ	5310-00-937-0454	96906	MS35338-146	WASHER, LOCK	EA	V
04	52	XDFZZ	5305-00-948-0674	96906	MS35307-496	SCREW, CAP, HEXAGON H	EA	V
04	50	XDFZZ		01276	150901-48-42	HOSE ASSY, W/SST ADA	EA	2
04	58	XDFZZ		76155	M16W	CLAMP HOSE	EA	12
04	57	XDFZZ	4720-00-450-9156	01276	1503-16	HOSE NONMETALLIC	FT	4
04	88	XDFDD		89814	NO. 66176-AM	VALVE, GATE	EA	2
04	8	XDFDD		59349	230/SP	VALVE, PRESSURE REL	EA	2
04	9	XDFDD		81349	MIL-V-18436GPA, TYPE III	VALVE, CHECK 3 IN, 150	EA	4

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
04	26	XDFDD		79342	141F	VALVE, GATE 41N FLG	EA	3
04	87	XDFDD		79342	141F	VALVE, GATE 31N 150	EA	12
04	98	XDFZZ		04963	4963	TAPE, ADHESIVE	EA	V
04	97	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
04	96	XDFZZ	5310-00-045-5203	96903	MS15795-905	WASHER, FLAT	EA	V
04	95	XDFZZ		84483	008-703	STUD, WELD	EA	V
04	94	XDFZZ		96906	MS20604	RIVET	EA	V
04	1	XDFZZ		97403	13226E1952	MULTIMEDIA FILTER ASSEMBLY	EA	2
04	1	XDFZZ		97403	13226E1953	MULTIMEDIA FILTER TANK	EA	2
04	1	XDFZZ		97403	13226E1954	MULTIMEDIA FILTER IN- FORMATION PLATE	EA	2
04	1	XDFZZ		97403	13226E1955	MULTIMEDIA FILTER BOTTOM DISTRIBUTOR ASSEMBLY	EA	2
04	1	XDFZZ		97403	13226E1956	MULTIMEDIA FILTER TOP DISTRIBUTOR ASSEMBLY	EA	2
04	1	XDFZZ		97403	13226E1957	RADIAL HUB	EA	2
04	1	XDFZZ		97403	13226E1958	LATERAL SLOTTED	EA	16
04	31	XDFZZ		97403	13226E1904-8	PLACARD, INSTRUCTION	EA	1
04	29	XDFZZ		97403	13226E1904-7	PLACARD, INSTRUCTION	EA	1
04	93	XDFZZ		97403	13226E1904-6	PLACARD, INSTRUCTION	EA	1
04	92	XDFZZ		97403	13226E1904-5	PLACARD, INSTRUCTION	EA	2
04	91	XDFZZ		97403	13226E1904-4	PLACARD, INSTRUCTION	EA	1
04	90	XDFZZ		97403	13226E1904-3	PLACARD, INSTRUCTION	EA	2
04	89	XDFZZ		97403	13226E1904-2	PLACARD, INSTRUCTION	EA	2
04	86	XDFZZ		97403	13226E1904	PLACARD, INSTRUCTION	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 0401: MEDIA FILTER		
0401	VM3	PBCZZ		52484	52036-1	GRAVEL	CF	3
0401	VM3	PBCZZ		52484	52037-1	COARSE GARNET	CF	5
0401	VM3	PBCZZ		52484	52038-1	FINE GARNET	CF	3
0401	VM3	PBCZZ		52484	52039-1	SILICA SAND	CF	12
0401	VM3	PBCZZ		52484	52040-1	ANTHRACITE	CF	17
0401	VM3	PBFZZ		52484	90-30-101A	PARTS KIT, MEDIA FILTER	KT	1
0401	VM3	PBFZZ		52484	51896-1	ELIMINATOR, AIR	EA	1
0401	VM3	PBFZZ		52484		NIPPLE, CLOSE PIPE, CPVC, 31N	EA	4
0401	VM3	PBFZZ		52484		BUSHING, PIPE, CPVC 3 IN x 4 IN	EA	4

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 0402: RO BLOCK ASSEMBLY		
0402	VM3	PBFZZ		52484	90-80-110	ISOLATION KIT, RO PRESSURE TUBE	KT	2
0402	VM3	PBFZZ		52484	90-80-109C	SPARE PARTS KIT, RO PRESSURE TUBE	KT	1
0402	VM3	PBFZZ		11243	2914602-1	VICTUALIC COUPLING/ GASKET KIT	KT	1
0402	VM3	PBFZZ		52484	90-10-107	TUBING KIT, RO PRODUCT	KT	1
0402	VM3	PBFZZ		52484	52045-1	VALVE, SAMPLING	EA	4
0402	VM3	PBFZZ		52484	52020-3	RETURN BEND	EA	4
0402	VM3	PBFZZ		52484	90-80-113	END CAP, BOLT& CLAMP SET	EA	2
0402	VM3	PBFZZ		52484	70-11-174	LUBRICANT, O-RING	OZ	V
0402	VM3	PBFZZ		52484	70-11-198	SEALANT, PIPE THD	OZ	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 0403: PRE-TREATMENT SKID		
0403	VM3	PBFZZ		52484	90-10-104	CPVC PIPING REPAIR KIT	KT	1
0403	VM3	PBFZZ		11243	2914601-1	HARDWARE KIT	KT	1
0403	VM3	PBFZZ		52484	90-30-102C	KIT, FILTER SEALS	KT	1
0403	VM3	PBFZZ		52484	90-20-521A	REPAIR KIT, CHEMICAL METERING PUMP	KT	1
0403	VM3	PBCZZ	4610-01-162-5043	52484	52088-1	FILTER ELEMENT, WATER	EA	1
0403	VM3	PBFZZ		52484	52018-1	VALVE, BALL, CARTRIDGE FILTER DRAIN	EA	2
0403	VM3	PBFZZ		52484	52026-1	GAUGE, TEMPERATURE	EA	1
0403	VM3	PBFZZ		52484	2914411-1	CAP, FILLER, CHEM DRUM	EA	1
0403	VM3	PBFZZ		11243	2914607-1	FUSE KIT	EA	1
0403	VM3	PBFZZ	6210-01-163-4611	52484	60-18-131	LIGHT, INDICATOR	EA	2
0403	VM3	PBFZZ	4320-01-162-5038	52484	52054-1	PUMP, METERING, C	EA	1
0403	VM3	PBFZZ				GASKET, 21N 150LB FLANGE	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 0404: HIGH-PRESSURE PUMP SKID ASSEMBLY		
0404	VM3	PBFZZ		11243	2914603-1	LIGHTING SPARES KIT	KT	1
0404	VM3	PBCZZ	2910-01-162-5081	11243	2914362-1	FILTER, FUEL	EA	1
0404 FLUID	VM3	PBCZZ	4330-01-162-5081	11243	2914363-1	FILTER ELEMENT,	EA	1
0404	VM3	PBCZZ		11243	2914351-1	FILTER, AIR	EA	1
0404	VM3	PBFZZ		11243	2914359-1	STARTER, ELECTRIC	EA	1
0404	VM3	PBFZZ		11243	2914433-1	ALTERNATOR	EA	1
0404	VM3	PBFZZ		11243	2914294-1	GAUGE, FUEL LEVEL	EA	1
0404	VM3	PBFZZ		11243	2914452-1	BEARING SET. PTO	EA	1
0404	VM3	PBFZZ		11243	2914440-1	BEARING-BELT TENSIONER	EA	2
0404	VM3	PBFZZ		11243	2914418-1	BELT SET	KT	2
0404	VM3	PBFZZ		11243	2914439-1	V-BELT ALTERNATOR	EA	1
0404	VM3	PBFZZ		11243	2914426-1	CABLE ASSEMBLY, THROTTLE	EA	1
0404	VM3	PBFZZ		11243	2914317-1	CABLE ASSEMBLY, EMER SHUTDOWN	EA	1
0404	VM3	PBFZZ		11243	2914397-3	MUFFLER, HP ENGINE	EA	1
0404	VM3	PBFZZ	2815-01-155-0813	11243	2914356-1	ENGINE, DIESEL	EA	1
0404	VM3	PBFZZ	4320-01-162-5073	11243	2914352-1	PUMP, RECIPROCATING	EA	1
0404	VM3	PBFZZ		11243	2914282-1	SENDING UNIT, FUEL LVL	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 05: HYDRAULIC SYSTEM (97403-13226E1901)		
05	1	XDFZZ		01276	2021-16-12C	ADAPTER, MALE	EA	2
05	2	XDFZZ	4730-00-796-0496	01276	2021-12-12C	ADAPTER, MALE	EA	6
05	3	XDFZZ		01276	2021-12-10C	ADAPTER, MALE	EA	23
05	4	XDFZZ		01276	2012-6-4C	ADAPTER, MALE	EA	2
05	5	XDFZZ	4730-00-511-7988	01276	2021-8-8C	ADAPTER, MALE	EA	2
05	6	XDFZZ		87373	20630-12-12C	SWIVEL, FEMALE	EA	4
05	7	XDFZZ		87373	20630-8-8C	SWIVEL, FEMALE	EA	2
05	8	XDFZZ		87373	20630-4-4C	SWIVEL, FEMALE	EA	8
05	9	XDFZZ	4730-00-628-2677	87373	301-12	HOSE, NO-SKIVE	FT	V
05	10	XDFZZ	4720-00-989-6479	87373	301-8	HOSE, NO-SKIVE	FT	V
05	11	XDFZZ	4720-00-904-8740	87373	301-4	HOSE, NO-SKIVE	FT	V
05	12	XDFZZ		87373	20130-12-12C	CONNECTOR, MALE	EA	2
05	13	XDFZZ		87373	20130-8-8C	CONNECTOR, MALE	EA	2
05	14	XDFDD		87373	20130-4-4C	CONNECTOR, MALE	EA	4
05	15	XDFZZ		01276	FC195-10	HOSE	FT	V
05	16	XDFZZ	4730-00-982-1360	01276	4721-10S	SWIVEL, FEMALE	EA	24
05	23	XDFDD		COMML	840464-B3	HUDRALIC POWER UNIT, HOSE REEL	EA	1
05	32	XDFDD		COMML	F10.3F(M)	HYDRAULIC POWER UNIT, BOW CRANE	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 0501: HYDRAULIC POWER UNIT		
0501	VM13	PBFZZ		COMML	6001-HCMC	PUMP	EA	1
0501	VM13	PBFZZ		COMML	6002-HCMC	HOUSING, FILTER	EA	1
0501	VM13	PBFZZ		COMML	6003-HCMC	FILTER, ELEMENT	EA	10
0501	VM13	PCFZZ		COMML	6007-HCMC	INSERT	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 0502: HYDRAULIC POWER UNIT		
0502	VM6	PBFZZ	4330-01-038-8607	36802	UC-MX-1591-4-10	FILTER ELEMENT	EA	12
0502	VM6	PBFZZ	3010-01-092-1795	14204 170		INSERT, COUPLING	EA	.1
0502	VM6	PBFZZ		13829	K3010-16	PLATE, BACK-UP	EA	2
0502	VM6	PBFZZ	5330-00-407-5546	13829	R3006-7	PACKING, PREFORMED	EA	1
0502	VM6	PBFZZ	5330-00-863-4819	13829	X73-37-6	SEAL, PLAIN ENCA	EA	1
0502	VM6	PBFZZ		13829	UB3006-239	GASKET	EA	2
0502	VM6	PBFZZ		60557	KMC4	CONTACT, MAIN	EA	1
0502	VM6	PBFZZ		60557	KAX1A11	CONTACT, AUX	EA	1
0502	VM6	PBFZZ		60557	ORL-1003	RELAY, OVERLOAD	EA	1
0502	VM6	PBFZZ	5999-00-232-7678	52090	2090EB330	CONTACT KIT, ELE	KT	1
0502	VM6	PBFZZ		60557	PB30BLS1	LAMP HTR	EA	1
0502	VM6	PBFZZ		60557	3TY-6505-OAB8	COIL KIT	KT	1
0502	VM6	PBFZZ		78357	MHC-20-T-40-6	CARTRIDGE	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 06: ACCESSES TO VOIDS AND LADDERS (97403-13226E1902)		
06	6	XDFZZ		96906	MS51959-112	SCREW, MACHINE	EA	290
06	5	XDFZZ		81349	MIL-G-1149 TYPE II, CLASS 1	GASKET	EA	1
06	1	XDFDD		6U135	NO. 414-E-S	HATCH WTRTT	EA	5
06	16	XDFZZ		39428	3014T55	BOLT EYE SHOULDER	EA	12
06	19	XDFZZ	5315-00-298-1481	96906	MS24665-357	PIN COTTER	EA	6
06	20	XDFZZ	5310-00-809-8533	96906	MS27183-23	WASHER FLAT	EA	18
06	18	XDFZZ		39428	98306A558	PIN	EA	6
06	22	XDFZZ		96906	MS17989-523	PIN, QIK RLSE	EA	2
06	23	XDFZZ		39428 3	603T36	CHAIN SINGLE JACK	EA	2
06	24	XDFZZ		80204	ANS B16.9 GRADE WP	CAP PIPE 1 1/41N	EA	4
06	29	XDFZZ		39428	98404A150	PIN SELF-LOCKING	EA	10
06	27	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	24
06	28	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	24
06	34	XDFZZ	5306-00-269-3214	96906	MS90725-64	BOLT, MACHINE	EA	24
06	36	XDFDD		75238	KS-30004/RH	DOOR WTRTT, RH	EA	1
06	37	XDFDD		75238	KS-30004/LH	DOOR WTRTT, LH	EA	5

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 07: VOIDS VENTILATION (97403-13226E1903)		
07	4	XDFDD		97537	JE-108, TYPED-3	TERMINAL	EA	16
07	15	XDFZZ		97537	SIZE 14	COVER BLOWER ROUND	EA	2
07	22	XDFZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEXAGON	EA	12
07	23	XDFZZ	5310-00-768-0318	96906	MS35338-48	WASHER LOCK	EA	12
07	21	XDFZZ	5305-00-042-6417	96906	MS90725-113	SCREW, CAP, HEXAGON H	EA	12
07	1	XDFDD		07077	S105MJ	BLOWER	EA	2
07	19	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	V
07	20	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	V
07	18	XDFZZ	5305-00-269-3211	96906	MS90725-60	SCREW, CAP, HEXAGON H	EA	V
07	17	XDFZZ		81349	MIL-G-1086TY1 CLASS I	GASKET	EA	V
07	10	XDFDD		97537	SIZE R6	VALVE, VENT, ROUND	EA	6
07	25	XDFDD		97537	SIZE R10	VALVE, VENT, ROUND WT	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 08: MOORING SYSTEM (97403-13226E1905)		
08	5	XDFZZ	5310-00-763-8922	96906	MS51967-24	NUT, PLAIN, HEXAGON	EA	V
08	6	XDFZZ	5310-00-584-7888	96906	MS35338-51	WASHER, LOCK	EA	V
08	4	XDFZZ	5305-00-922-7994	96906	MS90728-189	SCREW, CAP, HEXAGON H	EA	V
08	1	XDFDD		77134	W-102183-1R	WINCH ANCHOR, RH	EA	2
08	2	XDFDD		77134	W-102183-IL	WINCH ANCHOR, LH	EA	2
08	16	XDFZZ		50194	NO.2	LINK, DTCH AHR CONN	EA	4
08	16	XDFZZ		50194	DANFORTH 1000 LB WITH SWIVEL SHACKLE	ANCHOR 1000LB STD	EA	4
08	12	XDFZZ		81349	MIL-R-17343	ROPE, NYLON 31N	FT	600
08	13	XDFZZ		39428	3828T17	ROPE, 1/21N DACRON	FT	100
08	3	XDFZZ		16228	MODEL 475	FAIRLEAD, 4 ROLLER	EA	4
08	21	XDFZZ		81348	FF-T-791 TYPE 1	TURNBUCKLE, 7/8 IN. FORM 1 CLASS 7	EA	4
08	27	XDFZZ		04963	4262	TAPE, ATTACHMENT	IN	V
08	26	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
08	25	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
08	24	XDFZZ		84483	008-703	STUD, WELD	EA	V
08	23	XDFZZ		96906	MS20604	RIVET	EA	V
08	22	XDFZZ		97403	13226E1905-22	PLACARD, INSTRUCTION	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
0801	VM14	PBFZZ		77134	LW-17D	GROUP 0801: WINCH, ANCHOR	EA	2
0801	VM14	PBFZZ		77134	LW-17E	DIAMOND SHAFT GUIDE BEARINGS	EA	2
0801	VM14	PBFZZ		77134	LW-17F	UPPER BUSHINGS, VERTICAL ROLLERS	EA	2
0801	VM14	PBFZZ		77134	LW-17G	LOWER BUSHINGS, HORIZONTAL ROLLERS	EA	2
0801	VM14	PBFZZ		77134	EM-3	GUSHINGS, HORIZONTAL ROLLERS	EA	4
0801	VM14	PBFZZ		77134	B-1Y	KEY	EA	1
0801	VM14	PBFZZ		77134	D-3	BRAKE RATCHET KEY	EA	1
0801	VM14	PBFZZ		77134	D-10	BUSHING	EA	2
0801	VM14	PBFZZ		77134	D-11	SHAFT OIL SEALS	EA	2
0801	VM14	PBFZZ		77134	D-17	DRUM THRUST WASHER	EA	2
0801	VM14	PBFZZ		77134	C-5	MALE CLUTCH KEY	EA	1
0801	VM14	PBFZZ		77134	C-6	NO. 1 SHAFT BUSHING	EA	1
0801	VM14	PBFZZ		77134	H-2B	DRUM SHAFT BUSHING	EA	1
0801	VM14	PBFZZ		77134	H-2C	BUSHING	EA	2
0801	VM14	PBFZZ		77134	H-2F	PINION GEAR KEY	EA	1
0801	VM14	PBFZZ		77134	H-2N	CLUTCH KEY	EA	1
0801	VM14	PBFZZ		77134	H-2N	NO. 1 SHAFT OIL SEAL	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 09: DECK HOUSE (97403-13226E1906)		
09	3	XDFDD		91943	M-1300	DOOR SLIDING EXT	EA	1
09	4	XDFDD		05370	M195DD	DOOR EXT WTRTT RH	EA	2
09	12	XDFDD		05370	M195DD	DOOR EXT WTRTT LH	EA	1
09	5	XDFDD		COMML	PL-116	AIR PORT	EA	E
09	17	XDFZZ		81349	MIL-C-19219	CURTAIN BLACK NYLON	EA	3
09	11	XDFZZ		81348	DDD-C-641 TYPE 2 CL 1	CURTAIN RING	EA	42
09	25	XDFZZ		39428	9427K09	HOOK, CHAIN, S	EA	3
09	22	XDFZZ	4010-01-051-0718	39428	3593T14	CHAIN, WELDED	FT	V
09	23	XDFZZ		39428	3559T44	SHACKLE	EA	3
09	24	XDFZZ		39428	9489T16	BOLT, EYE	EA	3

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
10	3	XDFZZ		81349	MIL-C-20079 TY 2 CL1	GROUP 10: THERMAL/ SOUND INSULATION (97403-13226E1907) TAPE 21N	FT	V
10	4	XDFZZ		81349	MIL-C-20079 TY 2 CL1	TAPE 6 IN	FT	V
10	8	XDFZZ		81349	MIL-A-3316 CL1	ADHESIVE	QT	V
10	7	XDFZZ		54553	13226E1907-007	CAP INSULATION	EA	V
10	6	XDFZZ		54553	F187	FERRULE	EA	V
10	5	XDFZZ		54553	ARC TYPE	STUD, ANNULAR RING	EA	V
10	1	XDFZZ		81349	MIL-I-742TYPE 1	INSULATION FACED	EA	V
10	2	XDFZZ		81349	MIL-A-23054	BOARD ACOUSTIC ABSO	FT	V
10	9	XDFZZ		81349	MIL-A-3316 CL 2	ADHESIVE	QT	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
11	5	XDFZZ	5305-00-958-5259	96906	MS35190-318	GROUP 11: VOIDS DECKING (97403-13226E1908) SCREW, MACHINE	EA	V
11	13	XDFZZ		39428	1623A13	HINGE, 3 IN X 3 IN	EA	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 12: GUARD RAILS (97403-13226E1909)		
12	2	XDFZZ		81348	RR-C-271 TYPE II	LINK CONNECTING 1/2	EA	18
12	1	XDFZZ		81348	RR-C-271 TYPE I GR C,CL 2	CHAIN 1/21N STYLE 2	FT	V
12	7	XDFZZ		39428	3933T18	SNAP LINK SAFETY	EA	18
12	6	XDFZZ		81349	MIL-S-24214TY2 GR A,CL 2	SHACKLE 1/21N	EA	18
12	13	XDFZZ		81348	FF-T-791 TYPE I CLASS 8	TURNBUCKLE JAW&EYE	EA	30
12	16	XDFZZ		81348	FF-T-276 TYPE II	THIMBLE WIRE ROPE	EA	42
12	8	XDFZZ		81349	MIL-S-24214 TY 2 GRA,CL2	SHACKLE, GALV, 3/81N	EA	36
12	12	XDFZZ		39428	3447T43	ROPE WIRE	EA	V
12	15	XDFZZ		39428	98404A150	PIN SELF-LOCKING	EA	19
12	23	XDFZZ		81349	MIL-S-24214 TY 2 GRA,CL2	SHACKLE, GALV, 1/41N	EA	6

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 13: DAYROOM and WORKSHOP STRUCTURE (97403-13226E1910)		
13	5	XDFDD		21204	CC2001A	DOOR INTR RH	EA	1
13	3	XDFDD		15594	P5991-A	DOOR INTR RH ACOUST	EA	2
13	6	XDFZZ		98911	C7/W	ADHESIVE	KT	V
13	1	XDFZZ		81346	ASTM C94	CONCRETE	CD	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 14: GENERATORS COOLING SYSTEM (97403-13226E1911)		
14	11	XDFZZ		72256	MODEL 758	GAUGE TEMPERATURE	EA	6
14	9	XDFDD		48422	FIG.2714	VALVE, GAGE 21N,150	EA	2
14	20	XDFDD		48422	FIG. 560Y	VALVE CHECK 21N, 150	EA	2
14	58	XDFDD		48422	FIG. 150	VALVE, GLOBE, 21N	EA	2
14	40	XDFZZ		72256	FIG. 45	GAUGE PRESSURE CMPD	EA	2
14	41	XDFZZ		72256	CAT. NO. 710	VALVE BALL 1/41N, TH	EA	2
14	1	XDFDD		73124	SERIES NO. 51	STRAINER DUPLEX 41N	EA	1
14	2	XDFDD		48422	FIG. 1414G	VALVE GATE 41N, 150	EA	1
14	22	XDFDD		48422	FIT. 1414G	VALVE GATE 31N, 150	EA	1
14	27	XDFDD		81349	MIL-V-18436GPA TYPE II,ST C	VALVE CHECK 31N, 150	EA	1
14	35	XDFDD		79128	TYPE 1600-T	VALVE AIR ESCAPE	EA	1
14	31	XDFZZ	4730-00-240-1672	81348	WWU531-08TA	UNION, PIPE	EA	2
14	36	XDFDD		80204	ANS B16.34 TYPE A	VALVE, GATE, 21N, 150L	EA	1
14	57	XDFDD		48422	FIG. 150	VALVE, GLOBE, 1-1/41N	EA	1
14	60	XDFDD		48422	FIG. 560Y	VALVE, CHECK, 11N, 150	EA	1
14	37	XDFDD		48422	FIG. 2714	VALVE, GATE 1-1/41N	EA	1
14	43	XDFZZ		81349	MIL-A-18001 CLASS I, TYPE ZSS	ZINC ANODE PROT	EA	2
14	70	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	19
14	71	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER LOCK	EA	19

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
14	52	XDFZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEXAGON	EA	6
14	53	XDFZZ	5310-00-584-5272	96906	MS35338-48	WASHER, LOCK	EA	6
14	51	XDFZZ	5305-00-782-9495	96906	MS90725-111	SCREW, CAP, HEXAGON H	EA	6
14	54	XDFZZ		81349	MIL-G-1149TYPE 1, CLASS 1	GASKET	SH	V
14	84	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
14	83	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
14	82	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
14	81	XDFZZ		84483	008-703	STUD, WELD	EA	V
14	80	XDFZZ		96906	MS20604	RIVET	EA	V
14	79	XDFZZ		97403	13226E1911-79	PLACARD, INSTRUCTION	EA	1
14	78	XDFZZ		97403	13226E1911-78	PLACARD, INSTRUCTION	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
1401	VM2	XDCZZ				GROUP 1401: STRAINER DUPLEX, W/BSKT		
						BASKET	EA	2
1401	VM2	XDCZZ				GASKET, COVER	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 15: BILGE SYSTEM AND DRAINS (974-3-13226E1912)		
15	21	XDFZZ		76155	M24W	CLAMP HOSE	EA	6
15	54	XDFZZ	5310-00-088-9167	96906	MS27030-3	WASHER NOMETALLIC	EA	12
15	15	XDFZZ		96906	MS27025-6	COUPLING HALF, QUICK	EA	3
15	14	XDFZZ		96906	MS27021-6	COUPLING HALF, QUICK	EA	3
15	2	XDFZZ	4720-00-289-2618	87373	301-16	HOSE, RUBBER	EA	3
15	59	XDFZZ	4730-00-935-5395	96906	MS27022-6	COUPLING HALF, QUICK	EA	1
15	62	XDFDD		81349	MIL-V-16720	VALVE FOOT 1IN	EA	1
15	53	XDFZZ		80204	ANS B16.3 CLASS	COUPLING, STRAIGHT, 3/4IN	EA	3
150								
15	68	XDFZZ		80204	ANS B16.3 CLASS 150	COUPLING, HALF, 1 1/2IN	EA	1
15	9	XDFZZ		80204	ANS B16.3 CLASS 150	COUPLING, HALF, 1IN	EA	4
15	16	XDFZZ		80204	ANS B16.3CLASS 150	COUPLING, STRAIGHT, 1IN	EA	14
15	61	XDFZZ	4730-01-080-1899	96906	MS27029-10	PLUG, QUICK DISCONNE	EA	1
15	57	XDFZZ	5330-00-360-0595	96906	MS27030-5	GASKET	EA	1
15	12	XDFZZ	4730-00-360-0806	96906	MS27024-10	COUPLING HALF, QUICK	EA	1
15	58	XDFDD		48422	FIG. 502H	VALVE GATE 1 1/2	EA	1
15	35	XDFZZ		39428	2964K1	TRAP, PIPE	EA	1
15	38	XDFZZ	4730-00-266-3906	81348	WWU531-04TA	UNION PIPE	EA	3
15	26	XDFZZ		39428	2656K11	FITTING, DRAIN	EA	1
15	30	XDFZZ		39428	2967K3	TRAP, PIPE	EA	1
15	29	XDFZZ	4730-00-266-3908	81348	WWU531-07TA	UNION PIPE	EA	14

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
15	28	XDFZZ		80204	ANS B16.3 CLASS 150	COUPLING, STRAIGHT, 1 1/2 IN.	EA	4
15	31	XDFDD		81349	MIL-V-18436GPB TYPE III	VALVE, CHECK, 1 1/2, THD	EA	2
15	64	XDFZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEXAGON	EA	8
15	65	XDFZZ	5310-00-584-5272	96906	MS35338-48	WASHER LOCK	EA	8
15	63	XDFZZ	5305-00-071-1774	96906	MS90725-121	SCREW, CAP, HEXAGON H	EA	8
15	24	XDFZZ		81349	MIL-G-1149 TYPE 1, CLASS 5	GASKET 1/8	SY	V
15	13	XDFZZ	4730-01-036-7498	96906	MS27029-6	PLUG, QUICK DISCONNE	EA	10
15	10	XDFZZ	4730-00-845-6678	6906	MS27024-6	COUPLING HALF, QUICK	EA	10
15	7	XDFDD		80204	ANSB16.34 TYPE II, SVCE G	VALVE GLOBE 1IN,THD	EA	12
15	11	XDFZZ	4730-00-266-3907	81348	WWU531-05TA	UNION, PIPE	EA	18
15	42	XDFDD		58148	35651	PUMP POS DISPL	EA	1
15	51	XDFDD		73124	SERIES NO.72	STRAINER SIMPLEX	EA	1
15	74	XDFZZ	5310-00-939-2653	96906	MS51969-1	NUT, PLAIN, HEXAGON	EA	18
15	75	XDFZZ	5310-00-184-8970	96906	MS35338-101	WASHER, LOCK	EA	18
15	73	XDFZZ	5305-00-550-3934	96906	MS35309-308	SCREW, CAP, HEXAGON H	EA	18
15	72	XDFZZ		04034	43765	SWITCH LEVEL BILGE	EA	9
15	48	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	24
15	49	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER LOCK	EA	24
15	46	XDFZZ		81349	MIL-G-1149 TYPE 1, CLASS 5	GASKET 1/8	SH	V
15	50	XDFZZ		04034	86615, TYPE C	INDICATOR LEVEL 50	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
15	56	XDFZZ	4730-01-035-9608	96906	MS27028-6	CAP, QUICK DISCO	EA	2
15	55	XDFZZ	4730-00-516-4450	96906	MS27020-6	COUPLING HALF, Q	EA	2
15	6	XDFDD		80204	ANS B16.34 TYPE I, SVCE G	VALVE, GATE, 1IN, THD	EA	3
15	8	XDFDD		79128	TYPE 1600-T	VALVE AIR ESCAPE 1IN	EA	1
15	43	XDFDD		80204	ANS B16.34 TYPE I, SVCE G	VALVE GATE 1 1/2IN	EA	2
15	81	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
15	80	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
15	79	XDFZZ	5310-045-5203	96906	MS1579-905	WASHER, FLAT	EA	V
15	78	XDFZZ		84483	008-703	STUD, WELD	EA	V
15	77	XDFZZ		96906	MS20604	RIVET	EA	V
15	45	XDFZZ		97403	13226E1913	PLACARD INSTRUCTION	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
1501	VM15	XDCZZ				GROUP 1501: STRAINER SIMPLEX, W/BSKT	EA	1
1501	VM15	XDCZZ				BASKET	EA	1
						GASKET, COVER	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
1502	VM15	PBFZZ		58148	3206392000	GROUP 1502: PUMP, POS DISPL ROTOR	EA	1
1502	VM15	PBFZZ		58148	3301596000	STARTER	EA	1
1502	VM15	PBFZZ		58148	3203945000	MECHANICAL SEAL	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 16: MISC FOUNDATIONS (97403-13226E1914)		
16	39	XDFZZ		39428	3825T12	ROPE	EA	V
16	38	XDFZZ		39428	9427K16	S-HOOK	EA	1
16	37	XDFZZ		39428	3083T21	PULLEY SHEAVE	EA	1
16	36	XDFZZ		39428	3907T4	SNAP SWIVEL	EA	6
16	35	XDFZZ		04356	58158	BALL, BLACK, DAY SIG	EA	2
16	8	XDFZZ		04356	58178	SIGNAL, DAY, BLACKDMD	EA	1
16	41	XDFZZ		80064	S1201-921572	CLEAT	EA	1
16	20	XDFZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEXAGON	EA	44
16	53	XDFZZ	5310-00-584-5272	96906	MS35338-48	WASHER LOCK	EA	44
16	52	XDFZZ	5305-00-781-3924	96906	MS90725-107	SCREW, CAP, HEXAGON H	EA	4
16	3	XDFZZ	5305-00-044-4153	96906	MS90725-109	SCREW, CAP, HEXAGON H	EA	8
16	42	XDFZZ		81349	MIL-G-1149 TYPE I, CLASS 1	GASKET 1/8 IN THK	SH	V
16	29	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	12
16	30	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER LOCK	EA	2
16	5	XDFZZ	5310-00-080-6004	96906	MS27183-14	WASHER FLAT	EA	10
16	4	XDFZZ	5305-00-269-3211	96906	MS90725-60	SCREW, CAP, HEXAGON H	EA	11

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
16	23	XDFZZ	5310-00-880-7744	96906	MS51967-5	NUT, PLAIN, HEXAGON	EA	23
16	22	XDFZZ	5310-00-407-9566	96906	MS35338-45	WASHER, LOCK	EA	20
16	11	XDFZZ		39428	1596A1	HINGE BLANK	EA	3
16	15	XDFZZ	5310-00-880-8189	96906	MS51967-11	NUT, PLAIN, HEXAGON	EA	8
16	62	XDFZZ	5305-00-042-9477	96906	MS90725-91	SCREW, CAP, HEXAGON H	EA	8
16	76	XDFDD	3431-01-004-2782	75677	DC250MK	WELDING MACHINE	EA	1
16	16	XDFZZ	5310-00-209-0965	96906	MS35338-47	WASHER LOCK	EA	8
16	58	XDFZZ	5310-00-880-8186	96906	MS51967-26	NUT, PLAIN, HEXAGON	EA	8
16	59	XDFZZ	5310-00-754-2005	96906	MS35338-52	WASHER LOCK	EA	8
16	57	XDFZZ	5305-00-929-4040	96906	MS90725-213	SCREW, CAP, HEXAGON H	EA	8
16	26	XDFZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON	EA	4
16	27	XDFZZ	5310-00-582-5965	96906	MS35338-44	WASHER LOCK	EA	4
16	25	XDFZZ	5305-00-071-2239	96906	MS90725-12	SCREW, CAP, HEXAGON H	EA	8
16	55	XDFZZ	5310-00-763-8920	96906	MS51967-20	NUT, PLAIN, HEXAGON	EA	8
16	56	XDFZZ	5310-00-820-6653	96906	MS35338-50	WASHER LOCK	EA	8
16	54	XDFZZ	5305-00-724-5913	96906	MS90725-166	SCREW CAP HEXAGON	EA	8
16	67	XDFZZ		COMML	120020	HOOK, COAT, 7 HAT	EA	9
16	51	XDFZZ	5305-00-021-3806	96906	MS35307-413	SCREW, CAP, HEX, H	EA	2
16	28	XDFZZ	5305-00-727-6804	96906	MS35307-414	SCREW, CAP, HEX, H	EA	2
16	49	XDFZZ	5310-00-767-9425	96906	MS15795-818	WASHER, FLAT	EA	4
16	43	XDFZZ	5310-00-768-0321	96906	MS51957-5	NUT, PLAIN, HEXAGON	EA	4

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
16	16	XDFZZ	5310-00-764-6618	96906	MS51971-9	NUT, PLAIN, HEXAGON	EA	1
16	17	XDFZZ	5310-00-584-7796	96906	MS15795-824	WASHER, FLAT	EA	1
16	44	XDFZZ	5305-00-543-4406	96906	MS35307-370	SCREW, CAP, HEXAGON	EA	1
16	78	XDFZZ		39428	4509k52	INSULATION, PIPE	EA	V
16	83	XDFZZ		14625	WB2-23	BRACKET, DBL CYL	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 17: LIFE SAVING/FIRE EXTIN- GUISHING EQUIPMENT (97403-13226E1915)	EA	1
17	8	XDCFF		81350	BA23	BATTERY NONRECHARGE- ABLE		4
17	7	XDCFF	6230-00-036-5682	81349	MIL-L-24532	LIGHT, MARKER, DISTRE	EA	4
17	6	XDCZZ		81349	MIL-R-24049 TYPE1	ROPE, 90FT	EA	4
17	2	XDCZZ		81349	MIL-R-16847 CL 1	RING BUOY LSVG	EA	4
17	5	XDCZZ	5110-00-293-2336	81349	GGG-A-926 TYPE 2	AX, SINGLE BIT	EA	2
17	4	XDCDD		81349	MIL-E-24269	EXTINGUISHER FIRE	EA	17
17	25	XDFDD		62142	MODEL 10 TAS-6	EXT FIRE DRY	EA	5
17	26	XDFDD		62142	MODEL HR-1	2BOTTLE CO2	EA	2
17	36	XDCDD		40912	M473652	BREATHING SYSTEM	EA	2
17	35	XDCDD		40912	M4736013	BREATHING APPARATUS	EA	3
17	1	XDCDD		78673	160.051/15/0	RAFT, LIFE, 8MAN	EA	2
17	9	XDFDD		81884	PE-250	PUMP CENTRIFUGAL	EA	1
17	34	XDFZZ		76155	160.052	VEST, BUOYANT	EA	15
17	35	XDFZZ		76155	160.052	VEST, WORK	EA	24
17	18	XDFZZ		COMML	ALY5086, H32	CLAMP TUBING	EA	5
17	13	XDFZZ		39428	1063A60	TRANSCOM CATCH	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
17	17	XDFZZ		COMML	ALY 5086, T6	RING PULL	EA	1
17	16	XDFZZ		81346	ASTM A475	CABLE WIRE	EA	V
17	24	XDFZZ	5320-00-165-8815	96906	MS20470-B4-7	RIVET, SOLID	LB	V
17	12	XDFZZ		81349	MIL-H-1237 TYPE VI, CLASS 2	HINGE BUTT	EA	3
17	19	XDFZZ	5320-00-118-1995	96906	MS20470-B4-6	RIVET, SOLID	LB	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
17	23	XDFZZ	5310-00-732-0556	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	12
17	21	XDFZZ	5310-00-080-6004	96906	MS27183-14	WASHER FLAT	EA	12
17	22	XDFZZ	5305-00-269-3209	96909	MS90725-58	SCREW, CAP, HEXAGON H	EA	12
17	29	XDFZZ		39428	3699T2	STRAP, CORDURA	EA	3
17	32	XCFZZ		39428	3722T17	STRAP, CARGO	EA	2
17	31	XDFZZ		39428	3014T63	BOLT, EYE	EA	4
17	38	XDFZZ		39428	1723A4	CLIP, SPRING	EA	2
17	41	XDFZZ	5305-00-068-0502	96906	MS90725-6	SCREW	EA	36
17	42	XDFZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON	EA	38
17	43	XDFZZ	5310-00-582-5965	96906	MS35338-44	WASHER, LOCK	EA	38
17	44	XDFZZ		39428	90275A242	SCREW, FLAT, HD	EA	48
17	48	XDFZZ	5305-00-269-3214	96906	MS90725-64	SCREW	EA	2
17	49	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	4
17	51	XDFZZ		39428	90275A624	SCREW, FLAT HD	EA	4
17	52	XDFZZ	5305-00-225-3839	96906	MS90725-8	SCREW	EA	8
17	58	XDFZZ		04693	4964	TAPE, ADHESIVE	IN	V
17	57	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
17	56	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
17	54	XDFZZ		96906	MS20604	RIVET	EA	V
17	53	XDFZZ		97403	13226E1915-53	PLACARD, INSTRUCTION	EA	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
1702	VM17	XDFZZ		11583	QN-3	GROUP 1702: PUMP, CENTRIFUGAL	EA	2
1702	VM17	XDCZZ				SPARK PLUG	EA	1
						FILTER, FUEL		

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
1703	VM17	XDCZZ				GROUP 1703: ILLUMI- NATION MARKER O-RING	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 18: SPILLAGE CATCHMENTS (97403-13226E1916)		
18	2	XDFZZ		09032	60-150	DRAIN DECK	EA	18
18	9	XDFDD		12623	SS-63TFS	VALVE, BAL	EA	4
18	3	XDFZZ		80204	ANSB16.11	COUPLING HALF, 1/2IN	EA	4
18	13	XDFZZ		39428	92447A827	SCREW, RDH	EA	2
18	12	XDFZZ		39428	3619T441	CHAIN	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 19: BRIDGE CRANE SYSTEM (97403-13226E1917)		
19	30	XDCZZ		39428	3406W999	SLING, DOUBLE LEG	EA	1
19	31	XDCZZ		39428	3396T14	LIFTER DRUM ANGLE	EA	1
19	32	XDCZZ		39428	3409W999	SLING QUAD LEG	EA	1
19	35	XDCZZ		39428	3437W999	SLING SET, RIGGER	EA	1
19	36	XDFDD		39428	3316T261	HOIST ELEC, 400#CAP	EA	1
19	29	XDFZZ		39428	3515T25	HOOK, SWIVEL CLEVIS	EA	5
19	20	XDFZZ	5310-00-880-8189	96906	MS51967-11	NUT, PLAIN, HEXAGON	EA	4
19	21	XDFZZ	5310-00-209-0965	96906	MS35338-47	WASHER LOCK	EA	4
19	2	XDFDD		82366	0931-06-204	REEL CABLE	EA	2
19	25	XDFZZ	5310-00-809-8533	96906	MS27183-23	WASHER, FLAT	EA	1
19	34	XDFZZ	5315-00-239-8032	96906	MS24665-513	PIN, COTTER	EA	1
19	10	XDFZZ		COMML	NS-83-92580-A4	JIB, SWINGING, ASSY	EA	1
19	9	XDFZZ		COMML	NS-83-92580-A5	TRACK SECTION	EA	1
19	14	XDFZZ		COMML	NS-83-92580-A6	CLAMP, HALF FLUSH	EA	25
19	15	XDFZZ		COMML	10-635-B	SPLICE ASSY	EA	9
19	17	XDFZZ		COMML	12-206-0-04	FINGER SHIM	EA	40
19	16	XDFZZ		COMML	10-609-B	END STOP ASSY	EA	4
19	11	XDFZZ		COMML	NS-83-92580-A3	CROSS-OVER INTLK	EA	2
19	12	XDFDD		COMML	NS-83-92580-A2	CRANE ASSY	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
19	13	XDFDD		COMML	NS-83-92580-A1	CRANE ASSY	EA	1
19	1	XDFDD		80735	1422-5	HOIST GEARED TRLY	EA	1
19	43	XDFZZ		04963	4262	TAPE, ATTACHMENT	IN	V
19	42	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
19	41	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
19	40	XDFZZ		84483	008-703	STUD, WELD	EA	V
19	39	XDFZZ		96906	MS20604	RIVET	EA	V
19	38	XDFZZ		96906	13226E1917-38	PLACARD, INSTRUCTION	EA	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUPS 1903 AND 1904: BRIDGE CRANE ASSEMBLY		
1903	VM13	PBFZZ		COMML	35-300-0-01	INTEGRAL PINION SHAFT	EA	1
1903	VM13	PBFZZ		COMML	35-300-0-03	RETAINING RING	EA	5
1903	VM13	PBFZZ		COMML	35-300-0-06	RETAINING RING	EA	3
1903	VM13	PBFZZ		COMML	35-300-0-08	BEARING	EA	2
1903	VM13	PBFZZ		COMML	35-300-0-09	SEAL	EA	2
1903	VM13	PBFZZ		COMML	35-300-0-10	BEARING	EA	6
1903	VM13	PBFZZ		COMML	35-300-0-11	SEAL	EA	3
1903	VM13	PBFZZ		COMML	33-900-0-14	3/8" 24NF ESNA NUT	EA	10
1903	VM13	PBFZZ		COMML	32-224-0-22	3/8" 24NF HHCS X 3 1/2"	EA	10
1903	VM13	PBFZZ		COMML	35-300-0-25	3/8" DOWEL PIN	EA	2
1903	VM13	PBFZZ		COMML	35-300-0-26	ALWTICO BREATHER	EA	1
1903	VM13	PBFZZ		COMML	35-300-0-33	WOODRUFF KEY	EA	1
1903	VM13	PBFZZ		COMML	30-404-0-11	FUSE	EA	3
1903	VM13	PBFZZ		COMML	30-351-0-06	THERMAL UNIT	EA	3
1903	VM13	PBFZZ		COMML	30-404-0-09	FUSE	EA	3
1903	VM13	PBFZZ		COMML	30-404-0-10	FUSE	EA	1
1903	VM13	PBFZZ		COMML	30-211-0-34	CONTACTOR	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
1905	VM13	PBFZZ		39428	S-261	GROUP 1905: HOIST, ELECTRIC BRAKE FRICTION DISC	EA	2
1905	VM13	PBFZZ		39428	S-563	CONTROL STATION PARTS KIT	KT	1
1905	VM13	PBFZZ		39428	S-565	CONTROL STATION SWITCH KIT	KT	1
1905	VM13	PBFZZ		39428	S-673	CONTACT KIT	KT	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 20: TOWING ARRANGEMENT (97403-13226E1918)		
20	6	XDFZZ		83644	13226E1918-006	LINK CHAIN DETACHA	EA	4
20	7	XDFZZ		81248	RR-C-271 TYPE IV CL6	SHACKLE, BOLT TYPE	EA	4
20	8	XDFZZ		81348	RR-C-271 TYPE I GR C, CL1	CHAIN	FT	2
20	11	XDFZZ		81419	KS-40004	HATCH, FLUSH, WTRTT	EA	1
20	17	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
20	16	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
20	15	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
20	14	XDFZZ		84483	008-703	STUD, WELD	EA	V
20	13	XDFZZ		96906	MS20604	RIVET	EA	V
20	12	XDFZZ		97403	13226E1918-12	PLACARD, INSTRUCTION	EA	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 21: SHIP TOILET (97403-13226E1919)		
21	20	XDFZZ		39428	2880K21	HOLDER, TISSUE	EA	2
21	17	XDFZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON	EA	16
21	16	XDFZZ	5310-00-582-5965	96906	MS35338-44	WASHER LOCK	EA	16
21	18	XDFZZ	5305-00-068-0502	96906	MS90725-6	SCREW, CAP, HEXAGON H	EA	16
21	28	XDFZZ		39428	91607A197	SCREW, RDH	EA	4
21	27	XDFZZ	5305-01-134-5460	39248	91783A537	SCREW, RDH	EA	8
21	1	XDFZZ		7K466	13226E1919-001	PARTITION TOILET	EA	2
21	14	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	8
21	15	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER LOCK	EA	8
21	13	XDFZZ	5305-00-269-3213	96906	MS90725-62	SCREW, CAP, HEXAGON H	EA	8
21	11	XDFZZ	4730-00-908-6293	96906	MS35842-15	CLAMP HOSE	EA	3
21	2	XDFDD		23989	WB/TR III	TOILET INCINERATING	EA	2
21	12	XDFDD		73124	VT450	VENT INVERTED TERMI	EA	1
21	24	XDFZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEX	EA	4
21	25	XDFZZ	5310-00-584-5272	96906	MS3533848	WASHER, LOCK	EA	4
21	23	XDFZZ	5305-00-071-1769	96906	MS90725-115	SCREW, CAP	EA	4
21	35	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
21	34	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
21	33	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
21	32	XDFZZ		84483	008-703	STUD, WELD	EA	V
21	31	XDFZZ		96906	MS20604	RIVET	EA	V
21	30	XDFZZ		97403	13226E1919-30	PLACARD, INSTRUCTION	EA	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
2101	VM15	PBFZZ		23989	100193	GROUP 2101: TOILET INCINERATING HEATER	EA	1
2101	VM15	PBCZZ		23989	100205	CATALYST	LB	10
2101	VM15	PBFZZ		23989	100106	THERMOSTAT, CONTROL	EA	1
2101	VM15	PBFZZ		23989	100147	THERMOSTAT, SAFETY	EA	1
2101	VM15	PBFZZ		23989	100105	THERMOSTAT, BLOWER	EA	1
2101	VM15	PBFZZ		23989	100180	LAMP, INDICATOR	EA	4
2101	VM15	PBCZZ		23989	100197	LINER	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 22: COMPRES- SED AIR SYSTEM (97403-13226E1920)		
22	18	XDFZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEXAGON	EA	4
22	19	XDFZZ	5310-00-584-5272	96906	MS35338-48	WASHER LOCK	EA	4
22	17	XDFZZ	5305-00-071-1769	96906	MS90725-115	SCREW, CAP, HEXAGON H	EA	4
22	1	XDFDD		16327	1A785D	COMPRESSOR AIR	EA	1
22	4	XDFDD		04049	08F53A	FILTER AIR LINE	EA	1
22	5	XDFDD		04049	11F51E	FILTER OIL REMOVING	EA	1
22	30	XDFDD		80204	ANS B16.34 TYPE II, SVCE G	VALVE, GLOBE, 1IN	EA	2
22	29	XDFDD		04049	08R511A	REGULATOR, PRESSURE	EA	1
22	16	XDFZZ		81348	WWU531-03TA	UNION 1/21N 150LB	EA	1
22	14	XDFDD		04049	07R311A	REGULATOR, PRESSURE	EA	2
22	12	XDFZZ	4730-00-266-3907	81348	WWU531-05TA	UNION, PIPE	EA	13
22	22	XDFDD		80204	ANS B16.34 TYPE II, SVCE G	VALVE GLOBE 1/21N	EA	8
22	25	XDFZZ	4730-00-369-4692	81349	M4109-051200C	COUPLING HALF, QUICK	EA	7
22	26	XDFZZ		81349	M4109-141200C	COUPLING HALF DISC	EA	4
22	27	XDFZZ		81349	M4109-061200C	COUPLING HALF DISC	EA	4
22	23	XDFZZ		87373	LA0625-MC6-ML6	HOSE SELF-RETRACT	EA	1
22	28	XDFZZ		87373	LA0650-MC6-MLC	HOSE SELF-RETRACT	EA	3
22	21	XDFZZ		97403	13226E1921	PLACARD INSTRUCTION	EA	1
22	43	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
22	42	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
22	41	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
22	40	XDFZZ		84483	008-703	STUD, WELD	EA	V
22	39	XDFZZ		96906	MS20604	RIVET	EA	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 2201: COMPRES- SOR, AIR WIRCVR		
2201	VM7	PBFZZ		16327	3X645	V-BELT	EA	1
2201	VM7	PBFZZ		16327	4X678	PRESSURE SWITCH	EA	1
2201	VM7	PBFZZ		16327	Z-66A	MUFFLER ASSEMBLY, INTAKE	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
2202	VM7	PBFZZ		04049	RK1586R	GROUP 2202: REGULA- TOR, PRESSURE REPAIR KIT	KT	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
2203	VM7	PBFZZ		04049	36017-BKF-329	GROUP 2203: FILTER, AIR LINE BOWL KIT	KT	1
2203	VM7	PBCZZ	4330-00-803-1028	31408	EKF-329	FILTER ELEMENT	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
2204	VM7	PBCZZ		31408	CKF-507	GROUP 2204: FILTER, OIL REMOVING FILTER ELEMENT KIT	KT	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
2205	VM7	PBFZZ		04049	RK1584R	GROUP 2205: REGULA- TOR, PRESSURE W/GAUGE REPAIR KIT	KT	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 23: DIESEL GENERATORS AND FOUN- DATIONS (97403-13226E 1922)		
23	10	XDFZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEXAGON	EA	32
23	11	XDFZZ	5310-00-584-5272	96906	MS35338-48	WASHER LOCK	EA	32
23	9	XDFZZ	5305-00-071-1769	96906	MS90725-115	SCREW, CAP, HEXAGON H	EA	24
23	14	XDFZZ	5305-00-071-1774	96906	MS90725-121	SCREW, CAP, HEXAGON H	EA	8
23	16	XDFZZ		81349	MIL-G-1149TYPE I, CLASS 1	GASKET 1/8 IN THK	SH	V
23	8	XDFZZ		COMML	122-G	ISOLATOR, SPRING	EA	4
23	7	XDFZZ		COMML	122-H	ISOLATOR, SPRING	EA	4
23	17	XDFZZ		COMML	122-E	ISOLATOR, SPRING	EA	4
23	27	XDFZZ		31714	X CAD-13T	FILTER, CRKC, W/HDW	EA	2
23	1	XDFDD		11083	3306TA	GENERATOR SET 155	EA	2
23	28	XDFZZ		31714	X PERK-1	FILTER, CRK	EA	1
23	2	XDFDD		COMML	PERKCARTER- E5061-20KW	GENERATOR SET 20KW	EA	1
23	23	XDFZZ	5305-01-229-6243	39428	91783A624	SETSCREW	EA	8
23	25	XDFZZ	5310-00-984-7042	96906	MS35338-141	WASHER, LOCK	EA	8
23	24	XDFZZ		39428	91845A031	NUT, HEX	EA	8
23	22	XDFZZ		39428	6859T68	PLATE	EA	2
23	5	XDFZZ		92021	1/2-SP-D-12-S-2	VALVE, BALL, 2 WAY	EA	3
23	30	XDFZZ	5305-00-225-3839	96906	MS90725-8	SCREW, CAP HEXAGON	EA	2
23	32	XDFZZ	5310-00-809-4058	96906	MS27183-10	WASHER, FLAT	EA	3
23	31	XDFZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEX	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
23	33	XDFZZ	5310-00-088-1251	96906	MS51922-1	NUT, SELF-LOCKING	EA	1
23	35	XDFZZ	5305-00-983-6652	96906	MS16998-29	SCREW, CAP	EA	2
23	36	XDFZZ	5310-00-014-5850	96906	MS27183-42	WASHER, FLAT	EA	2
23	37	XDFZZ	5310-00-934-9751	96906	MS35650-302	NUT, PLAIN, HEX	EA	2
23	34	XDFZZ		COMML	DC-71	BRACKET	EA	2
23	34	XDFZZ		COMML	HG-4	CLEVIS	EA	1
23	34	XDFZZ		COMML	16LO2F-3-600	CABLE	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 2301: GENER- ATOR SET, 155KW		
2301	VM9	PBCZZ	2940-00-074-3584	11083	4L9852	FILTER ELEMENT, AIR	EA	8
2301	VM9	PBCZZ	2910-00-157-0650	11083	1P2299	FILTER ELEMENT, FUEL	EA	48
2301	VM9	PBCZZ	2940-00-029-0388	11083	2P4004	FILTER ELEMENT, OIL	EA	96
2301	VM9	PBFZZ	4320-01-204-9896	11083	6V4750	PARTS KIT, CENTER	EA	2
2301	VM9	PBFZZ	4730-01-047-1930	11083	6L2280	PLUG, PIPE	EA	8
2301	VM9	PBFZZ	5330-01-128-5196	11083	7N7999	GASKET, HEAD	EA	4
2301	VM9	PBFZZ	5330-00-520-1552	11083	8S1605	GASKET, VALVE COVER	EA	4
2301	VM9	PBFZZ	5330-00-613-7468	11083	8S1965	GASKET, OIL PAN	EA	2
2301	VM9	PBFZZ	6620-01-008-1893	11083	7N0208	THERMOSTAT	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 2302: GENER- ATOR SET, 20KW		
2302	VM9	PBFZZ		13446	36812349	GASKET, HEAD	EA	1
2302	VM9	PBFZZ	6620-00-175-0669	28910	2485643	THERMOSTAT	EA	1
2302	VM9	PBFZZ	5330-00-340-5383	13446	36811122	GASKET, VALVE COVER	EA	1
2302	VM9	PBFZZ		13446	2418F436	SEAL	EA	1
2302	VM9	PBCZZ	2910-00-057-1421	13446	26561117	FILTER, FUEL	EA	20
2302	VM9	PBCZZ	4330-01-058-5455	13446	2654403	FILTER, OIL	EA	12
2302	VM9	PBFZZ		13446	U7LW0006	PUMP, FRESHWATER	EA	1
2302	VM9	PBFZZ		13446	24880116	REPAIR KIT, SW PUMP	EA	1
2302	VM9	PBFZZ		13446	0460038	IMPELLER, SW PUMP	EA	2
2302	VM9	PBFZZ	4730-01-099-0189	13446	33811112	SLEEVE, COMPRESS	EA	10
2302	VM9	PBFZZ		13446	4090685	GASKET, INJECTION PUMP MTG	EA	1
2302	VM9	PBFZZ	5310-00-235-8642	13446	0921173	WASHER, INJECTION SEAL	EA	4
2302	VM9	PBFZZ		13446	3K3408	BELT	EA	1
2302	VM9	PBFZZ		13446	NA001405	HEAT EXCHANGER	EA	1
2302	VM9	PBFZZ		13446	NA004179	OIL COOLER ASSY	EA	1
2302	VM9	PBFZZ		13446	36855114	GASKET, THERMOSTAT	EA	1
2302	VM9	PBFZZ	2910-01-020-4781	13446	26410009	REPAIR KIT, LIFT PUMP	EA	1
2302	VM9	PBFZZ		13446	110-10180	DIODE, FORWARD	EA	3
2302	VM9	PBFZZ		13446	110-10181	DIODE, REVERSE	EA	3
2302	VM9	PBFZZ		13446	073-08059	VARISTOR	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
2302	VM9	PBFZZ		13446	051-01048	BEARING	EA	1
2302	VM9	PBFZZ		13446	350-28700	VOLTAGE REGULATOR, AUTOMATIC	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 24: CHLORINATION SYSTEM (97403-13226E1923)		
24	43	XDFZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEXAGON	EA	10
24	44	XDFZZ	5310-00-584-5272	96906	MS35338-48	WASHER LOCK	EA	10
24	42	XDFZZ	5305-00-042-6417	96906	MS90725-113	SCREW, CAP, HEXAGON H	EA	6
24	41	XDFZZ	5305-00-071-1772	96906	MS90725-119	SCREW, CAP, HEXAGON H	EA	8
24	1	XDFDD		COMML	MODEL 49R/A	CHLORINATION, UNIT	EA	1
24	16	XDFZZ		81349	M1183/10-12N3 TYPE A	UNION, 1/21N	EA	5
24	46	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	8
24	47	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER LOCK	EA	8
24	2	XDFDD		97403	13226E1923-002	PUMP, SUMP PN 13490	EA	1
24	48	XDFZZ	5305-00-269-3213	96906	MS90725-62	SCREW CAP HEXAGON H	EA	4
24	50	XDFZZ	5310-00-880-7744	96906	MS51967-5	NUT, PLAIN, HEXAGON	EA	3
24	26	XDFZZ	5310-00-407-9566	96909	MS35338-45	WASHER, LOCK	EA	3
24	49	XDFZZ	5306-00-225-8504	96906	MS90725-40	BOLT, MACHINE	EA	3
24	3	XDFDD		52147	MODEL R162-96	PUMP, METERING	EA	1
24	4	XDFZZ		COMML	931XXXSERIES	SENSOR, CHLORINE, INS	EA	1
24	45	XDFDD		04198	1009	GAGE, PRESSURE	EA	1
24	69	XDFDD		04198	F-810A-02-V46	REGULAR, PRESSURE	EA	1
24	70	XDFDD		05430	LM010S-1 /2"	FILTER, WATER	EA	1
24	79	XDFDD		04034	FS-550-29609	SWITCH, FLOW	EA	1
24	57	XDFDD		39428	4825K16	UNION, 1IN, 150LB	EA	1
24	59	XDCZZ		39428	5388T65	EYEWASH PORTABLE	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
24	24	XDFZZ	5305-00-044-4153	96906	MS90725-109	SCREW, CAP, HEXAGON	EA	2
24	53	XDFZZ		39428	9434T17	CLIP	EA	4
24	60	XDFZZ		39428	92198A247	SCREW	EA	4
24	68	XDFZZ		39428	92146A011	WASHER, LOCK	EA	4
24	61	XDFZZ		39428	91839A011	NUT	EA	4
24	65	XDFZZ		39428	4469K54	CAP, PIPE	EA	2
24	88	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
24	87	XDFZZ	5305-00-757-7837	96906	MS24679-411	NUT, PLAIN	EA	V
24	86	XDFZZ	5310-00-045-5203	96906	MS15795-905349	WASHER, FLAT	EA	V
24	85	XDFZZ		84483	008-703	STUD, WELD	EA	V
24	84	XDFZZ		96906	MS20604	RIVET	EA	V
24	83	XDFZZ		97403	13226E1941-3	PLACARD, INSTRUCTION		
24	82	XDFZZ		97403	13226E1941-2	PLACARD, INSTRUCTION	EA	1
24	58	XDFZZ		97403	13226E1941-1	PLACARD, INSTRUCTION	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
24	6	XDFDD		79128	TYPE 1600-W	VALVE AIR ESC 3IN	EA	1
24	22	XDFDD		39428	4889K13	VALVE, GLOBE, 1/2 IN	EA	2
24	54	XDFDD		48422	FIG. 150	VALVE GLOBE 1IN 150	EA	1
24	23	XDFDD		39428	9762K41	VALVE, GATE, 1/2 IN	EA	1
24	56	XDFDD		81349	MIL-V-18436GR A TY 1,ST A	VALVE CHECK 1IN 125	EA	1
24	32	XDFDD		14889	1101-005-PVC 1	VALVE, CHK, CEMENTED	EA	1
24	58	XDFZZ		97403	13226E1941	PLACARD INSTRUCTION	EA	1
24	40	XDFZZ		81349	MIL-P-16685CL2 TY I, SIZE D	PACKING	EA	2
24	39	XDFDD		81349	MS24235/10-04	STUFFING TUBE ASSY	EA	2
24	64	XDFZZ		39428	4880K61	ADAPTER, MALE	EA	1
24	76	XDFZZ		62531	837-073	REDUCER, BUSHING	EA	1
24	63	XDFZZ		27901	16423	FITTING, TANK	EA	2
24	38	XDFZZ		62531	872-010C	ADAPTER, TANK	EA	1
24	72	XDFZZ		39428	4800K11	COCK, DRAIN	EA	1
24	73	XDFZZ		39428	5520K11	ADAPTER	EA	1
24	80	XDFZZ		39428	4880K63	ADAPTER	EA	1
24	81	XDFZZ		COMML	BFE-1015	PAN, DRIP	EA	1
24	52	XDFZZ		81346	ASTM D2665	PLUG, 3IN	EA	1
24	28	XDFZZ		81346	ASTM D2665	ADAPTER, TRAY	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 2401: CHLORINATION UNIT		
2401	VM4	PBFZZ		COMML	5571	FUSE 2.5A	EA	6
2401	VM4	PBFZZ		COMML	10666	INDICATOR LIGHT	EA	4
2401	VM4	PBFZZ		COMML	10860	RELAY 3PDT	EA	4
2401	VM4	PBFZZ		COMML	12673	FILTER CARTRIDGES	EA	24
2401	VM4	PBFZZ		COMML	11503	FUSE 10A	EA	6
2401	VM4	PBFZZ		COMML	10503	LAMP NE51-H	EA	6
2401	VM4	PBFZZ		52147	0336-0001-22	REPAIR KIT, BRINE PUMP	KT	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
2402	VM4	PBFZZ		52147	0336-0002-038	GROUP 2402: PUMP, METERING REPAIR KIT	KT	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
2405	VM4	PBFZZ		04034	29607	GROUP 2405: FLOW SWITCH PADDLE	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
2406	VM4	PBCZZ		05430	C20P-P	GROUP 2406: FILTER WATER FILTER, CARTRIDGE	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 25: CRANE AND BOAT FOUNDATIONS (97403-13226E1924)		
25	6	XDFZZ	5310-00-763-8921	96906	MS51967-23	NUT, PLAIN, HEXAGON	EA	8
25	5	XDFZZ	5305-00-939-9204	96906	MS90725-187	SCREW, CAP, HEXAGON H	EA	8
25	7	XDFZZ	5310-00-584-7888	96906	MS35338-51	WASHER LOCK	EA	8
25	2	XDFDD		COMML	F10.3F	CRANE, HYDRAULIC	EA	1
25	10	XDCDD		07921	2308-CLF	BOAT, 23FT, W/CRADLE	EA	1
25	17	XDFZZ	5305-00-947-0177	96906	MS90725-184	SCREW, HEX	EA	6
25	18	XDFZZ	5310-00-809-8533	96906	MS27183-23	WASHER, FLAT	EA	6
25	27	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
25	26	XDFZZ	5305-00-757-7837	96906	MS24679-411	NUT, PLAIN, HEX	EA	V
25	25	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
25	24	XDFZZ		84483	008-703	STUD, WELD	EA	V
25	23	XDFZZ		96906	MS20640	RIVET	EA	V
25	22	XDFZZ		97403	12336E1924-22	PLACARD, INSTRUCTION	EA	1
25	21	XDFZZ		97403	13226E1924-21	PLACARD, INSTRUCTION	EA	1
25	20	XDFZZ		97403	13226E1924-20	PLACARD, INSTRUCTION	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 2501: CRANE, HYDRAULIC		
2501	VM13	PBFZZ		COMML	G0132	O-RING, SPOOL	EA	10
2501	VM13	PBFZZ		COMML	DI127	SEAL, SPOOL	EA	10
2501	VM13	PBFZZ		COMML	G0198	O-RING, VALVE	EA	12
2501	VM13	PBFZZ		COMML	DI125	SUPPORT RING, VALVE	EA	6
2501	VM13	PBFZZ		COMML	G0154	O-RING, VALVE	EA	4
2501	VM13	PBFZZ		COMML	DI126	SUPPORT RING	EA	4
2501	VM13	PBFZZ		COMML	G0145	O-RING, CONNECTOR	EA	10
2501	VM13	PBFZZ		COMML	G0173	O-RING, CONNECTOR	EA	10
2501	VM13	PBFZZ		COMML	N1986	NIPPLE		
2501	VM13	PBFZZ		COMML	RS951	ELBOW	EA	2
2501	VM13	PBFZZ		COMML	RP225	RETAINING RING	EA	10
2501	VM13	PBFZZ		COMML	RP228	RETAINING RING	EA	10
2501	VM13	PBFZZ		COMML	1/2 R2	HOSE, HI-PRESSURE	FT	70
2501	VM13	PBFZZ		COMML	1/2 R2 Y FMS JIC	HOSE END	EA	10

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 2502: BOAT, WORK		
2502	VM17	PBCZZ		07921	000377	WIPER BLADE, 14"	EA	6
2502	VM17	PBCZZ		07921	000112	WIPER, ARM, 10-14"	EA	6
2502	VM17	PBFZZ		07921	002826	METER, HOUR	EA	1
2502	VM17	PBFZZ		07921	002088	GAUGE, ELECTRIC FUEL	EA	1
2502	VM17	PBCZZ		07921	001916	FUSE, 12V, 20A	EA	12
2502	VM17	PBFZZ		07921	004522	SWITCH, PUSH-PULL	EA	1
2502	VM17	PBCZZ		COMML	A20617	BULB, 12V	EA	6
2502	VM17	PBCZZ	6240-00-155-8693	08806	1142	LAMP, INCANDESCENT	EA	12
2502	VM17	PBCZZ		50967	3L1V1-12V	BULB	EA	12
2502	VM17	PBCZZ		COMML	904-00-200	BULB, 12V, 10W	EA	12
2502	VM17	PBFZZ		07921	000782	CABLE, CONTROL, 33C, 23'	EA	1
2502	VM17	PBFZZ		07921	000784	CABLE, CONTROL, 33C, 25'	EA	1
2502	VM17	PBFZZ		07921	008864	HELM PUMP	EA	1
2502	VM17	PBFZZ		62809	HC5328	CYLINDER	EA	1
2502	VM17	PBFZZ		62809	HT5328	TUBING, 3/8" NYLON, SOFT	FT	V
2502	VM17	PBFZZ		07921	001023	CLAMP, HOSE, SS #16	EA	2
2502	VM17	PBFZZ		07921	001846	FITTING, THRU-HULL, 1-1/8"	EA	2
2502	VM17	PBFZZ		07921	002307	HOSE, BILGE, WHITE, 8"	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
2502	VM17	PBFZZ		07921	003644	PUMP, BILGE, 12V	EA	1
2502	VM17	PBFZZ		07921	004497	SWITCH, 3 WAY PANEL	EA	1
2502	VM17	PBFZZ		07921	004500	SWITCH, BILGE, AUTO	EA	1
2502	VM17	PBFZZ		07921	000095	ANODE, ZINC #5	EA	2
2502	VM17	PBFZZ	5330-01-206-5037	61724	875662-9	GASKET ASSORTMENT	EA	1
2502	VM17	PBCZZ	2940-01-201-6794	61724	471034-9	FILTER, OIL	EA	12
2502	VM17	PBCZZ	4330-01-200-8493	61724	843736-0	FILTER, AIR	EA	2
2502	VM17	PBCZZ	2940-01-202-0474	61724	463505-8	FILTER, AIR	EA	2
2502	VM17	PBCZZ	2910-01-201-7719	61724	243464-5	FILTER, FUEL	EA	12
2502	VM17	PBFZZ	5977-01-201-0483	61724	800476-4	ELECTRODE	EA	2
2502	VM17	PBFZZ	3426-01-201-2807	61724	804107-1	ANODE, PLATING	EA	2
2502	VM17	PBCZZ		61724	7938435-0	ONBOARD KIT	KT	1
2502	VM17	PBFZZ		61724	838926	PANEL, INSTRUMENT	EA	1
2502	VM17	PBFZZ		46576	1248	HOCKING KEY	EA	6

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 26: STORAGE AREA ARRANGEMENT (97403-13226E1925)		
26	2	XDFZZ		39428	3722T27	STRAP ASSY	EA	22
26	18	XDFZZ	5310-00-809-4058	96906	MS27183-10	WASHER, FLAT	EA	28
26	15	XDFZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON	EA	70
26	4	XDFZZ		81349	MIL-R-6855 CLASS 1	STRIP, RUBBER	FT	V
26	14	XDFZZ	5305-00-068-0501	96906	MS90725-5	SCREW, CAP, HEXAGON H	EA	38
26	16	XDFZZ	5310-00-582-5965	96906	MS35338-44	WASHER LOCK	EA	42
26	17	XDFZZ		81349	MIL-H-1237 TYPE VI, CLASS 3, GPB	HINGE, BUTT	EA	2
26	11	XDFZZ		81349	MIL-H-17194, TYPE VI, CLASS 2, GR A	METAL, EXPANDED	EA	V
26	1	XDFZZ		80064	804-4563098	BIN, STORAGE	EA	8
26	5	XDFZZ		39428	8891T16	EYEBOLT	EA	V
26	22	XDFZZ	5310-00-763-8921	96906	MS51967-23	NUT, PLAIN, HEXAGON	EA	16
26	22	XDFZZ	5310-00-584-7888	96906	MS35338-51	WASHER, LOCK	EA	16
26	25	XDFZZ		39428	92384A058	PIN, QIK RLSE	EA	2
26	27	XDFZZ		39428	3617T4	CHAIN	IN	V
26	31	XDFZZ		96906	MS90725-62	SCREW, CAP, HEXAGON	EA	4
26	32	XDFZZ		96906	MS35338-46	WASHER, LOCK	EA	4
26	33	XDFZZ		96906	MS51967-8	NUT, PLAIN, HEX	EA	4
26	34	XDFZZ		96906	MS90725-8	SCREW, CAP, HEXAGON	EA	12
26	36	XDFZZ		96906	MS35338-48	WASHER, LOCK	EA	8

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
26	37	XDFZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEX	EA	8
26	39	XDFZZ		39428	6859T69	PLATE	EA	V
26	41	XDFZZ	5305-00-082-6734	96906	MS51959-109	SCREW, MACHINE	EA	G
26	44	XDFZZ		39428	3891T18	TIE-DOWN	EA	14
26	48	XDFZZ		39428	3891T18	STRAP ASSY.	EA	13

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 27: DECK VENTILATION HOUSE SYSTEM (97403-13226E1926)		
27	19	XDFZZ	5310-00-913-8881	96906	MS51971-3	NUT PLAIN HEXAGON	EA	72
27	18	XDFZZ	5310-00-984-7042	96906	MS35338-141	WASHER, LOCK	EA	72
27	17	XDFZZ	5310-00-595-6057	96906	MS15795-815	WASHER FLAT	EA	72
27	16	XDFZZ	5305-00-847-1159	96906	MS35307-365	SCREW, CAP, HEXAGON H	EA	72
27	13	XDFZZ		81349	MIL-G-1149 TYPE I, CLASS 1	GASKET	SH	V
27	8	XDFDD		6M080	HD361SP4XYXY	FAN EXHAUST	EA	6
27	5	XDFZZ		39428	92391A064	PIN COTTER HAIR	EA	17
27	6	XDFZZ		81349	RR-C-271 TYPE II CL6	CHAIN SAFETY, 16	FT	V
27	4	XDFZZ		81349	RR-C-271 TYPE VI	RING, 3/16"X1 1/4"D	EA	17
27	1	XDFZZ		6U135	413-A-I	HATCH 18"X60"	EA	17
27	11	XDFZZ		80204	ANSB18.6.3	SCREW	EA	238
27	12	XDFZZ	5310-00-933-8121	96906	MS35338-139	WASHER LOCK	HD	238
27	14	XDFZZ		64787	FL-109	LOUVERS FLANGE FACE	EA	17

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
2702	VM15	PBFZZ				GROUP 2702: HATCH, 18"X60" GASKET, NEOPRENE	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 28: ENGINE EXHAUST SYSTEM (97403-13226E1927)		
28	20	XDFZZ		81346	ASTM C592 CL2	INSULATION 2 IN JK	SY	V
28	25	XDFZZ		19243	FIG. 295A	PIPE CLAMP, DBL BOLT	EA	3
28	26	XDFZZ		19243	FIG. 278	EYE ROD	EA	3
28	27	XDFZZ		19243	FIG. 66	BEAM ATTACHMENT	EA	3
28	28	XDFZZ		19243	FIG. 82, TYPE B	SPRING HANGER	EA	3
28	15	XDFZZ	5310-00-763-8920	96906	MS51967-20	NUT, PLAIN, HEXAGON	EA	92
28	14	XDFZZ	5310-00-820-6653	96906	MS35338-50	WASHER LOCK	EA	92
28	16	XDFZZ	5305-00-724-5935	96906	MS90725-169	SCREW, CAP, HEXAGON H	EA	80
28	17	XDFZZ		81349	MIL-G-14243TYPE III	GASKET 1/8",MET&ASB	SH	V
28	12	XDFZZ	5310-00-763-8921	96906	MS51967-23	NUT, PLAIN, HEXAGON	EA	80
28	11	XDFZZ	5310-00-584-7888	96906	MS35338-51	WASHER LOCK	EA	80
28	13	XDFZZ	5305-00-939-9206	96906	MS90725-193	SCREW, CAP, HEXAGON H	EA	80
28	5	XDFZZ		70510	215665-6-EL-44	HOSE CORR METAL	EA	2
28	44	XDFZZ	5310-00-880-8189	96906	MS51967-11	NUT, PLAIN, HEXAGON	EA	12
28	45	XDFZZ	5310-00-209-0965	96906	MS35338-47	WASHER LOCK	EA	12

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 29: ALARM/ CASUALTY MONITORING (97403-13226E1928)		
29	12	XDFZZ		28199	IC-Z1D3	BUZZER	EA	1
29	9	XDFZZ		10402	WMB-R	LIGHT STROBE, RED	EA	2
29	8	XDFZZ		28199	IC/H3D3	HORN	EA	2
29	3	XDFDD		92731	A46-20-24V-A1	INV BATTERY CHGR	EA	1
29	1	XDFDD		COMML	PMS 11/J119B	PROCESSOR	EA	1
29	2	XDFZZ		08556	D221	SWITCH SAFETY 30A	EA	1
29	13	XDFZZ	5940-00-215-5963	81349	M24558/6-433.1	TERMINAL BOX 40TERM	EA	1
29	19	XDFZZ	5940-00-215-5967	80064	900S6202-74131R EVQ	TERMINAL BOX 60TERM	EA	1
29	18	XDCZZ		99028	GC1260-1	BATTERY, RECHARGEABLE	EA	2
29	4	XDFZZ	6145-00-110-2149	81349	2SJ-12	CABLE, POWER, ELECTRI	FT	V
29	5	XDFZZ	6145-00-225-1397	81349	2SJ-20	CABLE, POWER, ELECTRI	FT	V
29	6	XDFZZ	6145-00-110-6306	81349	4SJ-20	CABLE, POWER, ELECTRI	FT	V
29	7	XDFZZ	6145-00-110-2066	81349	DSGU-4	CABLE, POWER, ELECTRI	FT	V
29	10	XDFZZ	6145-00-110-6509	81349	2SWAU-7	CABLE, POWER, ELECTRI	FT	V
29	11	XDFZZ	6145-00-661-0191	81349	M17/29-RG59	CABLE, RADIO FREQ.	FT	V
29	15	XDFZZ	6145-00-110-2065	81349	DSGU-3	CABLE, POWER, ELECTRI	FT	V
29	17	XDFZZ		81349	DPS-3	CABLE, ELECTRICAL	FT	V

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
29	19	XDFZZ	6145-00-110-2074	81349	DSGU-9	CABLE, POWER, ELECTRI	FT	V
29	16	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
29	25	XDFZZ	5310-00-757-7837	96906	MS24679-411	(97403-13226E1928) NUT, PLAIN	EA	V
29	24	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
29	23	XDFZZ		84483	008-703	STUD, WELD	EA	V
29	22	XDFZZ		96906	MS20604	RIVET	EA	V
29	21	XDFZZ		97403	13226E1928-21	PLACARD, INSTRUCTION	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
29	15	XDFZZ	6145-00-110-2065	81349	DSGU-3	CABLE, POWER, ELECTRI	FT	V
29	17	XDFZZ		81349	DPS-3	CABLE, ELECTRICAL	FT	V
29	19	XDFZZ	6145-00-110-6296	81349	1SAU-44	CABLE, POWER, ELECTRI	FT	V

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
2901	VM11	PBFZZ		COMML	3	GROUP 2901: PROCESSOR FUSE KIT	KT	1
2901	VM11	PBFZZ		COMML	85	LIGHT BULB	EA	30

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
2905	VM11	PBCZZ		10402	M-469	GROUP 2905: LIGHT, STROBE FLASH TUBE	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
2907	VM11	XDFZZ		1P545	OT-20	GROUP 2907: INVERTER/ BATTERY CHARGER, CONSTANT FLOAT FUSE	EA	3

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 30: SHORE DISCHARGE HOSE REEL INSTALLATION (97403-13226E1929)		
30	23	XDCZZ		81718	634-B 0780	CAP DUST	EA	1
30	22	XDCZZ		80691	FLA	ADAPTER MALE/ASA	EA	1
30	1	XDFDD		COMML	830426-1	WINCH HYDRAULIC	EA	1
30	3	XDFDD		COMML	830426-1-6	LEVELWIND	EA	1
30	8	XDFZZ		COMML	830426-4	REPAIR KIT	KT	1
30	16	XDFZZ	4730-00-369-4692	81349	M4109-051200B	COUPLING HALF, QUICK	EA	1
30	11	XDFZZ	5310-00-764-6609	96906	MS51971-7	NUT, PLAIN, HEXAGON	EA	40
30	12	XDFZZ	5310-00-937-0453	96906	MS35338-145	WASHER LOCK	EA	40
30	10	XDFZZ	5305-00-943-2093	96906	MS35307-469	SCREW, CAP, HEXAGON H	EA	40
30	19	XDFZZ		81349	MIL-G-1149 TYPE I, CLASS 1	GASKET 1/16 IN	SH	V
30	20	XDFZZ		80204	ANS B16.5	FLANGE, 4IN, PL, 150LB	EA	4
30	18	XDFDD		48422	FIG. 2456	VALVE GATE 4IN	EA	2
30	5	XDFZZ		COMML	830426-3	PIG 4IN ODX8INL	EA	1
30	6	XDFZZ		COMML	830426-3-1	PIG LAUNCHER	EA	1
30	7	XDFZZ		COMML	830426-3-2	PIG RECEIVER	EA	1
30	34	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
30	33	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN	EA	V
30	32	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
30	31	XDFZZ		84483	008-703	STUD, WELD	EA	V
30	30	XDFZZ		96906	MS20604	RIVET	EA	V

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
30	29	XDFZZ		97403	13226E1929-29	PLACARD, INSTRUCTION	EA	1
30	28	XDFZZ		97403	13226E1929-28	PLACARD, INSTRUCTION	EA	1
30	27	XDFZZ		97403	13226E1929-27	PLACARD, INSTRUCTION	EA	1
				81718	634-B 0780	CAP DUST	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 3001: WINCH, HYDRAULIC		
3001	VM6	PBFZZ	6105-01-091-5608	77640	MAB-500-003	PARTS KIT, ELECT	KT	1
3001	VM6	PBFZZ		77640	MAB-10-7000-A1	ROTOR SET	EA	1
3001	VM6	PBFZZ	3010-01-103-7983	77640	091399	EXTENSION SHAFT	EA	1
3001	VM6	PBFZZ		77640	MAB-10-3000	DRIVE LINK	EA	1
3001	VM6	PBFZZ		59462	REF 1000-6	SEAL KIT	KT	1
3001	VM6	PBFZZ	5330-01-204-5563	06239	PK661	PACKING ASSORTMENT	EA	1
3001	VM6	PBFZZ		04720	PK695	STACK KIT	KT	1
3001	VM6	PBFZZ	3040-01-202-3386	04720	PK663	PARTS KIT, BRAKE	KT	1
3001	VM6	PBFZZ	3040-01-202-3385	04720	PK664	PARTS KIT, BRAKE	KT	1
3001	VM6	PBFZZ		87373	4-INCH STYLE20	SEAL KIT, SWIVEL JOINT	KT	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 3002: LEVELWIND		
3002	VM6	PBFZZ	3010-01-092-1795	14204	170	INSERT, COUPLING	EA	1
3002	VM6	PBFZZ		77640	SK000012	SEAL KIT	KT	1
3002	VM6	PBFZZ		77640	MAF-06-7002-A1	ROTARY SET	EA	1
3002	VM6	PBFZZ		77640	091477	COUPLING SHAFT	EA	1
3002	VM6	PBFZZ		77640	MAF-01-3000	DRIVE LINK	EA	1
3002	VM6	PBFZZ		60038	M12648/M12610	BEARING	EA	2
3002	VM6	PBFZZ	5330-01-033-1200	80201	8700	SEAL, PLAIN	EA	1
3002	VM6	PBFZZ		80201	482089	SEAL	EA	1
3002	VM6	PBFZZ	3110-00-516-5850	43334	7504	BEARINGS, BALL, ANNUALAR	EA	1
3002	VM6	PBFZZ		43334	7604	BEARING	EA	1
3002	VM6	PBFZZ	5365-00-803-7316	79136	5100-78	RING, RETAINING	EA	1
3992	VN6	PBFZZ	5365-00-804-9738	79136	N5000-206	RING, RETAINING	EA	2
3002	VM6	PBFZZ		60038	LM501349/LM501310	BEARING	EA	2
3002	VM6	PBFZZ	5330-00-813-3521	80201	16084	SEAL, OIL	EA	2
3002	VM6	PBFZZ	5330-00-175-4971	80201	19062	SEAL, PLAIN ENCA	EA	1
3002	VM6	PBFZZ		71176	G47E-0	GASKET	EA	1
3002	VM6	PBFZZ	3110-00-156-5454	43334	45507	BEARING, BALL, ANNUALAR	EA	1
3002	VM6	PBFZZ	5365-00-805-6002	79136	5100-137	RING, RETAINING	EA	1
302	VM6	PBFZZ		71176	G47E	GASKET	EA	1
3002	VM6	PBFZZ	5330-00-869-4226	80201	9876	SEAL, PLAIN ENCA	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 31: DAYROOM AND WORKSHOP ARRANGEMENT (97403-13226E1930)		
31	24	XDCZZ		39428	5287A3	WISE	EA	1
31	25	XDCZZ	2090-00-850-7778	80064	805-1635533 PC1-3T025	BERTHING UNIT	EA	3
31	22	XDCZZ		80064	805-1631377	DESK RADIO OPERATOR	EA	1
31	27	XDCZZ		80064	805-1638931	TABLE, MESS	EA	1
31	27	XDCZZ		80064	805-163890	TABLE, MESS	EA	1
31	2	XDCZZ		39428	6159T16	BREWER COFFEE	EA	1
31	3	XDCZZ		25795	5H321	RANGE TBL TOP DBL	EA	
31	28	XDCZZ	2090-00-369-4572	80064	S3306-638434	TABLE, WRITING	EA	1
31	8	XDCZZ	344-00-223-8353	21482	3	PRESS ARBOR	EA	1
31	33	XDCZZ		53800	9GT43913N	TOOLCHEST & CABINET	EA	1
31	26	XDCZZ		80064	S3201-632481, TYA	CABINET FILING	EA	1
31	34	XDFZZ	5305-00-071-1315	96906	MS51957-79	SCREW, MACHINE	EA	4
31	30	XDFZZ		39428	2159K42	HOOD FILTER	EA	1
31	37	XDFZZ		59562	992P	DISPENSER, PAPER TOWEL	EA	1
31	20	XDFZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEXAGON	EA	28
31	19	XDFZZ	5310-00-584-5272	96906	MS35338-48	WASHER LOCK	EA	28
31	38	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	8
31	39	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	8
31	4	XDFZZ		90253	30430	WORKBENCH	EA	1
31	5	XDFZZ		05472	8123W-DC8	GRINDER W/PEDESTAL	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
31	12	XDFDD		03824	BR-16	REFRIGERATOR	EA	1
31	9	XDFDD		83738	17-543	DRILLING MACHINE	EA	1
31	15	XDFZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON	EA	22
31	16	XDFZZ	5310-00-582-5965	96906	MS35338-44	WASHER LOCK	EA	14
31	14	XDFZZ	5310-00-809-4058	96906	MS271183-10	WASHER FLAT	EA	4
31	17	XDFZZ	5305-00-225-3839	96906	MS90725-8	SCREW, CAP, HEXAGON	EA	14
31	7	XDFZZ		39428	2719K52	SINK	EA	1
31	1	XDFDD		27775	HF4	FOUNTAIN, DRINKING	EA	1
31	21	XDFZZ		81348	SS-T-312	TITLE, VINYL	SH	V

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3101	VM15	PBCZZ		05472	A085626	GROUP 3101: GRINDER, W/PEDESTAL GRINDING WHEEL, 8"X1"X3/4" BORE	EA	2

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3102	VM15	PBFZZ		83738	49-159	GROUP 3102: DRILLING MACHINE BELT, VARIABLE	EA	1

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3103	VM15		4130-00-903-8372	78462	C-165-S	GROUP 3103: REFRIGERATOR FILTER-DRIER, REFRIG	EA	1
3103	VM15			03824	HA60	HOSE	EA	3
3103	VM15			COMML	F22	REFRIGERANT	LB	30

Section II. REPAIR PARTS LIST (Cont.)

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 32: HEATING & AIR CONDITIONING DAYROOM AND WORKSHOP (97403-13226E1931)		
32	8	XDFZZ	5310-00-732-0558	96906	MS52967-8	NUT, PLAIN, HEXAGON	HD	32
32	9	XDFZZ	5310-00-080-6004	96906	MS27183-14	WASHER FLAT	EA	32
32	7	XDFZZ	5305-00-269-3211	96906	MS90725-60	SCREW, CAP, HEXAGON H	EA	32
32	12	XDFZZ		81349	MIL-G-1149 TYPE	GASKET	SH	V
32	4	XDFZZ		97537	JE-105B	VENTILATOR	EA	2
32	5	XDFZZ		81349	MIL-I-22023 TY1	INSULATION FIBROUS	SH	V
32	13	XDFZZ	5310-00-934-9758	96906	MS35649-202	NUT, PLAIN, HEXAGON	EA	V
32	14	XDFZZ	5310-00-045-3296	96906	MS35338-43	WASHER LOCK	EA	V
32	15	XDFZZ	5305-00-984-6214	96906	MS35206-267	SCREW MACHINE	EA	V
32	20	XDFZZ		81349	MIL-R-900	GASKET 1/8" RUBBER	SH	V
32	6	XDFZZ		34557	405 B 8X14	REGISTER TYA 8INX14	EA	1
32	10	XDFZZ		34557	405 B 10X14	REGISTER TYA, 10X14	EA	1
32	17			81348	CCC-C-428 TYPE I	CONNECTOR CANVAS CLASS 1	EA	V
32	18	XDFZZ		23251	SERIES DC3	HEATER DUCT	EA	1
32	23	XDFZZ	5310-00-763-8913	96906	MS51967-17	NUT, PLAIN, HEXAGON	EA	4
32	24	XDFZZ	5310-00-167-0680	96906	MS35338-49	WASHER LOCK	EA	4
32	22	XDFZZ	5305-00-716-8211	96906	MS90725-138	SCREW, CAP, HEXAGON H	EA	4
32	1	XDFDD		57107	NAC600	AIR COND. UNIT	EA	1
32	30	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
32	29	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN	EA	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
32	28	XDFZZ	5310-00-757-7837	96906	MS15795-905	WASHER, FLAT	EA	V
32	27	XDFZZ		84483	008-703	STUD, WELD	EA	V
32	26	XDFZZ		96906	MS20604	RIVET	EA	V
32	25	XDFZZ		97403	13226E1931-25	PLACARD, INSTRUCTION	EA	1
32	21	XDFZZ		27319	T6052A	THERMOSTAT	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 3201: AIR CONDITIONING UNIT		
3201	VM16	PBFZZ		57107	309-003	RELAY	EA	1
3201	VM16	PBFZZ		57107	337-001	RELAY, DELAY	EA	1
3201	VM16	PBFZZ	6105-01-148-7267	57107	325-005	MOTOR, ALTERNATING	EA	1
3201	VM16	PBFZZ	5930-01-148-2986	50935	MG20-1000	SWITCH, PRESSURE	EA	1
3201	VM16	PBFZZ	5930-01-123-4210	57107	001-R101	SWITCH, ROTARY	EA	1
3201	VM16	PBFZZ	5930-01-077-2943	57107	057-R101	SWITCH, PRESSURE	EA	1
3201	VM16	PBFZZ		57107	097-R100	TRANSFORMER, 440VAC/ 24VAC	EA	1
3201	VM16	PBFZZ	5930-01-075-8608	57107	076-R100	SWITCH, THERMOSTATIC	EA	1
3201	VM16	PBFZZ		57107	036-002	INDICATOR, MOISTURE	EA	1
3201	VM16	PBFZZ		57107	156-002	VALVE, THERMAL EXPANSION	EA	1
3201	VM16	PBFZZ		57107	117-001	DRYER	EA	1
3201	VM16	PBFZZ		57107	024-R102	FILTER, AIR	EA	7

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 33: COMMUNICATION SYSTEM (97403-13226E1933)		
33	10	XDFZZ		28763	1001-1100	HORN W/TIMER	EA	1
33	12	XDFZZ	6145-00-110-2066	81349	DSGU-4	CABLE, POWER, ELECTRI	FT	V
33	8	XDFDD		28763	9040-0033	REGULATOR, SS	EA	1
33	11	XDFZZ	6145-00-110-2537	81349	7SGU-4	CABLE, POWER, ELECTRI	FT	V
33	9	XDFDD		28763	9001-0454	REMOTE CONTROL ASSY	EA	1
33	26	XDFDD		61057	866S	RADIO MARINE VHF FM	EA	2
33	4	XDFDD	5985-00-985-9024	80058	AS-1729/VRC	ANTENNA	EA	1
33	7	XDFZZ		81349	RG-58	CABLE ELECTRICAL	FT	V
33	6	XDFDD		80058	CX-4722/VRC	CABLE ELECTRICAL	EA	1
33	3	XDFZZ	5820-00-893-1323	80058	MT-1029/VRC	BASE, MOUNTING	EA	1
33	2	XDFDD	5965-01-082-5861	80058	M-80/GR	MICROPHONE DYNAMIC	EA	1
33	1	XDFDD	5820-00-892-0622	80058	RT-524/VRC	RCVR TRAN	EA	1
33	5	XDFDD		80058	CX-4720/VRC	CABLE ELECTRICAL	FT	V
33	25	XDFDD		71483	H3342	TELEPHONE SET, HEAD	EA	15
33	21	XDFZZ		71483	C35-25	CORD, EXTENSION	EA	10
33	14	XDFZZ		52782	10444-003	STOWAGE BOX TEL	EA	6
33	23	PBFZZ		52782	MQDEL874-N5	BUZZER	EA	14
33	19	XDFZZ	6145-00-110-6509	81349	2SWAU-7	CABLE, COMMUNICATION	FT	V
33	17	XDFZZ	5940-00-215-5959	81349	M24558/2435.1	TERMINAL BOX	EA	1
33	16	XDFDD		21260	WE-2	TELEPHONE DESK	EA	1
33	24	XDFDD		71483	M3146	HAND SET ADPTR MDL	EA	1
33	28	XDFDD		71483	M3141	HEADSET STATION	EA	21

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
33	15	XDFZZ		72041	S1962	PLATE, PROTECTIVE	EA	21
33	20	XDFZZ		75282	FSC-1	BOX, SINGLE,	EA	21
33	22	PBCDD		52782	MODEL 6850-138	LIGHT STROBE	EA	3
33	18	XDFZZ	5940-00-869-7092	81349	M24558/18-004	TERMINAL BOX	EA	3
33	27	XDFDD		52782	801401	SPKR, INDOOR MONITOR	EA	1
33	29	XDFDD	5830-01-028-6047	71483	M3131	AMPLIFIER, AUDIO	EA	1
33	30	XDFDD		71483	M3116	POWER CONTROL MDL	EA	1
33	31	XDFZZ		00843	A-884GSC	BOX	EA	1
33	32	XDCDD		61057	HX500S	TRANSCEIVER, VHF/FM	EA	3
33	33	XDCDD		61057	CSB50AM	CHARGER, BATTERY	EA	1
33	34	XDFZZ		01121	EB18/2	RESISTOR, FIXED	EA	23
33	35	XDFZZ		COMML	28F1998	SWITCH, ROTARY	EA	1
35	36	XDFZZ		COMML	23F055	SWITCH, MOM	EA	1
33	42	XDFZZ		04963	4262	TAPE, ATTACHMENT	IN	V
33	41	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN	EA	V
33	40	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
33	39	XDFZZ		84483	008-703	STUD, WELD	EA	V
33	38	XDFZZ		96906	MS20604	RIVET	EA	V
33	37	XDFZZ		97403	13226E1933-37	PLACARD, INSTRUCTION	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3306	VM12	XDCZZ		61057	FS11000010	GROUP 3306: RADIO, MARINE, VHF, FM FUSE, 10A	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3309	VM12	PBCZZ				GROUP 3309: POWER CONTROL MDL FUSE, 1/2A	EA	1
3309	VM12	PBCZZ	6240-00-295-1617	08108	334	LAMP, INCANDESCENT	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3312	VM12	XDFZZ		61057	CNB4	GROUP 3312: RADIO, MARINE, HF FM BATTERY PACK	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3313	VM12	XDCZZ		61057	FS20300700	GROUP 3313: BATTERY CHARGER FUSE	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 34: ELECTRIC POWER SYSTEM LAYOUT (97403-13226E1935)		
34	13	XDFZZ		76857	CAT. NO. 1231	RECEPTACLE	EA	4
34	8	XDFZZ		78011	JRFA2033F	RECEPTACLE 3PH/3W	EA	1
34	24	XDFZZ		78011	JP2033f	PLUG, 3PH/3W	EA	1
34	14	XDFZZ	5945-00-021-1076	81487	B17.5	HEATER, THERMAL	EA	2
34	5	XDFDD		81487	8538 SCA-21 AFI	STARTER, AC, 7 1/2HP	EA	1
34	33	PAFZZ		81487	C59.4	HEATER, THERMAL	EA	6
34	9	XDFDD		81487	8538 SEA-21 AFTC 440V-3PH-60HZ	STARTER, MOTOR	EA	2
34	39	PAFZZ	5925-00-374-1690	81487	B11-5	HEATER, THERMAL	EA	24
34	40	PAFZZ	5999-00-868-8487	81487	B2-40	HEATER, THERMAL	EA	9
34	10	PBFDD		81487	2510MCA-23440V- 3PH-60HZ	STARTER, MOTOR	EA	9
34	41	PAFZZ	5999-00-769-4976	81487	B1.45	HEATER, THERMAL	EA	6
34	42	PAFZZ	5925-00-924-6296	81487	B6.90	HEATER, THERMAL	EA	3
34	43	PAFZZ	5999-00 81487	B5.50		HEATER, THERMAL	EA	3
34	11	XDFDD		81487	8538-SBA-21 -AFT 440V-3PH-60HZ	STARTER, MOTOR	EA	6
34	6	XDFZZ	6120-00-500-4198	55947	2S1F	TRANSFORMER, POWER	EA	1
34	12	XDFZZ		56365	BW 151	PUSHBUTTON STATION	EA	1
34	7	XDFZZ	6120-01-052-3980	30552	9T21B9109	TRANSFORMER 15KVA	EA	3
34	15	XDFZZ	5940-00-024-0128	81349	M24558/18-001	TERMINALS	EA	7
34	16	XDFDD		81487	BW 240	CONTROL STATION	EA	7
34	29	XDFDD		29924	MODEL 924	ANALYZER/XMTR, CHLORINE	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
34	1	XDFDD		COMML	55-1930	SWITCHBOARD 440 VAC	EA	1
34	3	XDFDD	6110-00-989-7474	80064	2532	PANEL DISTRIBUTION	EA	1
34	4	XDFDD	6110-00-295-2749	92772	H-613-AALB-5	PANEL DISTRIBUTION	EA	1
34	34	XDFDD	6110-00-993-3352	80064	2533	PANEL DISTRIBUTION	EA	1
34	2	XDFZZ	6145-00-110-2065	81349	SGU-3	CABLE, POWER, ELECTRI	FT	V
34	23	XDFDD	6625-01-211-5545	81349	M24395/1-001	PANEL, GROUND DETECT	EA	1
34	18	XDFZZ	6145-00-110-2272	81349	TSGU-9	CABLE, POWER, ELECTRI	FT	V
34	19	XDFZZ	6145-00-110-2032	81349	FSGU-4	CABLE, POWER, ELECTRI	FT	V
34	20	XDFZZ	6145-00-110-2244	81349	TSGU-3	CABLE, POWER, ELECTRI	FT	V
34	21	XDFZZ	6145-00-110-2066	81349	DSGU-4	CABLE, POWER, ELECTRI	FT	V
34	22	XDFZZ	6145-00-110-2285	81349	TSGU-14	CABLE, POWER, ELECTRI	FT	V
34	25	XDFZZ	6145-00-110-2262	81349	TSGU-4	CABLE, POWER, ELECTRI	FT	V
34	26	XDFZZ	6145-00-110-1992	81349	TSGU-75	CABLE, POWER, ELECTRI	FT	V
34	27	XDFZZ	6145-00-110-2074	81349	DSGU-9	CABLE, POWER, ELECTRI	FT	V
34	30	XDFZZ	6145-00-110-2461	81349	TSGU-23	CABLE, POWER, ELECTRI	FT	V
34	31	XDFZZ	6145-00-110-2537	81349	7SGU-4	CABLE, POWER, ELECTRI	FT	V
34	32	XDFZZ	6145-00-110-1991		TSGU-50	CABLE, POWER, ELECTRI	FT	V
34	36	XDFZZ	6145-00-110-6337	81349	TSG-150	CABLE, POWER, ELECTRI	FT	V
34	38	XDFZZ		81349	TSS-2	CABLE, SHIELDED, ELEC	FT	V
34	37	XDFZZ		81349	TSS-3	CABLE, SHIELDED, ELEC	FT	V
34	17	XDFZZ	6145-00-110-6339	81349	TSGU-300	CABLE, POWER, ELECTRI	FT	V
34	28	XDFZZ		04221	189-11C100	RELAY, 24V, NO, SPST	EA	1
34	31	XDFDD		58584	9009-HCMC	ANTI-2 BLOCK SYSTEM	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
34	35	XDFZZ		06321	5X841	RELAY, 3PDT	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3401	VM9	PAFZZ		11083	469	GROUP 3401: SWITCH-BOARD, 440 VAC, MARINE TYPE	EA	3
3401	VM9	PAFZZ		11083	400	POTENTIAL TRANSFORMER	EA	1
3401	VM9	PAFZZ		11083	263	UNDERVOLT TRANSFORMER	EA	1
3401	VM9	PAFZZ		25248	720TDI	PHASE ROTATION RELAY	EA	1
3401	VM9	PAFZZ	5945-00-022-5911	77342	KRPA14AG	REVERSE POWER RELAY	EA	1
3401	VM9	PAFZZ		COMML	URD 2A	RELAY, ELECTRO-MAGNETIC	EA	10
3401	VM9	PAFZZ		COMML	MOL 250	FUSE, 600V	EA	10
3401	VM9	PAFZZ		08806	656-30	FUSE, 1A, 250V	EA	20
3401	VM9	PAFZZ		08806	656-120	BULB, 30V	EA	20
3401	VM9	PAFZZ		72619	820-0115-500	BULB, 120V	EA	2
3401	VM9	PAFZZ		72619	820-0114-500	LENS, LIGHT, WHITE	EA	2
3401	VM9	PAFZZ	6210-01-049-6652	72619	820-0111-500	LENS, LIGHT, BLUE	EA	2
3401	VM9	PAFZZ		72619	80-1237403	LENS, LIGHT, RED	EA	2
3401	VM9	PAFZZ		72619	80-1237403	LENS, LIGHT, CLEAR	EA	2
3401	VM9	PAFZZ		COMML	ASM-24	AUTO START MODULE	EA	3
3401	VM9	PAFZZ		COMML	LM4	LIGHT MODULE	EA	3

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 3403: STARTER		
3403	VM9	PBFZZ		08556	CLASS 9998 TYPE SL-3	CONTACT KIT	KT	1
3403	VM9	PBFZZ		08556	CLASS 90001 TYPE KR-1 RH5	SWITCH, UNIVERSAL	EA	1
3403	VM9	PBFZZ		08556	CLASS 9001 TYPE KR-1BH6	SWITCH, START-STOP	EA	1
3403	VM9	PBFZZ		08556	CLASS 9001 TYPE KS-49	SWITCH, 3 POSITION	EA	1
3403	VM9	PBFZZ		08556	CLASS 9070 TYPE EO-2	TRANSFORMER	EA	1
3403	VM9	PBFZZ		08556	CLASS 9998 TYPE SL-6	CONTACT KIT	KT	1
3403	VM9	PBFZZ		08556	CLASS 9998 TYPE SL-2	CONTACT KIT	KT	1
3403	VM9	PBFZZ		81487	31041-400-38	COIL	EA	1
3403	VM9	PBFZZ	4130-00-012-5896	81487	31041-400-42	COIL, STARTER	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3404	VM9	PBFZZ		08556	CLASS 9998 TYPE SL-6	CONTACT KIT	KT	1
3404	VM9	PBFZZ		81487	31041-400-38	COIL	EA	1
3404	VM9	PBFZZ		08556	CC54.4	THERMAL OVERLAD	EA	1
3404	VM9	PBFZZ		08556	CLASS 90001 TYPE KR-1 RH5	SWITCH, UNIVERSAL	EA	1
3404	VM9	PBFZZ		08556	CLASS 9001 TYPE KR-1 BH6	SWITCH, START-STOP	EA	1
3404	VM9	PBFZZ		08556	CLASS 9001 TYPE KS-49	SWITCH, 3 POSITION	EA	1
3404	VM9	PBFZZ		08556	CLASS 9070 TYPE EO-2	TRANSFORMER	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 3404: CONTROL UNIT		
3404	VM4	PBFZZ		52147	824-240	SENSOR MEMBRANE KIT	KT	1
3404	VM4	PBFZZ		52147	8124-10SP	MEMBRANE KIT	KT	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3406	VM9		5920-00-296-1517	81349	FO3A250V3A	GROUP 3406: PANEL, GROUND DETECT FUSE, CARTRIDGE	EA	3
3406	VM9		6240-00-270-4697	96906	MS15612-3	LAMP, INCANDESCENT	EA	3

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3407	VM9	PAFZZ		58584	FUSE, 20A/12V	GROUP 3407: ANTI-TWO BLOCK SYSTEM FUSE, CARTRIDGE	EA	1
3407	VM9	PAFZZ		58584	BULB, WARNING LIGHT	LAMP, INCANDESCENT	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 35: LIGHTING SYSTEM (97403-13226E1937)		
35	11	XDFDD	6230-00-067-4882	81349	M16377/16-141.2	LAMP DESK	EA	1
35	5	XDFDD		80064	SYM 333.1	FIXTURE, FLUORESCENT	EA	70
35	15	XDFZZ		76857	CAT. NO. 1202	RECEPTACLE DOUBLE	EA	21
35	4	XDFZZ	5930-01-PAE-4561	81349	M15743/1-001	SWITCH RTRY-SNAP	EA	1
35	6	XDFZZ	5930-01-PAE-1755	81349	MIS743/8-002	SWITCH RTRY-SNAP	EA	1
35	8	XDFZZ	5930-00-258-5657	81349	9000S6202-74304 REVATYPE A53A	SWITCH, DOOR INTERLO	EA	2
35	12	XDFZZ	5930-00-309-0816	80064	9000S6202-74303 TYPE 52A	SWITCH, DOOR INTERLO	EA	1
35	14	XDFZZ		03512	9T21B1001G02	TRANSFORMER	EA	1
35	1	XDFZZ		78229	WBHT-8	BOX, CONNECTION	EA	2
35	17	XDFZZ		78229	52-C-Q	COVER	EA	32
35	18	XDFZZ	5975-00-284-5827	78229	52171-1/2	JUNCTION BOX	EA	32
35	2	XDFDD		81349	M23928/1-15-DP	PANEL DISTRIBUTION	EA	2
35	15	XDFDD		81349	M23928/2-04-DP	PANEL POWER DISTR	EA	1
35	3	XDFZZ	6145-00-110-2066	81349	DSGU-4	CABLE, POWER, ELECTRI	FT	V
35	7	XDFZZ	6145-00-110-2272	81349	TSGU-9	CABLE, POWER, ELECTRI	FT	V
35	9	XDFZZ	6145-00-110-2537	81349	7SGU-4	CABLE, POWER, ELECTRI	FT	V
35	10	XDFZZ	6145-00-110-2032	81349	FSGU-4	CABLE, POWER, ELECTRI	FT	V
35	13	XDFZZ	6145-00-110-2285	81349	TSGU-14	CABLE, POWER, ELECTRI	FT	V
35	19	XDFZZ	6145-00-110-2066	81349	DSGU-4	CABLE, POWER, ELECTRI	FT	V
35	20	XDFZZ	6145-00-110-2285	81349	TSGU-14	CABLE, POWER, ELECTRI	FT	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
35	21	XDFZZ	6350-00-240-3730	28199	20-162	BELL	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 36: EMERGENCY ELECTRICAL POWER LIGHTING SYSTEM (97403-13226E1938)		
36	10	XDCZZ		COMM	NS-305	BATTERY MARINE	EA	4
36	18	XDFZZ	5930-01-067-0985	56365	DU221RB	SWITCH, BOX	EA	1
36	30	XDFZZ		02929	10F7866	RELAY,4PST	EA	1
36	14	XDFZZ		81349	SSGU-4	WIRE, ELECTRICAL	FT	V
36	16	XDFZZ		02735	SKMV250J/2V250	VOLTAGE SUPPRESSOR	EA	1
36	8	XDFDD		92731	A-33-60-24V	CHARGER BATTERY	EA	1
36	23	XDFZZ		02929	60F3112	RELAY, LATCHING	EA	1
36	24	XDFZZ		02929	60F3117	SOCKET, RELAY	EA	1
36	28	XDFZZ		02929	56F971	RELAY, HOLDING	EA	2
36	9	XDFDD		92731	A51-1.5K-24V	INTERTER STAND-BY	EA	1
36	1	XDFDD		81349	M23928/2-04-DP	PANEL POWER-DISTR	EA	2
36	20	XDFZZ		78229	52-C-O	COVER	EA	13
36	19	XDFZZ	5975-00-284-5827	78229	583711-2	JUNCTION BOX	EA	13
36	4	XDFDD	6210-00-519-2578	81349	M16377/27-93.2	FIXTURE, LIGHTING	EA	4
36	21	XDFZZ	5940-00-216-7406	81349	M24558/22-415.4	TERMINAL BOX		1
36	15	XDFDD		02929	05F1142	MODULAR POWER SPLY	EA	1
36	2	XDFDD	6210-00-548-0222	81349	M16377/8-331.41	FIXTURE, FLUORESCENT	EA	19
36	5	XDFZZ	5999-00-879-1521	81349	M2726/21-001	RECEPTACLE CONN	EA	3
36	6	XDFZZ	6145-00-110-2066	81349	DSGU-4	CABLE, POWER, ELECTRI	FT	V
36	7	XDFZZ	6145-00-110-2074	81349	DSGU-9	CABLE, POWER, ELECTRI	FT	V
36	17	XDFZZ	6145-00-110-2384	81349	DSGU-23	CABLE, POWER, ELECTRI	FT	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
36	26	XDCZZ		02929	35F2790	LENS	EA	1
36	27	PACZZ		02929	35F2806	LAMP, CLEAR	EA	1
36	25	XDFZZ		02929	35F2829	SOCKET, LAMP	EA	1
36	22	XDFZZ		02929	8F1867	SWITCH, TOGGLE	EA	4
36	29	XDFZZ	5975-00-834-0568	00843	A-404LP	JUNCTION BOX	EA	3
36	13	XDFZZ	6145-00-110-2262	81349	TSGU-4	CABLE, POWER, ELECTRI	FT	V
36	31	PACZZ		02929	28F265	FUSE, 20A/250V	EA	2
36	3	XDFZZ		78229	1247	FUSE, BOX W/COVER	EA	1
36	12	XDFZZ		81349	SSGU-9	WIRE, ELECTRICAL	FT	V

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
3603	VM10	XDCZZ	6240-00-143-3070	96906	MS15586-2	GROUP 3603: FIXTURE, LIGHTING, INCANDES- CENT LAMP, INCANDESCENT	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 3604: CHARGER, BATTERY		
3604	VM9	PBFZZ	5920-01-149-9738	92731	P8-C2-B50	FUSE, CARTRIDGE	EA	1
3604	VM9	PBFZZ	5920-01-156-8516	92731	P8-A1-A100	FUSE	EA	3
3604	VM9	PBFZZ	5961-01-173-2704	92731	P17-200-150J1	SEMICONDUCTOR DEVICE	EA	2
3604	VM9	PBFZZ		92731	P1DV-M35-B55	METER, VOLT	EA	1
3604	VM9	PBFZZ		92731	P1DA-M100-B135	AMMETER	EA	1
3604	VM9	PBFZZ		92731	AC1-83-18	CONTROL UNIT	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 3605: INVERTER, STANDBY		
3605	VM9	XDFZZ	5920-01-188-0047	92731	P8-A1-A130	FUSE, CARTRIDGE	EA	3
3605	VM9	XDFZZ		92731	P8-D1-B4	FUSE, CARTRIDGE	EA	3
3605	VM9	XDFZZ	5920-01-116-8865	92731	P8-A1-A200	FUSE, CARTRIDGE	EA	3

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 37: NAVIGATION EXTERIOR LIGHTING SYSTEM (97403-13226E1940)		
37	10	PBCZZ		46576	FIG. 374-2	BULB SINGLE CONTACT	EA	4
37	1	XDFDD		46576	FIG. 1127-GA	LIGHT STBD, GREEN	EA	1
37	2	XDFDD		46576	FIG. 1127-RA	LIGHT PORT RED	EA	1
37	18	XDFDD		46576	FIG. 1130A	LIGHT, WHITE, 24VDC	EA	1
37	5	XDFDD		46576	FIG. 1129A	LIGHT STERN WHITE	EA	1
37	16	XDFDD		COMML	AQUA SIGNAL 70	LIGHT RED	EA	2
37	15	XDFDD		COMML	AQUA SIGNAL 70	LIGHT WHITE	EA	2
37	17	XDFZZ		76857	NO. 250	PLUG 20A, 125V	EA	3
37	9	XDFZZ		76857	NO. 1233	RECEPTACLE 20A 125V	EA	1
37	3	PBCZZ	6240-00-056-0737	96906	MS15535-6	LAMP, INCANDESCENT	EA	3
37	4	XDFDD	6230-00-889-1559	01349	M16377/61-303.1	FLOODLIGHT	EA	3
37	12	XDFZZ		78229	52-C-O	COVER	EA	6
37	7	XDFDD		78011	LVWA 15G	FIXTURE	EA	10
37	6	XDFZZ	5930-01-PAG4561	81349	M15743/1-001	SWITCH RTRY-SNAP	EA	2
37	13	XDFZZ	5930-01-222-6650	81349	M15743/84-001	SWITCH DPOT	EA	2
37	8	XDFZZ	5975-00-194-8877	78229	52171-1/2	JUNCTION BOX	EA	6
37	11	XDFZZ	6145-00-110-2066	81349	DSGU-4	CABLE, POWER, ELECTRI	FT	V
37	14	XDFZZ	6145-00-110-2032	81349	FSGU4	CABLE, POWER, ELECTRI	FT	V
37	19	PBCZZ		46576	2-12"-844	BULB, SEARCHLIGHT	EA	2
37	20			46576	800SERIES FIG. 883-2	SEARCHLIGHT	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 38: BALLAST SYSTEM (97403-13226E1942)		
38	15	XDFDD		79128	TYPE 1600-W	VALVE AIR ESC 3IN	EA	1
38	3	XDFZZ		04034	86615, TYPEC	INDICATOR LEVEL	EA	1
38	4	XDFZZ	4730-00-266-3907	81349	WWU531-05TA	UNION, PIPE	EA	2
38	11	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON	EA	24
38	12	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER LOCK	EA	24
38	9	XDFZZ		81349	MIL-G-1149TYPE I, CLASS 1	GASKET 1/161N	SH	V
38	16	XDFZZ		81349	RR-W-360TY1, CL1	WIRE FABRIC	SH	V
38	7	XDFZZ		12168	FIG. 771	FLANGE, 41N, 150LB	EA	1
38	23	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
38	22	XDFZZ	5310-00-757-7837	96906	MS24679-411	NUT, PLAIN	EA	V
38	21	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
38	20	XDPZZ		84483	008-703	STUD, WELD	EA	V
38	19	XDFZZ		96906	MS20604	RIVET	EA	V
38	18	XDFZZ		97403	13226E1942-18	PLACARD, INSTRUCTION	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 39: VOID NO. 4 VENTILATION SYSTEM (97403-13226E1936)		
39	23	XDFZZ	5310-00-768-0321	96906	MS51971-5	NUT PLAIN HEX	EA	192
39	22	XDFZZ	5310-00-768-0321	96906	MS35338-143	WASHER LOCK	EA	192
39	21	XDFZZ	5310-00-656-0114	96906	MS15795-819	WASHER FLAT	EA	192
39	20	XDFZZ	5305-00-907-0045	96906	MS35307-412	SCREW, CAP, HEXAGON H	EA	128
39	4	XDFDD			JE-105	VENTILATOR MUSHROOM	EA	2
39	19	XDFZZ	5310-00-913-8881	96906	MS51971-3	NUT PLAIN HEXAGON	EA	288
39	18	XDFZZ	5310-00-984-7042	96906	MS35338-141	WASHER, LOCK	EA	288
39	17	XDFZZ	5310-00-595-6057	96906	MS15795-815	WASHER, FLAT	EA	168
39	16	XDFZZ	5305-00-721-5665	96906	MS35307-361	SCREW, CAP, HEXAGON	EA	168
39	15	XDFZZ	4730-00459-2626	39428	1781K3	CONNECTOR DUCT FLEX	EA	V
39	1	XDFDD		6M080	TD3012P4XY	FAN W/5 HP MOTOR	EA	2
39	8	XDFDD		97537	JE-109 SIZE A10	INTAKE VENT W/SCRN	EA	2
39	37	XDFZZ	5310-01-034-2835	96906	MS51922-19	NUT, SELF-LOCKING, HEX	EA	124
39	36	XDFZZ		39428	90062A017	WASHER SHOULDER	EA	124
39	35	XDFZZ	5305-00-004-7111	96906	MS35309-360	SCREW, CAP, HEXAGON H	EA	124
39	6	XDFZZ		81349	MIL-G-114C TYPE I, CLASS 1	GASKET 3/16 IN	SH	V
39	26	XDFZZ	5305-00-717-5460	96906	MS35307-359	SCREW, CAP, HEXAGON H	EA	120
39	24	XDFZZ		5M180	L375D	LOUVER, STA, DRAIN- ABLE	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
39	41	XDFZZ	5310-00-934-9759	96906	MS35649-284	NUT, PLAIN, HEXAGON	EA	76
39	40	XDFZZ	5310-00-933-8119	96906	MS35338-137	WASHER, LOCK	EA	76
39	39	XDFZZ	5310-00-225-5328	96906	MS15795-841	WASHER, FLAT	EA	76
39	38	XDFZZ	5305-00-054-6672	96906	MS51957-47	SCREW, MACHINE	EA	76
39	34	XDFZZ		97537	JE-111	GRILL WIRE MESH	EA	2
39	44	XDFZZ		80204	ANS B18.17 TYPE A	NUT, WING	EA	12

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 40:		
						BATTERY BOX (97403-13226E1943)		
40	21	XDFZZ		81349	MIL-L-2037 CLA GR I	WOOD OAK 21N X 81IN	FT	V
40	22	XDFZZ		81349	MIL-L-2037 CLA GR I	WOOD OAK 21N X 41N	FT	V
40	7	XDFZZ		74309	NO. 917	HASP SAFETY 61N	EA	1
40	25	XDFZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN HEXAGON	EA	28
40	16	XDFZZ	5310-00-582-5965	96906	MS35338-44	WASHER LOCK	EA	28
40	17	XDFZZ	5305-00-068-0502	96906	MS90725-6	SCREW, CAP, HEXAGON H	EA	10
40	24	XDFZZ	5305-00-068-0501	96906	MS90725-5	SCREW, CAP, HEXAGON H	EA	18
40	15	XDFZZ		81349	MIL-G-1149 TYPE I, CLASS 1	GASKET 1/8 IN THK	SH	V
40	8	XDFZZ		74309	CB 1941	HINGE JOINT 51N	EA	3
40	18	XDFZZ		81349	MIL-S-24235/10	TUBE STUFFING	EA	1
40	14	XDFZZ		81348	QQL201GRAD B	LEAD SHEET 1/16 IN	LB	V
40	12	XDFZZ	5310-00-763-8921	96906	MS51967-23	NUT, PLAIN, HEXAGON	EA	4
40	13	XDFZZ	5310-00-584-7888	96906	MS35338-51	WASHER LOCK	EA	4
43	11	XDFZZ	5305-00-940-8070	96906	MS90725-183	SCREW, CAP, HEXAGON H	EA	4

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 41: FENDERING SYSTEM (97403-13226E1950)		
41	7	XDFZZ		97403	13226E1950-7	NUT	EA	230
41	8	XDFZZ		97403	13226E1950-8	WASHER, LOCK	EA	230
41	6	XDFZZ		97403	13226E1950-6	SCREW, HEX HD	EA	230
41	1	XDFZZ		COMML	5606	FENDER, RUBBER 60 IN	EA	34
41	2	XDFZZ		97403	13226E1950-2	FENDER, RUBBER, 51 FT	EA	2
41	3	XDFZZ		97403	13226E1950-3	FENDER, RUBBER, 48 FT	EA	2
41	4	XDFZZ		97403	13226E1950-4	FENDER, RUBBER, 24 IN	EA	24

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 42: EQUIPMENT SHUTDOWN SYSTEM (97403-13226E1944)		
42	1	XDFDD		08556	KY-1	STATION, PUSHBUTTON	EA	13
42	6	XDFDD		02989	TRM-4	SWITCH, PUSHBUTTON	EA	13
42	2	XDFZZ		00843	A-16128JFG	ENCLOSURE NEMA TY4	EA	1
42	3	XDFDD		08556	XD0-80	RELAY CONTROL 24VDC	EA	1
42	5	XDFZZ	6145-00-110-2066	81349	DSGU-4	CABLE, POWER, ELECTRI	FT	V
42	4	XDFZZ	6145-00-110-2032	81349	FSGU-4	CABLE, POWER, ELECTRI	FT	V
42	7	XDFDD	4810-01-185-9405	04845	8210C33	VALVE, SOLENOID	EA	2
42	8	XDFDD		60219	K10AA173	VALVE, SOLENOID	EA	2
42	11	XDFZZ		39428	91773A251	SCREW, MACHINE	EA	52
42	10	XDFZZ		34928	7527K71	TERMINAL BLOCK	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 43: ROWPU MODIFICATION (97403-13226E1945)		
43	6	XDFZZ		80204	ANS B16.11	COUPLING, STRAIGHT	EA	2
43	11	XDFZZ		80204	ANS B16.11	BUSHING, 1/2 X 1/8	EA	2
43	12	XDFZZ	4730-00-396-0162	28968	4AM-2	ADAPTER, STRAIGHT	EA	2
43	5	XDFZZ		81346	GR TP316	TUBE 1/41N OD	FT	V
43	4	XDFDD		18034	SS-4P4T1	VALVE PLUG 1/41N	EA	2
43	9	XDFZZ	5310-00-767-0445	96906	MS51971-2	NUT, PLAIN, HEXAGON	EA	4
43	8	XDFZZ	5310-00-974-6623	96906	MS35338-140	WASHER, LOCK	EA	4
43	8	XDFZZ	5306-00-543-4405	96906	MS35307-334	BOLT MACHINE	EA	4
43	14	XDFZZ	5305-00-269-3211	96906	MS90725-60	SCREW, CAP, HEXAGON	EA	4
43	16	XDFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	4
43	15	XDFZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEX	EA	4
43	13	XDFZZ		31714	XCAD-13T	OILDEX SYSTEM	EA	2
43	23	XDFZZ	4730-00-196-1502	96906	MS51953-29	NIPPLE, PIPE	EA	2
43	.24	XDFZZ	5340-00-281-1536	96906	MS21314-2	STRAP, RETAINING	EA	2
43	25	XDFZZ	5305-00-989-7434	96906	MS35207-263	SCREW, MACHINE	EA	4
43	26	XDFZZ	5310-00-045-3296	96906	MS35338-43	WASHER, LOCK	EA	4
43	27	XDFZZ	5310-00-934-9751	96906	MS35650-302	NUT, PLAIN, HEX	EA	4
43	33	XDFZZ		63686	3095	VALVE, GLOBE	EA	1
43	34	XDFZZ		92021	MPB-19-SB	VALVE, BALL, 3-WAY	EA	4
43	35	XDFZZ		92021	3"-SPB-19-SB2	VALVE, BALL	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 44: REMOVABLE FLOOR COVERING (97403-13226E1946)		
44	1	XDCZZ		13171	839451BK	MATTING 8-0X3-0	EA	1
44	2	XDCZZ		13171	839450BK	MATTING 9-0X2-0	EA	1
44	3	XDCZZ		13171	839450BK	MATTING 10-0X2-0	EA	1
44	4	XDCZZ		13171	839450BK	MATTING 8-0X2-0	EA	1
44	5	XDCZZ		13171	839450BK	MATTING 7-0X2-0	EA	2
44	6	XDCZZ		13171	839451BK	MATTING 7-0X3-0	EA	1
44	7	XDCZZ		13171	839451BK	MATTING 11-3X3-0	EA	1
44	8	XDFZZ		13171	839451BK	MATTING 8-0X3-0	EA	1
44	9	XDCZZ		13171	839450BK	MATTING 7-0X20-0	EA	1
44	10	XDCZZ		13171	839450BK	MATTING 3-0X1-4	EA	2
44	11	XDCZZ		13171	839451BK	MATTING 13-0X3-0	EA	2
44	12	XDCZZ		13171	839450BK	MATTING 12-0X2-0	EA	1
44	13	XDCZZ		13171	839450BK	MATTING 10-0X2-0	EA	1
44	14	XDCZZ		13171	839450BK	MATTING 10-0X2-0	EA	1
44	15	XDCZZ		13171	839450BK	MATTING 11-0X2-0	EA	1
44	16	XDCZZ		13171	839451BK	MATTING 15-0X3-0	EA	1
44	17	XDCZZ		13171	839450BK	MATTING 10-0X2-0	EA	1
44	18	XDCZZ		13171	839450BK	MATTING8-0X1-6	EA	1
44	19	XDCZZ		13171	839450BK	MATTING 9-0X2-0	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 45: SMOKE DETECTOR SYSTEM (97403-13226E1947)		
45	13	XDFZZ		39428	5416K15	CLAMP, HOSE, WORM DRI	EA	18
45	12	XDFZZ		39428	5416K25	CLAMP, HOSE, WORM DRI	EA	6
45	15	XDFDD		62142	898649	BLOWER CABINET ASSY	EA	1
45	10	XDFZZ		39428	5497K11	HOSE, FLEX, 3/41N	FT	V
45	8	XDFZZ		39428	5497K23	HOSE, FLEX, 3 1/21N	FT	V
45	9	XDFZZ		80204	ANS B16.3 CLASS 150	COUPLING, STRAIGHT, 3	EA	1
45	11	XDFZZ		62142	219410	VALVE, OLFACTORY	EA	1
45	14	XDFDD		62412	486149-08	DETECTOR CABINET AS	EA	1
45	16	XDFZZ		50556	2580-20	HOSE, FLEX, 1.121N ID	FT	V
45	17	XDFZZ		81348	WWU531-61TA	UNION, PIPE	EA	13
45	5	XDFZZ		80204	ANS B16.3 CLASS 150	COUPLING, STR, 3/41N	EA	22
45	3	XDFZZ		80204	ANS B16.3 CLASS 150	TEE, STRAIGHT, 3/41N	EA	1
45	4	XDFZZ		62142	964008	ACCUMULATOR, STD SMO	EA	9

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 4501: DETECTOR CABINET ASSEMBLY		
4501	VM17	PBFZZ		62142	898793	MODULE, SMOKE DETECTOR	EA	1
4501	VM17	PBFZZ		62142	878206	MODULE, BLANK	EA	2
4501	VM17	PBFZZ		62142	262211	LAMP, EXCITED	EA	4
4501	VM17	PBFZZ		62142	230752-01	FUSE, FNM-30	EA	4
4501	VM17	PBFZZ		62142	230750-03	FUSE, AGC-1	EA	6
4501	VM17	PBFZZ		62142	230750-01	FUSE, AGC-3	EA	2
4501	VM17	PBFZZ		62142	230750-04	FUSE, MTH-6	EA	4
4501	VM17	PBFZZ		62142	30353-02	RELAY, PB-R10EM4	EA	2
4501	VM17	PBFZZ		62142	230353-04	RELAY, PB-R 10EY4	EA	1
4501	VM17	PBFZZ		62142	262210	LAMP, RED	EA	1
4501	VM17	PBFZZ		62142	262208	LAMP, AMBER	EA	2
4501	VM17	PBFZZ		62142	262088	LAMP, GREEN	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 46: HALON SYSTEM (97403-13226E1948)		
46	1	XDFZZ	5210-00-473-5975	33525	871403	BOX, PULL, MANUAL	EA	2
46	40	XDFZZ		39428	3450T24	CABLE, WIRE ROPE	FT	V
46	7	XDFZZ		33525	60532	BRACKET	EA	2
46	5	XDFZZ	4210-00-318-7425	33525	803808	PULLEY, CORNER	EA	26
46	3	XDFZZ		81346	WWU531-59TA	UNION, PIPE	EA	8
46	4	XDFZZ		80204	ANS B16.3 CLASS 300	COUPLING, STRAIGHT	EA	6
46	6	XDFZZ		33525	840058	DUAL PULL MECHANISM	EA	1
46	12	XDFZZ		81348	WWU531-60TA	UNION, PIPE	EA	4
46	13	XDFZZ		80204	ANS B16.3 CLASS 300	COUPLING, STRAIGHT	EA	2
46	9	XDFZZ	6350-00-009-8818	33525	981574	SIREN, PRESSURE OPER	EA	2
46	37	XDFZZ		33525	29474463	NOZZLE, DISCHARGE	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
46	21	XDFZZ		81348	WWU531-61TA	UNION, PIPE	EA	1
46	32	XDFZZ		33525	870123	VALVE, STOP	EA	1
46	33	XDFZZ		33525	870652	CONTROL HEAD	EA	1
46	24	XDFZZ		33525	844226	LOOP, FLEX	EA	1
46	23	XDFZZ		80204	ANS B16.15 CLASS 250	BUSHING, 3/4" X 3/8"	EA	1
46	22	XDFZZ		33525	896677	DELAY, DISCHARGE	EA	1
46	34	XDFZZ		81348	WWU531-64TA	UNION, PIPE	EA	2
46	35	XDFZZ		80204	ANS B16.3 CLASS 300	COUPLING, STRAIGHT	EA	2
46	17	XDFZZ		33525	873752	SWITCH, PRESSURE OP	EA	1
46	16	XDFZZ	4210-00-078-0626	33525	875553	INDICATOR, DISCHARGE	EA	1

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
46	18	XDFZZ		33525	844346	OUTLET, SAFETY	EA	1
46	27	XDFZZ		33525	281866	STRAP, CYLINDER	EA	4
46	25	XDFZZ		33525	897793	CYLINDER, W/VALVE	EA	2

Section II. REPAIR PARTS LIST (Cont).

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION <i>USABLE ON CODE</i>	U/M	QTY INC IN UNIT
						GROUP 47: CAUTION, WARNING, & DANGER SIGNS (97403-13226E1951)		
47	5	XDFZZ		04963	4962	TAPE, ADHESIVE	IN	V
47	4	XDFZZ	5310000-757-7837	96906	MS24679-411	NUT, PLAIN	EA	V
47	3	XDFZZ	5310-00-045-5203	96906	MS15795-905	WASHER, FLAT	EA	V
47	2	XDFZZ		84483	008-703	STUD, WELD	EA	V
47	1	XDFZZ		96906	MS20604	RIVET	EA	V

Section III. SPECIAL TOOLS LIST

(Not Applicable)

SECTION IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5305-00-004-7111	39	35	5305-00-071-1769	21	23
6350-00-009-8818	46	9	5305-00-071-1769	22	17
4130-00-012-5896	3403	VM 9	5305-00-071-1769	23	9
5315-00-013-7228	04	79	5305-00-071-1772	24	41
5310-00-014-5850	23	36	5305-00-071-1774	15	63
5945-00-021-1076	34	14	5305-00-071-1774	23	14
5305-00-021-3806	16	51	5305-00-071-2239	16	25
5945-00-022-5911	3401	VM 9	2940-00-074-3584	2301	VM 9
5940-00-024-0128	34	15	4210-00-078-0626	46	16
2940-00-029-0388	2301	VM 9	5310-00-080-6004	16	5
6230-00-036-5682	17	7	5310-00-080-6004	17	21
5305-00-042-6417	07	21	5310-00-080-6004	32	9
5305-00-042-6417	24	42	5305-00-082-6734	26	41
5305-00-042-9477	16	62	5310-00-087-7493	04	70
5305-00-044-4153	16	3	5310-00-088-1251	23	33
5305-00-044-4153	25	24	5310-00-088-9167	15	54
5310-00-045-3296	32	14	5305-00-103-2072	02	87
5310-00-045-3296	43	26	6145-00-110-1991	34	32
5310-00-045-5303	01	93	6145-00-110-1992	34	26
5310-00-045-5303	02	111	6145-00-110-2032	34	19
5310-00-045-5303	03	152	6145-00-110-2032	35	10
5310-00-045-5303	04	96	6145-00-110-2032	37	14
5310-00-045-5303	08	25	6145-00-110-2032	42	4
5310-00-045-5303	14	82	6145-00-110-2065	29	15
5310-00-045-5303	15	79	6145-00-110-2065	34	2
5310-00-045-5303	17	56	6145-00-110-2066	29	7
5310-00-045-5303	19	41	6145-00-110-2066	34	21
5310-00-045-5303	20	15	6145-00-110-2066	35	23
5310-00-045-5303	21	33	6145-00-110-2066	36	6
5310-00-045-5303	22	41	6145-00-110-2066	37	11
5310-00-045-5303	24	86	6145-00-110-2066	42	5
5310-00-045-5303	25	25	6145-00-110-2074	29	19
5310-00-045-5303	29	24	6145-00-110-2074	34	27
5310-00-045-5303	30	32	6145-00-110-2074	36	7
5310-00-045-5303	32	28	6145-00-110-2149	29	4
5310000445-5303	38	21	6145-00-110-2244	34	20
5310-00-045-5303	47	3	6145-00-110-2262	34	25
5305-00-054-6672	39	38	6145-00-110-2262	36	13
6240-00-056-0737	37	3	6145-00-110-2274	34	18
2910-00-057-1421	2302	VM 9	6145-00-110-2274	35	7
6230-00-067-4882	35	11	614c 00-110-2285	34	22
5305-00-068-0500	01	52	6145-00-110-2285	35	13
5303-00-068-0501	01	81	6145-00-110-2285	35	20
5305-00-068-0501	26	14	6145-00-110-2384	36	17
5305-00-068-0501	40	24	6145-00-110-2537	35	9
5305-00-068-0502	17	41	6145-00-110-6306	29	6
5305-00-068-0502	21	18	6145-00-110-6337	34	36
5305-00-068-0502	40	17	6145-00-110-6339	34	17
5305-00-071-1315	31	34	6145-00-110-6509	29	10

SECTION IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5320-00-118-1995	17	19	5305-00-269-3213	21	13
4320-00-126-8449	0201	VM 5	5305-00-269-3213	24	48
6240-00-143-3070	3603	VM10	5305-00-269-3213	26	31
6240-00-155-8693	2502	VM17	5305-00-269-3214	04	68
3110-00-156-5454	3002	VM 6	5305-00-269-3214	06	34
2910-00-157-0650	2301	VM 9	5305-00-269-3214	17	48
5320-00-165-8815	17	24	5305-00-269-3215	03	119
5310-00-167-0680	32	24	6240-00-270-4697	3414	VM 9
5330-00-175-0669	2302	VM 9	5340-00-281-1536	43	24
6620-00-175-4971	3002	VM 6	5975-00-284-5827	35	18
5310-00-184-8970	15	75	5975-00-284-5827	36	19
5310-00-187-2417	03	137	4720-00-289-2618	15	2
4730-00-196-1502	43	23	5110-00-293-2336	17	5
5975-00-199-8877	37	8	6110-00-295-2749	34	4
5310-00-309-0965	16	16	5920-00-296-1517	3414	VM 9
5310-00-209-0965	19	21	5315-00-298-1481	06	19
5310-00-209-0965	28	45	5930-00-309-0816	35	12
5340-00-215-5963	29	13	4210-00-318-7425	46	5
5940-00-215-5967	29	19	5330-00-340-5383	2302	VM 9
5940-00-216-7406	36	21	5330-00-360-0595	15	57
3444-00-223-8350	31	8	4730-00-360-0806	15	12
6145-00-225-1397	29	5	2090-00-369-4572	31	28
5305-00-225-3839	17	52	4730-00-369-4692	22	25
5305-00-225-3839	23	30	4730-00-369-4692	30	16
5305-00-225-3839	26	34	5925-00-374-1690	34	39
5305-00-225-3839	31	17	4730-00-396-0162	43	12
5310-00-225-5328	39	39	5330-00-407-5546	0502	VM 6
5306-00-225-8504	24	49	5310-40-007-9566	16	22
5949-00-232-7678	0502	VM 6	5310-00-407-9566	24	26
5310-00-235-8642	2302	VM 9	4320-00-423-7664	0201	VM 5
5315-00-239-8032	19	34	5999-00-433-5420	34	43
4730-00-240-1672	02	45	4720-00-450-9156	04	57
4730-00-240-1672	14	31	4730-00-459-2626	39	15
6350-00-240-3730	35	21	5210-00-473-5975	46	1
5930-40-258-5657	35	8	5305-00-498-6781	03	142
4730-00-266-3906	01	76	6120-00-500-4198	34	6
4730-00-266-3906	15	38	4730-00-511-7988	05	5
4730-00-266-3907	01	4	4730-00-516-4450	15	55
4730-00-266-3907	02	103	3110-00-516-5850	3002	VM 6
4730-00-266-3907	15	11	6210-00-519-2578	36	4
4730-00-266-3907	22	12	5330-00-520-1552	2301	VM 9
4730-00-266-3907	38	4	5306-00-542-4405	43	7
4730-00-266-3908	01	47	5305-00-543-4406	16	44
4730-00-266-3908	15	29	6210-00-548-0222	36	2
5305-00-269-3209	17	22	6210-00-548-0598	35	5
5305-00-269-3211	07	18	5305-00-550-3925	03	138
5305-00-269-3211	16	4	5305-00-550-3934	15	73
5305-00-269-3211	32	7	5305-00-558-8365	03	139
5305-00-269-3211	43	14	5330-00-575-6154	0201	VM 5

SECTION IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5330-00-575-6175	0201	VM 5	5310-00-656-0114	39	21
5310-00-577-5354	03	141	6145-00-661-0191	29	11
5310-00-577-5354	04	84	5310-00-680-6823	03	133
5310-00-582-5965	04	61	5305-00-716-8211	32	22
5310-00-582-5965	16	27	5305-00-717-5460	39	26
5310-00-582-5965	17	43	4820-00-720-4488	02	104
5310-00-582-5965	21	16	5305-00-721-5665	39	16
5310-00-582-5965	26	16	5305-00-724-5913	03	123
5310-00-582-5965	31	16	5305-00-724-5913	16	54
5310-00-582-5965	40	16	5305-00-724-5935	28	16
5310-00-584-5272	03	116	5305-00-724-5936	01	79
5310-00-584-5272	07	23	1670-00-725-1437	04	67
5310-00-584-5272	14	53	5305-00-727-6804	16	28
5310-00-584-5272	15	65	5310-00-732-0558	01	43
5310-00-584-5272	16	53	5310-00-732-0558	02	70
5310-00-584-5272	21	25	5310-00-732-0558	03	110
5310-00-584-5272	22	19	5310-00-732-0558	04	69
5310-00-584-5272	23	11	5310-00-732-0558	06	27
5310-00-584-5272	24	44	5310-00-732-0558	07	19
5310-00-584-5272	26	36	5310-00-732-0558	14	70
5310-00-584-5272	31	19	5310-00-732-0558	15	48
5310-00-584-7796	16	77	5310-00-732-0558	16	29
5310-00-584-7888	02	43	5310-00-732-0558	17	23
5310-00-584-7888	08	6	5310-00-732-0558	21	14
5310-00-584-7888	25	7	5310-00-732-0558	24	46
5310-00-584-7888	26	21	5310-00-732-0558	26	33
5310-00-584-7888	28	11	5310-00-732-0558	31	38
5310-00-584-7888	40	13	5310-00-732-0558	32	8
5310-00-595-6057	27	17	5310-00-732-0558	38	11
5310-00-595-6057	39	17	5310-00-732-0558	43	15
5330-00-613-7468	2310	VM 9	4320-00-736-2031	0101	VM 8
3120-00-617-1641	0101	VM 8	5310-00-754-2005	16	59
4720-00-628-2677	05	9	5310-00-757-7837	01	94
5310-00-637-9541	01	44	5310-00-757-7837	02	112
5310-00-637-9541	02	71	5310-00-757-7837	03	153
5310-00-637-9541	03	111	5310-00-757-7837	04	97
5310-00-637-9541	06	28	5310-00-757-7837	08	26
5310-00-63--9541	07	20	5310-00-757-7837	14	83
5310-00-637-9541	14	17	5310-00-757-7837	15	80
5310-00-637-9541	15	49	5310-00-757-7837	17	57
5310-00-637-9541	16	30	5310-00-757-7837	19	42
5310-00-637-9541	17	49	5310-00-757-7837	20	16
5310-00-637-9541	21	15	5310-00-757-7837	21	34
5310-00-637-9541	24	47	5310-00-757-7837	22	42
5310-00-637-9541	26	32	5310-00-757-7837	24	87
5310-00-637-9541	31	39	5310-00-757-7837	25	26
5310-00-637-9541	38	12	5310-00-757-7837	29	25
5310-00-637-9541	43	16	5310-00-757-7837	30	33
5330-00-652-2400	0101	VM 8	5310-00-757-7837	32	29

SECTION IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5310-00-757-7837	38	22	5310-00-809-4058	23	32
5310-00-757-7837	47	4	5310-00-809-4058	26	18
5310-00-761-6882	01	83	5310-00-809-4058	31	14
5310-00-761-6882	16	26	5310-00-809-8533	06	20
5310-00-761-6882	17	42	5310-00-809-8533	19	25
5310-00-761-6882	21	17	5310-00-809-8533	25	18
5310-00-761-6882	23	31	5330-00-813-3521	3002	VM 6
5310-00-761-6882	26	15	5310-00-820-6653	01	80
5310-00-761-6882	31	15	5310-00-820-6653	03	125
5310-00-761-6882	40	25	5310-00-820-6653	16	56
5310-00-763-8913	32	23	5310-00-820-6653	28	14
5310-00-763-8920	01	51	5310-00-823-8804	01	82
5310-00-763-8920	03	124	5975-00-834-0568	36	29
5310-00-763-8920	16	55	4730-00-845-6678	01	88
5310-00-763-8920	28	15	4730-00-845-6678	15	10
5310-00-763-8921	02	44	5305-00-847-1159	27	16
5310-00-763-8921	25	6	2090-00-850-7778	31	25
5310-00-763-8921	26	22	4820-00-851-0161	02	26
5310-00-763-8921	28	12	5330-00-863-4819	0502	VM 6
5310-00-763-8921	40	12	5999-00-868-8487	34	40
5310-00-763-8922	08	5	5330-00-869-4226	3002	VM 6
5310-00-764-6609	02	78	5999-00-879-1521	36	5
5310-00-764-6609	30	11	5310-00-880-7744	16	23
5310-00-164-6618	16	6	5310-00-880-7744	24	50
5310-00-767-0445	43	9	5310-00-880-8186	16	58
5310-00-767-9425	16	49	5310-00-880-8189	16	15
5310-00-768-0318	03	115	5310-00-880-8189	19	20
5310-00-768-0318	07	22	5310-00-880-8189	28	44
5310-00-768-0318	14	52	6230-00-889-1559	37	4
5310-00-768-0318	15	64	4130-00-903-8372	3103	VM15
5310-00-768-0318	16	20	4720-00-904-8740	05	11
5310-00-768-0318	21	24	5305-00-907-0045	39	20
5310-00-768-0318	22	18	4730-00-908-6293	21	11
5310-00-768-0318	23	10	5310-00-913-5474	03	140
5310-00-768-0318	24	43	5310-00-913-5474	04	83
5310-00-768-0318	26	37	5310-00-913-5475	03	136
5310-00-768-0318	31	20	5310-00-913-5476	03	134
5310-00-768-0321	02	88	5310-00-913-8881	27	19
5310-00-768-0321	16	43	5310-00-913-8881	39	10
5310-00-768-0321	39	22	5305-00-922-7994	08	4
5999-00-769-4976	34	41	5310-00-924-5897	04	53
5305-00-781-3924	16	52	5925-00-924-6296	34	42
5305-00-782-9495	03	114	5310-00-926-5888	02	89
5305-00-783-9495	14	51	5305-00-929-4040	16	57
4730-00-796-0496	05	2	5310-00-933-8119	39	40
4330-00-803-1028	2203	VM 7	5310-00-933-8121	27	12
5365-00-803-7316	3002	VM 6	5310-00-934-0454	04	54
5365-00-804-9730	3002	VM 6	5310-00-934-9751	23	37
5365-00-805-6002	3002	VM 6	5310-00-934-9758	32	13

SECTION IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
5310-00-934-9759	39	41	4730-01-080-1899	15	61
4730-00-935-5395	15	59	4320-01-084-1250	0201	VM5
5310-00-937-0453	02	79	6105-01-091-5608	3001	VM 6
5310-00-937-0453	30	12	3010-01-092-1795	0502	VM 6
5310-00-939-2653	15	74	3010-01-092-1795	3002	VM 6
5305-00-939-9204	02	42	4730-01-099-0189	2302	VM9
5305-00-939-9204	25	5	3010-01-103-7983	3001	VM 6
5305-00-939-9206	28	13	5920-01-116-8865	3605	VM 9
5305-00-940-8070	40	11	5930-01-123-4210	3201	VM16
5310-00-943-2092	02	77	5330-01-128-5196	2301	VM 9
5305-00-943-2093	30	10	4320-01-130-9968	0202	VM 5
5305-00-947-0177	25	17	3120-01-134-1649	0201	VM5
5305-00-948-0674	04	52	5305-01-134-5460	21	22
5305-00-958-5259	11	5	5930-01-148-2986	3201	VM16
5310-00-974-6623	43	8	6105-01-148-7267	3201	VM16
4730-00-982-1360	05	16	5920-01-149-9738	3604	VM 9
5305-00-983-6652	23	35	2815-01-155-0813	0404	VM 3
5305-00-984-6214	32	15	5920-01-156-8516	3604	VM 9
5310-00-984-7042	23	25	6145-01-159-8619	34	37
5310-00-984-7042	27	18	6145-01-162-2600	34	38
5310-00-984-7042	39	18	4320-01-162-5038	0403	VM 3
4720-00-989-6579	05	10	4320-01-162-5038	0403	VM 3
5305-00-989-7434	43	25	4610-01-162-5043	0403	VM 3
6110-00-989-7474	34	3	4320-01-162-5073	0404	VM 3
6110-00-993-3352	34	34	2910-01-162-5081	0404	VM 3
5930-01-PAE-1755	35	6	6850-01-163-4532	04	6
5930-01-PAE-4561	35	4	6210-01-163-4611	0403	VM 3
5930-01-PAE-4561	37	6	6850-01-163-4705	04	7
3431-01-004-2782	16	76	4320-01-172-0656	0202	VM 5
6220-01-008-1893	2301	VM9	5315-01-172-1815	0101	VM 8
2910-01-020-4781	2302	VM 9	3120-01-172-1968	0101	VM8
5330-01-033-1200	3002	VM 6	5961-01-173-2704	3604	VM 9
5310-01-034-2835	39	37	4810-01-185-9405	42	7
4730-01-035-9608	15	56	4510-01-187-2557	02	8
4730-01-036-7498	01	89	5920-01-188-0047	3605	VM 9
4730-01-036-7498	15	13	4330-01-200-8493	2502	VM17
4335-01-038-8607	0502	VM 6	5977-01-201-0483	2502	VM17
4730-01-047-1930	2301	VM 9	3426-01-201-2807	2502	VM17
6210-01-049-6652	3401	VM9	2940-01-201-6794	2502	VM17
4010-01-051-0718	09	22	2910-01-201-7719	2502	VM17
6120-01-052-3980	34	7	2940-01-202-0474	2502	VM17
5330-01-057-0838	0201	VM 5	3040-01-202-3385	3001	VM6
4330-01-058-5455	2309	VM 9	3040-01-202-3386	3001	VM6
3110-01-061-2877	0201	VM 5	5330-01-204-5563	3001	VM 6
3110-01-061-2878	0201	VM 5	4320-01-204-9896	2301	VM 9
5930-01-067-0985	36	18	5330-01-206-5037	2502	VM17
5930-01-075-8608	3201	VM16	4610-01-211-1780	04	3
5930-01-077-2943	3201	VM16	6625-01-211-5545	34	23
4730-01-077-4449	0201	VM 5	4320-01-211-9561	04	4
			5305-01-229-6243	23	23

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
A-16128JFG	00843	42	2	A5-1729/VRC	80058	33	4
A-33-60-24V	92731	36	8	ASM-24	COMML	3401	VM9
A-404LP	0843	36	29	ASTM A36	81346	01	40
A-884GSC	00843	33	31	ASTM A475	81346	17	16
AC-1-83-18	92731	04	VM9	ASTM C592 CL 2	81346	28	20
ALY 5086, T6	COMML	17	17	ASTM C94	81346	13	1
ANS B16.11	80204	43	6	ASTM D2665	81346	24	28
ANS B16.11	80204	43	11	ASTM D2665	81346	24	52
ANS B16-15 CLASS 250	80204	46	23	A0625-MC6-ML6	87373	22	23
ANS B16.24	80204	03	2	A0650-MC6-MLC	87373	22	28
ANS B16.24	80204	03	2	A085626	05472	3101	VM15
ANS B16.24	80204	03	13	A20617	COMML	2502	VM17
ANS B16.24	80204	03	36	A46-20-24V-A	92731	29	3
ANS B16.24	80204	03	59	A51-1.5K-24V	92731	36	9
ANS B16.24	80204	03	62	B-1Y	71334	01	VM14
ANS B16.24	80204	03	84	B-400-1-4	02570	03	93
ANS B16.3 CLASS 150	80204	01	16	BA23	81350	17	8
ANS B16.3 CLASS 150	80204	01	23	BFE-1015	COMML	24	81
ANS B16.3 CLASS 150	80204	02	74	BR-16	03824	31	12
ANS B16.3 CLASS 150	80204	02	92	BW 151	56365	34	12
ANS B16.3 CLASS 150	80204	02	96	BW 240	81487	34	16
ANS B16.3 CLASS 150	80204	02	99	B1.45	81487	34	41
ANS B16.3 CLASS 150	80204	02	100	B11.5	81487	34	39
ANS B16.3 CLASS 150	80204	15	9	B17.5	81487	34	14
ANS B16.3 CLASS 300	80204	46	4	B2.40	81487	34	40
ANS B16.3 CLASS 300	80204	46	13	B5.50	81487	34	43
ANS B16.3 CLASS 300	80204	46	35	B6.90	81487	34	42
ANS B16.34 TYPE A	80204	14	36	C-165-5	78462	3103	VM15
ANS B16.34 TYPE I,SVCE G	80204	01	14	C-5	77134	0801	VM14
ANS B16.34 TYPE I,SVCE G	80204	01	73	C-6	77134	0801	VM14
ANS B16.34 TYPE I,SVCE G	80204	15	6	CAT. NO. 1202	76857	35	16
ANS B16.34 TYPE I,SVCE G	80204	15	43	CAT.NO.1231	76857	34	13
ANS B16.34 TYPE II,SVCE G	80204	01	15	CAT. NO. 710	72256	14	41
ANS B16.34 TYPE II,SVCE G	80204	15	7	CB 1941	74309	40	8
ANS B16.34 TYPE II,SVCE G	80204	22	22	CCC-C-428 TYPE I, CLASS 1	81348	32	17
ANS B16.34 TYPE II,SVCE G	80204	22	30	CC3001A	21204	13	5
ANS B16.5	80204	03	15	CKF-507	31408	2204	VM7
ANS B16.5	80204	03	16	CLASS 90001 TYPE KR-1RH5	08556	3403	VM9
ANS B16.5	80204	03	35	CLASS 9001 TYPE KR-1BH6	08556	3403	VM9
ANS B16.5	80204	03	85	CLASS 9001 TYPE KS-49	08556	3403	VM9
AND B16.5	80204	30	20	CLASS 9070 TYPE EO-2	08556	3403	VM9
ANS B16.5 CLASS 150	80204	01	77	CLASS 9998 TYPE SL-2	08556	3403	VM9
ANS B16.5 GRADE WP	80204	06	24	CLASS 9998 TYPE SL-3	08556	3403	VM9
ANS B18.17 TYPE A	80204	39	44	CLASS 9998 TYPE SL-6	08556	3403	VM9
ANS B18.2.1	80204	04	80	CSB50AM	61057	33	33
ANS B18.6.3	80204	27	11	CX-4720/VRC	80058	33	5
AQUA SIGNAL 70	COMML	37	15	CX-4722/VRC	80058	33	6
AQUA SIGNAL 70	COMML	37	16	C20P-P	05430	02	90
ARC TYPE	54553	10	5	C20P-P	05430	0203	VM5

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
C20P-P	05430	2406	VM4	FIG. 1414G	48422	14	2
C35-25	71483	33	21	FIG. 1414G	48422	14	22
C59.4	81487	34	33	FIG. 150	48422	14	57
C7/W	98911	13	6	FIG. 150	48422	14	58
D-10	77134	0801	VM14	FIG. 150	48422	24	54
D-11	77134	0801	VM14	FIG. 1531	48422	03	55
D-17	77134	0801	VM14	FIG. 2456	48422	30	18
D-3	77134	0801	VM14	FIG. 2714	48422	14	9
DANFORTH 1000LB	50194	01	16	FIG. 2714	48422	14	37
DC-71	COMML	23	34	FIG. 278	19243	28	26
DC250MK	75677	16	76	FIG. 295A	19243	28	25
DDD-C-641 TYPE 2 CL 1	81348	09	11	FIG. 3210	19243	01	61
D1125	COMML	2501	VM13	FIG. 374-2	46576	37	10
D1126	COMML	2501	VM13	FIG. 45	48422	14	10
D1127	COMML	2501	VM13	FIG. 45	72256	03	94
DPS-3	81349	29	17	FIG. 502H	48422	15	58
DSGM-23	81349	26	27	FIG. 512	48422	03	95
DSGM-3	81349	29	15	FIG. 513	48422	03	61
DSGM-3	81349	34	2	FIG. 515	48422	03	37
DSGM-4	81349	29	7	FIG. 560Y	48422	14	20
DSGM-4	81349	33	12	FIG. 560Y	48422	14	60
DSGM-4	81349	34	21	FIG. 66	19243	28	27
DSGM-4	81349	35	4	FIG. 771	12168	02	2
DSGM-4	81349	35	19	FIG. 771	12168	02	30
DSGM-4	81349	36	6	FIG. 771	12168	38	7
DSGM-4	81349	37	11	FIG. 82, TYPE B	19243	28	28
DSGM-4	81349	42	5	FL-109	64787	27	14
DSGM-4	81349	29	19	FLA	64787	30	22
DSGM-4	81349	34	27	FSC-1	80691	33	20
DSGM-4	81349	36	7	FSGM-4	75282	34	19
DU221RB	56365	36	18	FSGM-4	81349	35	10
D221	08556	29	2	FSGM-4	81349	37	14
EB18/2	01121	33	34	FSGM-4	81349	42	4
EKF-329	31408	2203	VM7	F03A250V3A	81349	3406	VM9
EM-3	77134	0801	VM14	F10.3F	COMML	25	2
F-810A-02-V46	04198	24	69	F10.3F(M)	COMML	05	32
FC-234	50556	01	56	F187	54553	10	6
FC195-10	01276	05	15	F22	COMML	3103	VM15
FDC1040M1	98313	04	67	GC1260-1	99028	29	18
FF-T-276 TYPE II	81348	12	16	GGG-A-926 TYPE A	81349	17	5
FF-T-791 TYPE I CLASS 8	81348	12	13	GP-16	12989	01	20
FF-T-791 TYPE I CLASS 7	81348	08	21	GP-16	12989	0102	VM8
FIG. E-57-4	72256	04	36	GR TP316	81346	43	5
FIG.090	21368	03	11	G0132	COMML	2501	VM13
FIG. 1127-GA	46576	37	1	G0145	COMML	2501	VM13
FIG. 1127-RA	46576	37	2	G0154	COMM.	2501	VM13
FIG. 1129A	46576	37	5	G0173	COMML	2501	VM13
FIG. 1130A	46576	37	18	G0198	COMML	2501	VM13
FIG. 115F	79342	02	7	G47E	71176	3002	VM6

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
G47E-0	71176	3002	VM6	MAB-500-003	77640	3001	VM6
H-2B	77134	0801	VM14	MAF-01-3000	77640	3001	VM6
H-2C	77134	0801	VM14	MAF-06-7002-A1	77640	3001	VM6
H-2F	77134	0801	VM14	MG20-1000	50935	3201	VM16
H-2N	77134	0801	VM14	MIL-A-18001 CLASS I, TYPE Z5S	81349	03	112
H-613-A ALB-5 12CKT	92772	34	4	MIL-A-18001 CLASS I, TYPE Z5S	81349	14	43
HA60	03824	3103	VM15	MIL-A-23054	81349	10	2
HC5328	62309	2502	VM17	MIL-A-3316 CL1	81349	10	8
HD361SP4XY	6M080	27	8	MIL-A-3316 CL2	81349	10	9
HF-4	COMML	23	34	MIL-C-19219	81349	09	17
HF4	27775	31	1	MIL-C-20079 TY 2 CL 1	81349	10	3
HIGH PRESSURE	79154	04	34	MIL-C-20079 TY 2 CL 1	81349	10	4
HP-70ES	79154	04	33	MIL-E-24269	81349	17	4
HT5328	62809	2502	VM17	MIL-G-1086 TY1 CLASS I	81349	07	17
HX500S	61057	33	32	MIL-G-1149 TYPE I, CLASS 1	81349	01	78
H3342	71483	33	25	MIL-G-1149 TYPE I, CLASS 1	81349	02	68
IC-ZID3	28199	29	12	MIL-G-1149 TYPE I, CLASS 1	81349	03	109
IC/H3D3	28199	29	8	MIL-G-1149 TYPE I, CLASS 1	81349	04	60
IC/ZID3	28199	33	23	MIL-G-1149 TYPE I, CLASS 1	81349	14	54
JE-105	97537	39	4	MIL-G-1149 TYPE I, CLASS 1	81349	16	42
JE-105B	97537	32	4	MIL-G-1149 TYPE I, CLASS 1	81349	23	16
JE-108, TYPE D-3	97537	07	4	MIL-G-1149 TYPE I, CLASS 1	81349	27	13
JE-109, SIZE A10	97537	39	8	MIL-G-1149 TYPE I, CLASS 1	81349	30	19
JE-111	97537	39	34	MIL-G-1149 TYPE I, CLASS 1	81349	32	12
JP2033F	78011	34	24	MIL-G-1149 TYPE I, CLASS 1	81349	38	9
JRFA2033F	78011	34	8	MIL-G-1149 TYPE I, CLASS 1	81349	39	6
KRPA14AG	77342	3401	VM9	MIL-G-1149 TYPE I, CLASS 1	81349	40	15
KS-30004/LH	75238	06	37	MIL-G-1149 TYPE I, CLASS 5	81349	01	41
KS-30004/RH	75238	06	36	MIL-G-1149 TYPE I, CLASS 5	81349	15	24
KS-40004	81419	20	11	MIL-G-1149 TYPE I, CLASS 5	81349	15	46
KY-1	08556	42	1	MIL-G-1149 TYPE II, CLASS 1	81349	06	5
K10AA173	60219	42	8	MIL-G-14243 TYPE III	81349	28	17
L-4042-FD-SC	57266	03	24	MIL-H-1237 TYPE VI ,CLASS 2	81349	17	12
LM010S-1/2"	05430	24	70	MIL-H-1237 TYPE VI ,CLASS 3	81349	26	17
LM020S-1/2"	05430	02	13	MIL-H-17194 TYPE VI, CLASS 2	81349	26	11
LM4	COMML	3401	VM9	MIL-I-22023 TY1	81349	32	5
LM50349/LM501310	60038	3002	VM6	MIL-I-742 TYPE 1	81349	10	1
LVWA 150	78011	37	7	MIL-L-2037 CLA GR I	81349	40	21
LW-17D	77134	0801	VM14	MIL-L 2037 CLA GR 1I	81349	40	22
LW-17E	77134	0801	VM14	MIL-L-24532	81349	17	7
LW-17F	77134	0801	VM14	MIL-M-17194 TY2, CLASS 2	81349	01	45
LW-17G	77134	0801	VM14	MIL-P-16685CL2 TY1, SIZED	81349	24	40
L3750	5M180	39	24	MIL-R-16847	81349	17	2
M-1300	91943	09	3	MIL-R-17343	81349	08	12
M-222	76581	02	60	MIL-R-24049 TYPE 1I	81349	17	6
M-469	10402	2905	VM11	MIL-R-6855 CLASS I	81349	26	4
M-80/GR	80058	33	2	MIL-R-900	81349	32	20
MAB-10-3000	77640	3001	VM6				
MAB-10-7000-A1	77640	3001	VM6				

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
MIL-S-1222 TY 1	81349	03	128	MS15975-905	96906	30	32
MIL-S-1222 TY 1	81349	03	129	MS15975-905	96906	32	28
MIL-S-24214 TY2 GR A,CL 2	81349	12	6	MS15975-905	96906	33	40
MIL-S-24214 TY2 GR A,CL 2	81349	12	8	MS15975-905	96906	38	21
MIL-S-24214 TY2 GR A,CL 2	81349	12	23	MS15975-905	96906	47	4
MIL-S-24235/10	81349	40	18	MS16992-501	96906	04	76
MIL-V-16720	81349	15	62	MS16998-29	96906	23	35
MIL-V-18434 TY 2, SVCE G	81349	.31	25	MS17987-423	96906	04	75
MIL-V-18436 GP A, TYPE II	81349	14	27	MS17989-523	96906	06	22
MIL-V-18436 GP 1, TYPE II	81349	02	102	MS20470-B4-6	96906	17	19
MIL-V-18436 GP A, TYPE III	81349	04	9	MS20470-B4-7	96906	17	24
MIL-V-18436 GP B, TYPE III	81349	01	38	MS20604	96906	01	91
MIL-V-18436 GP B, TYPE III	81439	15	31	MS20604	96906	02	109
MIL-V-18436 GR A, TYPE I	81349	24	56	MS20604	96906	03	150
MM-L-736 TYPE 1	81348	04	74	MS20604	96906	04	94
MODEL HR-1	62142	17	26	MS20604	96906	08	23
MODEL H432D	63097	01	3	MS20604	96906	14	80
MODEL R162-96	52147	24	3	MS20604	96906	15	77
MODEL 10 TAS-6	62142	17	25	MS20604	96906	17	54
MODEL 49R/A	COMML	24	1	MS20604	96906	19	39
MODEL 6859-138	52782	33	22	MS20604	96906	20	13
MODEL 75B	72256	14	11	MS20604	96906	21	31
MODEL 924	29924	34	29	MS20604	96906	22	39
MOL 250	COMML	3401	VM9	MS20604	96906	24	84
MPB-19-SB	92021	43	34	MS20604	96906	25	23
MS15535-6	96906	37	3	MS20604	96906	29	22
MS15586-2	96906	3603	VM10	MS20604	96906	30	30
MS15612-3	96906	3406	VM9	MS20604	96906	32	26
MS15795-815	96906	27	17	MS20604	96906	33	38
MS15795-815	96906	39	17	MS20604	96906	38	19
MS15795-818	96906	16	49	MS20604	96906	47	2
MS15795-819	96906	39	21	MS21314-2	96906	43	24
MS15795-824	96906	16	17	MS24665-357	96906	06	19
MS15795-841	96906	39	39	MS24665-423	96906	04	79
MS15975-905	96906	01	93	MS24665-513	96906	19	34
MS15975-905	96906	02	111	MS24679-411	96906	01	94
MS15975-905	96906	03	152	MS24679-411	96906	02	112
MS15975-905	96906	04	96	MS24679-411	96906	03	153
MS15975-905	96906	08	25	MS24679-411	96906	04	97
MS15975-905	96906	14	82	MS24679-411	96906	08	26
MS15975-905	96906	15	79	MS24679-411	96906	14	83
MS15975-905	96906	17	56	MS24679-411	96906	15	80
MS15975-905	96906	19	41	MS24679-411	96906	17	57
MS15975-905	96906	20	15	MS24679-411	96906	19	42
MS15975-905	96906	21	33	MS24679-411	96906	20	16
MS15975-905	96906	22	41	MS24679-411	96906	21	34
MS15975-905	96906	24	86	MS24679-411	96906	22	42
MS15975-905	96906	25	25	MS24679-411	96906	24	87
MS15975-905	9690E	29	24	MS24679-411	96906	25	26

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
MS24679-411	96906	29	25	MS35309-360	96906	39	35
MS24679-411	96906	30	33	MS35309-416	96906	03	142
MS24679-411	96906	32	29	MS35309-417	96906	03	139
MS24679-411	96906	33	41	MS35309-420	96906	04	82
MS24679-411	96906	38	22	MS35309-468	96906	03	138
MS24679-411	96906	47	4	MS35309-469	96906	03	135
MS27020-16	96906	04	28	MS35309-493	96906	03	132
MS27020-6	96906	15	55	MS35338-101	96906	15	75
MS27021-6	96906	15	14	MS35338-105	96906	03	141
MS27022-6	96906	15	59	MS35338-105	96906	04	84
MS27024-10	96906	15	12	MS35338-107	96906	03	137
MS27024-6	96906	01	88	MS35338-108	96906	03	133
MS27024-6	96906	04	43	MS35338-137	96906	39	40
MS27025-6	96906	15	10	MS35338-139	96906	27	12
MS27025-6	96906	15	15	MS35338-140	96906	43	8
MS27028-6	96906	15	56	MS35338-141	96906	23	25
MS27029-10	96906	15	61	MS35338-141	96906	27	18
MS27029-6	96906	01	89	MS35338-141	96906	39	18
MS27029-6	96906	15	13	MS35338-143	96906	39	22
MS27030-3	96906	15	54	MS35338-145	96906	02	79
MS27030-5	96906	15	57	MS35338-145	96906	30	12
MS27183-10	96906	23	32	MS35338-146	96906	04	54
MS27183-10	96906	26	18	MS35338-162	96906	02	89
MS27183-10	96906	31	14	MS35338-43	96906	32	14
MS27183-13	96906	04	70	MS35338-43	96906	43	26
MS27183-14	96906	16	5	MS35338-44	96906	04	61
MS27183-14	96906	17	21	MS35338-44	96906	16	27
MS27183-14	96906	32	9	MS35338-44	96906	17	43
MS27183-23	96906	06	20	MS35338-44	96906	21	16
MS27183-23	96906	19	25	MS35338-44	96906	26	16
MS27183-23	96906	25	18	MS35338-44	96906	31	16
MS27183-42	96906	23	36	MS35338-44	96906	40	16
MS27183-9	96906	01	82	MS35338-45	96906	16	22
MS35190-318	96906	11	5	MS35338-45	96906	24	26
MS35206-267	96906	32	15	MS35338-46	96906	01	44
MS35207-263	96906	43	25	MS35338-46	96906	02	71
MS35207-334	96906	43	7	MS35338-46	96906	03	111
MS32307-359	96906	32	26	MS35338-46	96906	06	28
MS35307-361	96906	39	16	MS35338-46	96906	07	20
MS35307-365	96906	27	16	MS35338-46	96906	14	71
MS35307-370	96906	16	44	MS35338-46	96906	15	49
MS35307-412	96906	39	20	MS35338-46	96906	16	30
MS35307-413	96906	16	51	MS35338-46	96906	17	49
MS35307-414	96906	16	28	MS35338-46	96906	21	15
MS35307-419	96906	02	87	MS35338-46	96906	24	47
MS35307-468	96906	02	77	MS35338-46	96906	26	32
MS35307-469	96906	30	10	MS35338-46	96906	31	39
MS35307-496	96906	04	52	MS35338-46	96906	38	12
MS35309-308	96906	15	73	MS35338-46	96906	43	16

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
MS35338-47	96906	16	16	MS51967-14	96906	22	18
MS35338-47	96906	19	21	MS51967-14	96906	23	10
MS35338-47	96906	28	45	MS51967-14	96906	24	43
MS35338-48	96906	03	116	MS51967-14	96906	26	37
MS35338-48	96906	07	23	MS51967-14	96906	31	20
MS35338-48	96906	14	53	MS51967-17	96906	32	23
MS35338-48	96906	15	65	MS51967-2	96906	01	83
MS35338-48	96906	16	53	MS51967-2	96906	16	26
MS35338-48	96906	21	25	MS51967-2	96906	17	42
MS35338-48	96906	22	19	MS51967-2	96906	21	17
MS35338-48	96906	23	11	MS51967-2	96906	23	31
MS35338-48	96906	24	44	MS51967-2	96906	26	15
MS35338-48	96906	26	36	MS51967-2	96906	31	15
MS35338-48	96906	31	19	MS51967-2	96906	40	25
MS35338-49	96906	32	24	MS51967-20	96906	01	51
MS35338-50	96906	01	80	MS51967-20	96906	03	124
MS35338-50	96906	03	125	MS51967-20	96906	16	55
MS35338-50	96906	16	56	MS51967-20	96906	28	15
MS35338-50	96906	28	14	MS51967-23	96906	02	44
MS35338-51	96906	02	43	MS51967-23	96906	25	6
MS35338-51	96906	08	6	MS51967-23	96906	26	22
MS35338-51	96906	25	7	MS51967-23	96906	38	12
MS35338-51	96906	26	21	MS51967-23	96906	40	12
MS35338-51	96906	28	11	MS51967-24	96906	08	5
MS35338-51	96906	40	13	MS51967-26	96906	16	58
MS35338-52	96906	16	59	MS51967-5	96906	24	50
MS35649-202	96906	32	13	MS51967-8	96906	01	43
MS35649-84	96906	39	41	MS51967-8	96906	02	70
MS35650-302	96906	23	37	MS51967-8	96906	03	110
MS35650-302	96906	43	27	MS51967-8	96906	04	69
MS35692-1010	96906	04	72	MS51967-8	96906	06	27
MS35782-2	96906	02	104	MS51967-8	96906	07	19
MS35842-15	96906	21	11	MS51967-8	96906	14	70
MS51922-1	96906	23	23	MS51967-8	96906	15	48
MS51922-19	96906	39	37	MS51967-8	96906	16	29
MS51953-29	96906	43	23	MS51967-8	96906	17	23
MS51957-47	96906	39	38	MS51967-8	96906	21	14
MS51957-79	96906	31	34	MS51967-8	96906	24	46
MS51959-109	96906	26	41	MS51967-8	96906	26	33
MS51959-112	96906	06	6	MS51967-8	96906	31	38
MS51967-11	96907	16	15	MS51967-8	96906	32	8
MS51967-11	96907	19 -	20	MS51967-8	96906	38	11
MS51967-11	96907	28	44	MS51967-8	96906	43	15
MS51967-14	96906	03	115	MS51969-1	96906	15	75
MS51967-14	96906	07	22	MS51969-5	96906	03	140
MS51967-14	96906	14	52	MS51969-5	96906	04	83
MS51967-14	96905r	15	64	MS51969-5	96906	16	23
MS51967-14	96906	16	20	MS51969-7	96906	03	136
MS51967-14	96906	21	24	MS51969-8	96906	03	134

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
MS51971-2	96906	43	4	MS90725-62	96906	24	48
MS51971-3	96906	27	19	MS90725-62	96906	26	31
MS51971-3	96906	39	19	MS90725-64	96906	04	68
MS51971-5	96906	02	88	MS90725-64	96906	06	48
MS51971-5	96906	16	43	MS90725-64	96906	17	48
MS51971-5	96906	39	23	MS90725-65	96906	03	119
MS51971-7	96906	02	78	MS90725-8	96906	17	52
MS51971-7	96906	30	11	MS90725-8	96906	23	30
MS51971-8	96906	04	53	MS90725-8	96906	26	34
MS51971-9	96906	16	6	MS90725-8	96906	31	17
MS90725-107	96906	16	52	MS90725-91	96906	16	62
MS90725-109	96906	16	3	MS90728-189	96906	08	4
MS90725-109	96906	24	24	MT-1029/VRC	80058	33	3
MS90725-111	96906	03	114	M1183/10-12N3	81349	24	16
MS90725-111	96906	14	51	M1183/10-13N3	81349	03	148
MS90725-113	96906	07	21	M1183/3-03N	81349	02	57
MS90725-113	96906	24	42	M1183/3-12N	81349	03	21
MS90725-115	96906	21	23	M12648/12610	60038	3002	VM6
MS90725-115	96906	22	17	M15743/1-001	81349	35	4
MS90725-115	96906	23	9	M15743/1-001	81349	36	6
MS90725-119	96906	24	41	M15743/1-002	81349	35	6
MS90725-12	96906	16	25	M15743/8-001	81349	36	13
MS90725-121	96906	15	63	M16W	76155	04	58
MS90725-121	96906	23	14	M16377/16-141.2	81349	35	11
MS90725-138	96906	32	22	M16377/27-93.2	81349	36	4
MS90725-166	96906	03	123	M16377/61-303.1	81349	36	3
MS90725-166	96906	16	54	M16377/8-331.1	81349	36	2
MS90725-169	96906	28	16	M16377/8-333.1	81349	35	5
MS90725-170	96906	01	79	M17/29-RG59	81349	29	11
MS90725-183	96906	40	11	M195DD	05370	09	4
MS90725-187	96906	02	42	M195 DD	05370	09	12
MS90725-187	96906	25	5	M23928/1-15-DP	81349	35	2
MS90725-187	96906	25	17	M23928/2-04-DP	81349	35	15
MS90725-193	96906	28	13	M23928/2-04-DP	81349	36	1
MS90725-213	96906	16	57	M24395/1-001	81349	34	23
MS90725-3	96906	01	52	M24558/18-001	81349	34	15
MS90725-40	96906	24	49	M24558/18-004	81349	33	18
MS90725-5	96906	01	81	M24558/2-435.1	81349	33	17
MS90725-5	96906	26	14	M24558/22-415.4	81439	36	21
MS90725-5	96906	40	24	M24558/6-433.1	81349	29	13
MS90725-58	96906	17	22	M24W	76155	15	21
MS90725-6	96906	17	41	M2726/21-001	81349	36	5
MS90725-6	96906	21	18	M3116	71483	33	30
MS90725-6	96906	40	17	M3131	71483	33	29
MS90725-60	96906	07	18	M3141	71483	33	15
MS90725-60	96906	16	4	M3146	71483	33	24
MS90725-60	96906	32	7	M4109-051200B	81349	30	16
MS90725-60	96906	43	14	M4109-051200C	81349	22	25
MS90725-62	96906	21	13	M4109-061200C	81349	22	27

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
M4109-141200C	81349	22	26	RR-C-271 TYPE IV CL 6	81348	20	7
M4736013	40912	17	35	RR-C-271 TYPE VI	81348	27	4
M473652	40912	17	36	RR-@-360 TY1, CL1	81348	38	16
NA001405	13446	2302	VM9	RS-951	COMML	2501	VM13
NA004179	13446	2302	VM9	RT-524/VRC	80058	33	1
NAC600	57107	32	1	S-261	39428	1905	VM13
NO. 1P942	25795	02	38	S-563	39428	1905	VM13
NO. 3P648	25795	02	10	S-565	39428	1905	VM13
NO. 414-E-S	6U135	06	1	S-673	39428	1905	VM13
NO. 66176-AM	89814	04	88	SER 110, MOD M4	04579	03	74
NO. 917	74309	40	7	SERIES DC3	23251	32	18
NS-305	COMML	36	10	SERIES NO. 50	73124	03	8
NS-83-92580-A1	COMML	19	13	SERIES NO. 50	73124	03	66
NS-83-92580-A2	COMML	19	12	SERIES NO. 51	83124	13	1
NS-83-92580-A3	COMML	19	11	SERIES NO. 72	73124	15	51
NS-83-92580-A4	COMML	19	10	SERIES 421 3X4X14A	04579	02	5
NS-83-92580-A5	COMML	19	9	SIZE R10	97537	07	25
NS-83-92580-A6	COMML	19	14	SIZE R6	97537	07	10
N1986	COMML	2501	VM13	SIZE 14	97537	07	15
N5000-206	79136	3002	VM6	SK000012	77640	3002	VM6
OPW-811	04150	01	69	SS-T-312 TYPE III	81348	31	21
OT-20	LP545	2907	VM11	SS4P4T	18034	43	4
PE-250	81884	17	9	SS-63TF8	12623	18	9
PERKCARTER-E5061-20KW	COMML	23	2	SSGM-4	81349	36	14
PF661	04720	3001	VM6	SSGM-9	81349	36	12
PK663	04720	3001	VM6	S105MJ	07077	07	1
PK664	04720	3001	VM6	S1201-921572	80064	16	41
PK665	04720	3001	VM6	S1962	72041	33	15
PL-116	COMML	09	5	T-2884	76364	03	45
P1DA-M100-B135	92731	3604	VM9	TC-30	52484	03	60
P1DV-M35-B55	92731	3604	VM9	TD3012P4XY	6M080	39	1
P17-200-150J1	92731	3604	VM9	TRM-4	02989	42	6
P59991-A	15594	13	3	TSGM-14	81348	34	22
P8-A1-A100	92731	3604	VM9	TSGM-14	81348	35	13
P'-A1-A130	92731	3605	VM9	TSGM-14	81348	35	20
P8-A1-A200	92731	3605	VM9	TSGM-150	83148	34	36
P8-C2-B5C	92731	3604	VM9	TSGM-23	81348	34	30
P8-D1-B4	92731	3605	VM9	TSGM-3	81438	34	20
ON-3	115831	1702	VM17	TSGM-300	81348	34	17
QQL201GRAD B	81348	40	14	TSGM-4	81348	34	25
REF 1000-6	59462	3001	BM6	TSGU-4	81348	36	13
RK1584R	04049	2205	VM7	TSGU-5C	81348	34	32
RK1586R	04049	2202	VM7	TSGU-75	81348	34	26
RP225	COMML	2501	VM13	TSGU-9	81348	34	18
RP228	COMML	2501	VM13	TSGU-9	81348	35	7
RR-C-271 TYPE I GR C CL 1	81348	20	8	TSS-2	81348	34	38
RR-C-271 TYPE I GR C CL 2	81348	12	2	TSS-3	81348	34	37
RR-C-271 TYPE II	81348	12	3	TYPE 1600-T	79128	01	19
RR-C-271 TYPE II CL 6	81348	27	6	TYPE 1600-T	79128	02	97

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
TYPE 1600-T	79128	03	51	000122	07921	2502	VM17
TYPE 1600-T	79128	14	35	00377	07921	2502	VM17
TYPE 1600-T	79128	15	8	000782	07921	2502	VM17
TYPE 1600-W	79128	01	10	000095	07921	2502	VM17
TYPE 1600-W	79128	02	36	001-R101	57107	3201	VM16
TYPE 1600-W	79128	24	6	001023	07921	2502	VM17
TYPE 1600-W	79128	38	15	001846	07921	2502	VM17
TYPE 18-8	57472	01	70	001916	07921	2502	VM17
TYPE 18-8	57472	01	71	002088	07921	2502	VM17
TYPE 304	80120	01	63	002037	07921	2502	VM17
T6052A	27319	32	21	002826	07921	2502	VM17
URD 2A	COMML	2401	VM9	003644	07921	2502	VM17
U7LW006	13446	2302	VM9	004497	07921	2502	VM17
VT450	76124	21	12	004500	07921	2502	VM17
W-102183-IL	77134	08	2	004522	07921	2502	VM17
W-102183-IR	77134	08	1	008-703	84483	01	92
WB/TR III	23989	21	2	008-703	84483	02	110
WBHT-8	78229	35	1	008-703	84483	03	151
WB2-23	14625	16	83	008-703	84483	04	95
WE-2	21260	33	16	008-703	84483	08	24
WMB-R	10402	29	9	008-703	84483	14	81
WW-P-460	81348	03	92	008-703	84483	15	78
WWU531-02	81348	01	34	008-703	84483	17	55
WWU531-03TA	81348	01	84	008-703	84483	19	40
WWU531-03TA	81348	02	93	008-703	84483	20	14
WWU531-03TA	81348	22	16	008-703	84483	21	32
WWU531-04TA	81348	01	76	008-703	84483	22	40
WWU531-04TA	81348	15	38	008-703	84483	24	85
WWU531-05TA	81348	01	4	008-703	84483	25	24
WWU531-05TA	81348	02	101	008-703	84483	29	23
WWU531-05TA	81348	15	11	008-703	84483	30	31
WWU531-05TA	81348	22	12	008-703	84483	32	27
WWU531-05TA	81348	38	4	008-703	84483	33	39
WWU531-07TA	81348	01	47	008-703	84483	38	20
WWU531-07TA	81348	15	29	008-703	84483	47	3
WWU531-08TA	81348	03	45	008864	07921	2502	VM17
WWU531-08TA	81348	14	31	024-R102	57107	3201	VM16
WWU531-59TA	81348	46	3'	0336-0001-22	52147	2401	VM4
WWU531-60TA	81348	46	12	0336-002-038	52147	2402	VM4036-002
WWU531-61YA	81348	45	17				
WWU531-6ATA	81348	46	21	036-002-	57107	3201	VM16
WWU531-64TA	81348	46	34	0460038	13446	2302	VM9
X CAD-13T	31714	23	27	051-01048	13446	2302	VM9
X CAD-13T	31714	43	13	057-R101	57107	3201	VM16
X PERK-1	31714	23	28	068-0455-647	04579	0201	VM5
XD0-80	08556	42	3	068-1908-647	04579	0201	VM5
X040-80-PVC033-33	COMML	02	6	07R311A	04049	22	14
Z-66A	16327	2201	VM7	073-08059	13466	2302	VM9
000095	07921	2502	VM17	076-R100	57107	3201	VM16
				08F53A	04049	22	4

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
				13226E1895-3	97403	01	90
				13226E1896	97403	00	4
				13226E1897	97403	02	81
08R511A	04049	22	29		97403	00	5
091399	77640	3001	VM6	13226E1898	97403	00	6
091477	77640	3002	VM6	13226E1899	97403	00	7
0921173	13446	2302	VM9	13226E1899-1	97403	03	143
0931-06-204	82366	19	2	13226E1899-2	97403	03	120
097-R100	57107	3201	VM16	13226E1899-3	97403	03	121
1A1F	79342	03	10	13226E1899-4	97403	03	26
1P2299	11083	2301	VM9	13226E1900	97403	00	8
1 R307	16327	0202	VM5	13226E1901	97403	00	9
127850	16327	22	1	13226E1902	97403	00	10
1/2R2	COMML	2501	VM13	13226E1903	97403	00	11
112R2 Y FMS JIC	COMML	2501	VM13	13226E1904	97403	00	12
10-609-B	COMML	19	16	13226E1904-1	97403	04	86
10-635-B	COMML	19	15	13226E1904-2	97403	04	89
10F7866	02929	36	30	13226E1904-3	97403	04	90
1001-1100	28763	33	10	13226E1904-4	97403	04	91
100105	23989	2101	VM15	13226E1904-5	97403	04	92
100106	23989	2101	VM15	13226E1904-6	97403	04	93
100147	23989	2101	VM15	13226E1904-7	97403	04	29
100180	23989	2101	VM15	13226E1904-8	97403	04	31
100193	23989	2101	VM15	13226E1905	97403	00	13
100197	23989	2101	VM15	13226E1905-22	97403	08	22
100205	23989	2101	VM15	13226E1906	97403	00	14
1009	04198	24	45	13226E1907	97403	00	15
10503	COMML	2401	VM4	13226E1908	97403	00	16
1063A60	39428	17	13	13226E1909	97403	00	17
11F51E	04049	22	5	13226E1910	97403	00	18
110-10180	13446	2302	VM9	13226E1911	97403	00	19
110-10181	13446	2302	VM9	13226E1911-78	97403	14	78
1101-005-PVC-1	14889	24	32	13226E1911-79	97403	14	79
1142	08806	2502	VM17	13226E1912	97403	00	20
11503	COMML	2401	VM4	13226E1913	97403	15	45
1169	76364	02	23		97403	00	21
1169	76364	03	79	13226E1914	97403	00	22
117-001	57107	3201	VM16	13226E1915	97403	00	23
117-190655-4-64	01276	03	146	13226E1915-23	97403	17	53
12-206-0-04	COMML	19	17	13226E1916	97403	00	24
12.00063	58584	3407	VM9	13226E1917	97403	00	25
120020	COMML	16	67	13226E1917-38	97403	19	38
122-E	COMML	23	17	13226E1918	97403	00	26
122-G	COMML	23	8	13226E1918-12	97403	20	12
122-4	COMML	23	7	13226E1919	97403	00	27
1247	78229	36	3	13226E1919-001	97403	21	1
1248	46576	2502	VM17	13226E1919-30	97403	21	30
128045	16327	0202	VM5	13226E1921	97403	22	21
1322-1112	80735	16	61		97403	00	29
13226E1893	97403	00	1	13226E1922	97403	00	30
13226E1894	97403	00	2	13226E1923	97403	00	31
13226E1895	97403	00	3	13226E1923-002	97403	24	2
13226E1895-1	97403	01	46	13226E1924	97403	00	32
13226E1895-2	97403	01	85	13226E1924-20	97403	25	20

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
13226E1924-21	97403	25	21				
13226E1914-22	97403	25	22				
13226E1925	97403	00	33				
13226E1926	97403	00	34				
13226E1927	97403	00	35				
13226E1928	97403	00	36	141F	79342	02	20
13226E1928-21	97403	29	21	141F	79342	04	26
13226E1929	97403	00	37	141F	79342	04	87
13226E1929-27	97403	30	27	1414G	48422	03	1
13226E1929-28	97403	30	28	1422-5	80735	19	1
13226E1929-29	97403	30	29	1502	76364	02	64
13226E1930	97403	00	38	1503-16	01276	04	57
13226E1931	97403	00	39	1509	76364	03	86
13226E1931-25	97403	32	25	1509	76364	03	87
13226E1932	97403	00	40	150901	01276	03	145
13226E1933	97403	00	41	150901-48-42	01276	04	50
13226E1933-37	97403	33	37	1514A11	39428	04	21
13226E1934	97403	00	42	156-002	57107	3201	VM16
13226E1935	97403	00	43	1590	76364	02	33
13226E1936	97403	00	44	1590	76364	02	39
13226E1937	97403	00	45	1590	76364	03	65
13226E1938	97403	00	46	1596A1	39428	16	11
13226E1939	97403	00	47	16L02F-3-600	COMML	23	34
13226E1940	97403	00	48	160.052	76155	17	34
13226E1941	97403	00	49	160.053	76155	17	35
13226E1941-1	97403	24	58	16084	80201	3002	VM6
13226E1941-2	97403	24	82	1623A13	39428	11	13
13226E1941-3	97403	24	83	16422	27901	24	63
13226E1942	97403	00	50	17-543	83738	31	9
13226E1942-18	97403	38	18	170	14204	3002	VM6
13226E1943	97403	00	51	1723A4	39428	17	38
13226E1944	97403	00	52	1781K3	39428	39	15
13226E1945	97403	00	53	189-11C100	04221	34	28
13226E1946	97403	00	54	19062	80201	3002	VM6
13226E1947	97403	00	55	2-095-010-880-02	63097	0101	VM8
13226E1948	97403	00	56	2-095-012-880	63097	0101	VM5
13226E1949	97403	00	58	2-12"-844	46576	37	19
13226E1950	97403	00	59	2-433-003-291	63097	0101	VM8
13226E1950-2	97403	41	2	2-473-003-999	63097	0101	VM8
13226E1950-3	97403	41	3	2P4004	11083	2301	VM9
13226E1950-4	97403	41	4	2S1F	55947	34	6
13226E1950-6	97403	41	6	2SJ-12	81349	29	4
13226E1950-7	97403	41	7	2SJ-20	81349	29	5
13226E1950-8	97403	41	8	2SWAU-7	81349	29	10
13226E1952	97403	4	1	2SWAU-7	81349	33	19
13226E1953	97403	4	1	20-162	28199	35	21
13226E1954	97403	4	1	20130-12-12C	87373	05	12
13226E1955	97403	4	1	201 30-4-4C	87373	05	14
13226E1956	97403	4	1	201 30-8-8C	87373	05	13
13226E1957	97403	4	1	2021-12-10C	01276	05	3
13226E1958	97403	4	1	2021-12-12C	01276	05	2
132404	16327	0202	VM5	2021-1 6-12C	01276	05	1
132424	16327	0202	VM5	2021-6-4C	01276	05	4
13428	16327	0202	VM5	2021-8C	01276	05	5
132583	16327	0202	VM5	204-0120-190	04579	0201	VM5
132613	16327	0202	VM5	20630-12-12C	87373	05	6
136-1321-208	04579	0201	VM5	20630-4-4C	87373	05	8
136-1412-208	04579	0201	VM5	20630-8-8C	87373	05	7

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
215665-6-EL-44	70510	28	5	2914418-1	11243	0404	VM3
219410	62142	45	11	2914426-1	11243	0404	VM3
22723-01	COMML	02	85	2914433-1	11243	0404	VM3
230F55	COMML	33	36	2914439-1	11243	0404	VM3
230/SP	59349	04	8	2914440-1	11243	0404	VM3
230750-01	62142	4501	VM17	2914452-1	11243	0404	VM3
230750-03	62142	4501	VM17	2914575-1	11243	0302	VM3
230752-01	62142	4501	VM17	2914601-1	11243	0403	VM3
230752-04	62142	4501	VM17	2914603-1	11243	0404	VM3
230753-02	62142	4501	VM17	2914607-1	11243	0403	VM3
230753-04	62142	4501	VM17	29474463	33525	46	37
2308-CLF	COMML	25	10	29607	04034	2405	VM4
23235-01	COMML	02	84	2967K3	39428	15	30
23236-01	COMML	02	83	3	COMML	2901	VM11
23236-01	COMML	04	42	3	21482	31	8
2418F436	13446	2302	VM9	3-309-001-999	63097	0101	VM8
243464-5	61724	2502	VM17	3"-SPB-19-SB2	92021	43	35
2485643	28910	2302	VM9	3K3408	13446	2302	VM9
24889116	13446	2302	VM9	3L1V1-12V	50967	2502	VM17
2520MCA-23-440V-3PH-60HZ	81487	34	40	3X645	16327	2201	VM7
2532	80064	3	3	30-211-0-34	COMML	1903	VM13
2533	80064	34	34	30-351-0-06	COMML	1903	VM13
2580-20	50556	16	16	30-404-0-09	COMML	1903	VM13
262088	62142	4501	VM17	30-404-0-10	COMML	1903	VM13
262208	62142	4501	VM17	30-404-0-11	COMML	1903	VM13
262210	62142	4501	VM17	301-12	87373	05	9
262211	62142	4501	VM17	301-16	87373	15	2
263	11083	3401	VM9	301-4	87373	05	11
26410009	13446	2302	VM9	301-8	87373	05	10
2653-412-48-190016-3-48-24	01276	04	49	3014T55	39428	06	16
2654403	13446	2302	VM9	3014T63	39428	17	31
26561117	13446	2302	VM9	3024K11	39428	02	8
2656L11	39428	15	26	3028K8	39428	03	64
2708K8	39428	02	65	30430	40253	31	4
28F1867	02929	36	22	3083T21	39428	16	37
28F1998	COMML	33	35	309-003	57107	3201	VM16
28F265	02929	36	31	3095	63686	43	33
281866	33525	46	27	31041-400-38	81487	3403	VM9
2880K21	39428	21	20	31401-400-42	81487	3403	VM9
2914282-1	11243	0404	VM3	32-224-0-22	COMML	1903	VM13
2914294-1	11243	0404	VM3	3203945000	58148	1502	VM15
2914301-1	11243	04	4	3206392000	58148	1502	VM15
2914317-1	11243	0404	VM3	325-005	57107	3201	VM16
2914351-1	11243	0404	VM3	33-900-0-14	COMML	1903	VM13
2914352-1	11243	0404	VM3	3301596000	58148	1502	VM15
2914356-1	11243	0404	VM3	3316T261	39428	19	36
2914359-1	11243	0404	VM3	337-001	57107	3201	VM16
2914362-1	11243	0404	VM3	33811112	13446	2302	VM9
2914363-1	11243	0404	VM3	3396T14	39428	19	31
2914397-1	11243	0404	VM3	3406W999	39428	19	30

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
3409W999	39428	19	32	405 B 8 X 14	34557	32	6
3437W999	39428	19	35	4197	14959	02	27
3447T43	39428	12	12	4262	04963	08	27
3450TA	39428	46	40	4262	04963	19	43
35F2790	02929	36	26	4262	04963	33	42
35F2806	02929	36	27	43765	0434	15	72
35F2829	02929	36	25	449K54	39428	24	65
35-300-0-01	COMML	1903	VM13	4473K12	39428	01	30
35-300-0-03	COMML	1903	VM13	4509K52	39428	16	78
35-300-0-06	COMML	1903	VM13	4608K32	39428	02	107
35-300-0-08	COMML	1903	VM13	4691	11083	3401	VM9
35-300-0-09	COMML	1903	VM13	471034-9	61724	2502	VM17
35-300-0-10	COMML	1903	VM13	4721-10S	01276	05	16
35-300-0-11	COMML	1903	VM13	4721-S	50556	01	54
35-300-0-25	COMML	1903	VM13	4722-S	50556	01	55
35-300-0-26	COMML	1903	VM13	476-0111-644	04579	0305	VM2
35-300-0-33	COMML	1903	VM13	4800K11	39428	24	72
3515T25	39428	19	29	482089	80201	3002	VM6
3559T44	39428	09	24	4825K16	39428	24	57
35651	39428	15	42	486149-08	62412	45	14
3593T14	39428	19	22	4880K61	39428	24	64
36017-BKF-329	04049	2203	VM7	4880K63	39428	24	86
3603T36	39428	06	23	4889K13	39428	24	22
3617T4	39428	26	27	49-159	83738	3102	VM15
3619T441	39428	01	60	4962	04963	01	95
3619T441	39428	18	12	4962	04963	02	113
364-1206-507	04579	0201	VM5	4962	04963	03	154
364-1226-598	04579	0201	VM5	4962	04963	04	98
364-1310-614	04579	0201	VM5	4962	04963	14	84
36811122	13446	2302	VM9	4962	04963	15	81
36812349	13446	2302	VM9	4962	04963	17	58
36855114	13446	2302	VM9	4962	04963	20	17
3699T2	39428	17	29	4962	04963	21	35
3722T17	39428	17	32	4962	04963	22	43
3722T27	39428	26	4	4962	04963	24	88
3722T27	39428	26	48	4962	04963	25	27
3825T12	39428	16	39	4962	04963	29	26
3828T17	39428	08	13	4962	04963	30	34
3891T18	39428	26	44	4962	04963	32	30
3907T4	39428	16	36	4962	04963	38	23
3933T18	39428	12	7	4962	04963	47	5
4-Inch Style 20	87373	3001	VM6	5H32"	25795	31	3
4AM-2	28968	43	12	5X841	07321	34	35
4L9852	11083	2301	VM9	51.0009	58584	3407	VM 9
4SJ-20	81349	29	6	5100-137	79136	3002	VM 6
4X678	16327	2201	VM7	5100-78	79136	3002	VM 6
400	11083	3401	VM9	51896-1	52484	0401	VM3
4033	14959	02	26	52-C-0	78229	35	17
4033	14959	03	14	52-C-0	78229	36	20
405 B 10 X 14	34557	32	10	52-C-0	78229	37	12

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
52001-1	52484	04	2	676-0930-088	04579	0201	VM 5
52003-1	52484	04	3	676-1009-208	04579	0201	VM 5
52018-1	52484	04	3	6859T68	39428	23	22
52018-1	52484	0403	VM 3	6859T69	39428	26	39
52020-3	52484	0402	VM 3	7N0208	11083	2301	VM 9
52026-1	52484	0403	VM 3	7SGN-4	81349	2301	11
52034-1	52484	04	1	7SGN-4	81349	35	9
52036-1	52484	0401	VM 3	70-11-174	52484	0402	VM3
52037-1	52484	0401	VM 3	70-11-198	52484	0402	VM 3
52038-1	52484	0401	VM 3	7111-752BL	11288	01	67
52039-1	52484	0401	VM 3	712-6326-653	04579	0201	VM 5
52040-1	52484	0401	VM 3	712-6625-653	04579	0201	VM 5
52045-1	52484	0402	VM 3	720-TDI	25248	3401	VM 9
52052-1	52484	04	6	7453T17	39428	02	72
52053-1	52484	04	7	7484T1	39428	02	59
52054-1	52484	0403	VM 3	7504	43334	3002	VM 6
52063-1	52484	04	5	751/SER7662	11288	01	75
52088-1	52484	0403	VM3	7527K71	39428	42	10
52171-1/2	78229	37	8	756-0036-208	04579	0201	-VM 5
528743	39428	31	24	756-0081-208	04579	0201	VM 5
5388T65	39428	04	35	7604	43334	3002	VM 6
5388T65	39428	24	59	764-1019-478	04579	0201	VM 5
5416K15	39428	45	13	764-1020-478	04579	0201	VM 5
5416K25	39428	45	12	7938435-0	61724	2502	VM17
544-019-190	04579	0201	VM 5	8S1605	11083	2301	VM 9
5458K3	76364	02	39	BS1965	11083	2301	VM 9
5497K11	39428	45	10	80-1237-403	72619	3401	VM9
5497K23	39428	45	8	800476-4	61724	2502	VM17
55-1930	COMML	34	1	800SERIES FIG. 883-2	46576	37	20
5520K11	39428	24	73	801-401	52782	33	27
5571	COMML	2401	VM4	803-1385866	80064	03	23
56F971	02929	36	28	803-1385866	80064	03	32
5606	COMML	41	1	803-1385866	80064	03	34
564-0175-730	04579	0201	VM 5	803-1385866	80064	03	42
58158	04356	15	35	803-1385866	80064	03	43
58178	04356	16	8	803-1385866	80064	03	76
5837 1-2	78229	36	19	803-1385866	80064	03	88
592-0361-107	04579	0201	VM 5	8034384536	80064	03	73
592-0375-107	04579	0201	VM 9	803803	33525	46	5
6L2280	11083	2301	VM 9	804-4563098	80064	26	1
6V4750	11083	2301	VM 9	804107-1	61724	2502	VM17
60-150	09032	18	2	805-1631377	80064	31	22
60-18-131	52484	0403	VM 3	805-1635533	80064	31	25
60F3112	02929	33	23	805-163890	80064	31	27
60F3117	02929	36	24	805-1638931	80064	31	27
60532	33525	46	7	8123W-DC8	05472	31	5
6159T16	39428	31	2	8124-10SP	52147	3404	VM 4
634-B 0780	81718	30	23	820-0111-500	72619	3401	VM 9
656-120	08806	3401	VM 9	820-0114-500	72619	3401	VM 9
656-30	08806	3401	VM 9	820-0115-500	72619	3401	VM9

PART NUMBER	FSCM	FIG. NO.	ITEM NO.	PART NUMBER	FSCM	FIG. NO.	ITEM NO.
8210C33	04845	42	7	875553	33525	46	16
824-240	52147	3404	VM 4	875662-9	61724	2502	VM17
830426-1	COMML	30	1	878206	62142	4501	VM17
830426-1-6	COMML	30	3	8891T16	39428	26	3
830426-1-6	COMML	30	5	896677	33525	46	22
830426-3	COMML	30	6	897793	33525	46	25
830426-3-1	COMML	30	7	898649	62142	45	15
830426-3-2	COMML	30	8	898793	62142	4501	VM17
837-073	62531	24	76	9GT43913N	53800	31	33
838926	61724	2502	VM17	9T21B1001G02	03512	35	14
839450BK	13171	44	2	9T21B9109	350552	34	7
839450BK	13171	44	3	90-10-104	54284	0403	VM3
839450BK	13171	44	4	90-10-107	54284	0402	VM3
839450BK	13171	44	5	90-20-521A	52484	0403	VM3
839450BK	13171	44	9	90-30-101A	54284	0401	VM3
839450BK	13171	44	10	90-30-102C	54284	0403	VM3
839450BK	13171	44	12	90-80-109C	54284	0402	VM3
839450BK	13171	44	13	90-80-110	54284	0402	VM3
839450BK	13171	44	14	90-80-113	54284	0402	VM3
839450BK	13171	44	15	9000S6202-74303	80064	35	12
839450BK	13171	44	17	9000S6202-74304	80064	35	8
839450BK	13171	44	18	9001-0454	28763	33	9
839450BK	13171	44	19	9009-HMMC	58584	34	31
839451BK	13171	44	1	90275A242	39428	17	44
839451BK	13171	44	6	904-00-200	COMML	2502	VM17
839451BK	13171	44	7	904-0033	28763	33	8
839451BK	13171	44	11	90725A624	39428	17	51
839451BK	13171	44	16	91607A197	39428	21	28
840058	33525	46	6	91773A251	39428	42	11
840464-83	COMML	05	23	91783A537	39428	21	27
843736-0	61724	2502	VM17	91783A624	29428	23	23
844226	33525	46	24	91839A011	39428	24	61
844346	33525	46	18	91845A031	39428	23	24
85	COMML	2901	VM11	92146A011	39428	24	68
8538-SBA-21-AFT	81487	34	11	92198A243	39428	24	60
8538-SCA-21-AFT	81487	34	5	92384A058	39428	26	25
8538-SEA-21-AFT	81487	34	9	92447A827	39428	18	13
86210, Type 1	04034	02	18	931XXXSeries	COMML	24	4
86210, Type 2	84034	01	49	9427K09	39428	09	25
86615, Type C	04034	01	48	9427K16	39428	16	38
86615, Type C	04034	02	101	9434T17	39428	24	53
86615, Type C	04034	15	50	9489116	39428	09	24
86615, Type C	04034	38	3	964008	62142	45	4
866S	61057	33	26	9762K41	39428	24	23
8700	80201	3002	VM6	981574	33525	46	9
870123	33525	46	32	98306A558	39428	06	18
870652	33525	46	33	98404A150	39428	06	29
871403	33525	46	1	98404A150	39428	12	15
872-010C	62531	24	38	9876	80201	3002	VM6
873725	33525	46	17	992P	59562	31	'37

D-173/(D-174 blank)

APPENDIX E**EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST****Section I. Introduction****E-1 Scope**

This appendix lists additional items you are authorized for the support of the ROWPU barge.

E-2 Explanation of Columns

a. Column (1) - Item number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "use cleaning compound, item 5, App. D").

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item (enter as applicable):

- C— Operator/Crew
- O— Organizational Maintenance
- F— Direct Support Maintenance
- H— General Support Maintenance

c. Column (3) - National Stock Number (NSN). This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column (4) - Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parenthesis followed by the part number.

e. Column (5) - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	C		ADHESIVE, MM-A-1617, TYPE II	OZ
2	C		AIR CLEANER, HIGH PRESSURE PUMP DIESEL ENGINE	EA
3	C		ANTHRACITE, 55 GAL DRUM	DR
4	C	6850-00-181-7929	ANTIFREEZE PERMANENT ETHYLENE GLYCOL (-65 INHIBITED). MIL-A-461531	
5	O		ANTI-SEIZURE COMPOUND, 16 OZ (4S9416). AEROSOL	CN
6	C		BATTERY, FLASHLIGHT, "A" SIZE	EA
7	C		BATTERY, FLASHLIGHT, "-C" SIZE	EA
8	C		BATTERY, FLASHLIGHT, "D" SIZE	EA
9	C		BATTERY, 9 VOLT	EA
10	C		BATTERY SAVER AND CLEANER, 16 OZ, AEROSOL 9S6110	CN
11	O		BELT DRESSING, 16 OZ AEROSOL, 9S6107	CN
12	O		BELTS, HIGH PRESSURE PUMP DIESEL ENGINE	EA
13	C	6810-00-598-7316	BLEACH	GL
14	C		BULB, INCANDESCENT, 60W	
15	C		BULB, INCANDESCENT, 50W	
16	C		BULB, INCANDESCENT, 15W, 24 Vdc, TYPE T-8	
17	O		CARTRIDGE FILTER REPLACEMENT	EA
18	O	8030-00-159-5032	CEMENT, EPOXY, CSM 2941, 20Z	KT
19	F		CEMENT, GASKET, 8 OZ. (SH 2471)	OZ
20	O		CEMENT, PCV PIPE	OZ
21	O		CEMENT, GLASS OR PLASTIC (3S 1831)	PT
22	C	5350-00-584-4654	CLOTH, ABRSV, EMERY, 9'X 11 IN, (SH P-C-1673)	PK
23	C	7920-00-044-9281	CLOTH, CLEANING, LINT FREE, GENERAL PURPOSE, WHITE, MIL-C-85043, 10 LB BOX	LB
24	C		COMPOUND, MEMBRANE CLEANING, HYDRAFLEEN-20, PN 70-11-126, 55 GAL DR	GL
25	C		COMPOUND BB, MOBILE, QUART CONTAINER	CO
26	O		COMPOUND, SEALANT, ANTI-SEIZE, MIL-C-47167	
27	O	8040-01-024-6988	COMPOUND. SEALING, NON-CURING, POLYSULFIDE BASE, MIL-S-11030	OZ
28	O		COMPOUND SEALING, THREAD AND GASKET, FUEL, OIL AND WATER RESISTANT	OZ
29	C		COOLANT, HIGH PRESSURE PUMP DIESEL ENGINE	
30	C		COOLING SYSTEM CONDITIONER	
31	C		COOLING SYSTEM INHIBITOR (3P2044)	OT
32	C	7930-00-282-9700	DETERGENT, MIL-D-16791	OZ
33	C		DISTILLED WATER	GL
34	C		ELECTRO-INSULATION SPRAY 16 OZ, AEROSOL, 9S6108	CN
35	C	9140-00-286-5294	FUEL, HIGH PRESSURE PUMP DIESEL ENGINE, REGULAR, BULK (VV-F-800)	GL
36	C		FUSES	
37	C		GARNET. COARSE, 55 GALLON DRUM	
38	C		GARNET, FINE. 55 GALLON DRUM	
39	F		GASKET. MATERIAL 36 X 36 X 3/16 IN	EA

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
40	F	9150-00-935-1077	GASKET MATERIAL 36 X 36 X 1/8 IN	EA
41	C		GRAVEL, 55 GALLON DRUM	TBD
42	C		GREASE, AUTOMOTIVE AND ARTILLERY MIL-G-10924	LB
43	C		GREASE, MULTIPURPOSE, TYPE V, CL 2, MIL-24139	LB
44	C		GREASE GUN CARTRIDGE 14 1/2 OZ (1 P808)	TBD
45	C		GREASE, SILICONE, 802 (4L7464)	QT
46	H		HEAT CHALK (140°)	EA
47	H		HEAT CHALK (150°)	EA
48	H		HEAT CHALK (176°)	EA
49	H		HEAT CHALK (275°)	EA
50	H	HEAT CHALK (350°)	EA	
51	H	HEAT CHALK (400°)	EA	
52	H	HEAT CHALK (600°)	EA	
53	C	9150-01-290-2943 6850-00-753-4967	HYDRAPOL-50, COAGULANT AID, PN 52053, 55 GALLON DRUM	GL
54	C		HYDRAPOL-100, SCALE INHIBITOR, PN 52052, 55 GALLON DRUM	GL
55	O		HYDRAULIC FLUID, MIL-H-6083	PT
56	C		INHIBITOR, CORROSION, LIQUID, COOLING SYSTEM, 0-1-00490	OZ
57	O		INSULATION MATERIAL	
58	C		LAMP, FLOODLIGHT, 300W	
59	C		LAMP, FLUORESCENT, 8W, NO. F8T5/CN	
60	C		LAMP, FLUORESCENT, 20W, NO. FL20T12	
61	C		LAMP, NAVIGATION, RADIUM #2450C, 24V/40W	
62	O		LIQUID GASKET, 8 OZ (7M7260)	OZ
63	C	LUBE PLATE, #130,35 LB PAIL	LB	
64	C	LUBRICANT, BEARING (2S323C), 4 1/2OZ OZ	OZ	
65	C	LUBRICANT, CHAIN AND CABLE (9,S6106), 16 OZ AEROSOL	CN	
66	C	6850-00-880-7616	LUBRICANT, HIGH PRESSURE PUMP DIESEL ENGINE	
67	C		LUBRICANT, SILICONE, MIL-S-8660	OZ
68	C		MASK, MIL-M-36431 B	EA
69	C		MEDIA FILTER MEDIA REPLACEMENT	EA
70	C		OIL, ENGINE MIL-L-2104	OT
71	C		OIL, GEAR REDUCTION, GRADE SAE 40	GL
72	C		OIL, HYDRAULIC, GULF HARMONY #46AW, 55 GAL DRUM	GL
73	C		OIL, LUBRICANT, GRADE 15W-40, 55 GAL	GL
74	C		OIL, PENETRATING, 95610, 16 OZ AEROSOL	CN
75	C		OIL, PRESERVATIVE LUBRICANT, MIL-L-21260	QT
76	C	OIL, SYNTHETIC	QT	
77	C	OIL, 2-CYCLE	QT	

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
78	C	5350-00-264-3485	PAPER, ABRASIVE	SH
79	C	7510-00-286-5755	PENCIL	BX
80	C	7920-00-205-1711	RAGS, WIPING, UNBLEACHED COTTON, A-A-531, 50 LB BALE	LB
81	H	3439-00-244-4540	RODS, WELDING, QQ-R-571	EA
82	O		R.O. BLOCK PRESSURE TUBE ELEMENT	EA
83	C		ROPE, NYLON, 1/2 IN. 1200 FT	FT
84	C		SALT	
85	C		SAND, SILICA, 55 GAL DRUM	GL
86	O		SEALANT REPAIR KIT (9S3262) CONTENTS OF ABOVE KIT: BEARING MOUNT, 1 213 OZ (7M7456) THREAD LOCK 1 2/3 OZ (9S3263) PIPE SEALANT, 1 2/3 OZ (9S3264) RETAINING COMPOUND, 1 2/3 OZ (9S3265) QUICK CURE PRIMER, 6 OZ AEROSOL (8M8060) GASKET SEALER. 11 OZ BH5363 SILICONE FLUID, 150 CC (9M5165) SOAP, BUTOXYL	KT
87	C	6810-00-264-6618	SODIUM BICARBONATE. TECHNICAL (BAKING SODA) O-S-576, 1 LB CONTAINER	CN
88	O	3439-01-026-2552	SOLDER, ROSIN CORE, SN96, WRAP 2, QQ-S-571	AR
89	O		SOLVENT, CEMENT	
90	C	6850-00-281-1985	SOLVENT, DRY CLEANING, TYPE V, PD-680. A-A-711	GL
91	C	6850-00-637-6142	SULFAMIC ACID, 100 LB	DR
92	C	9905-00-537-8954	TAGS, MARKER	BX
93	C		TAPE. ADHESIVE, PRESERVATION AND SEALING MIL-L-22085	IN
94	C	8030-00-889-3535	TAPE. ANTI-SEIZE, POLYTETRAFLUORETHYLENE. W/DISPENSER MIL-T-27730	IN
95	C	8540-00-530-3770	TISSUE, TOILET. 96 ROLLS/BOX	BX
96	C		TOILET CATALYST., 10 LB	LB
97	C	8105-00-137-1613	TOILET LINERS	BX
98	C	7920-00-823-6931	TOWELS, PAPER, 900/BOX	BX

**APPENDIX F
REPAIR PARTS LIST TO FIGURE NUMBER CROSS-REFERENCE LIST**

Section I. INTRODUCTION

F-1 Scope.

This appendix cross-references the figures, which are located at the end of this volume (FO-1 through K)-66), to the Repair Parts List in Appendix D.

F-2 Explanation of Columns.

a. Column (1) - Group Number. This is the Group Number as listed in Appendix D, Section II, Repair Parts List, and is directly related to the Maintenance Allocation Chart (MAC).

b. Column (2) - Description. Indicates the Federal Item Name and is identical to the description in Column (6) of Appendix D.

c. Column (3) - Repair Parts List (Appendix D) Page Number Cross-Reference. This cross references the figure number to the page number in Appendix D.

d. Column (4) - Figure Number. This lists the figure number, which is cross-referenced to the page number in Appendix D.

Section II. CROSS-REFERENCE LIST

(1) GROUP NUMBER	(2) DESCRIPTION	(3) REPAIR PARTS LIST (APPX D) PAGE NUMBER CROSS REFERENCE	(4) FIGURE NUMBER
Group 00	ROWPU/BARGE ARRANGEMENT	D-6	FO-1
	LIST OF LABEL PLATES	D-6	FO-2(Sheet 1 of 18 thru 18 of 18)
	ELECTRICAL POWER SCHEMATIC DIAGRAM	D-7	FO-3 (Sheet 1 of 2 thru 2 of 2)
	DOCKING PLAN, ZINC ARRANGE- MENT	D-7	FO-4 (Sheet 1 of 4 thru 4 of 4)
Group 01	MOTOR CONTROLLER, SCHE- MATIC DIAGRAM	D-8	FO-5 (Sheet 1 of 9 thru 9 of 9)
	FUEL OIL SYSTEM	D-9	FO-6 (Sheet 1 of 7 thru 7 of 7)
Group 02	PLACARD, INSTRUCTION	D-11	FO-7 (Sheet 1 of 3 thru 3 of 3)
	DRINKING WATER SYSTEM	D-14	FO-8 (Sheet 1 of 8 thru 8 of 8)
Group 03	PLACARD, INSTRUCTION	D-16	FO-9
	SEA WATER SYSTEM	D-20	FO-10 (Sheet 1 of 9 thru 9 of 9)
	PLACARD, INSTRUCTION	D-23	FO-11 (Sheet 1 of 2 thru 2 of 2)

Section II. CROSS-REFERENCE LIST (CONT.)

(1) GROUP NUMBER	(2) DESCRIPTION	(3) REPAIR PARTS LIST (APPX D) PAGE NUMBER CROSS REFERENCE	(4) FIGURE NUMBER
Group 04	ROWPU INSTALLATION MULTIMEDIA FILTER MULTIMEDIA FILTER TANK MULTIMEDIA FILTER INFORMATION PLATE MULTIMEDIA FILTER BOTTOM DISTRIBUTOR ASSEMBLY MULTIMEDIA FILTER TOP DIS- TRIBUTOR ASSEMBLY RADIAL HUB LATERAL SLOTTED	D-28 D-30 D-30 D-30 D-30 D-30 D-30	FO-12 (Sheet 1 of 9 thru 9 of 9) FO-13 (Sheet 1 of 2 thru 2 of 2) FO-14 (Sheet 1 of 3 thru 3 of 3) FO-15 FO-16 FO-18 FO-19
Group 05	HYDRAULIC SYSTEM	D-35	FO-20 (Sheet 1 of 7 thru 7 of 7)
Group 06	ACCESSES TO VOIDS AND LAD- DERS	D-38	FO-21 (Sheet 1 of 5 thru 5 of 5) FO-22 (Sheet 1 of 7 thru 7 of 7)
Group 07	VOIDS VENTILATION	D-39	FO-23 (Sheet 1 of 3 thru 3 of 3)
Group 08	MOORING SYSTEM	D-40	FO-24 (Sheet 1 of 5 thru 5 of 5)
Group 09	DECK HOUSE	D-42	FO-25 (Sheet 1 of 9 thru 9 of 9)
Group 10	THERMAL SOUND INSTALLATION	D-43	FO-26 (Sheet 1 of 3 thru 3 of 3)
Group 11	VOIDS DECKING	D-43	FO-27 (Sheet 1 of 10 thru 10 of 10)
Group 12	GUARD RAILS	D-45	FO-28 (Sheet 1 of 7 thru 7 of 7)
Group 13	DAY ROOM AND WORKSHOP STRUCTURE	D-46	FO-29 (Sheet 1 of 4 thru 4 of 4)
Group 14	GENERATOR COOLING SYSTEM	D-47	FO-30 (Sheet 1 of 6 thru 6 of 6)
Group 15	BILGE SYSTEM AND DRAINS PLACARD, INSTRUCTION	D-50 D-52	FO-31 (Sheet 1 of 7 thru 7 of 7) FO-32
Group 16	MISCELLANEOUS FOUNDATIONS	D-55	FO-33 (Sheet 1 of 12 thru 12 of 12)
Group 17	LIFESAVING/FIRE EXTINGUISH- ING EQUIPMENT	D-58	FO-34 (Sheet 1 of 6 thru 6 of 6)
Group 18	SPILLAGE CATCHMENTS	D-63	FO-35 (Sheet 1 of 3 thru 3 of 3)

Section II. CROSS-REFERENCE LIST (CONT.)

(1) GROUP NUMBER	(2) DESCRIPTION	(3) REPAIR PARTS LIST (APPX D) PAGE NUMBER CROSS REFERENCE	(4) FIGURE NUMBER
Group 19	BRIDGE CRANE SYSTEM	D-64	FO-36 (Sheet 1 of 5 thru 5 of 5)
Group 20	TOWING ARRANGEMENT	D-68	FO-37 (Sheet 1 of 4 thru 4 of 4)
Group 21	SHIP TOILET	D-69	FO-38 (Sheet 1 of 4 thru 4 of 4)
Group 22	COMPRESSED AIR SYSTEM	D-71	FO-39 (Sheet 1 of 4 thru 4 of 4)
Group 23	PLACARD, INSTRUCTION DIESEL GENERATORS AND FOUNDATIONS	D-71 D-78	FO-40 FO-41 (Sheet 1 of 4 thru 4 of 4)
Group 24	CHLORINATION SYSTEM	D-83	FO-42 (Sheet 1 of 5 thru 5 of 5)
Group 25	PLACARD, INSTRUCTION	D-84	FO-43 (Sheet 1 of 2 thru 2 of 2)
Group 26	CRANE AND BOAT FOUNDATIONS	D-90	FO-44 (Sheet 1 of 7 thru 7 of 7)
Group 27	STORAGE AREA ARRANGEMENT	D-94	FO-45 (Sheet 1 of 10 thru 10 of 10)
Group 28	DECK HOUSE VENTILATION SYS- TEM	D-96	FO-46 (Sheet 1 of 3 thru 3 of 3)
Group 29	ENGINE EXHAUST SYSTEM	D-98	FO-47 (Sheet 1 of 4 thru 4 of 4)
Group 30	ALARM/CASUALTY MONITORING SYSTEM	D-99	FO-48 (Sheet 1 of 7 thru 7 of 7)
Group 31	SHORE DISCHARGE HOSE REEL INSTALLATION	D-105	FO-49 (Sheet 1 of 7 thru 7 of 7)
Group 32	DAY ROOM AND WORKSHOP AR- RANGEMENT	D-109	FO-50 (Sheet 1 of 4 thru 4 of 4)
Group 33	HEATING AND AIR CONDITION- ING DAY ROOM AND WORKSHOP	D-114	FO-51 (Sheet 1 of 3 thru 3 of 3)
Group 34	COMMUNICATION SYSTEM	D-117	FO-52 (Sheet 1 of 7 thru 7 of 7)
Group 35	ELECTRICAL POWER SYSTEM	D-123	FO-53 (Sheet 1 of 3 thru 3 of 3)
Group 36	LAYOUT LIGHTING SYSTEM	D-132	FO-54 (Sheet 1 of 3 thru 3 of 3)
Group 37	EMERGENCY ELECTRICAL POW- ER LIGHTING SYSTEM	D-134	FO-55 (Sheet 1 of 4 thru 4 of 4)
Group 37	NAVIGATION EXTERIOR LIGHT- ING SYSTEM	D-139	FO-56 (Sheet 1 of 3 thru 3 of 3)

Section II. CROSS-REFERENCE LIST (CONT.)

(1) GROUP NUMBER	(2) DESCRIPTION	(3) REPAIR PARTS LIST (APPX D) PAGE NUMBER CROSS REFERENCE	(4) FIGURE NUMBER
Group 38 Group 39 Group 40 Group 41 Group 42	BALLAST SYSTEM VOID NO. 4 VENTILATION SYSTEM BATTERY BOX FENDERING SYSTEM EQUIPMENT SHUTDOWN SYS- TEM	D-140 D-141 D-143 D-144 D-145	FO-57 (Sheet 1 of 5 thru 5 of 5) FO-58 (Sheet 1 of 4 thru 4 of 4) FO-59 (Sheet 1 of 4 thru 4 of 4) FO-60 (Sheet 1 of 3 thru 3 of 3) FO-61 (Sheet 1 of 4 thru 4 of 4)
Group 43 Group 44 Group 45 Group 46 Group 47	ROWPU MODIFICATION REMOVEABLE FLOOR COVERING SMOKE DETECTOR HALON SYSTEM CAUTION, WARNINGS AND DANGER SIGNS	D-146 D-147 D-148 D-150 D-153	FO-62 (Sheet 1 of 3 thru 3 of 3) FO-63 FO-64 (Sheet 1 of 3 thru 3 of 3) FO-65 (Sheet 1 of 2 thru 2 of 2) FO-66 (Sheet 1 of 3 thru 3 of 3)

By Order of the Secretary of the Army:

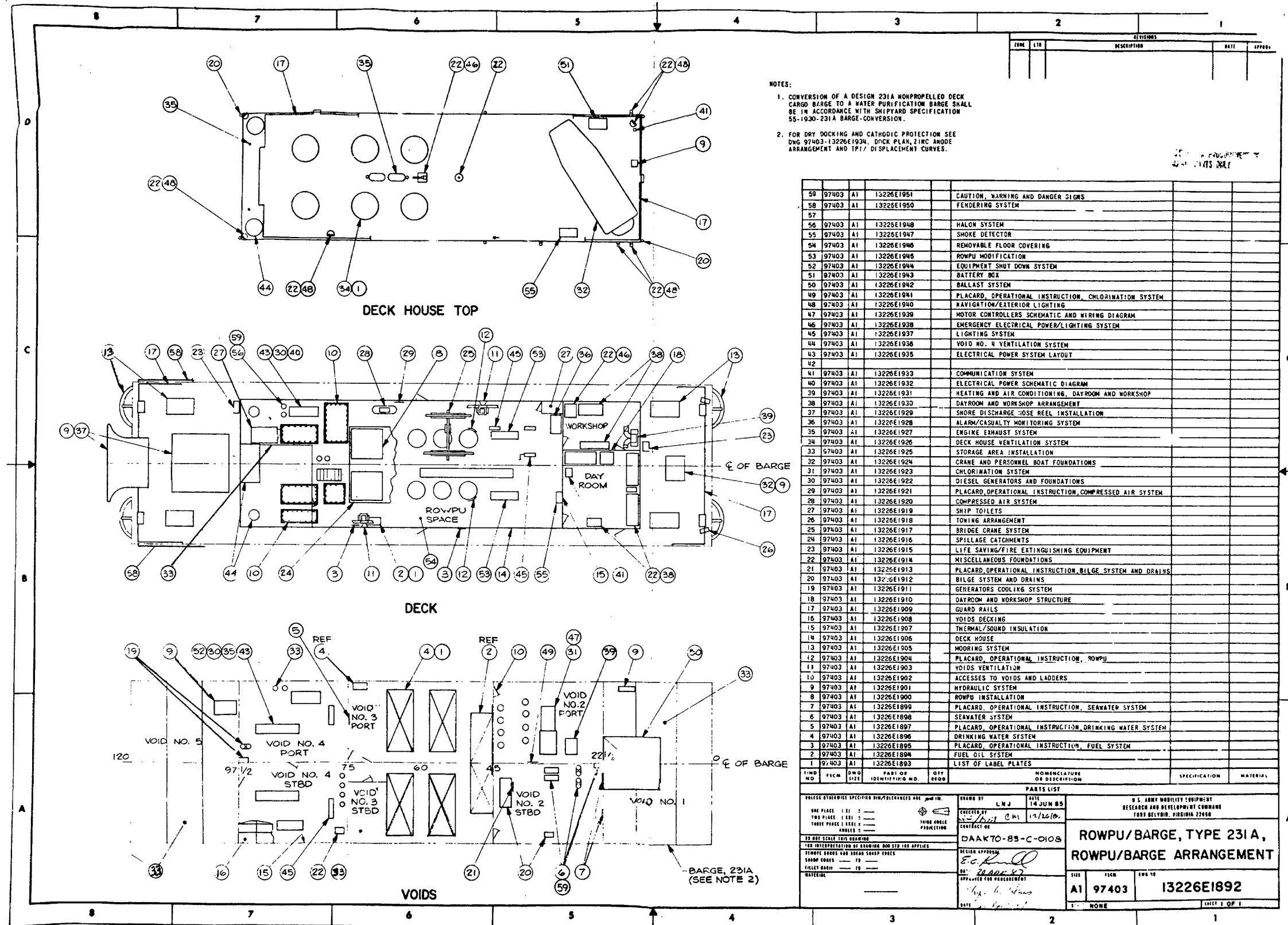
Official:

MILTON H. HAMILTON
*Administrative Assistant to the
Secretary of the Army*
06892

GORDON R. SULLIVAN
*General, United States Army
Chief of Staff*

DISTRIBUTION:

To be distributed in accordance with DA Form 12-25E, qty rqr block no. 3623, requirements for TM 55-1930-209-14&P-18.



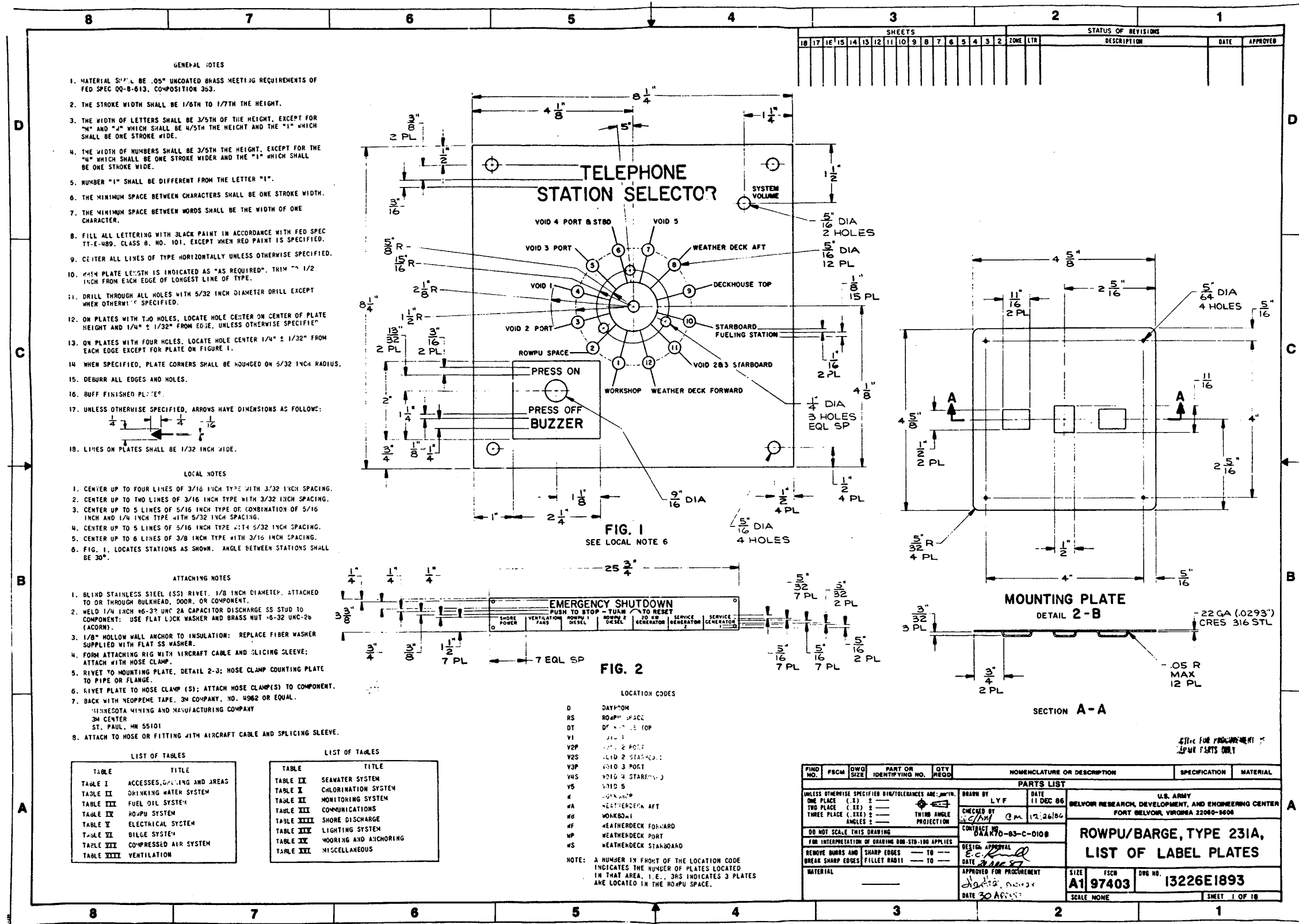


Figure FO-2 (Sheet 1 of 18)
FP-3/(FP-4 Blank)

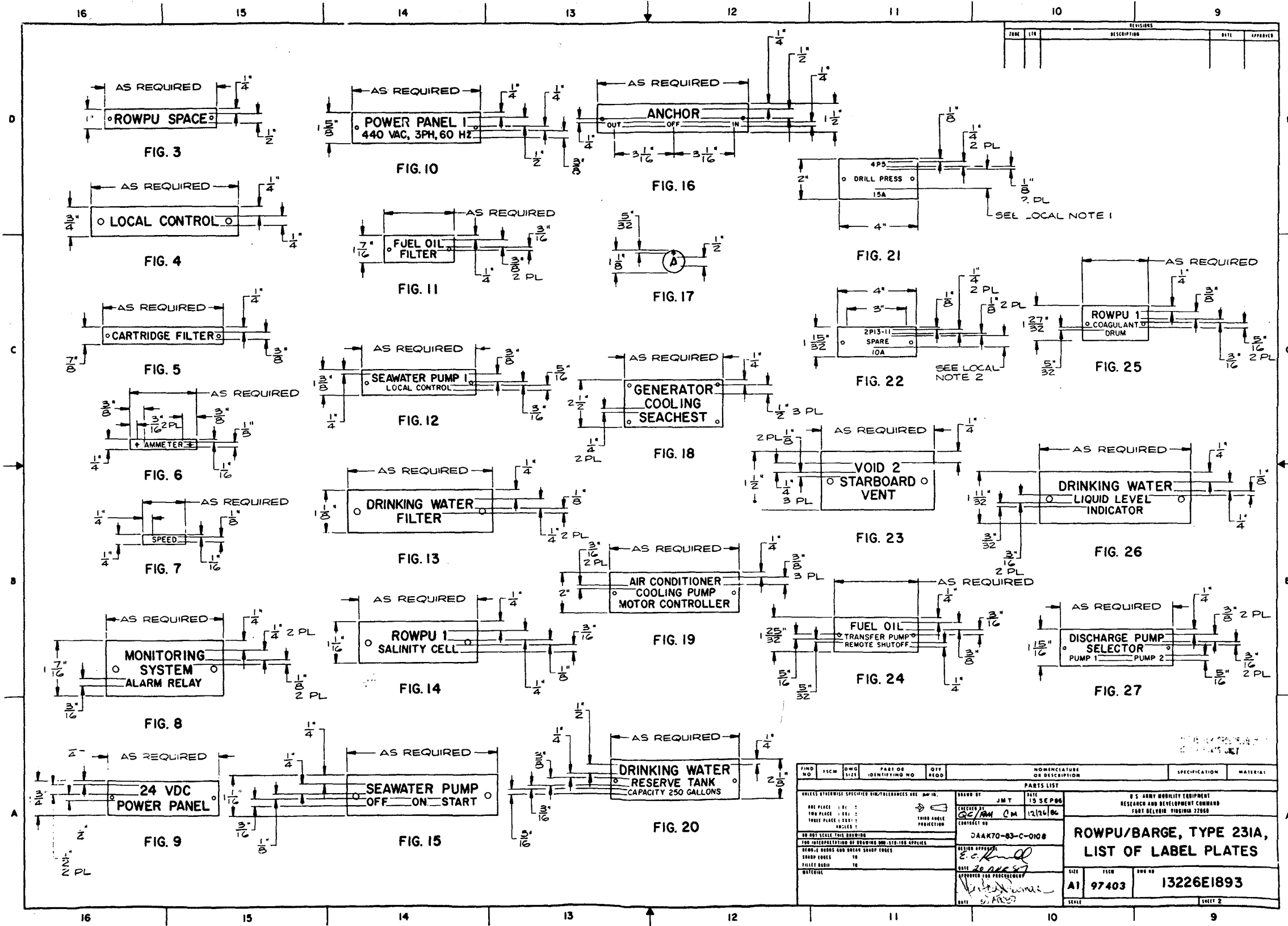


Figure FO-2 (Sheet 2 of 18)
FP-5/(FP-6 Blank)

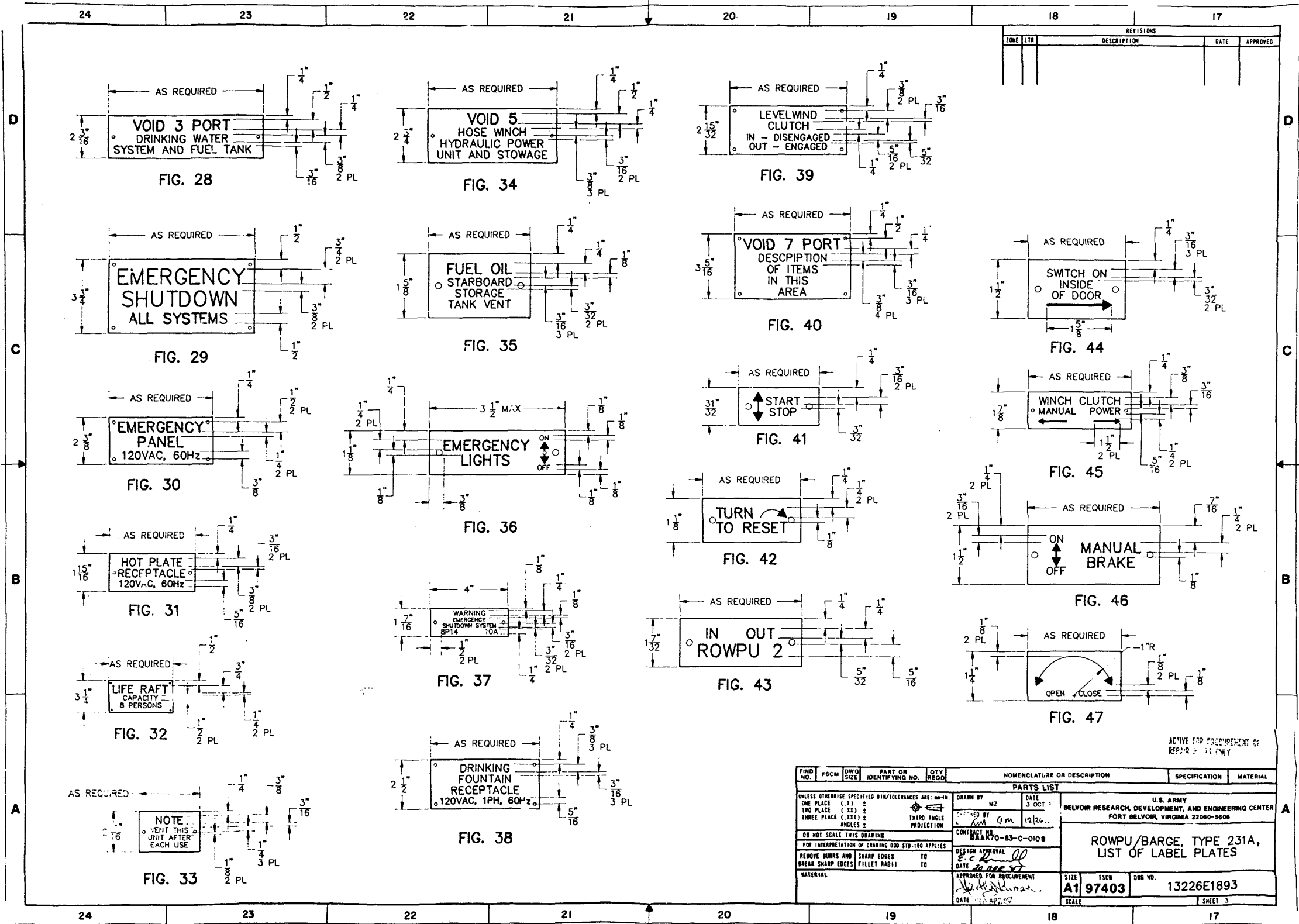


Figure FO-2 (Sheet 3 of 18)
FP-7/(FP-8 Blank)

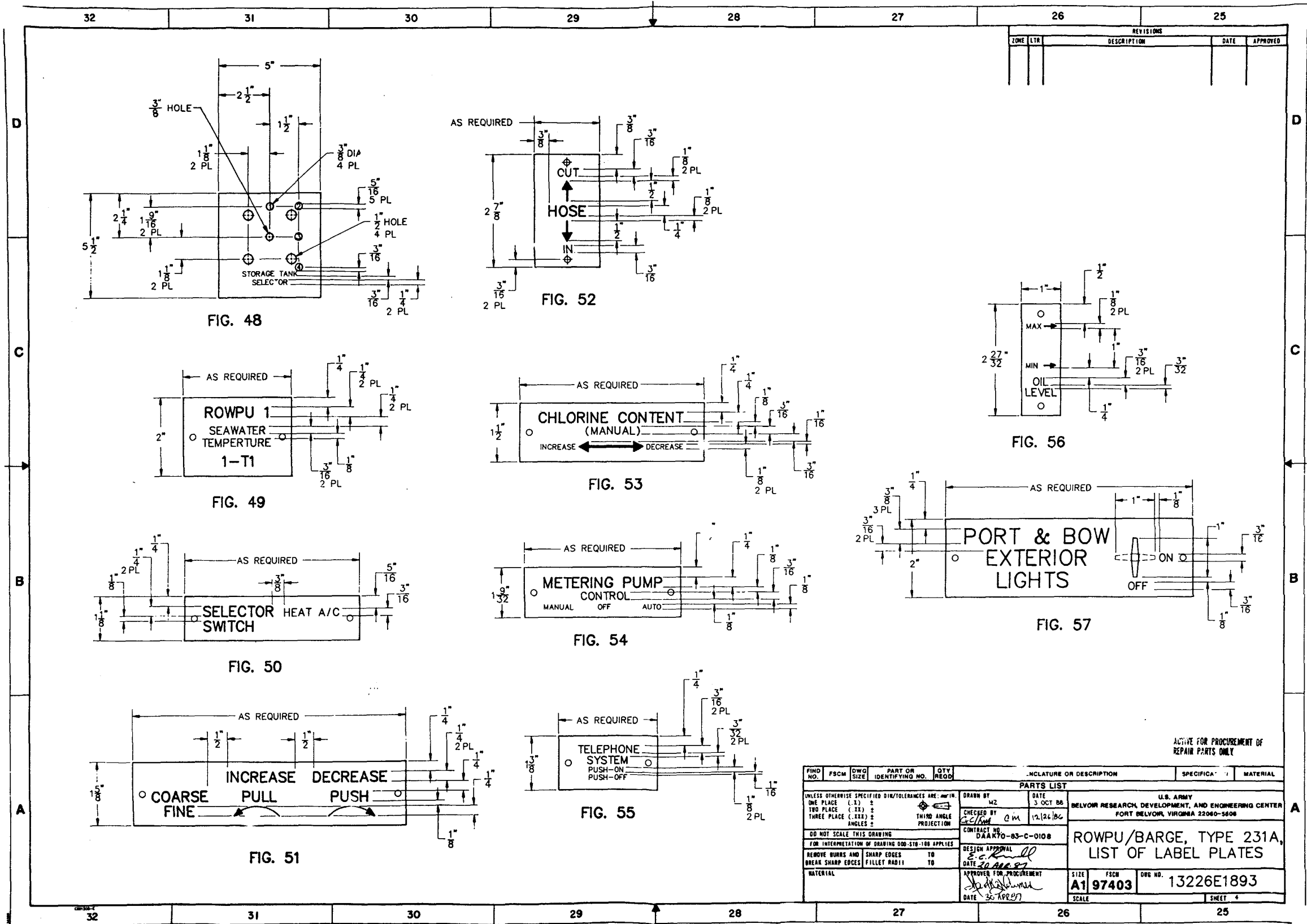


Figure FO-2 (Sheet 4 of 18)
FP-9/(FP-10 Blank)

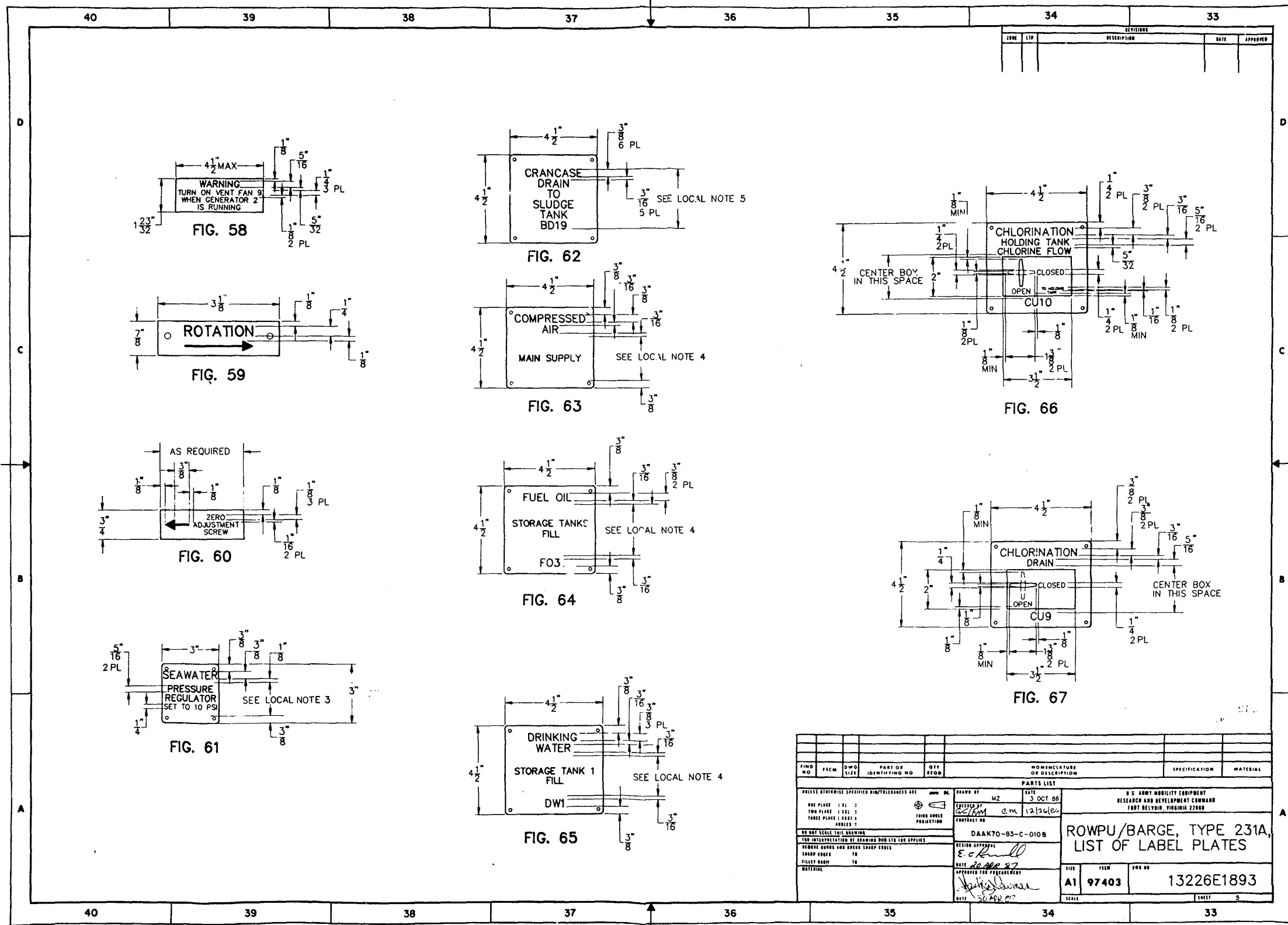
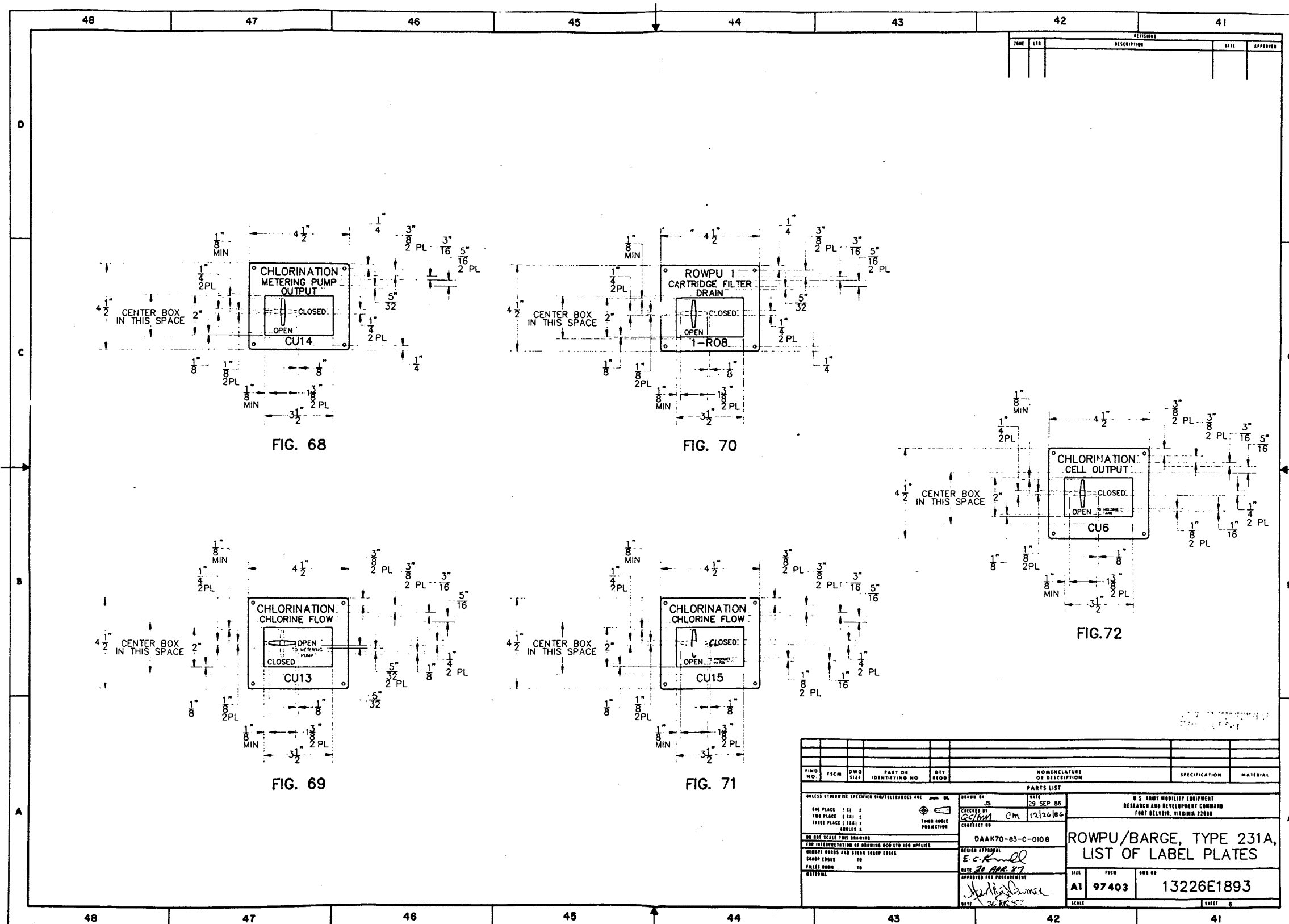


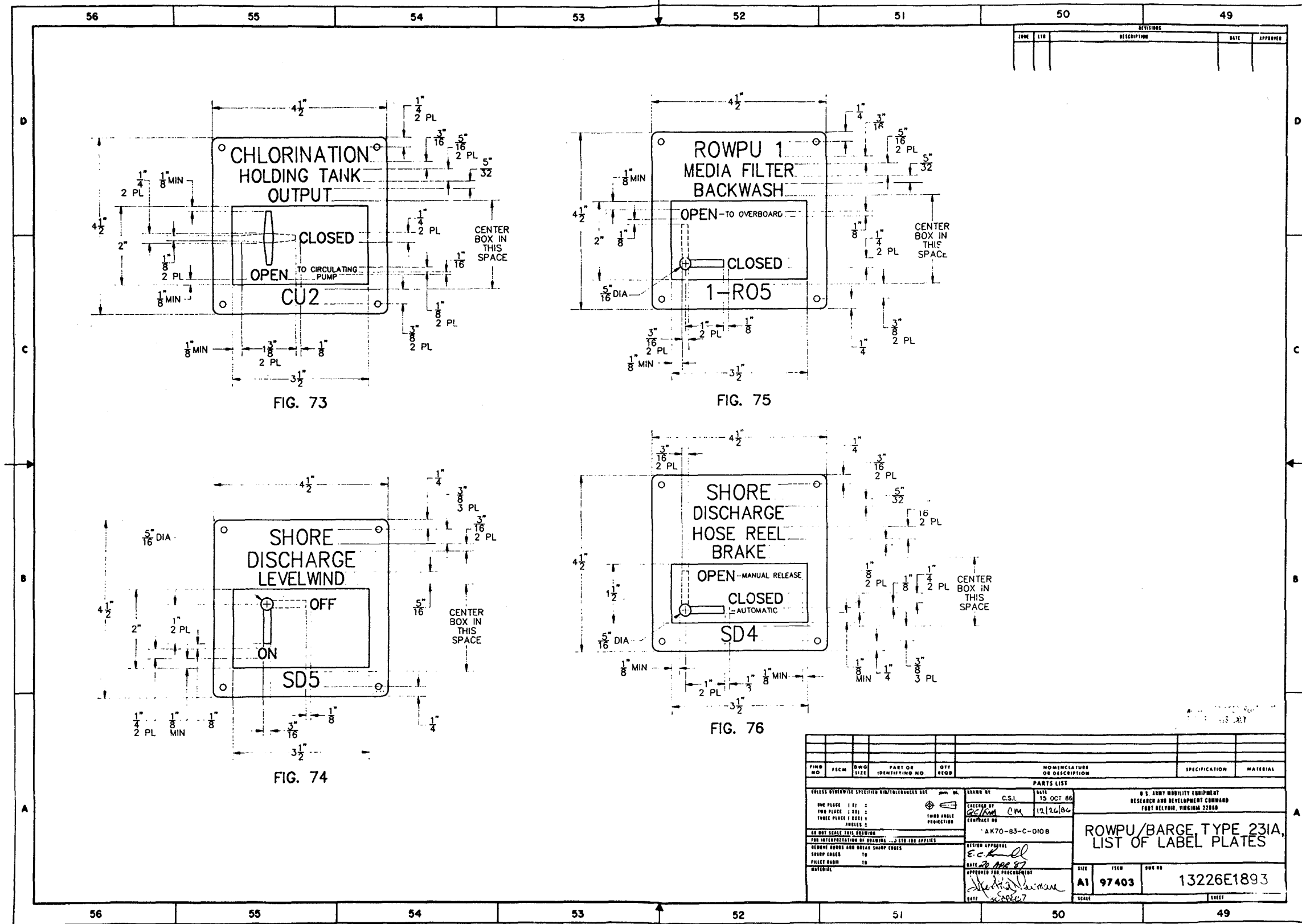
Figure FO-2 (Sheet 5 of 18)
 FP-11/(FP-12 Blank)



REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED

FIND NO.	FSCM	DWG SIZE	PART OR IDENTIFYING NO.	QTY	RECD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL	
PARTS LIST									
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES						DRAFTED BY: <i>E.C.M.</i> CHECKED BY: <i>CM</i> DATE: 29 SEP 86 CONTRACT NO.: DAAK70-83-C-0108	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060		
DO NOT SCALE THIS DRAWING						DESIGN APPROVAL: <i>E.C.M.</i> DATE: 29 SEP 86 APPROVED FOR PROCUREMENT: <i>[Signature]</i> DATE: 29 SEP 86	ROWPU/BARGE, TYPE 231A, LIST OF LABEL PLATES		
FOR INTERPRETATION OF DRAWING SEE STD 100 APPLIES						SHEET: A1 TOTAL SHEETS: 97403 PART NO.: 13226E1893	SCALE: SHEET: 6		

Figure FO-2 (Sheet 6 of 18)
FP-13/(FP-14 Blank)



REVISIONS				
DATE	BY	DESCRIPTION	DATE	APPROVED

FIND NO	ESCH	DWG SIZE	PART OR IDENTIFYING NO	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL
PARTS LIST							
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES				DATE	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060		
ONE PLACE	1	1			DESIGNED BY	19 OCT 86	
TWO PLACE	1	1			CHECKED BY	12/26/86	
THREE PLACE	1	1			CONTRACT NO	A K70-83-C-0108	
DO NOT SCALE THIS DRAWING				FOR INTERPRETATION BY DRAWING ... SEE FOR APPLIES			
DIMENSIONS SHOWN AND OTHER SHOWN CODES				DESIGN APPROVAL			
FILED DRAWING TO				DATE 20 APR 87			
APPROVED FOR PROCUREMENT				DATE 20 APR 87			
MATERIAL				SCALE			
				SIZE			
				FSCN			
				DWR NO			
				13226E1893			
				A1 97403			
				SCALE			
				SHEET			

Figure FO-2 (Sheet 7 of 18)
 FP-15/(FP-16 Blank)

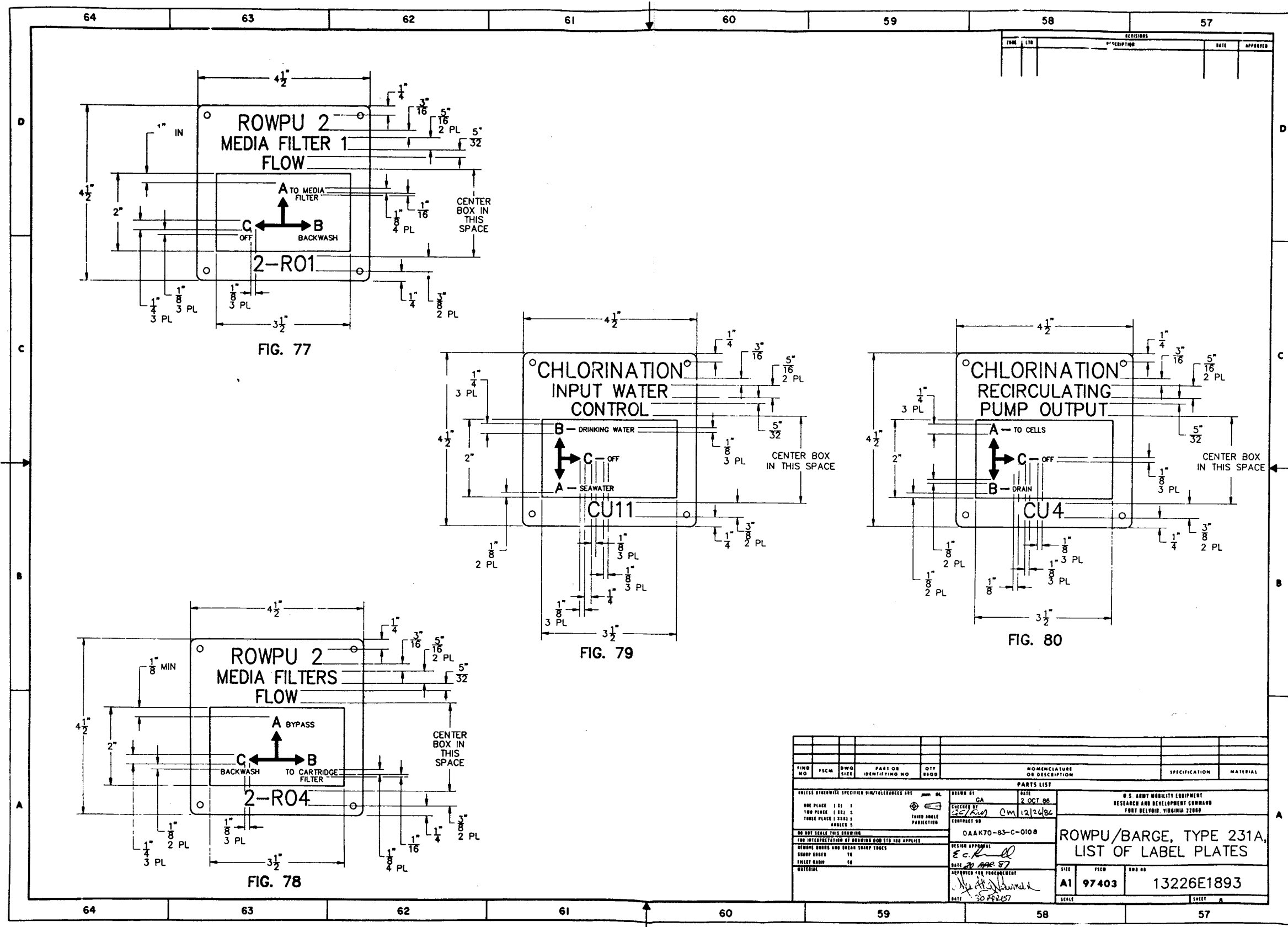


FIG. NO.	ESCH.	DWG. SIZE	PART OR IDENTIFYING NO.	QTY. REQD.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL
PARTS LIST							
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			DRAWN BY: CA		DATE: 2 OCT 88		
ONE PLACE (1 1/2) 1			CHECKED BY: E.C. R... Qm		12/24/88		
TWO PLACE (1 1/8) 2			THIRD ANGLE PROJECTION		U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060		
THREE PLACE (1 1/4) 3			CONTRACT NO. OAAK70-83-C-0108		ROWPU/BARGE, TYPE 231A, LIST OF LABEL PLATES		
FOUR PLACE (1 1/2) 4			DESIGN APPROVAL: E.C. R...		SIZE: A1		
FIVE PLACE (1 3/4) 5			DATE: 20 APR 87		PICO: 97403		
SIX PLACE (1 7/8) 6			APPROVED FOR PROCUREMENT: [Signature]		DOW: 13226E1893		
SEVEN PLACE (2) 7			DATE: 20 FEB 87		SCALE: SHEET A		

Figure FO-2 (Sheet 8 of 18)
FP-17/(FP-18 Blank)

REVISIONS			
ZONE LTR	DESCRIPTION	DATE	APPROVED

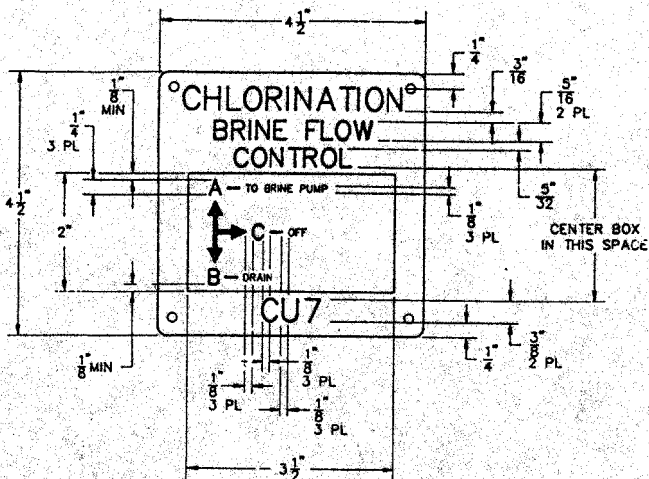


FIG. 81

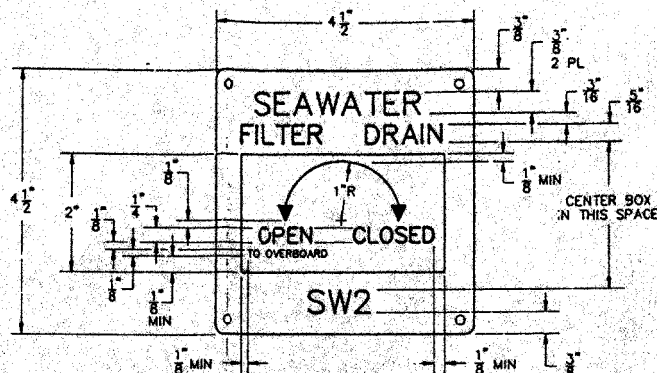


FIG. 83

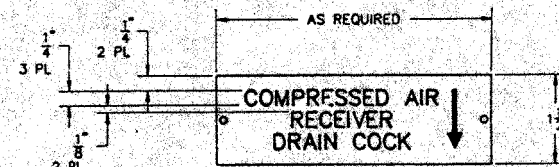


FIG. 85

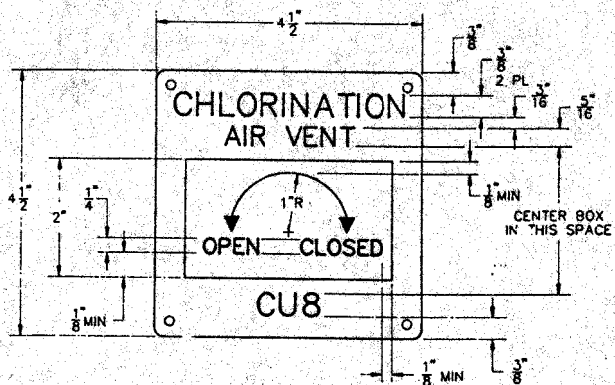


FIG. 82

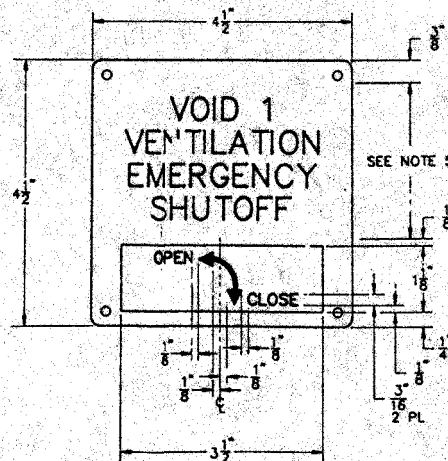


FIG. 84

FIG. NO.	FROM	DATE	PART OR IDENTIFYING NO.	QTY	DESCRIPTION	SPECIFICATION	MATERIAL
PARTS LIST							
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE: ALL IN INCHES				DRAWN BY: GA			
ONE PLACE (.125)				CHECKED BY: GA			
TWO PLACE (.005)				DATE: 2 OCT 66			
THREE PLACE (.0005)				DESIGNED BY: GA			
ANGLES: 30				CONTRACT NO: DAAK70-63-C-0108			
DO NOT SCALE THIS DRAWING				FOR INTERPRETATION OF DRAWING DIMENSIONS APPLY:			
REMOVE BURRS AND SHARP EDGES TO				DATE: 26 OCT 67			
BREAK SHARP EDGES/FILLET RADIUS TO				SCALE: 1:1			
INTERNAL				APPROVED FOR PROCUREMENT: [Signature]			
DATE: 26 OCT 67				SCALE: 1:1			
NOMENCLATURE OR DESCRIPTION						SPECIFICATION	
ROWPU/BARGE, TYPE 231A, LIST OF LABEL PLATES						MATERIAL	
U.S. ARMY						13226E1893	
BELVON RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER						SHEET 9	
FORT BELVON, VIRGINIA 22060-6606						DATE: 26 OCT 67	

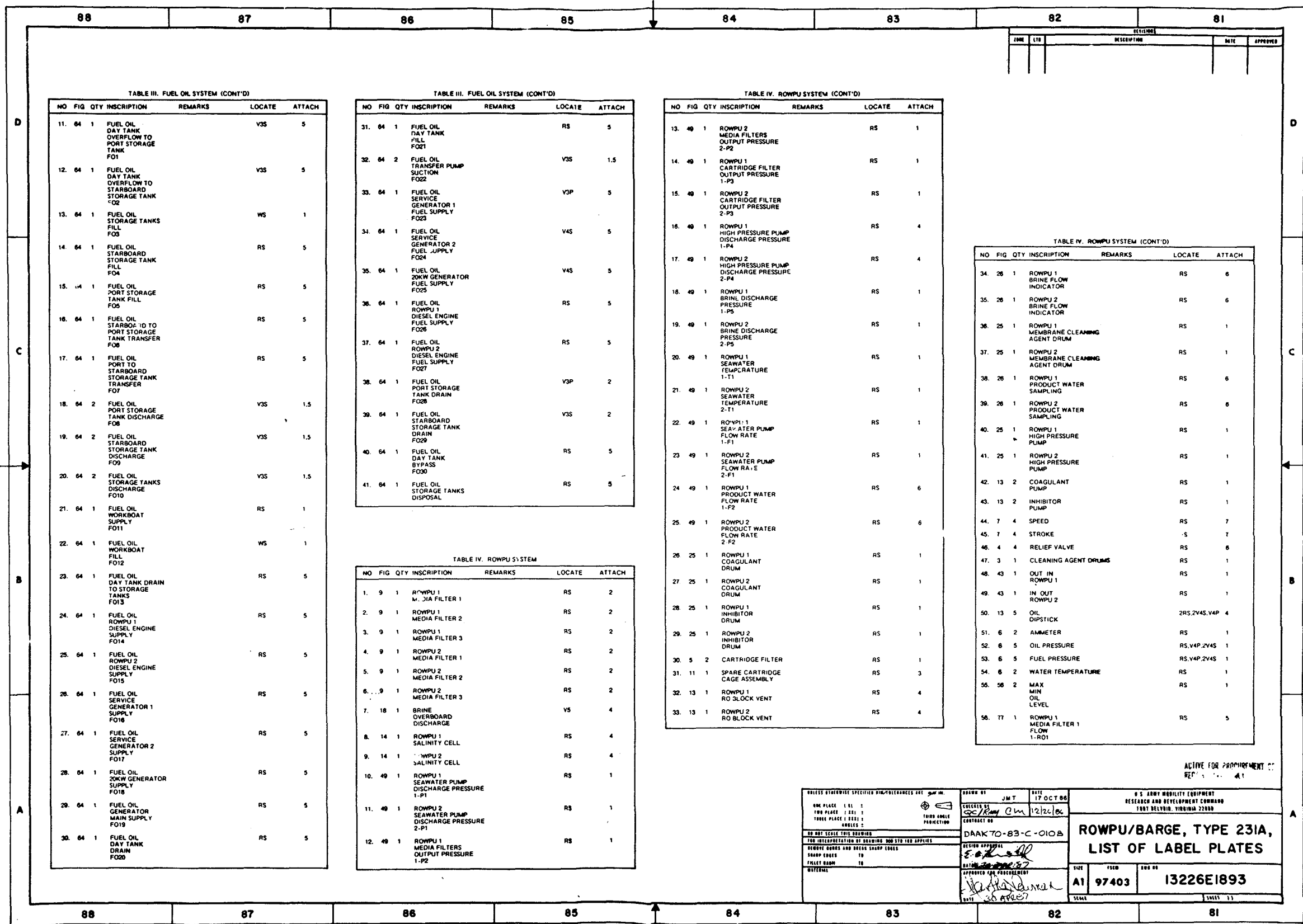


Figure FO-2 (Sheet 11 of 18)
FP-23/(FP-24 Blank)

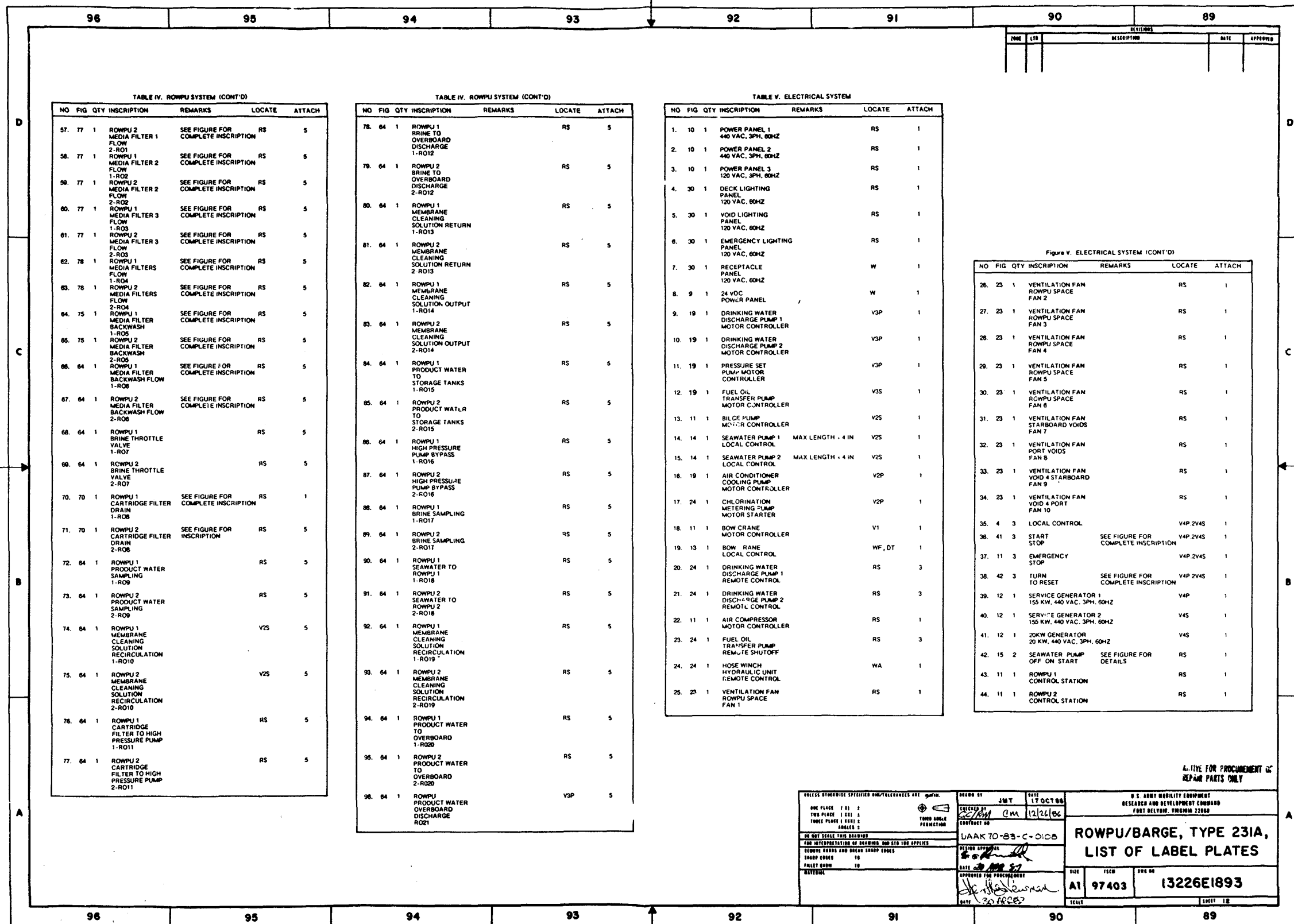


Figure FO-2 (Sheet 12 of 18)
FP-25/(FP-26 Blank)

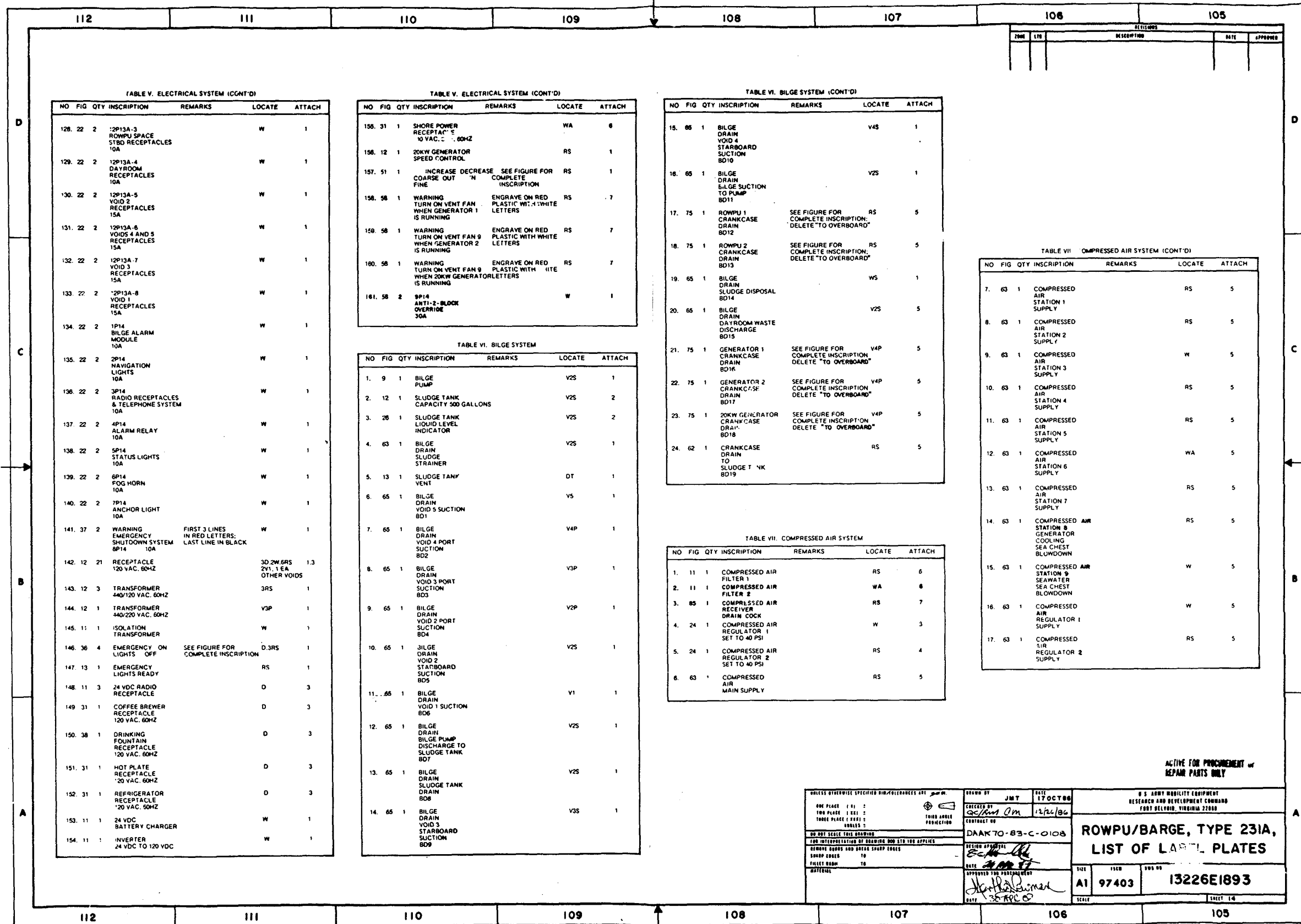


Figure FO-2 (Sheet 14 of 18)
FP-29/(FP-30 Blank)

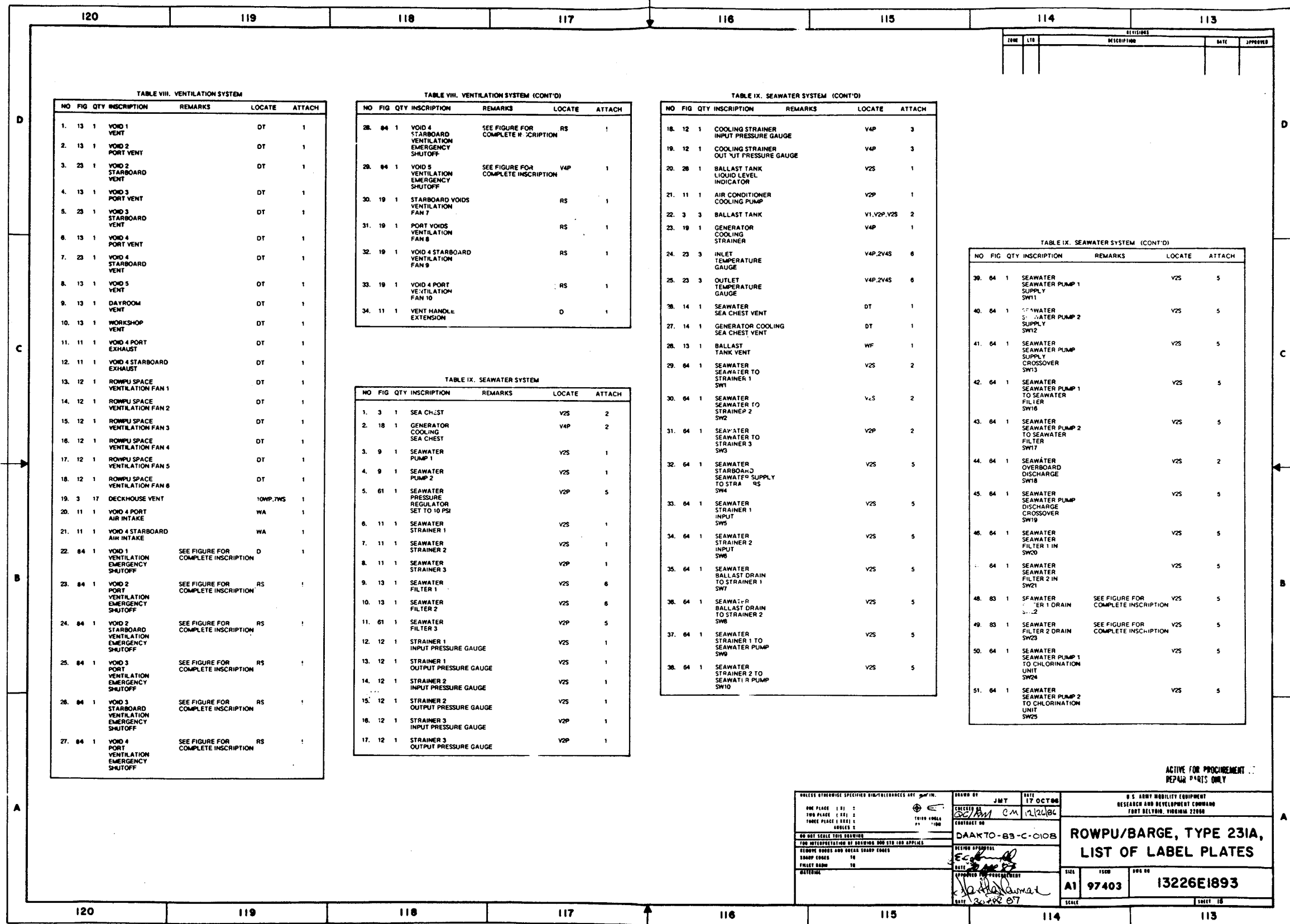


Figure FO-2 (Sheet 15 of 18)
FP-31/(FP-32 Blank)

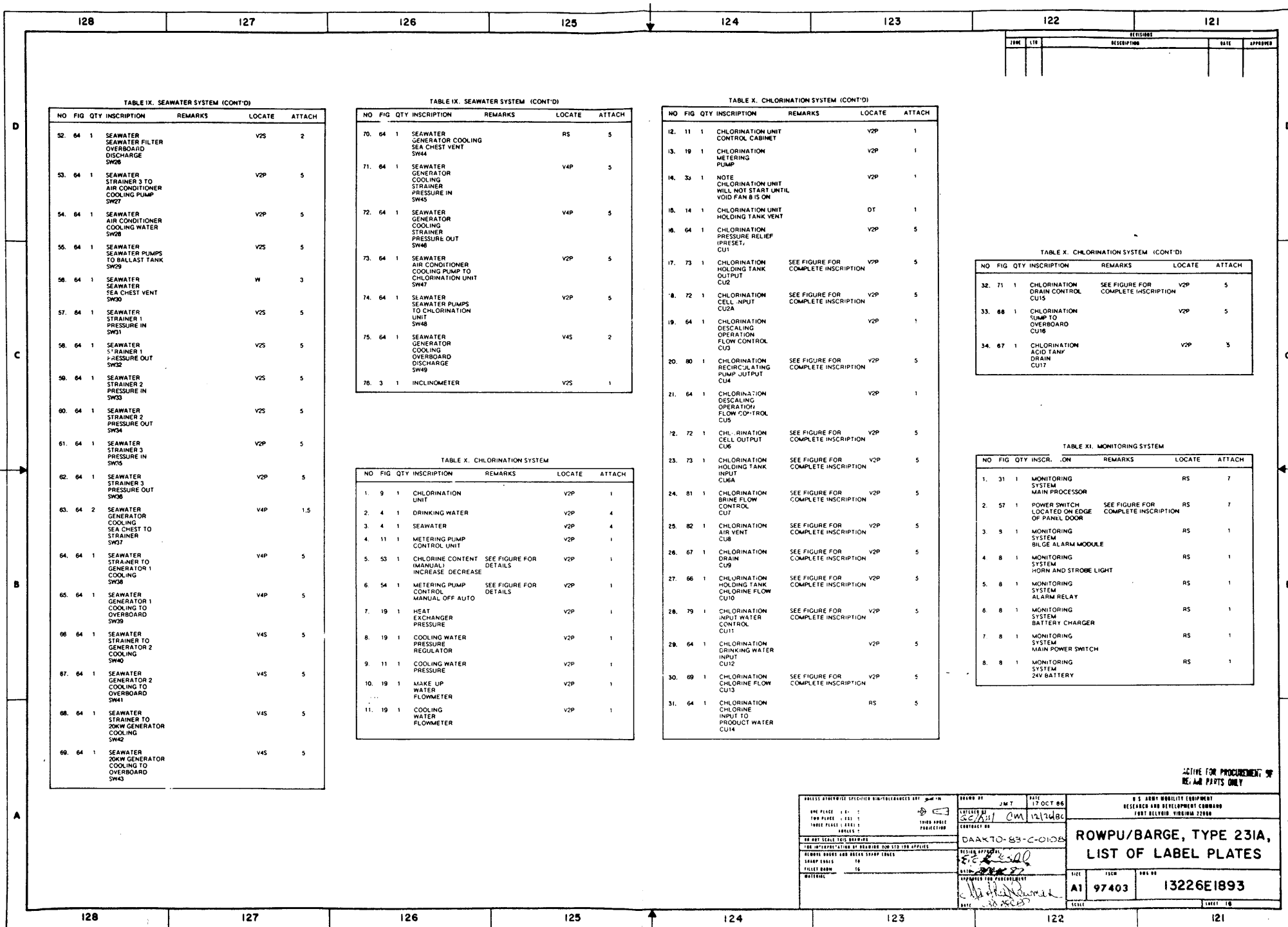


Figure FO-2 (Sheet 16 of 18)
FP-33/(FP-34 Blank)

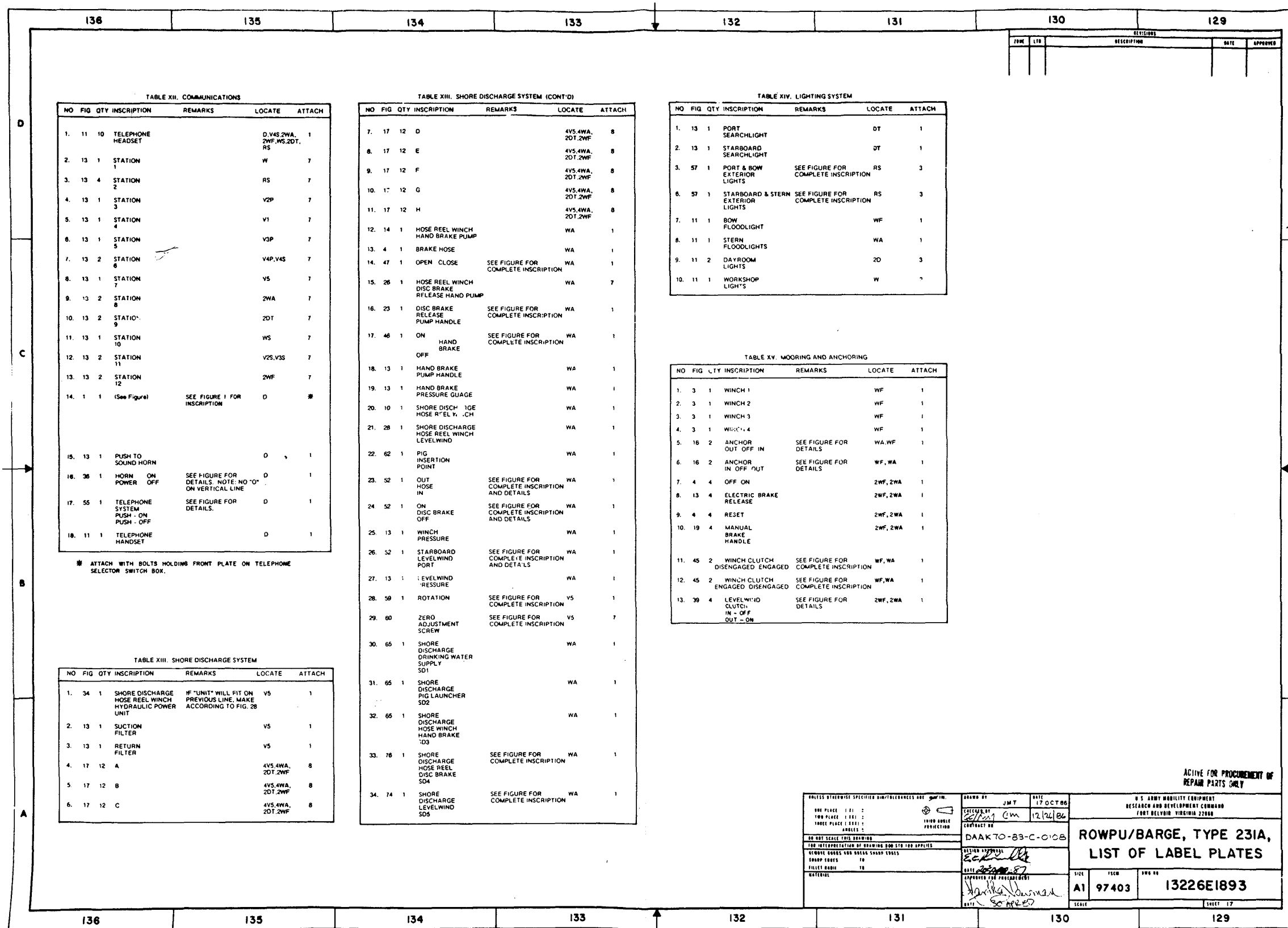
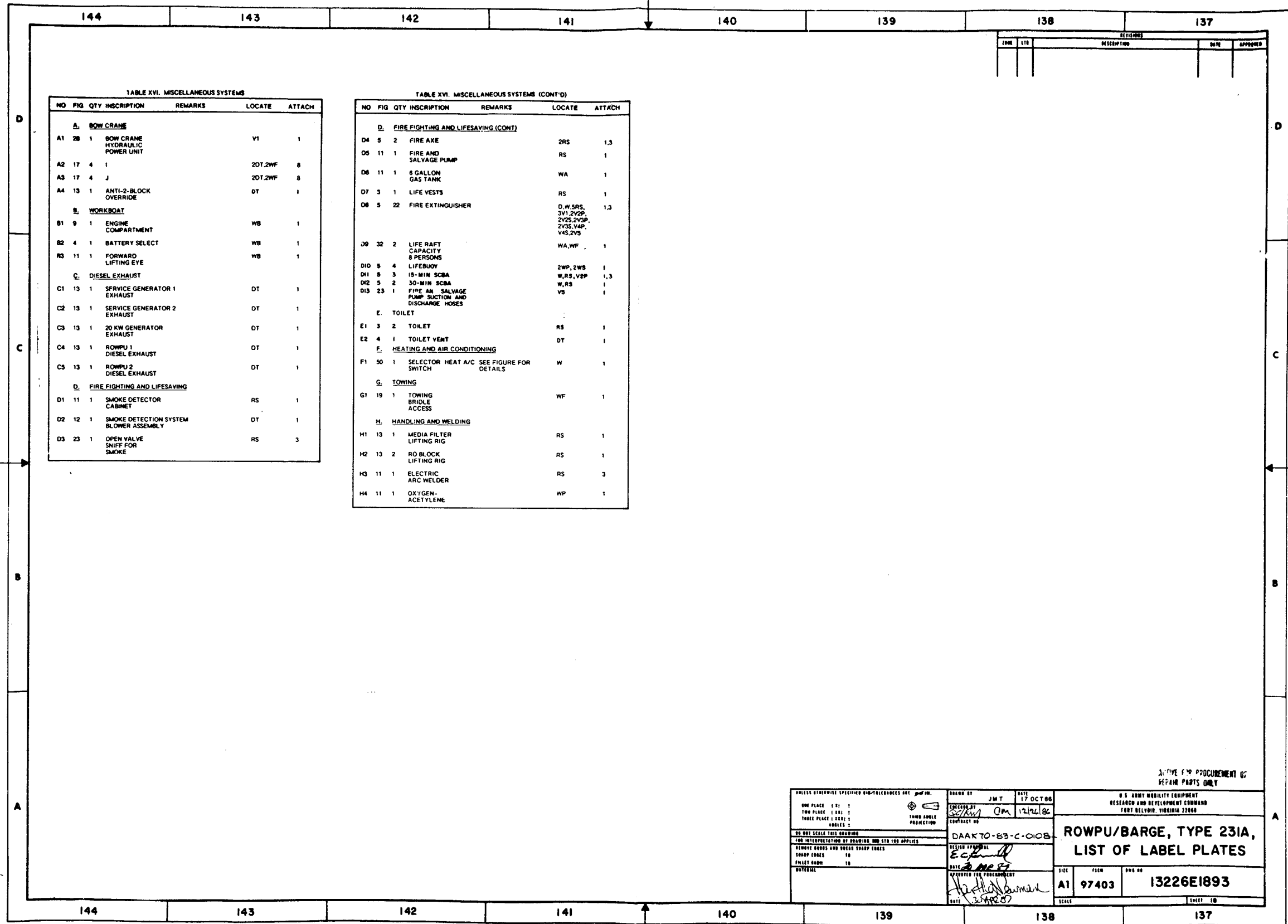


Figure FO-2 (Sheet 17 of 18)
FP-35/(FP-36 Blank)



ACTIVE FOR PROCUREMENT OF REPAIR PARTS ONLY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DRAWN BY	JMT	DATE	17 OCT 86
ONE PLACE (1:1)	TWO PLACE (1:2)	SPECIFIED BY	SC/KW	DATE	12/2/86
THREE PLACE (1:3)	FOUR PLACE (1:4)	CONTRACT NO.			
DO NOT SCALE THIS DRAWING		DAAK70-83-C-010B	ROWPU/BARGE, TYPE 231A, LIST OF LABEL PLATES		
FOR INTERPOLATION OF DIMENSIONS AND STD. DIM. APPLIES		DESIGN APPROVAL	A1 97403 13226E1893		
REMOVE DIMS AND DIMENSION LINES	SHARP EDGES	DATE	3 APR 87		
RADIUS		APPROVED FOR PROCUREMENT			
MATERIAL		DATE	3 APR 87		

Figure FO-2 (Sheet 18 of 18)
FP-37/(FP-38 Blank)

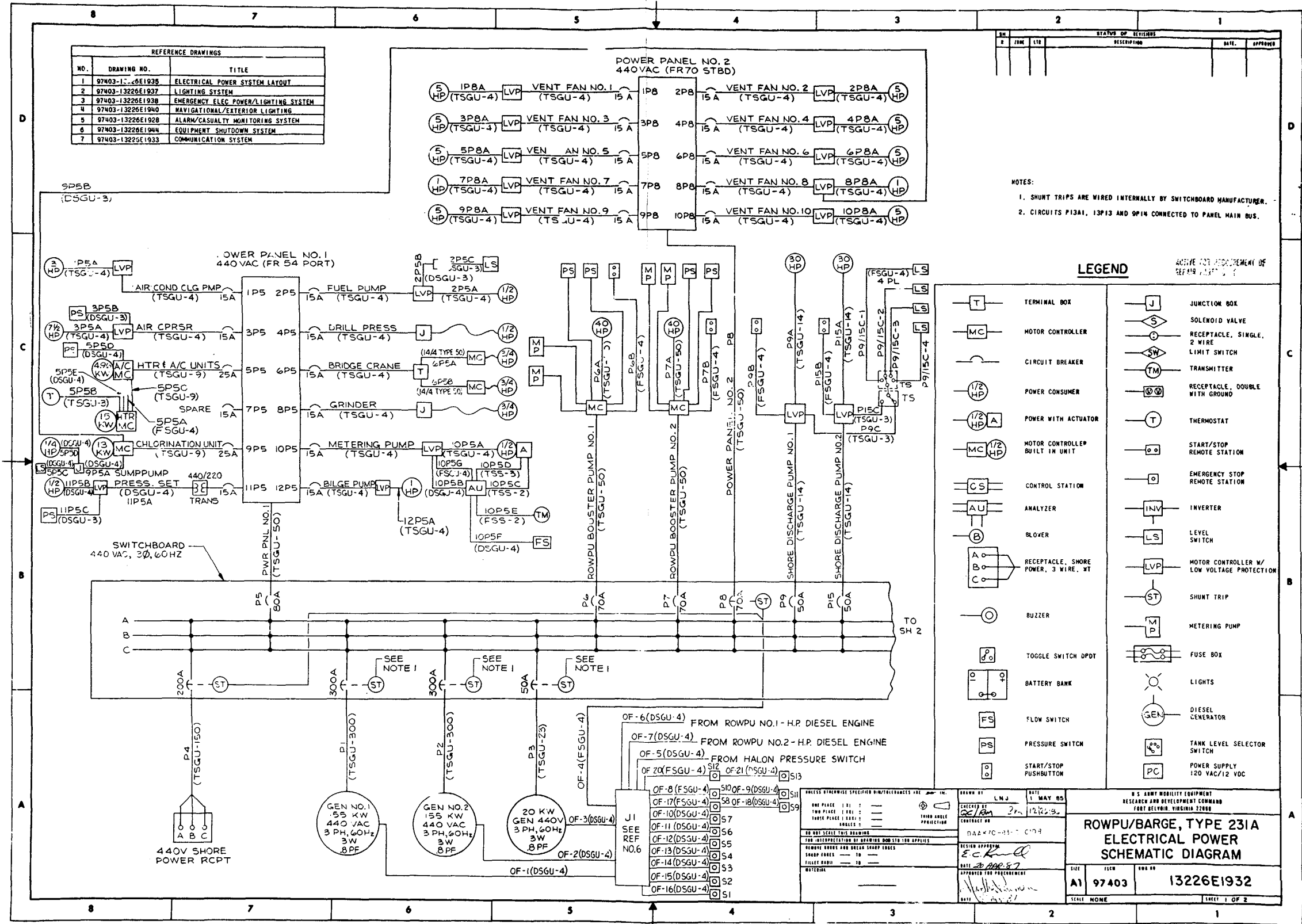


Figure FO-3 (Sheet 1 of 2)
FP-39/(FP-40 Blank)

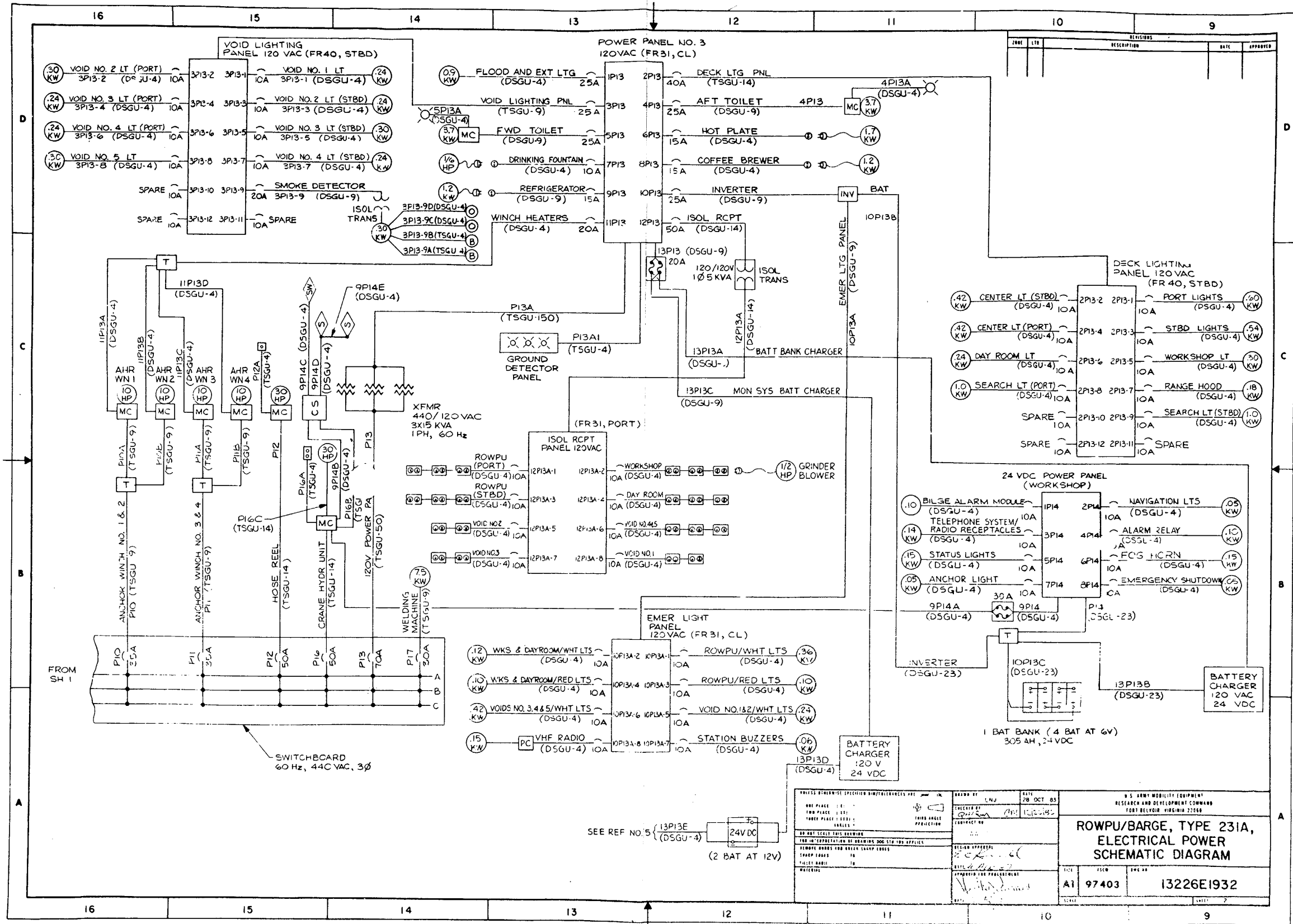


Figure FO-3 (Sheet 2 of 2)
FP-41/(FP-42 Blank)

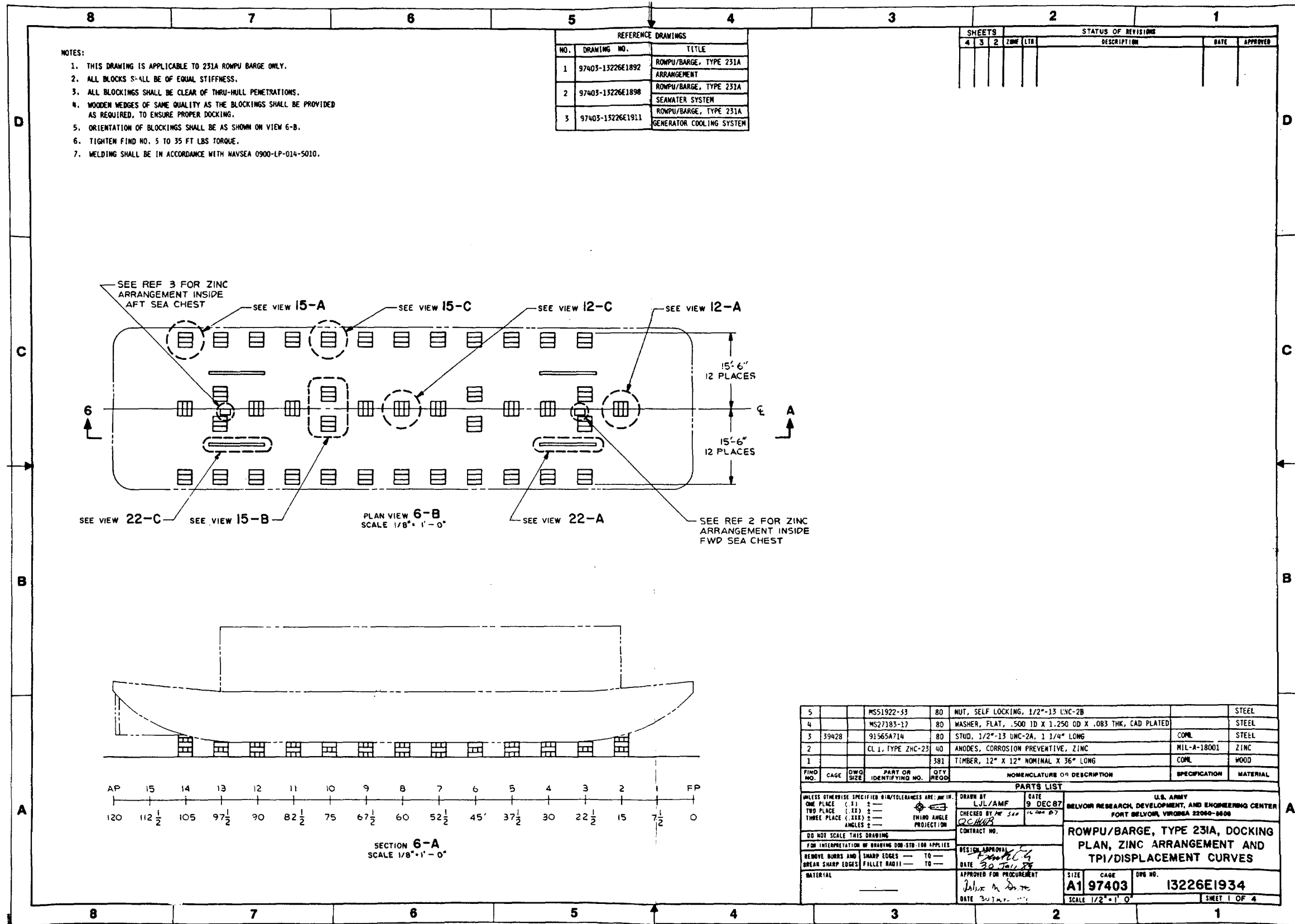
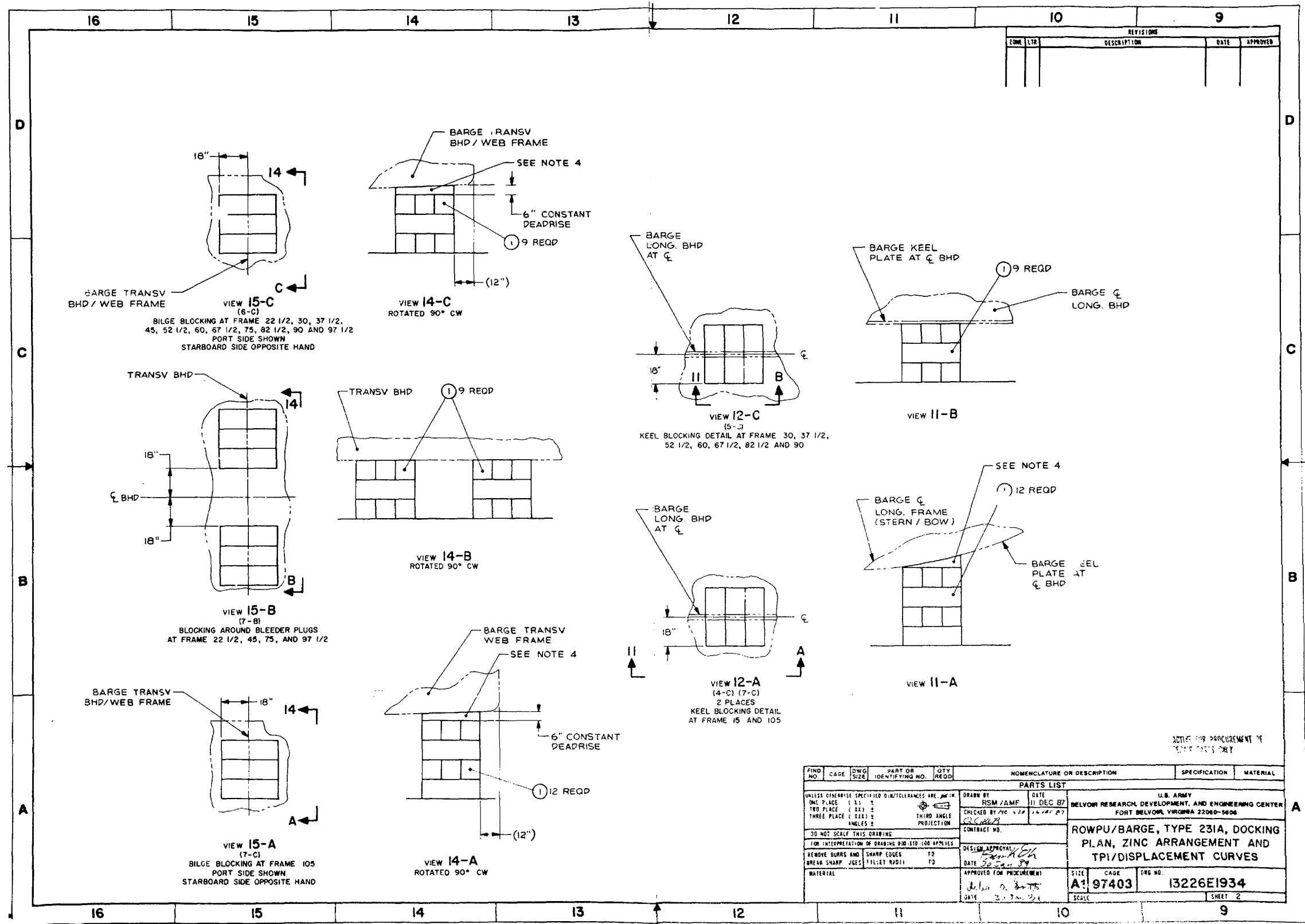


Figure FO-4 (Sheet 1 of 4)
FP-43/(FP-44 Blank)



FIND NO.	CAGE	DWG. SIZE	PART OR IDENTIFYING NO.	QTY. REQD.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL
PARTS LIST							
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES				DRAWN BY: RSM/AME DATE: 11 DEC 87			
ONE PLACE (XXX) 2				CHECKED BY: JTC DATE: 16 DEC 87			
TWO PLACE (XX) 2				THIRD ANGLE PROJECTION			
THREE PLACE (X) 2				CONTRACT NO.			
FOUR PLACE () 2				DESIGN APPROVAL: [Signature]			
FIVE PLACE () 2				DATE: 30 Jan 89			
SIX PLACE () 2				APPROVED FOR PROCUREMENT: [Signature]			
SEVEN PLACE () 2				DATE: 30 Jan 89			
EIGHT PLACE () 2				SIZE: A			
NINE PLACE () 2				CAGE: 97403			
TEN PLACE () 2				DWG. NO.: 13226E1934			
ELEVEN PLACE () 2				SCALE: SHEET 2			

Figure FO-4 (Sheet 2 of 4)
FO-45/(FP-46 Blank)

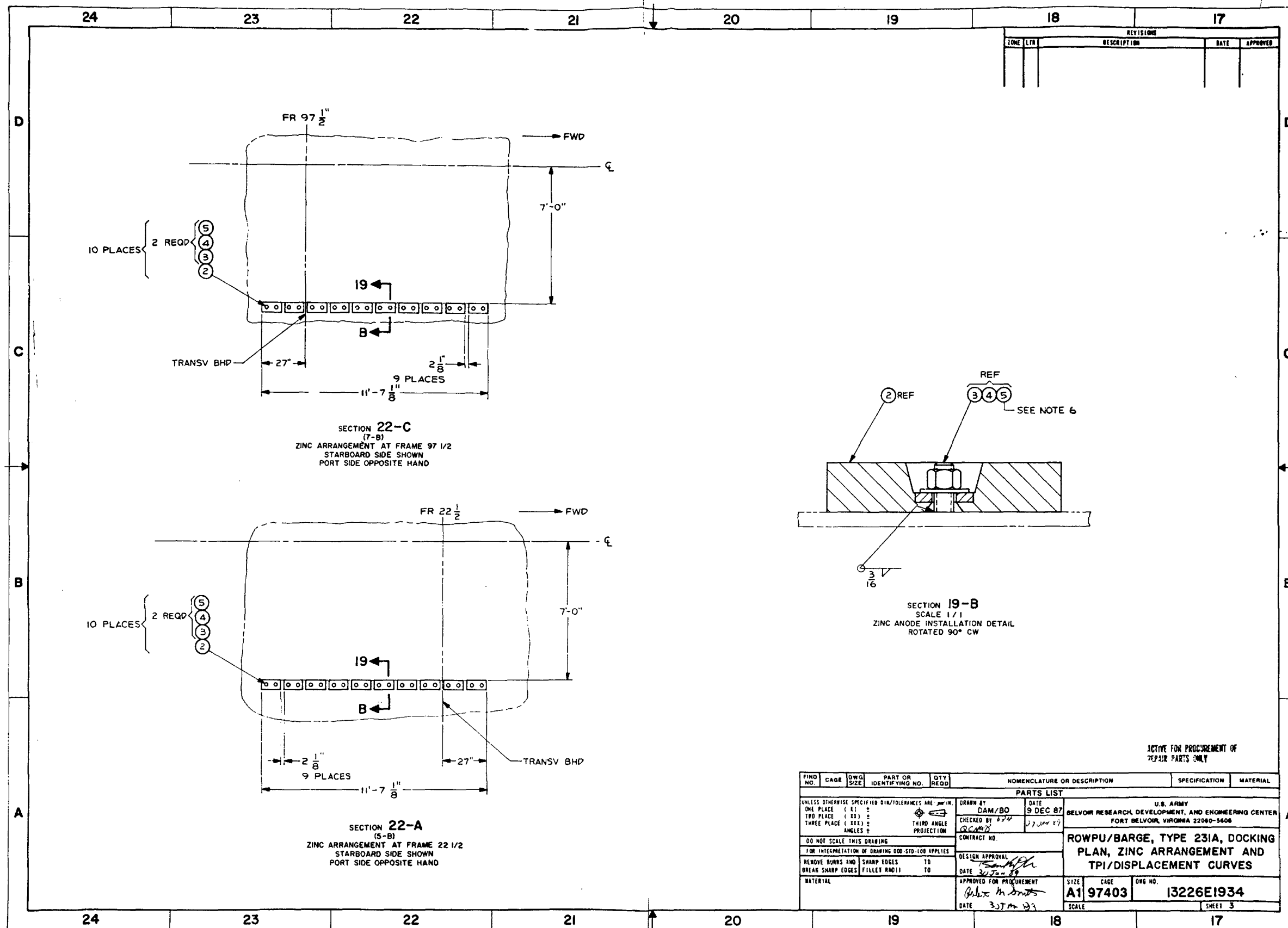


Figure FO-4 (Sheet 3 of 4)
FP-47/(FP-48 Blank)

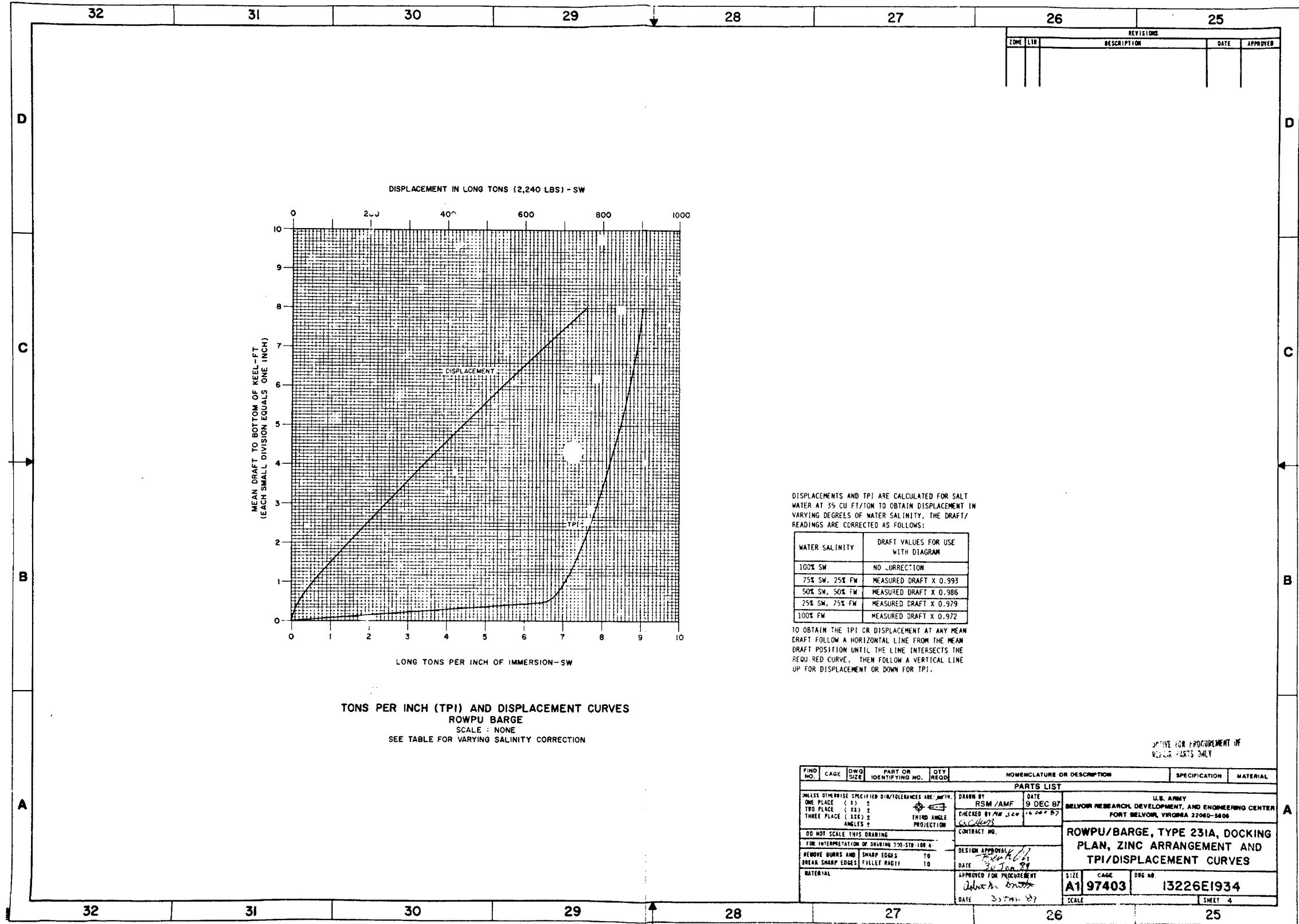
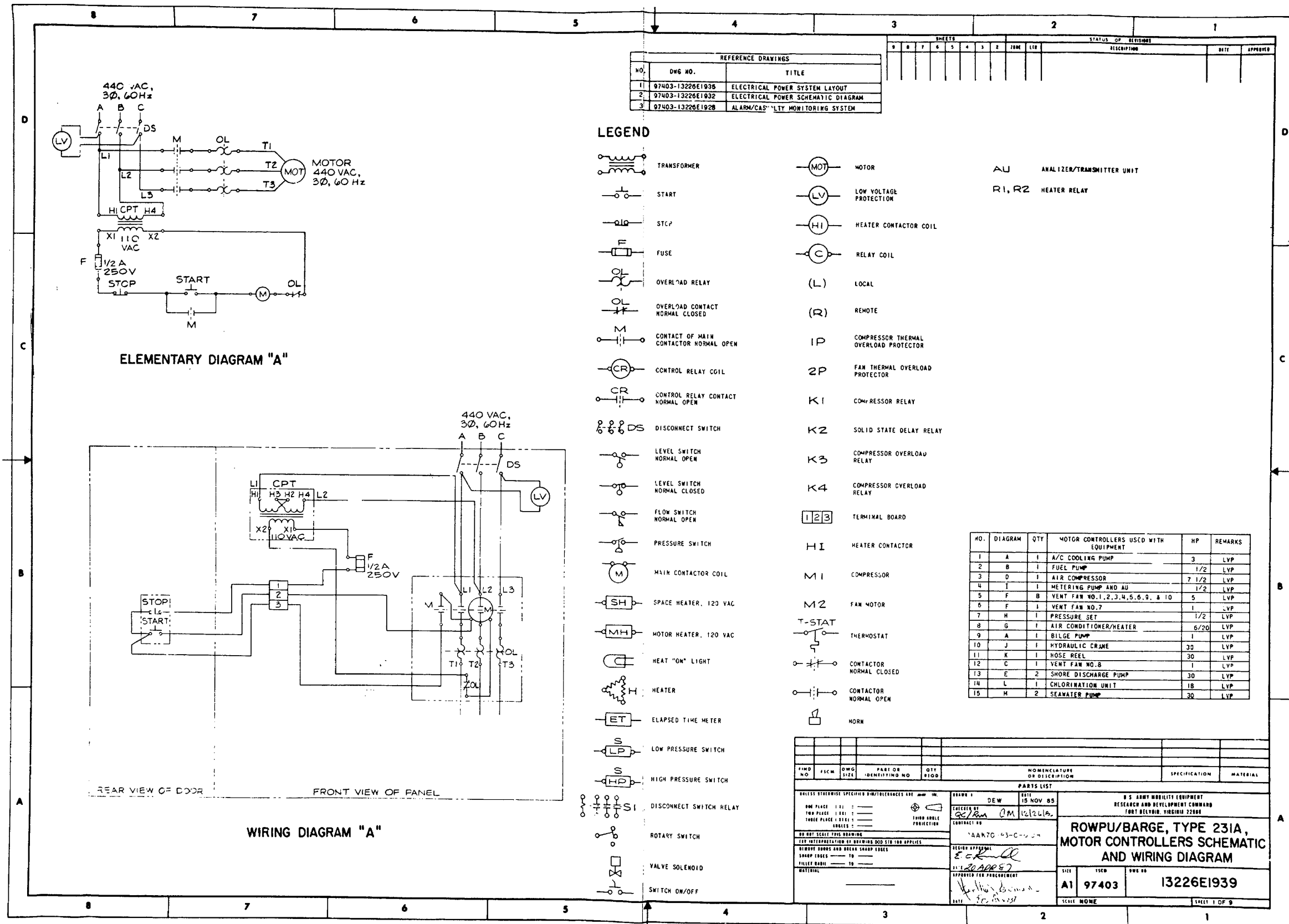


Figure FO-4 (Sheet 4 of 4)
FP-49/(FP-50 Blank)



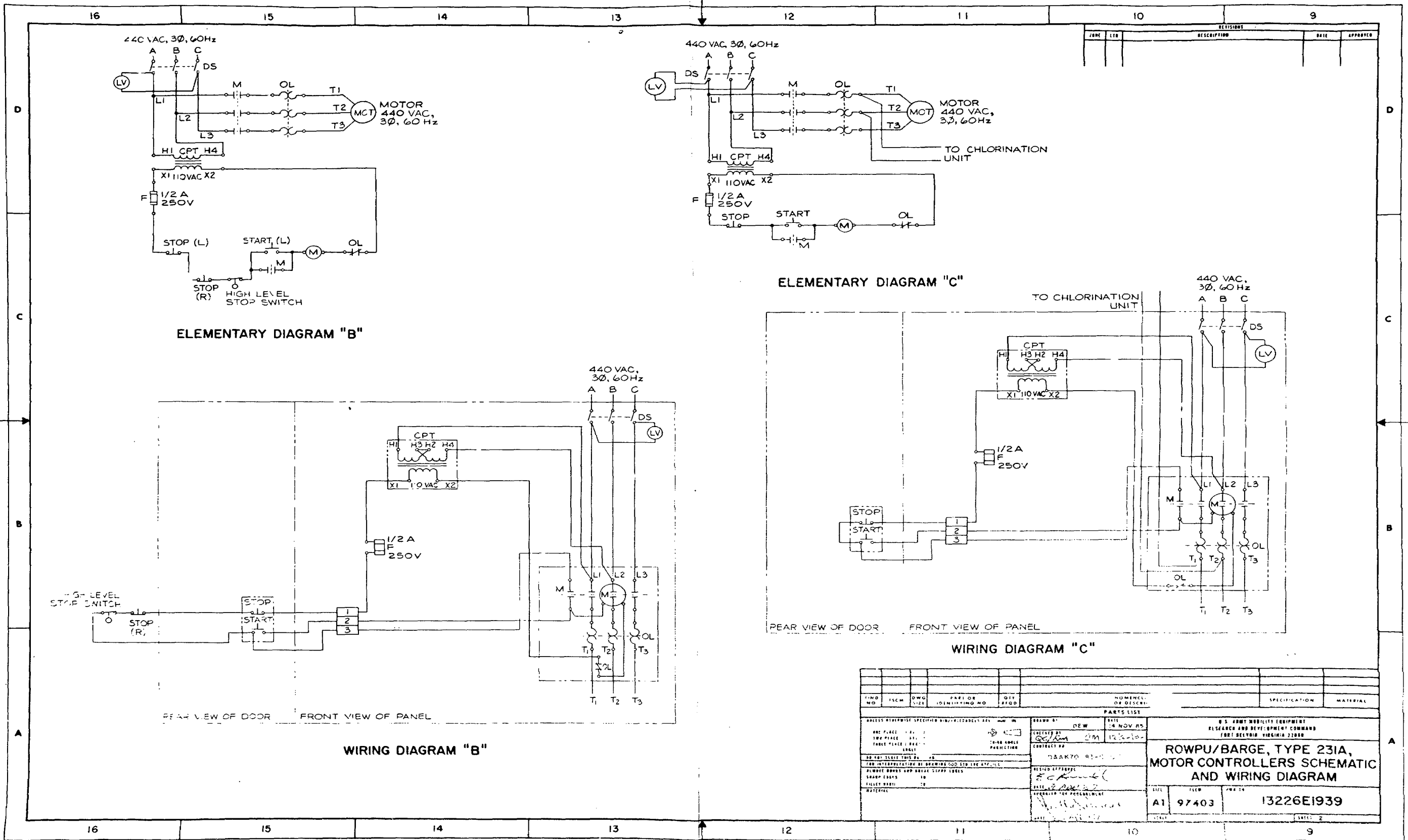


Figure FO-5 (Sheet 2 of 9)
FP-53/(FP-54 Blank)

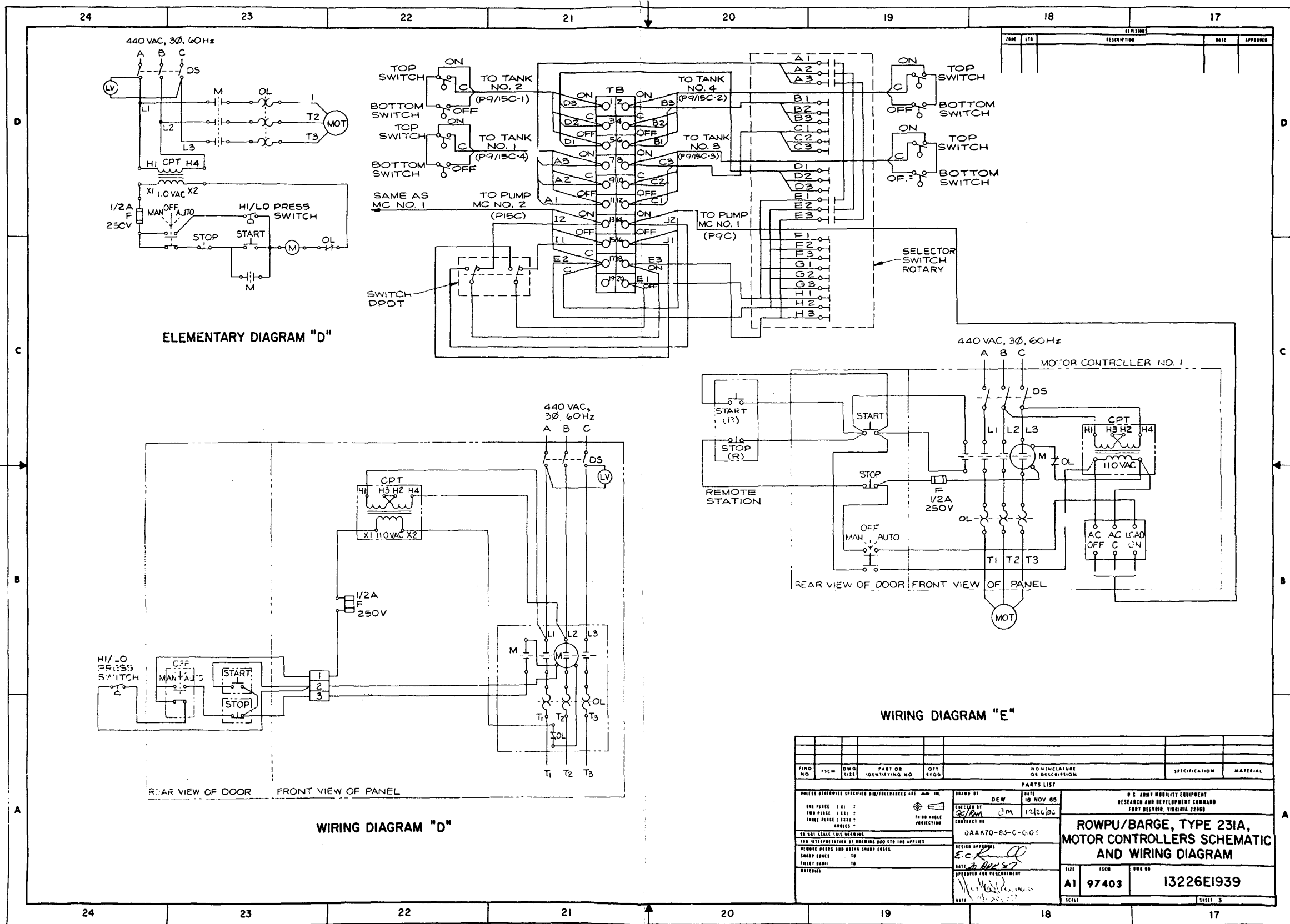


Figure FO-5 (Sheet 3 of 9)
FP-55/(FP-56 Blank)

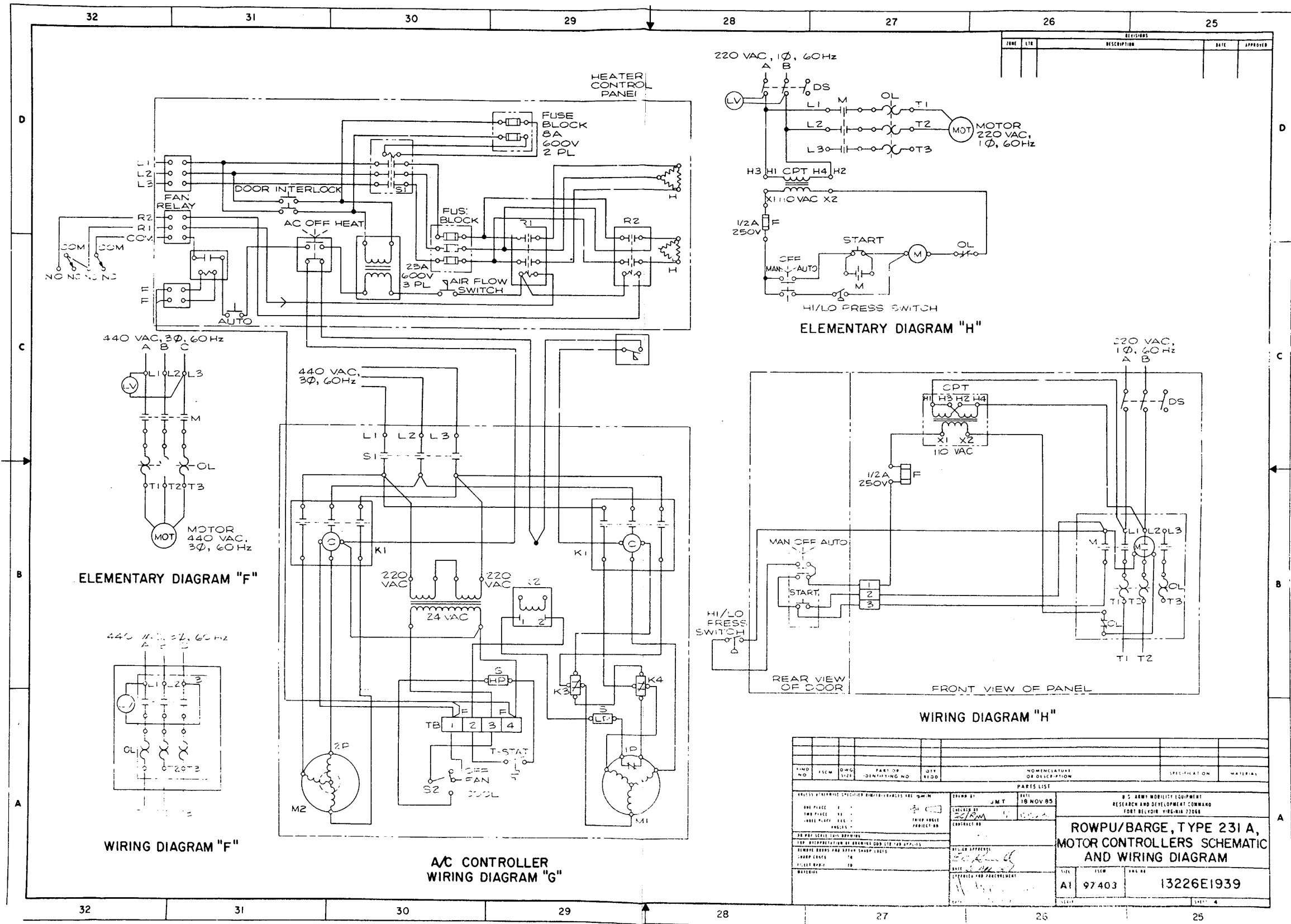


FIG NO	ITEM	QTY	PART OR IDENTIFYING NO	SYMBOL	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL
PARTS LIST							
ANALYSIS: UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. UNIT PLACE: IN TOLERANCE: AS SHOWN FINISH: UNLESS OTHERWISE SPECIFIED				DRAWN BY: J.M.T. DATE: 18 NOV 85		U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060	
APPROVED BY: [Signature] DATE: [Date]				CONTRACT NO.: [Number]		ROWPU/BARGE, TYPE 231 A, MOTOR CONTROLLERS SCHEMATIC AND WIRING DIAGRAM	
SIZE: A1		ITEM: 97403		PART NO.: 13226E1939		SHEET: 4	

Figure FO-5 (Sheet 4 of 9)
FP-57/(FP-58 Blank)

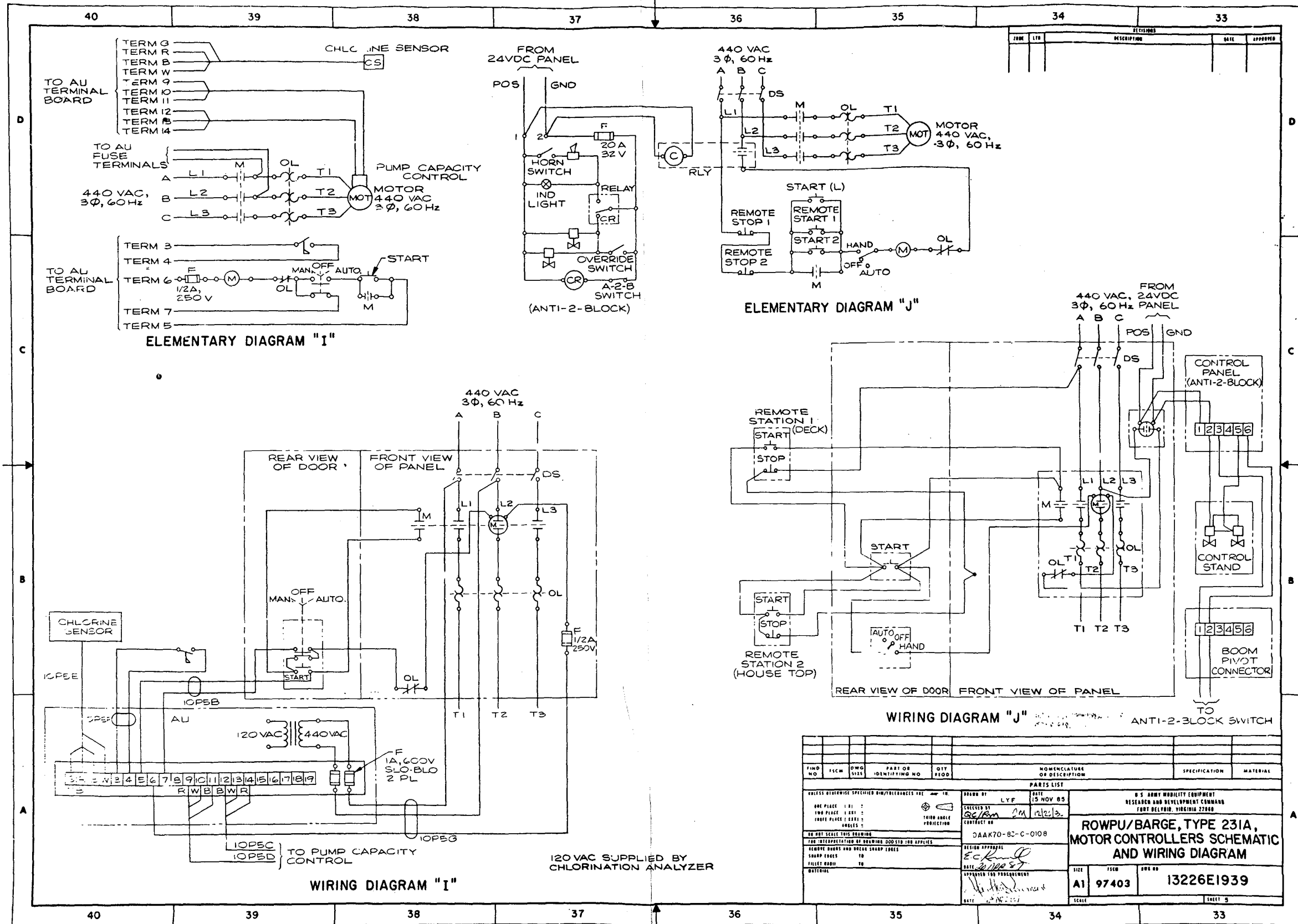


Figure FO-5 (Sheet 5 of 9)
 FP-59/(FP-60 Blank)

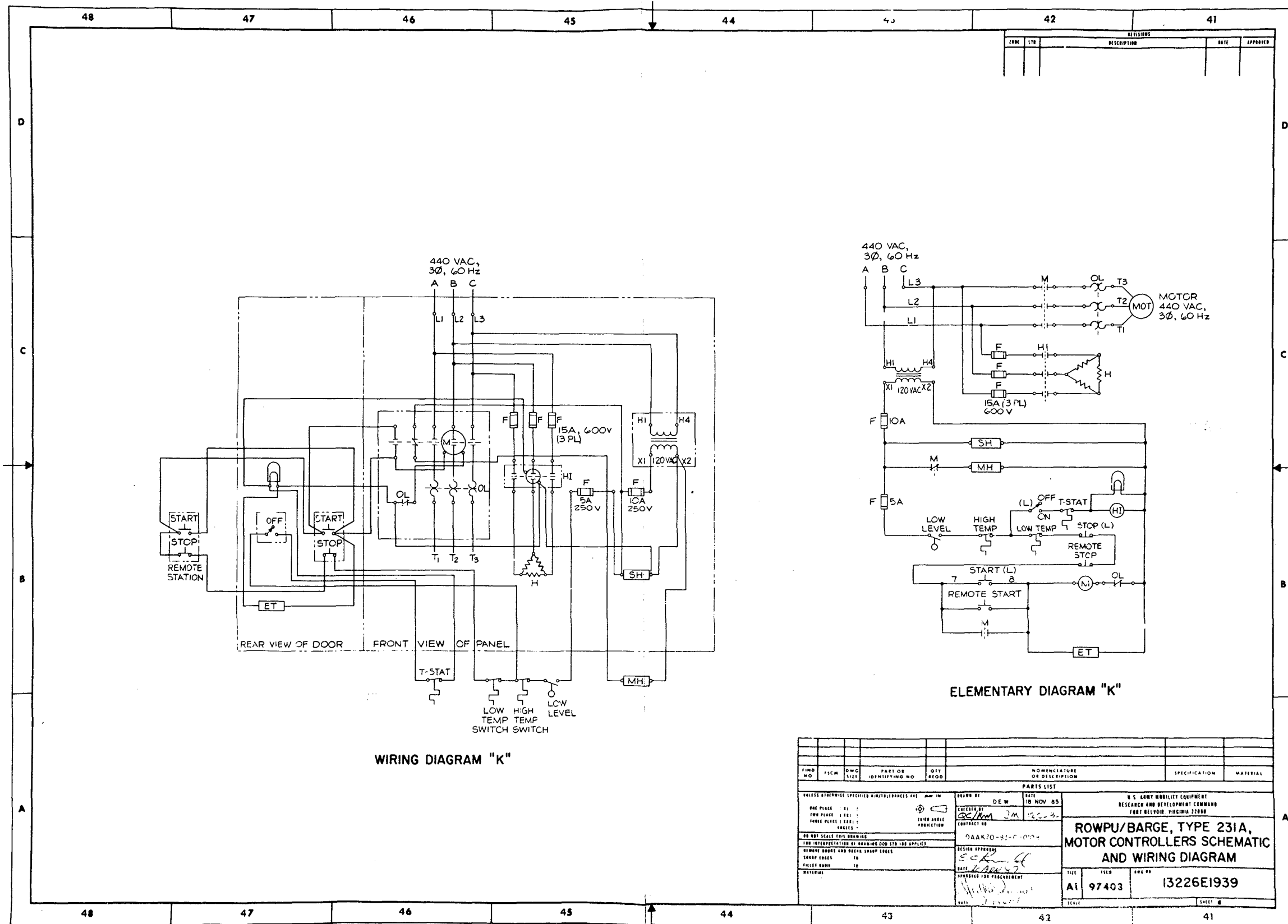
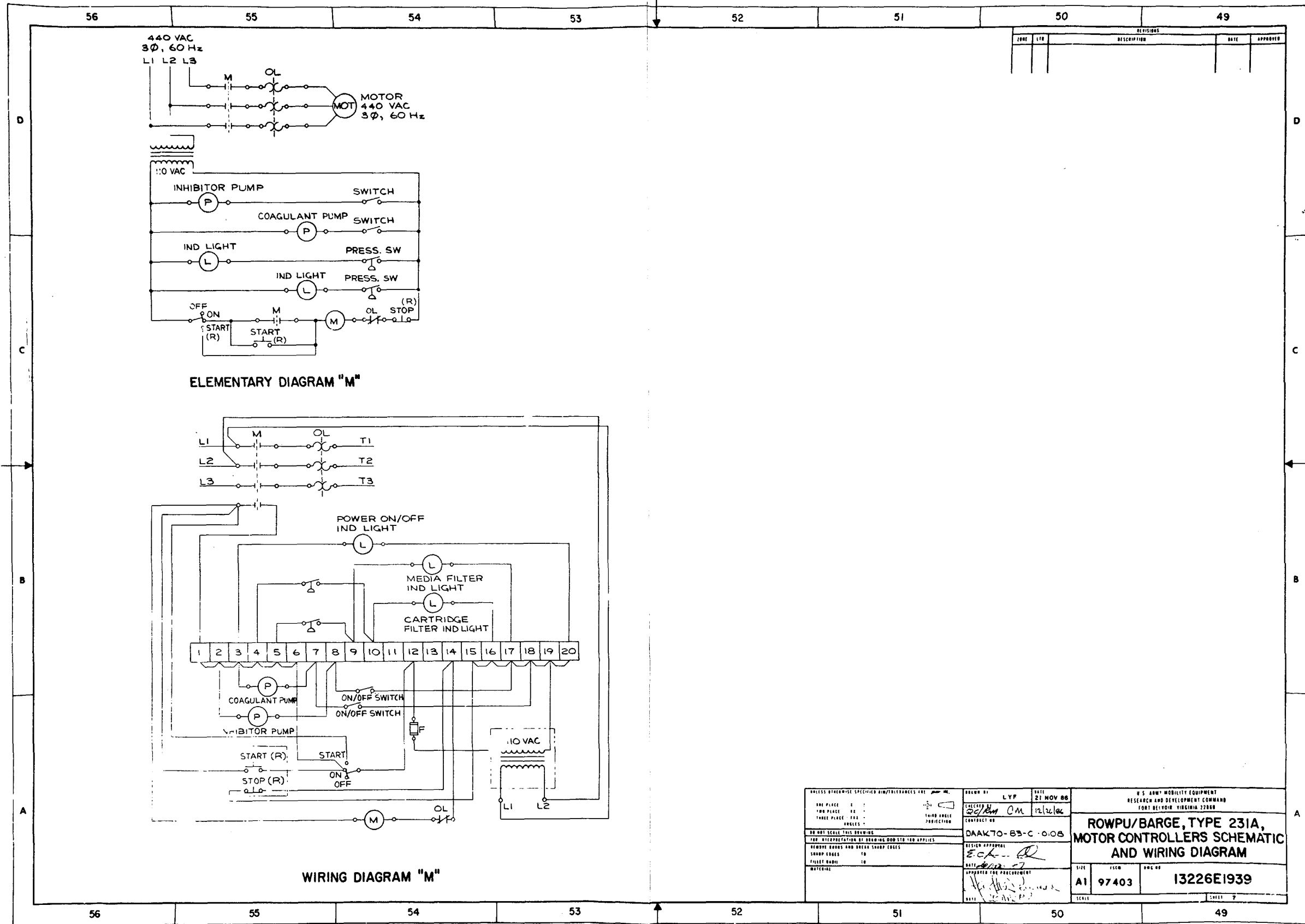


Figure FO-5 (Sheet 6 of 9)
FP-61/(FP-62 Blank)



REVISIONS				
ZONE	LTG	DESCRIPTION	DATE	APPROVED

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ONE PLACE - 0 TWO PLACE - .00 THREE PLACE - .000 ANGLES - °	DRAWN BY: LYP CHECKED BY: [Signature] CONTRACT NO: DAAK70-83-C-0.08	DATE: 21 NOV 88 TIME: 12:26:00	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
DO NOT SCALE THIS DRAWING FOR INTERPRETATION OF DIMENSIONS AND TOLERANCES APPLY	DESIGN APPROVAL: [Signature] APPROVED FOR PROCUREMENT: [Signature]	SIZE: A1 JSCB: 97403	ROWPU/BARGE, TYPE 231A, MOTOR CONTROLLERS SCHEMATIC AND WIRING DIAGRAM FIG. NO: 13226E1939
WEIGHT: [Blank] SHARP CORNERS: [Blank] FILED MARK: [Blank] MATERIAL: [Blank]	DATE: [Blank]	SCALE: [Blank]	SHEET: 7

Figure FO-5 (Sheet 7 of 9)
FP-63/(FP-64 Blank)

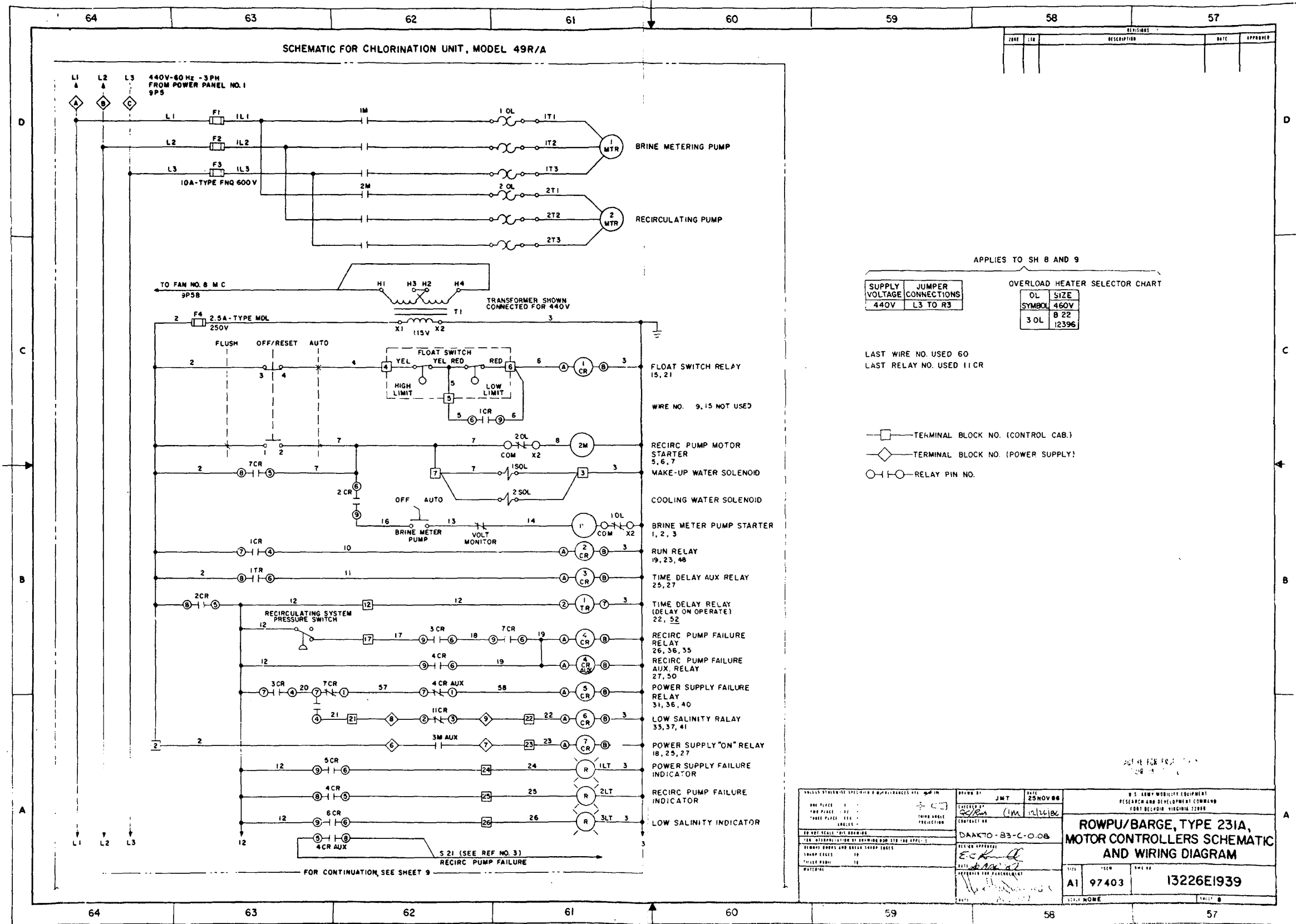


Figure FO-5 (Sheet 8 of 9)
FP-65/(FP-66 Blank)

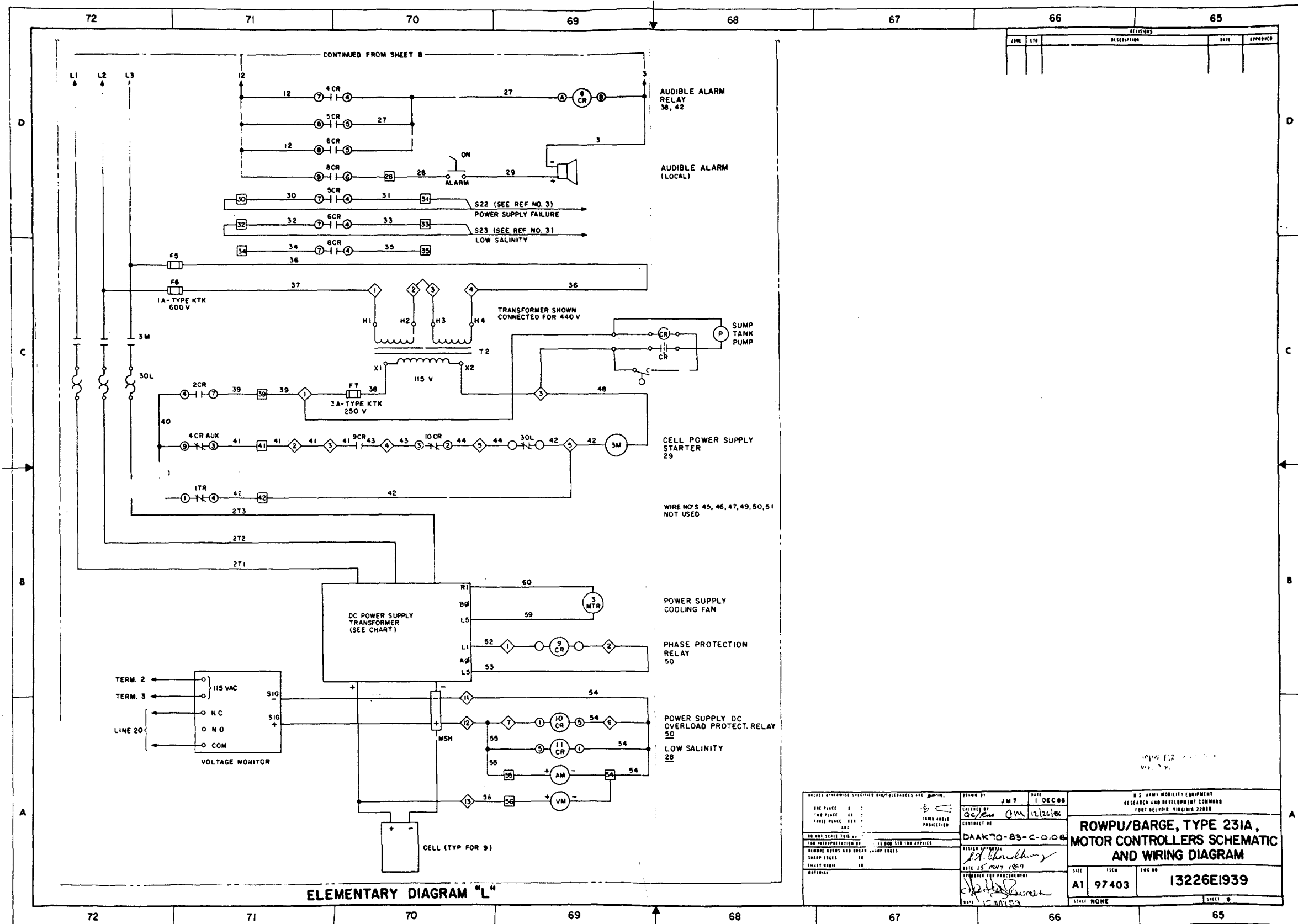


Figure FO-5 (Sheet 9 of 9)
FP-67/(FP-68 Blank)

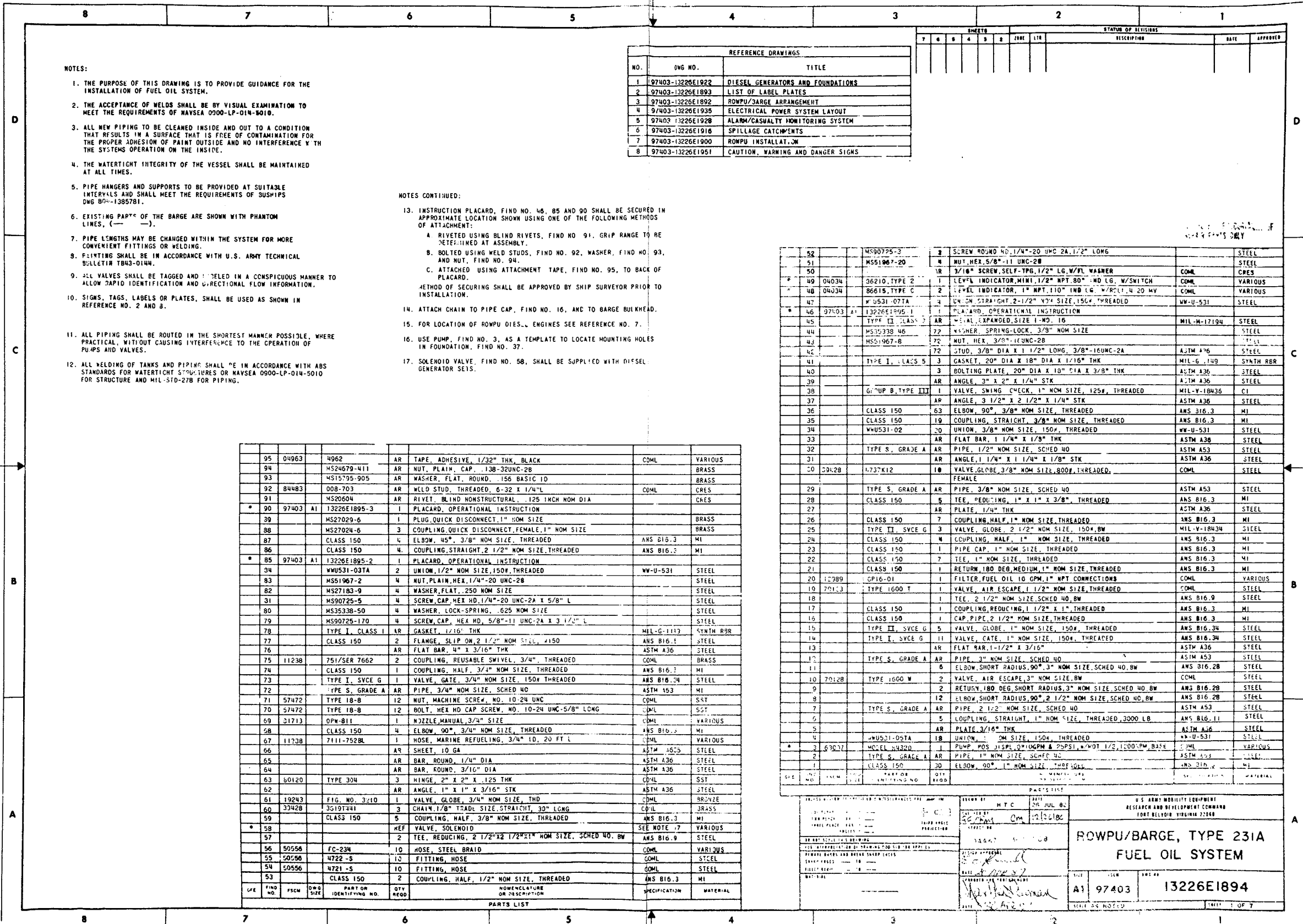


Figure FO-6 (Sheet 1 of 7)
FP-69/(FP-70 Blank)

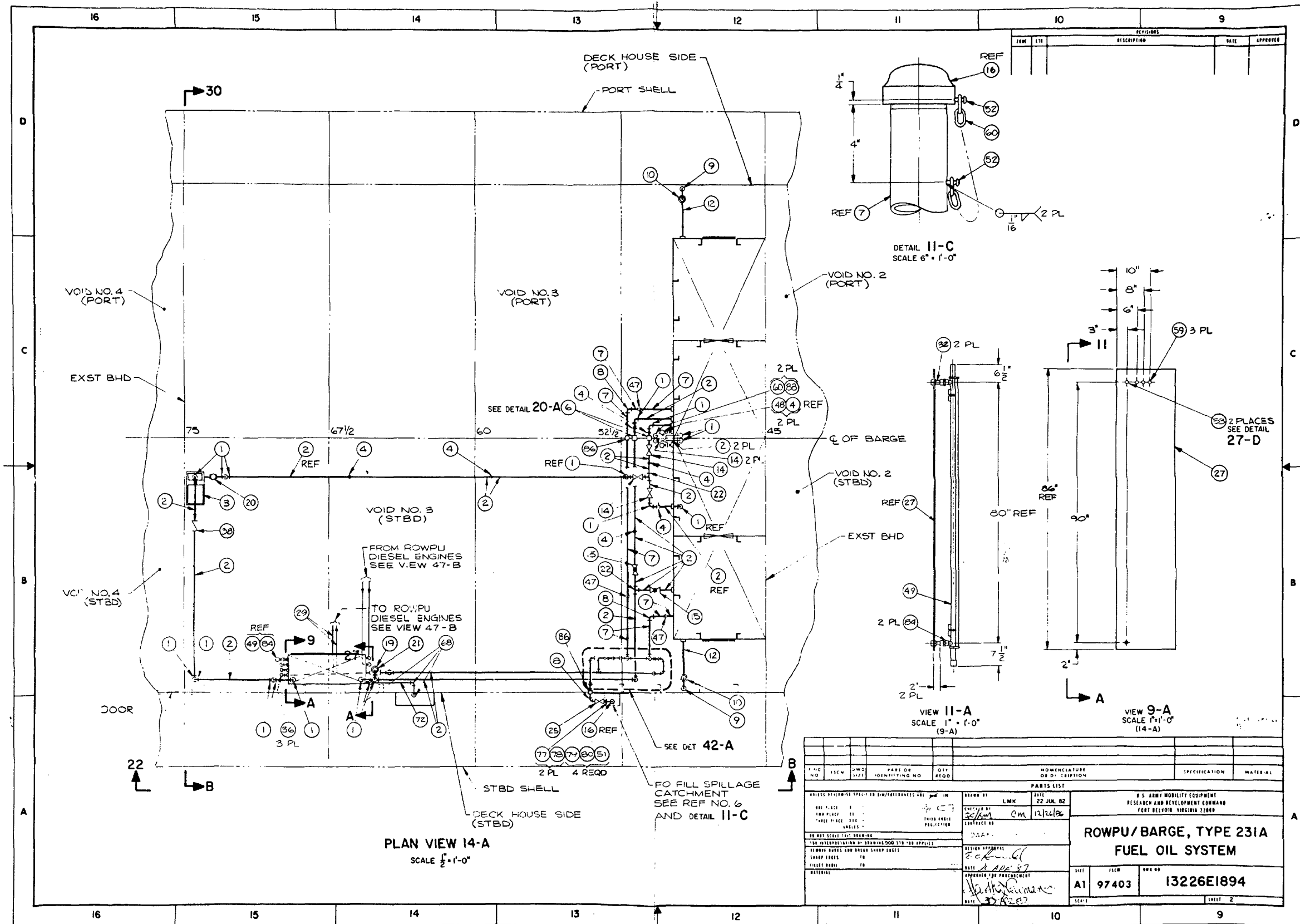


Figure FO-6 (Sheet 2 of 7)
FP-71/(FP-72 Blank)

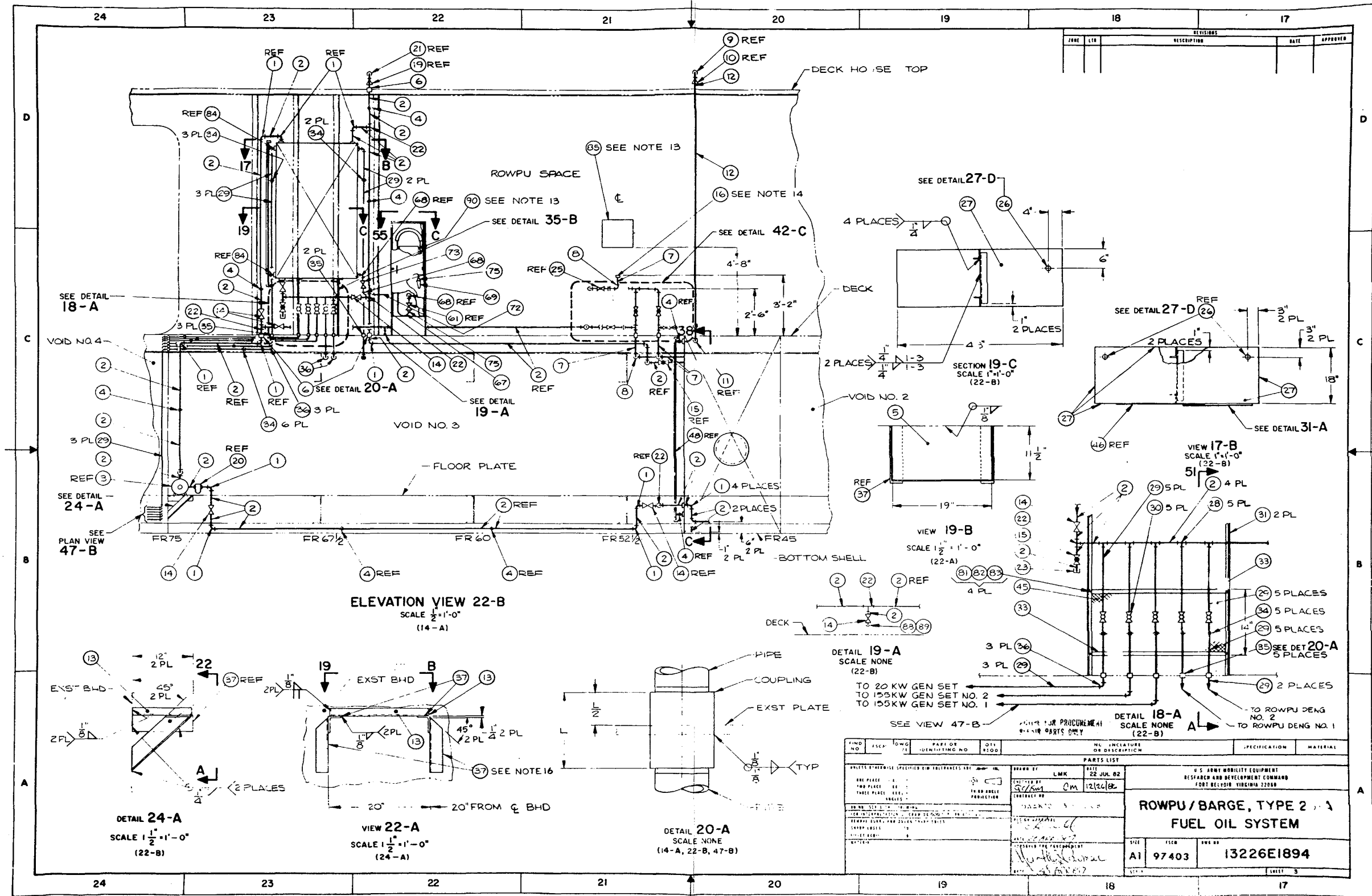


Figure FO-6 (Sheet 3 of 7)
FP-73/(FP-74 Blank)

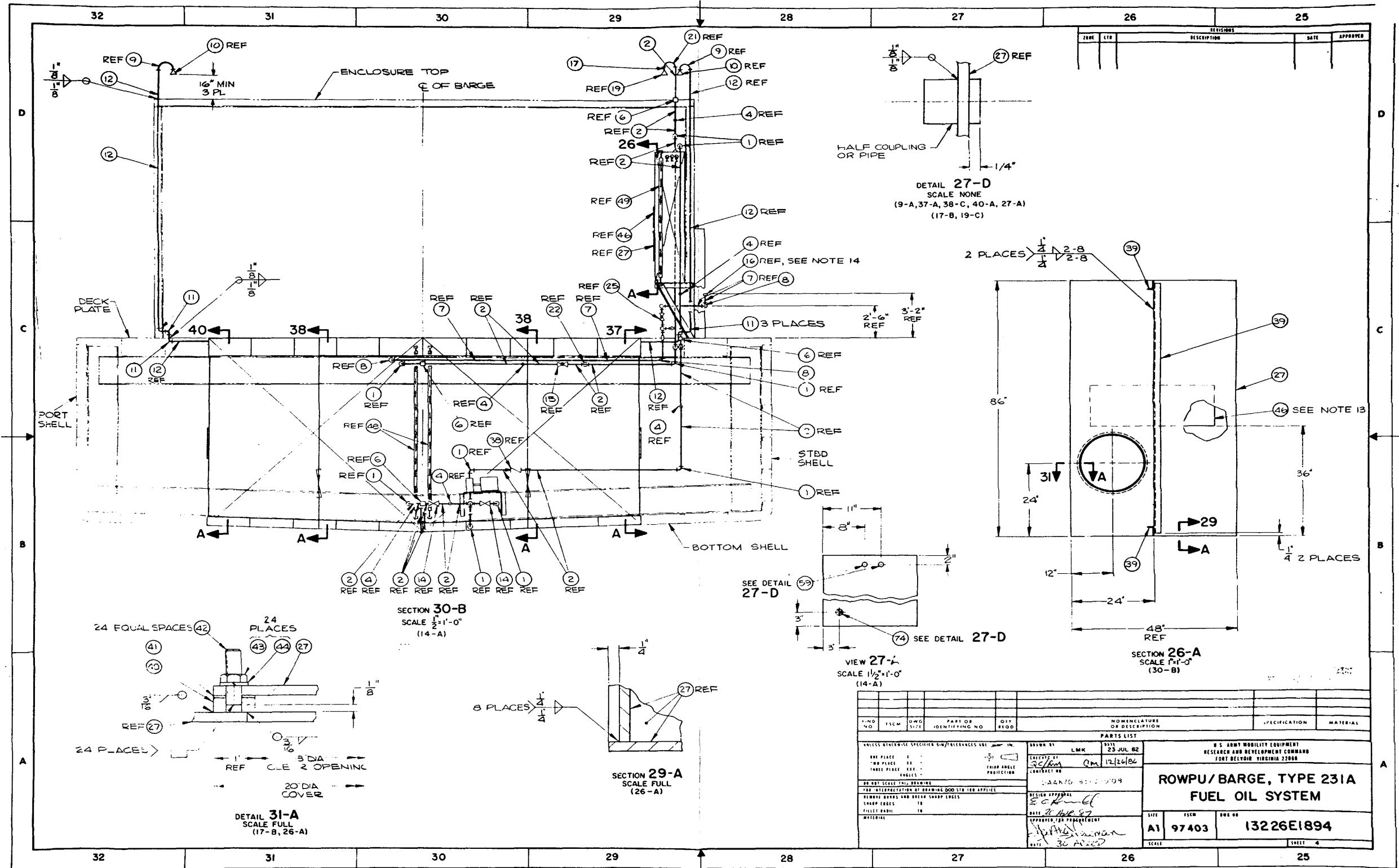
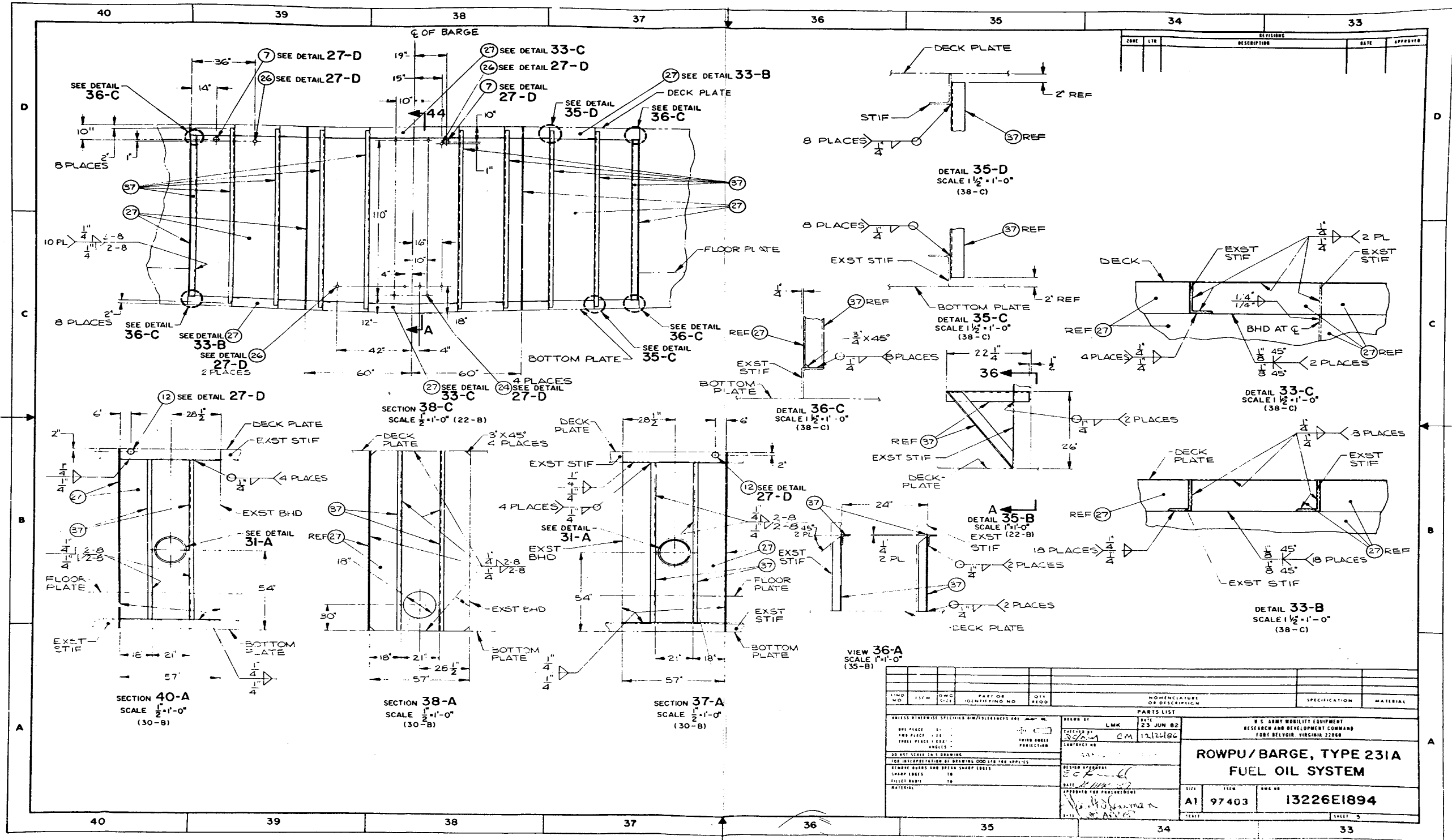


Figure FO-6 (Sheet 4 of 7)
FP-75/(FP-76 Blank)



REV NO.	BY	DATE	DESCRIPTION	APPROVED

PARTS LIST		NOMENCLATURE OR DESCRIPTION		SPECIFICATION	MATERIAL

PROJECT: ROWPU/BARGE, TYPE 231A DRAWING NO.: 13226E1894 DATE: 23 JUN 82		U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060	
DESIGNER: LMK CHECKED BY: CM CONTRACT NO.:		TITLE: ROWPU/BARGE, TYPE 231A FUEL OIL SYSTEM	
DATE: 23 JUN 82 APPROVED FOR PROCUREMENT:		SIZE: A1	DRAWING NO.: 13226E1894
DATE: 23 JUN 82		SHEET: 5	TOTAL SHEETS: 5

Figure FO-6 (Sheet 5 of 7)
FP-77/(FP-78 Blank)

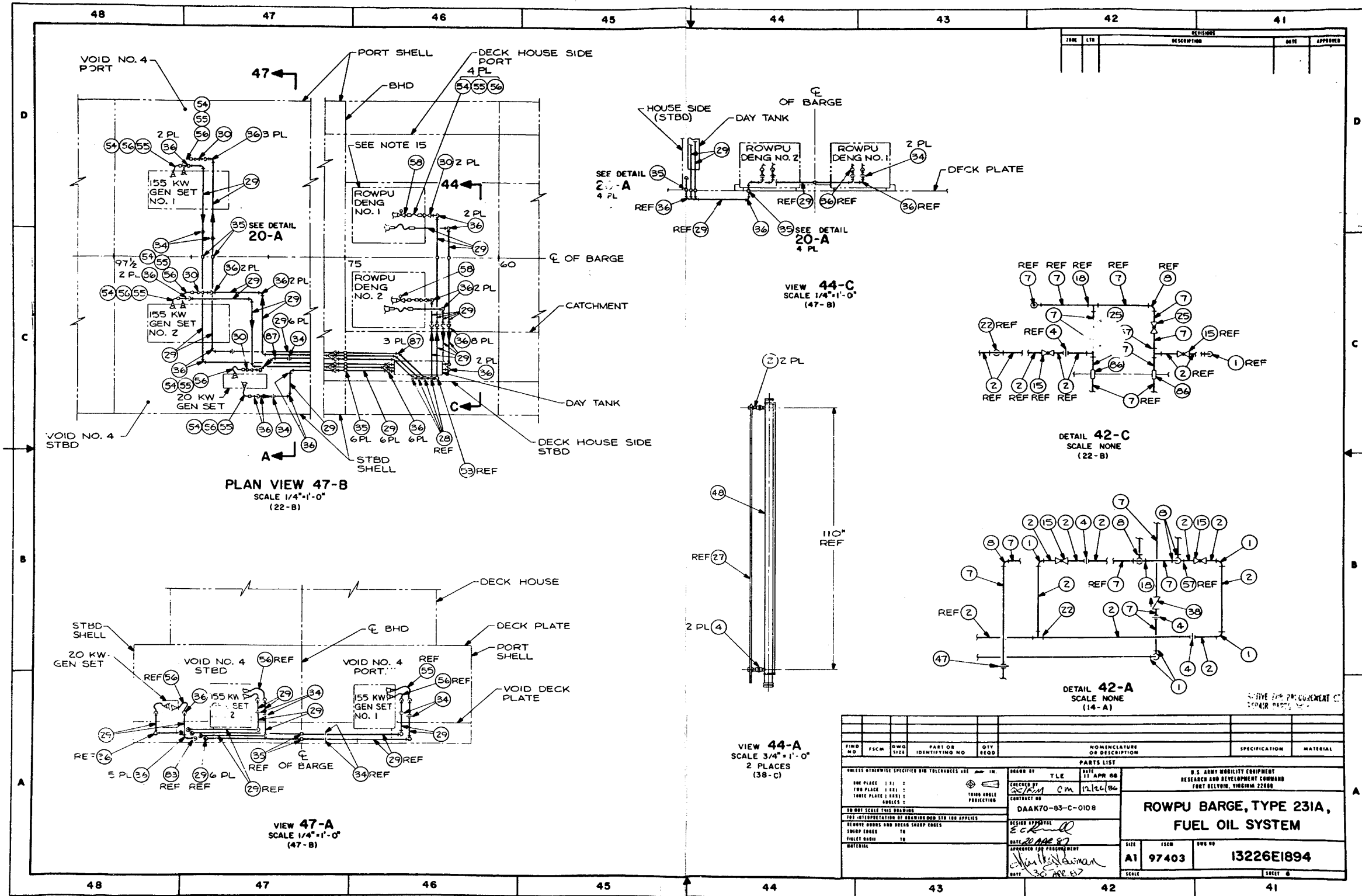
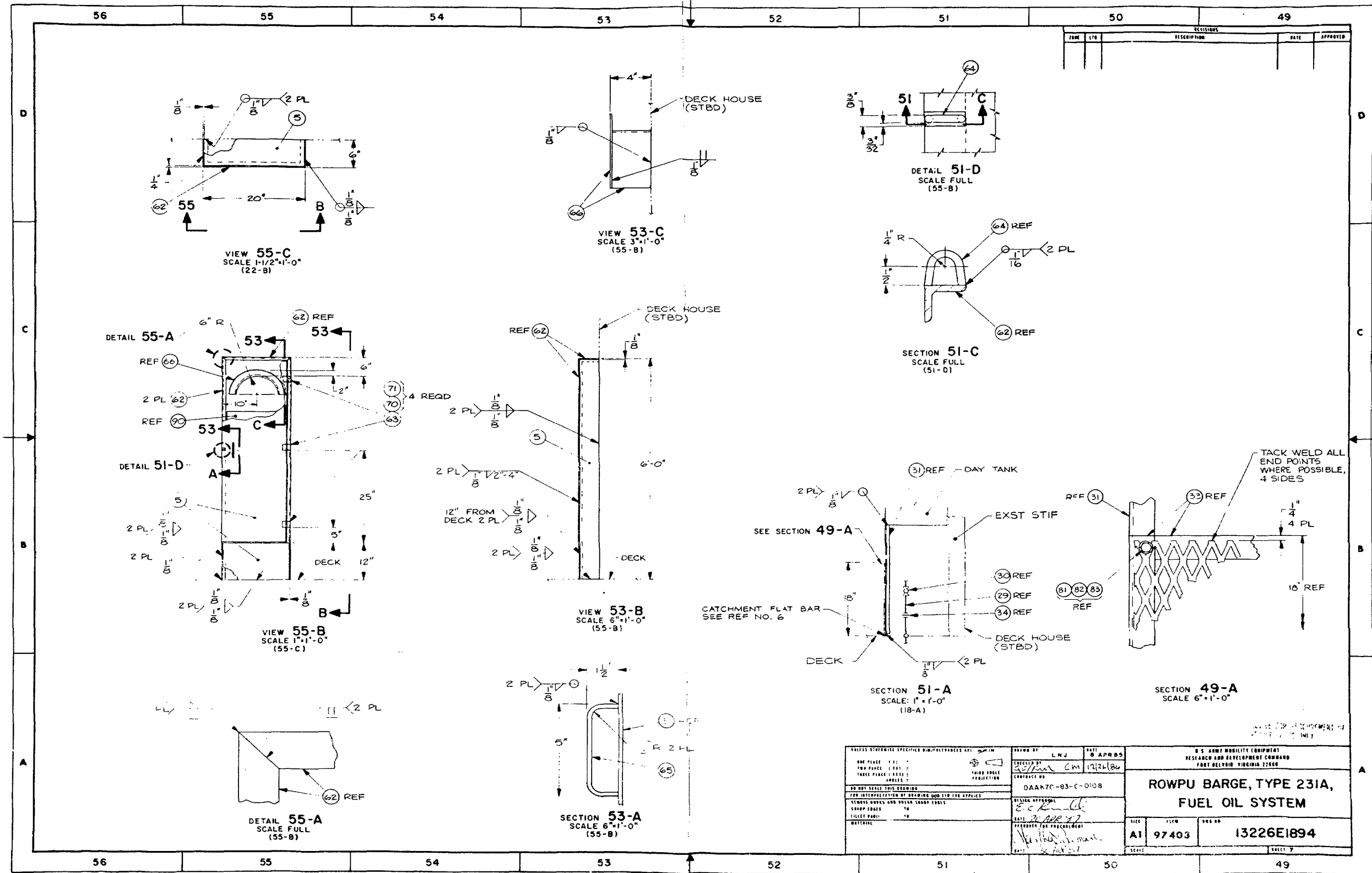


Figure FO-6 (Sheet 6 of 7)
FP-79/(FP-80 Blank)



REVOLUTIONS		DATE	APPROVED
NO.	DESCRIPTION		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DESIGNED BY: LNJ	DATE: 8 APR 85	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
ONE PLACE TYPED	TWO PLACE TYPED	CHECKED BY: S.C. [Signature]	DATE: 12/24/84	
THREE PLACE TYPED		THIRD ANGLE PROJECTION	CONTRACT NO.: DAAK70-83-C-0108	ROWPU BARGE, TYPE 231A, FUEL OIL SYSTEM
FOR INFORMATION OF BUYER AND QUALITY CONTROL OFFICES		DESIGN APPROVAL: [Signature]	DATE: 21 APR 85	
FOR REFERENCE TO THIS DRAWING	SHARP EDGES AND BREAK SHARP EDGES	APPROVED FOR PROCUREMENT: [Signature]	DATE: [Signature]	SIZE: A1 FIG NO: 97403 DOC NO: 13226E1894
FOR INFORMATION OF BUYER AND QUALITY CONTROL OFFICES	SHARP EDGES TO	DATE: [Signature]	DATE: [Signature]	

Figure FO-6 (Sheet 7 of 7)
FP-81/(FP-82 Blank)

REFERENCE DRAWINGS		
NO.	DRG NO.	TITLE
1	97403-13226E1892	ROWPU/BARGE ARRANGEMENT
2	97403-13226E1894	FUEL OIL SYSTEM

REVISION			
NO.	DATE	DESCRIPTION	BY

NOTES:

- PLATE (PL-...-R) SHALL BE IN ACCORDANCE WITH MIL-P-518, TYPE III, COMPOSITION C (66-P-455, TYPE I OR II, GRADE A, CLASS 1) .032 THICK.
- CHARACTERS AND BORDER SHALL BE WHITE (OR NATURAL) ON BLACK BACKGROUND, SIZE APPROXIMATELY AS SHOWN.

FUEL OIL TRANSFER FROM STORAGE TANKS TO DAY TANK

(See Operation and Maintenance Manual, Fuel Oil System, for detailed instructions.)

PRESTART

- Check for damage and leaks.
- Make sure circuit breaker 2P5 on Power Panel 1 is closed (ON).

OPERATION

- Open or close Fuel Oil (FO) system valves as follows:
 ○ = OPEN ● = CLOSED

TRANSFER FROM	FUEL OIL VALVE FO NO																											
	1	2	3	4	7	8	9	10	11	13	19	20	21	22	13	14	15	16	17	18	19	20	21	22	24	25	26	27
BOTH STORAGE TANKS	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
PORT STORAGE TANK ONLY	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
STARBOARD STORAGE TANK ONLY	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

- Start FUEL OIL TRANSFER PUMP.

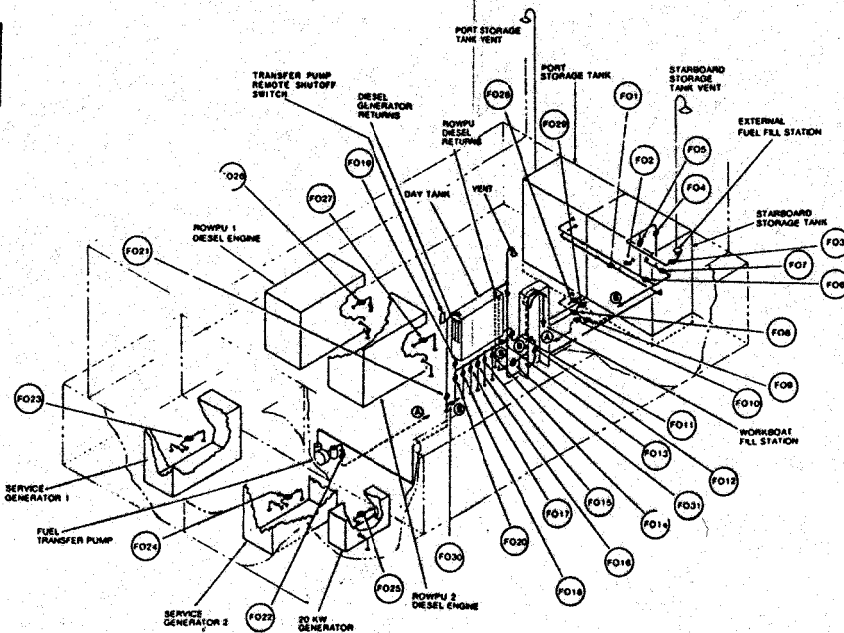
NOTE

- The FUEL OIL TRANSFER PUMP will stop automatically when the DAY TANK is full.
- If you want to stop the TRANSFER PUMP before the DAY TANK is full, push the TRANSFER PUMP REMOTE SHUTOFF SWITCH.

SHUTDOWN

- Close fuel oil valves opened in step 1.

36.09



FUEL OIL TRANSFER FROM DAY TANK

(See Operation and Maintenance Manual, Fuel Oil System, for detailed instructions.)

PRESTART

- Check for damage and leaks.
- Make sure diesel engines are ready to be operated.
- Make sure Fuel Oil (FO) valves FO28 thru FO31 are closed.

OPERATION

- Open or close Fuel Oil (FO) system valves as follows:
 ○ = OPEN ● = CLOSED

FUEL OIL TRANSFER TO	FUEL OIL VALVE FO NO.																											
	13	14	15	16	17	18	19	20	21	22	24	25	26	27	13	14	15	16	17	18	19	20	21	22	24	25	26	27
SERVICE GENERATOR 1	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SERVICE GENERATOR 2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
20 KW GENERATOR	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
ROWPU 1 DIESEL	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
ROWPU 2 DIESEL	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

SHUTDOWN

- Close fuel oil valves opened above as follows:

FUEL OIL TRANSFER STOPPED TO	CLOSE FUEL OIL VALVE FO NO
SERVICE GENERATOR 1	16 and 20
SERVICE GENERATOR 2	17 and 24
20 KW GENERATOR	18 and 25
ROWPU 1 DIESEL	14 and 20
ROWPU 2 DIESEL	15 and 27

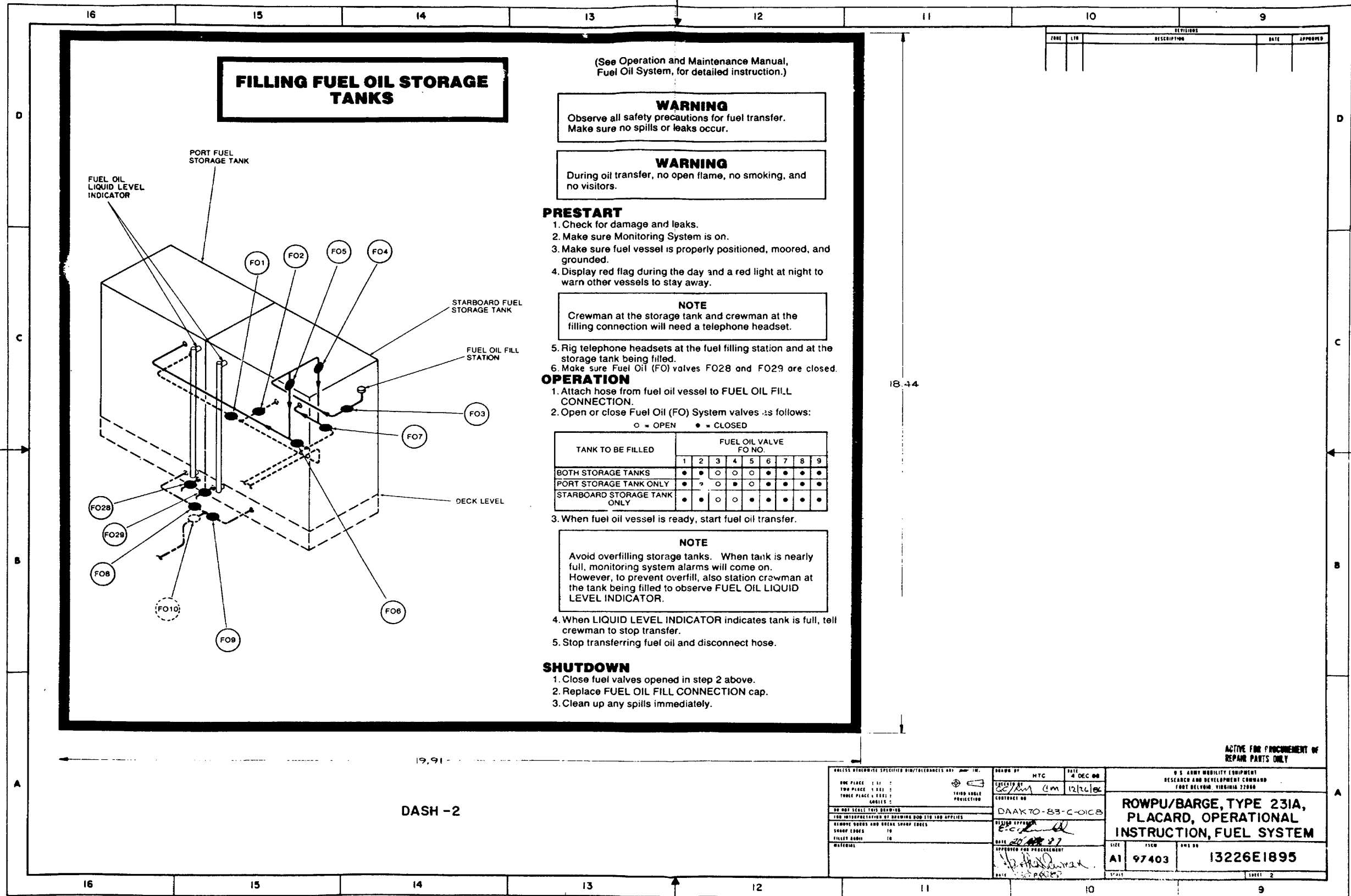
- Close fuel oil valve FO19 when all diesel engines are shut down.

DASH - 1

ACTIVE FOR PRODUCTIONS REPAIR PARTS SET

THREE DIMENSIONAL SPECIFICATIONS SHEET ONE PLACE 1 2 3 TWO PLACE 1 2 3 4 THREE PLACE 1 2 3 4 5 FOUR PLACE 1 2 3 4 5 6 FIVE PLACE 1 2 3 4 5 6 7 SIX PLACE 1 2 3 4 5 6 7 8 SEVEN PLACE 1 2 3 4 5 6 7 8 9 EIGHT PLACE 1 2 3 4 5 6 7 8 9 0 NINE PLACE 1 2 3 4 5 6 7 8 9 0 TENS PLACE 1 2 3 4 5 6 7 8 9 0 HUNDREDS PLACE 1 2 3 4 5 6 7 8 9 0 THOUSANDS PLACE 1 2 3 4 5 6 7 8 9 0 MILLIONS PLACE 1 2 3 4 5 6 7 8 9 0 BILLIONS PLACE 1 2 3 4 5 6 7 8 9 0 TRILLIONS PLACE 1 2 3 4 5 6 7 8 9 0	DRAWN BY CHECKED BY ENGINEER IN CHARGE DATE 03 DEC 88 02/21/88 CM 4.11.88 DAAKTO-83-C-CICB BEFORE APPROVAL E.C.P. DATE 20 DEC 87 APPROVED FOR PERFORMANCE DATE 21 DEC 87	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELTONE, INDIANAPOLIS 46202 ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, FUEL SYSTEM PART NO. 97403 QTY 13226E1895 SHEET 1 OF 3
--	--	--

Figure FO-7 (Sheet 1 of FP-83/FP-84 Blank)



(See Operation and Maintenance Manual, Fuel Oil System, for detailed instruction.)

WARNING
Observe all safety precautions for fuel transfer. Make sure no spills or leaks occur.

WARNING
During oil transfer, no open flame, no smoking, and no visitors.

- PRESTART**
1. Check for damage and leaks.
 2. Make sure Monitoring System is on.
 3. Make sure fuel vessel is properly positioned, moored, and grounded.
 4. Display red flag during the day and a red light at night to warn other vessels to stay away.

NOTE
Crewman at the storage tank and crewman at the filling connection will need a telephone headset.

5. Rig telephone headsets at the fuel filling station and at the storage tank being filled.
6. Make sure Fuel Oil (FO) valves FO28 and FO29 are closed.

- OPERATION**
1. Attach hose from fuel oil vessel to FUEL OIL FILL CONNECTION.
 2. Open or close Fuel Oil (FO) System valves as follows:
○ = OPEN ● = CLOSED

TANK TO BE FILLED	FUEL OIL VALVE FO NO.								
	1	2	3	4	5	6	7	8	9
BOTH STORAGE TANKS	●	●	○	○	○	●	●	●	●
PORT STORAGE TANK ONLY	●	○	○	○	○	●	●	●	●
STARBOARD STORAGE TANK ONLY	●	○	○	○	○	●	●	●	●

3. When fuel oil vessel is ready, start fuel oil transfer.

NOTE
Avoid overfilling storage tanks. When tank is nearly full, monitoring system alarms will come on. However, to prevent overflow, also station crewman at the tank being filled to observe FUEL OIL LIQUID LEVEL INDICATOR.

4. When LIQUID LEVEL INDICATOR indicates tank is full, tell crewman to stop transfer.
5. Stop transferring fuel oil and disconnect hose.

- SHUTDOWN**
1. Close fuel valves opened in step 2 above.
 2. Replace FUEL OIL FILL CONNECTION cap.
 3. Clean up any spills immediately.

FORM	LTR	REVISES	
		DATE	APPROVED

18.44

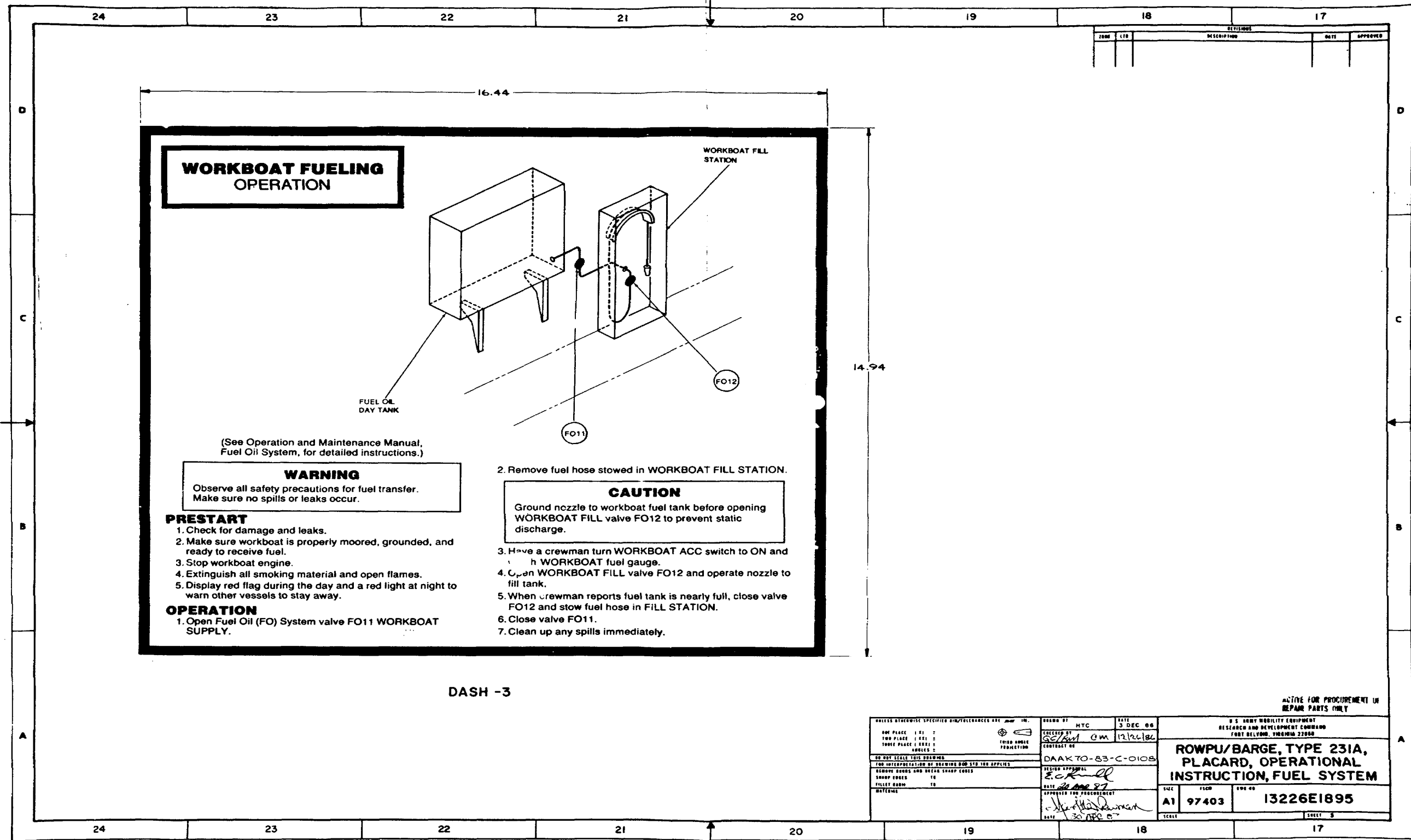
19.91

DASH -2

ACTIVE FOR PROCUREMENT OF REPAIR PARTS ONLY

UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE: ONE PLACE ± 0.125 TWO PLACE ± 0.0625 THREE PLACE ± 0.03125 FOUR PLACE ± 0.015625 DIMENSIONS SHOWN UNLESS NOTED OTHERWISE HOLE DIMENSIONS UNLESS NOTED OTHERWISE FILLET RADIUS R0.125 UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE: ONE PLACE ± 0.125 TWO PLACE ± 0.0625 THREE PLACE ± 0.03125 FOUR PLACE ± 0.015625 DIMENSIONS SHOWN UNLESS NOTED OTHERWISE HOLE DIMENSIONS UNLESS NOTED OTHERWISE FILLET RADIUS R0.125 UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE: ONE PLACE ± 0.125 TWO PLACE ± 0.0625 THREE PLACE ± 0.03125 FOUR PLACE ± 0.015625 DIMENSIONS SHOWN UNLESS NOTED OTHERWISE HOLE DIMENSIONS UNLESS NOTED OTHERWISE FILLET RADIUS R0.125	DRAWN BY: HTC CHECKED BY: [Signature] CONTRACT NO: DAAK70-83-C-01C8 DATE: 20 DEC 80 APPROVED FOR PROCUREMENT: [Signature] DATE: 20 DEC 80	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060 ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, FUEL SYSTEM SIZE: A1 ITEM NO: 97403 PART NO: 13226E1895 SHEET 2
--	--	--

Figure FO-7 (Sheet 2 of 3)
FP-85/(FP-86 Blank)



WORKBOAT FUELING OPERATION

(See Operation and Maintenance Manual, Fuel Oil System, for detailed instructions.)

WARNING
Observe all safety precautions for fuel transfer. Make sure no spills or leaks occur.

- PRESTART**
1. Check for damage and leaks.
 2. Make sure workboat is properly moored, grounded, and ready to receive fuel.
 3. Stop workboat engine.
 4. Extinguish all smoking material and open flames.
 5. Display red flag during the day and a red light at night to warn other vessels to stay away.

- OPERATION**
1. Open Fuel Oil (FO) System valve FO11 WORKBOAT SUPPLY.

2. Remove fuel hose stowed in WORKBOAT FILL STATION.

CAUTION
Ground nozzle to workboat fuel tank before opening WORKBOAT FILL valve FO12 to prevent static discharge.

3. Have a crewman turn WORKBOAT ACC switch to ON and h WORKBOAT fuel gauge.
4. Open WORKBOAT FILL valve FO12 and operate nozzle to fill tank.
5. When crewman reports fuel tank is nearly full, close valve FO12 and stow fuel hose in FILL STATION.
6. Close valve FO11.
7. Clean up any spills immediately.

DASH -3

DATE		DESCRIPTION	DATE	APPROVED
TIME	LTG			

ACTIVE FOR PROCUREMENT IN REPAIR PARTS ONLY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	GRADE 91	HTC	DATE	3 DEC 88	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
ONE PLACE (1 X) 2 TWO PLACE (1 X) 2 THREE PLACE (1 X) 2 FOUR PLACE (1 X) 2	DESIGNED BY	SEL/AM	GM	12/21/88	
NO NET SCALE TEST DRAWING	CONTRACT NO.	DAAK 70-83-C-0108			ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, FUEL SYSTEM
FOR INTERPRETATION OF DRAWING DIMENSIONS SEE 100 APPLIED	DESIGN APPROVAL	[Signature]			
REMOVE DIMENSIONS AND SCALE FROM COPIES	DATE	21 MAR 87			SHEET
SHARP EDGES 1:4	APPROVED FOR PROCUREMENT	[Signature]			A1
FILLET RADIUS 1/8	DATE	30 APR 87			97403
MATERIALS	SCALE	1:1			13226E1895
					SHEET 3

Figure FO-7 (Sheet 3 of 3)
FP-87/(FP-88 Blank)

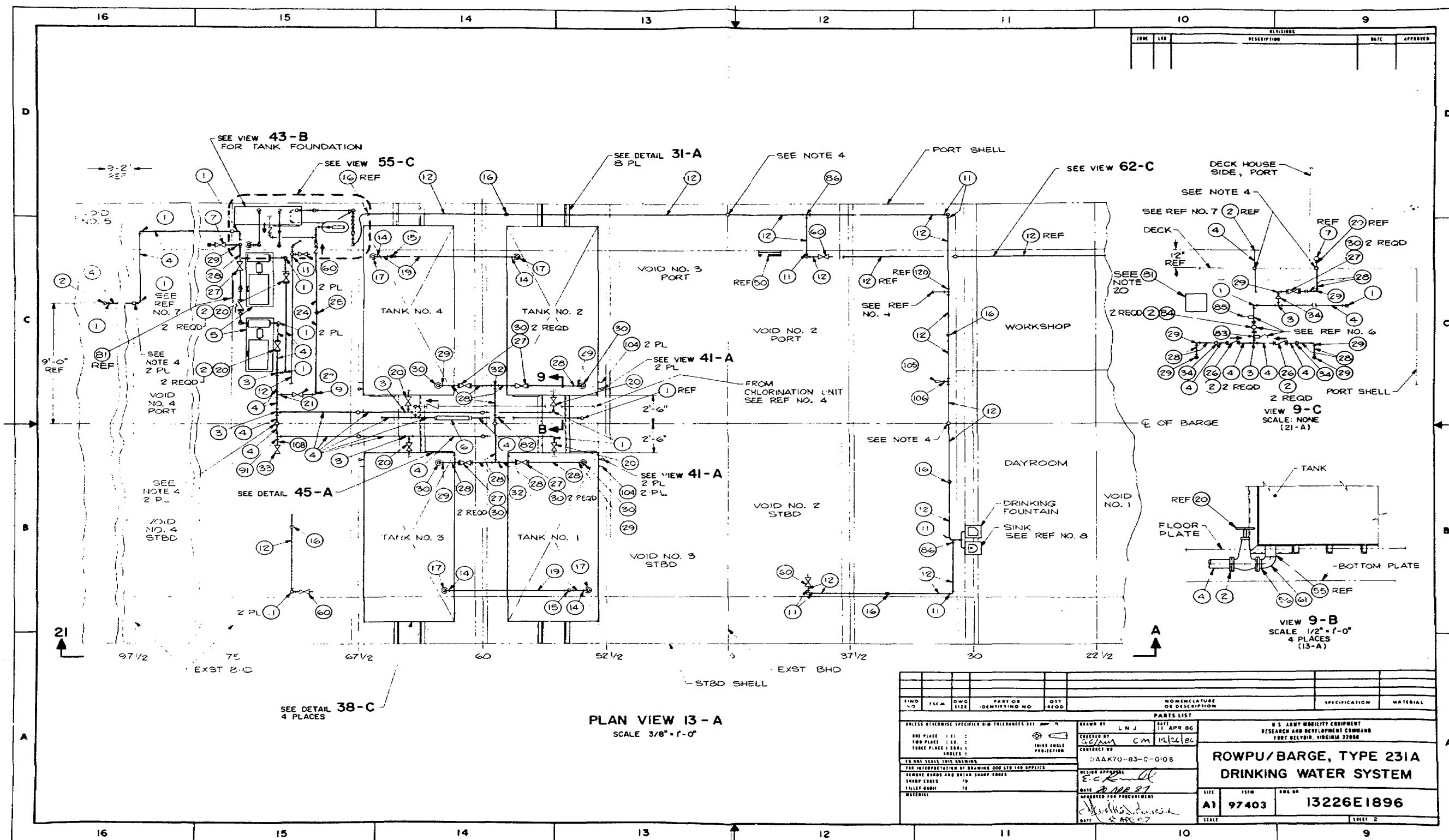


Figure FO-8 (Sheet 2 of 8)
FP-91/(FP-92 Blank)

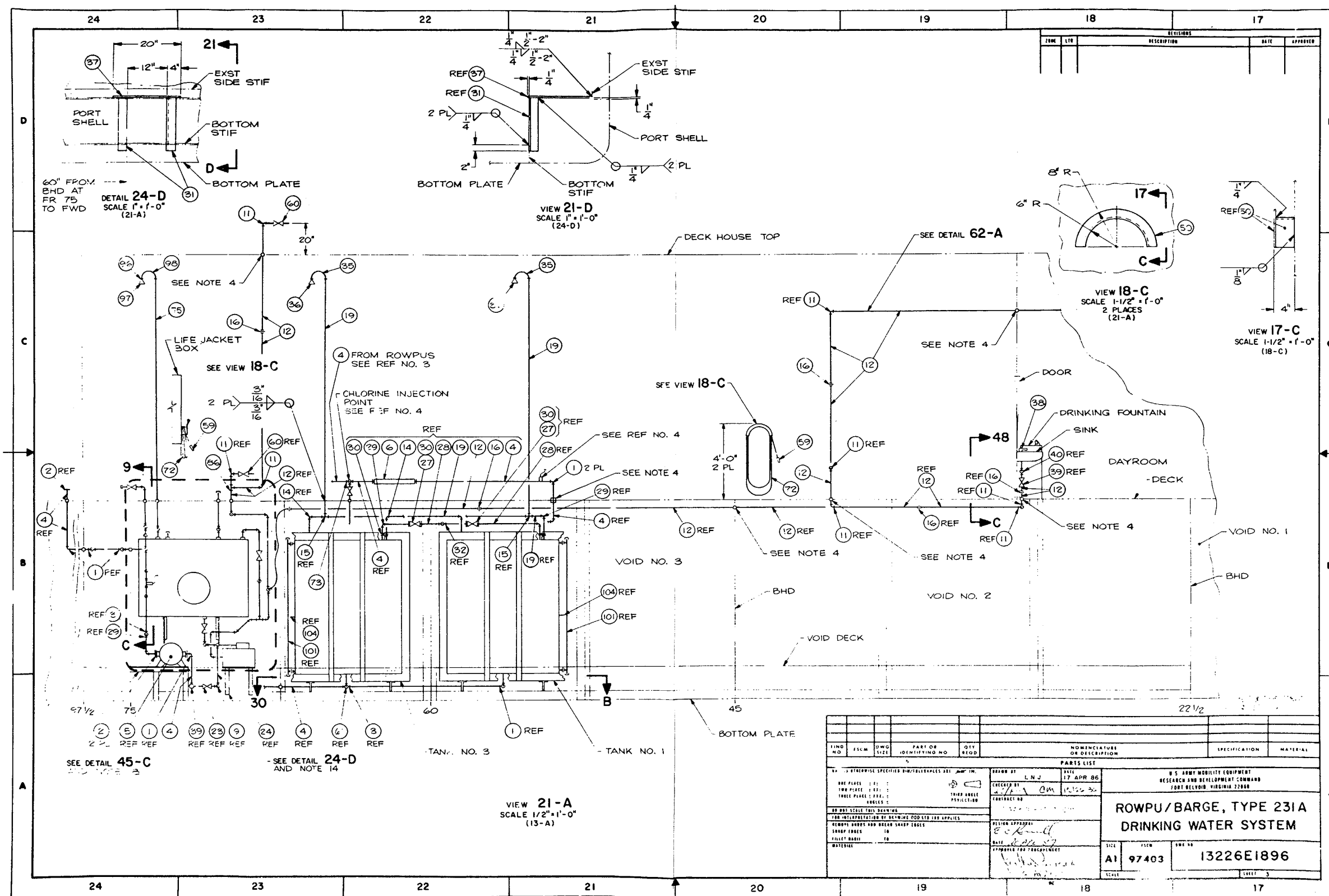


Figure FO-8 (Sheet 3 of 8)
FP-93/(FP-94 Blank)

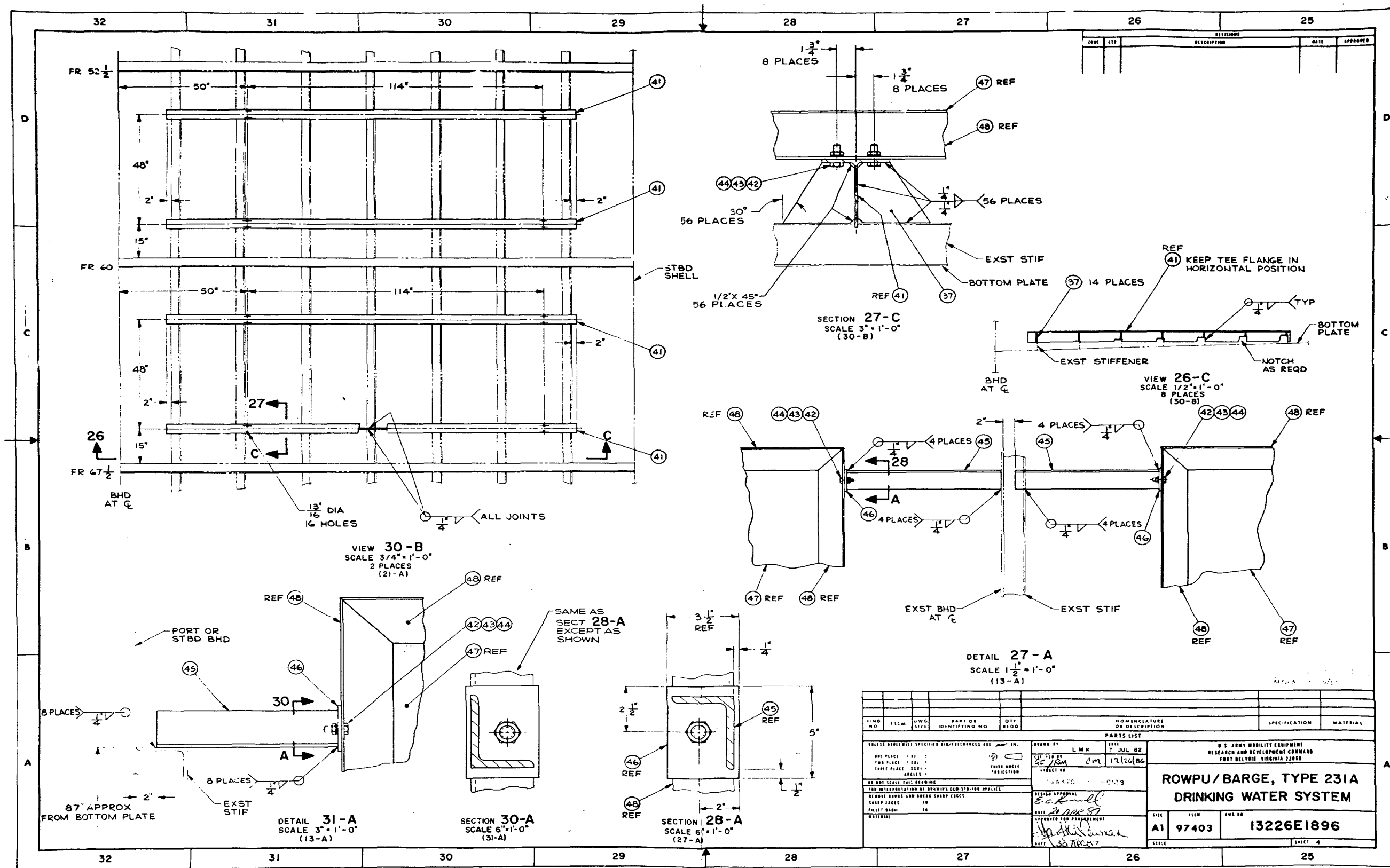


Figure FO-8 (Sheet 4 of 8)
FP-95/(FP-96 Blank)

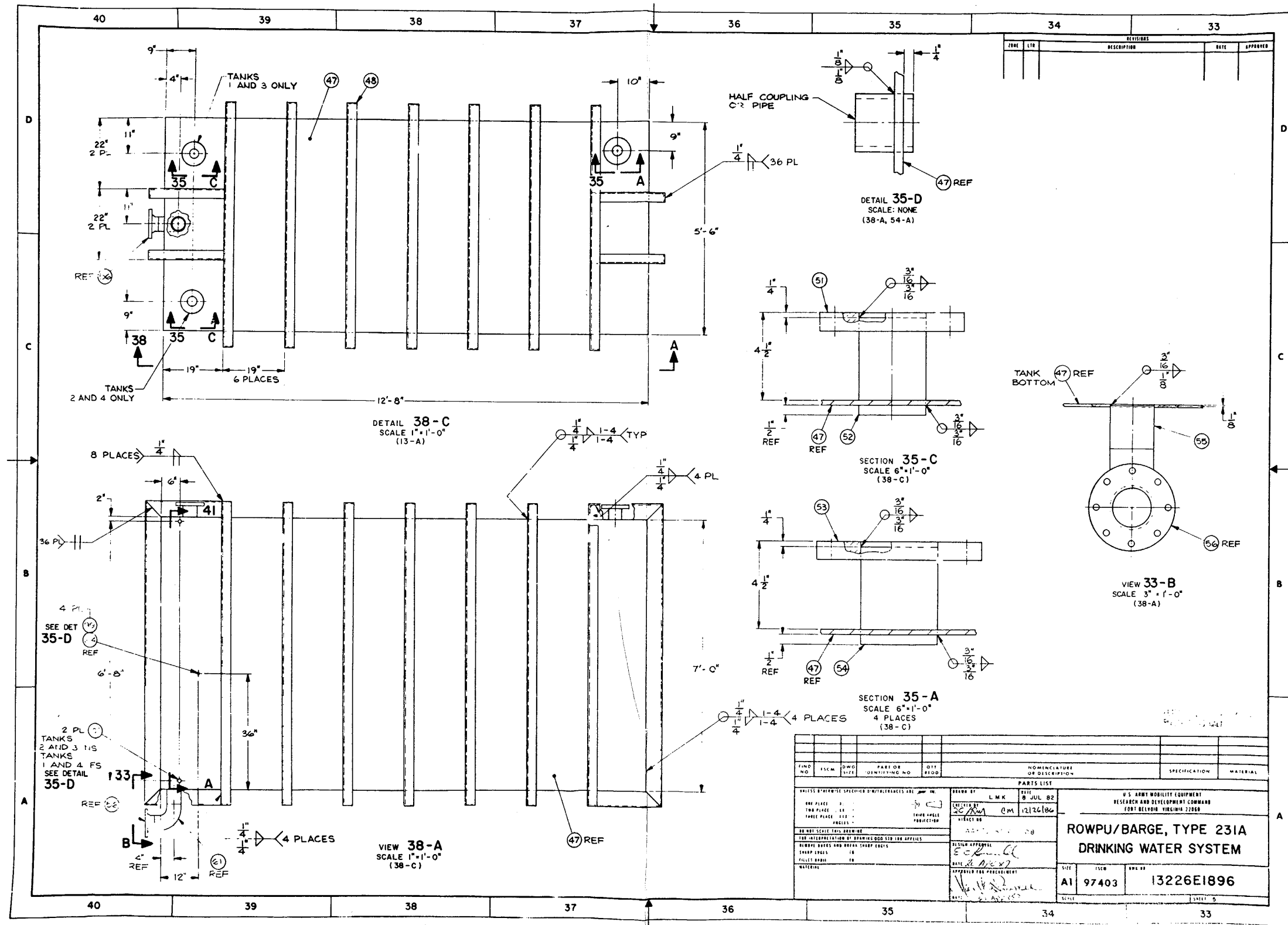


Figure FO-8 (Sheet 5 of 8)
FP-97/ (FP-98 Blank

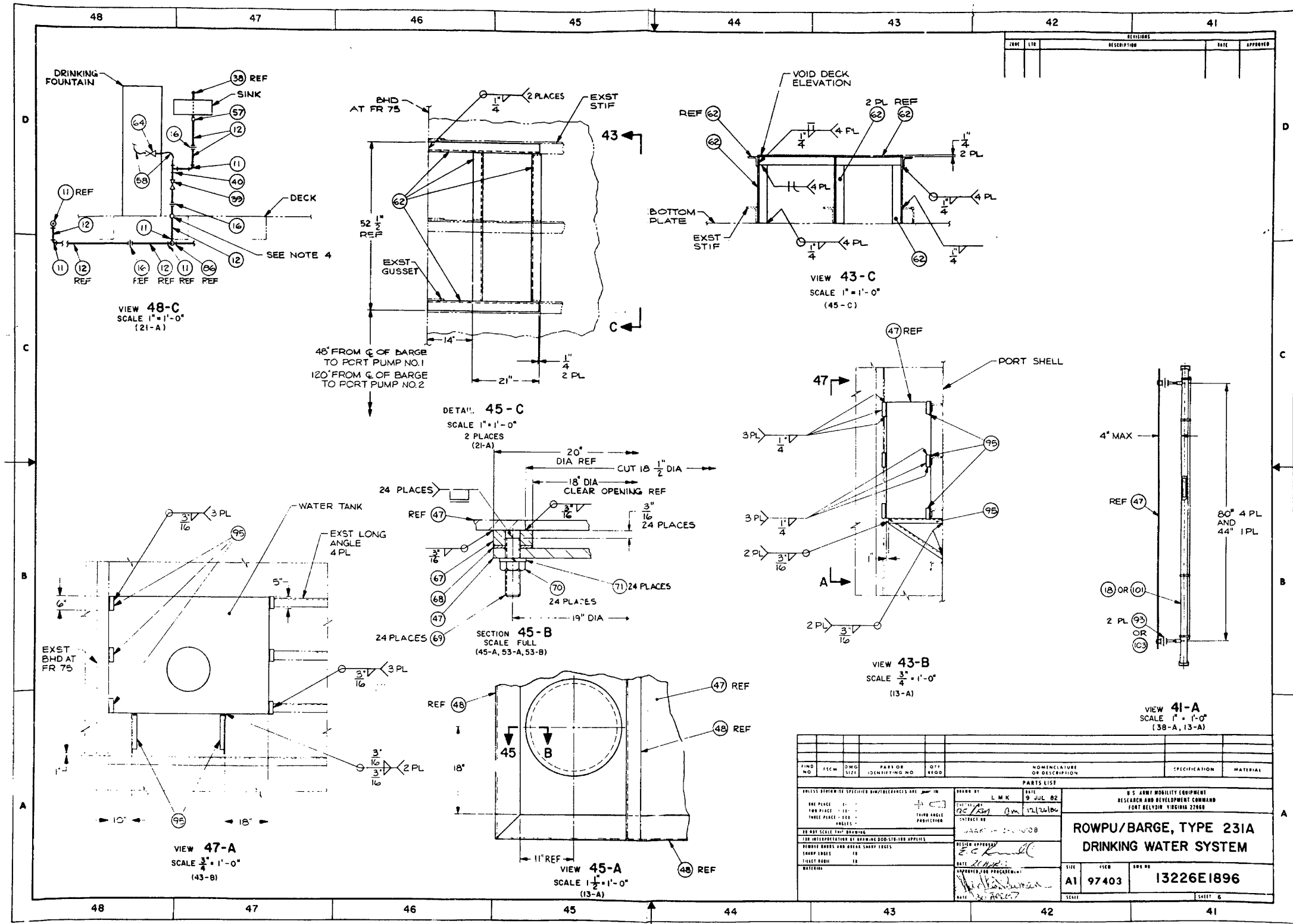


Figure FO-8 (Sheet 6 of 8)
FP-99/ (FP-100 Blank)

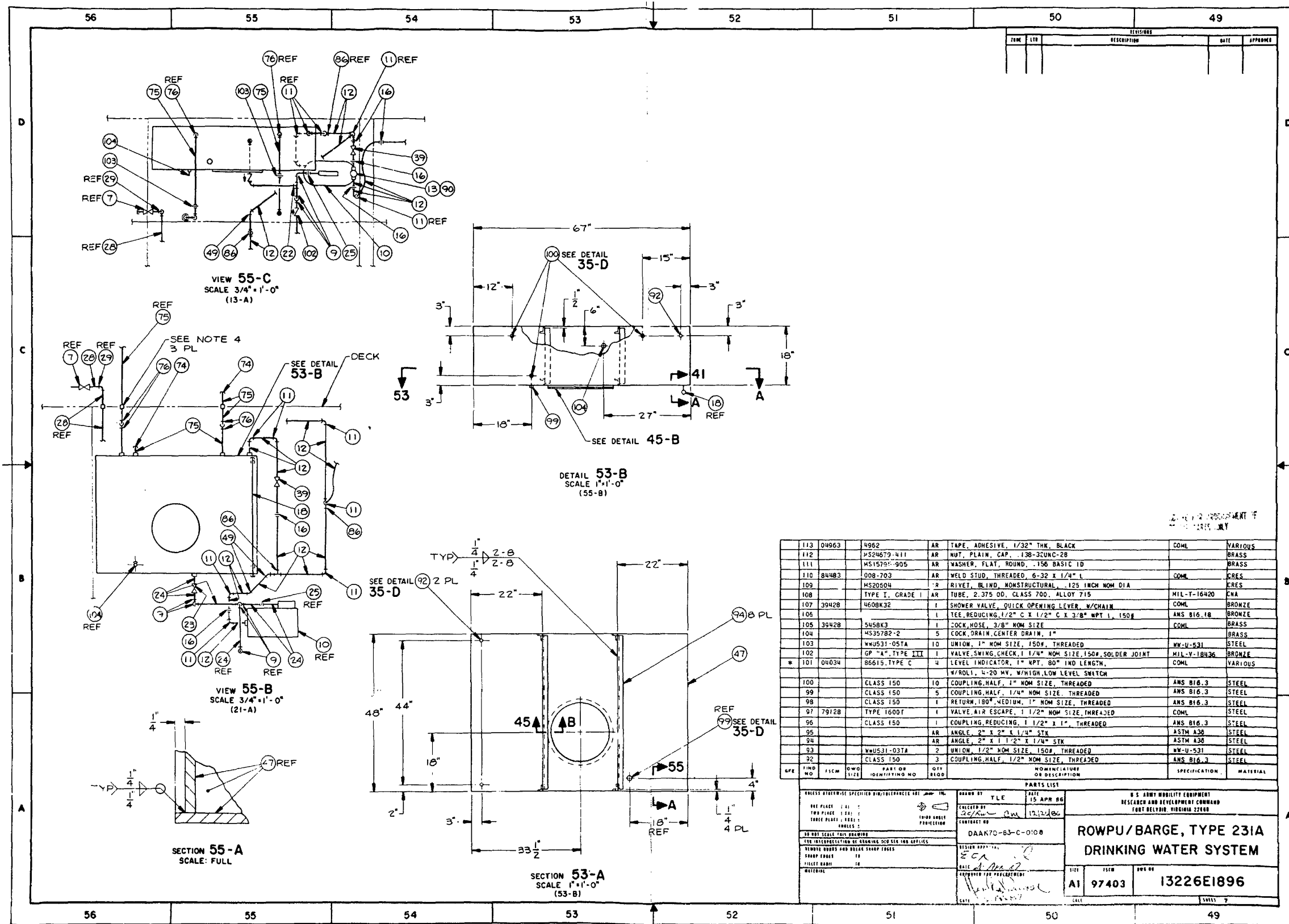


Figure FO-8 (Sheet 7 of 8
FP-101/ (FP-102 Blank)

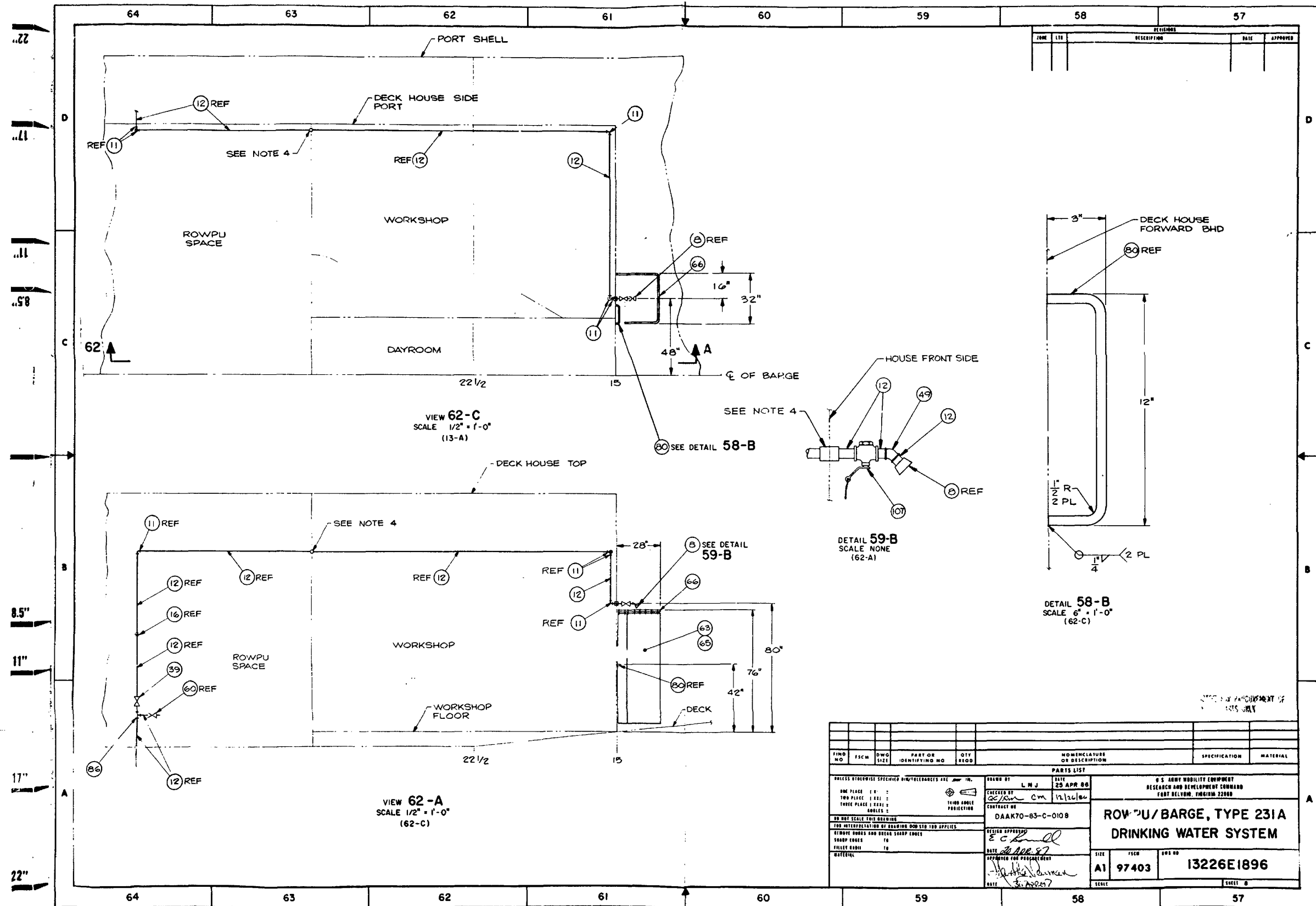
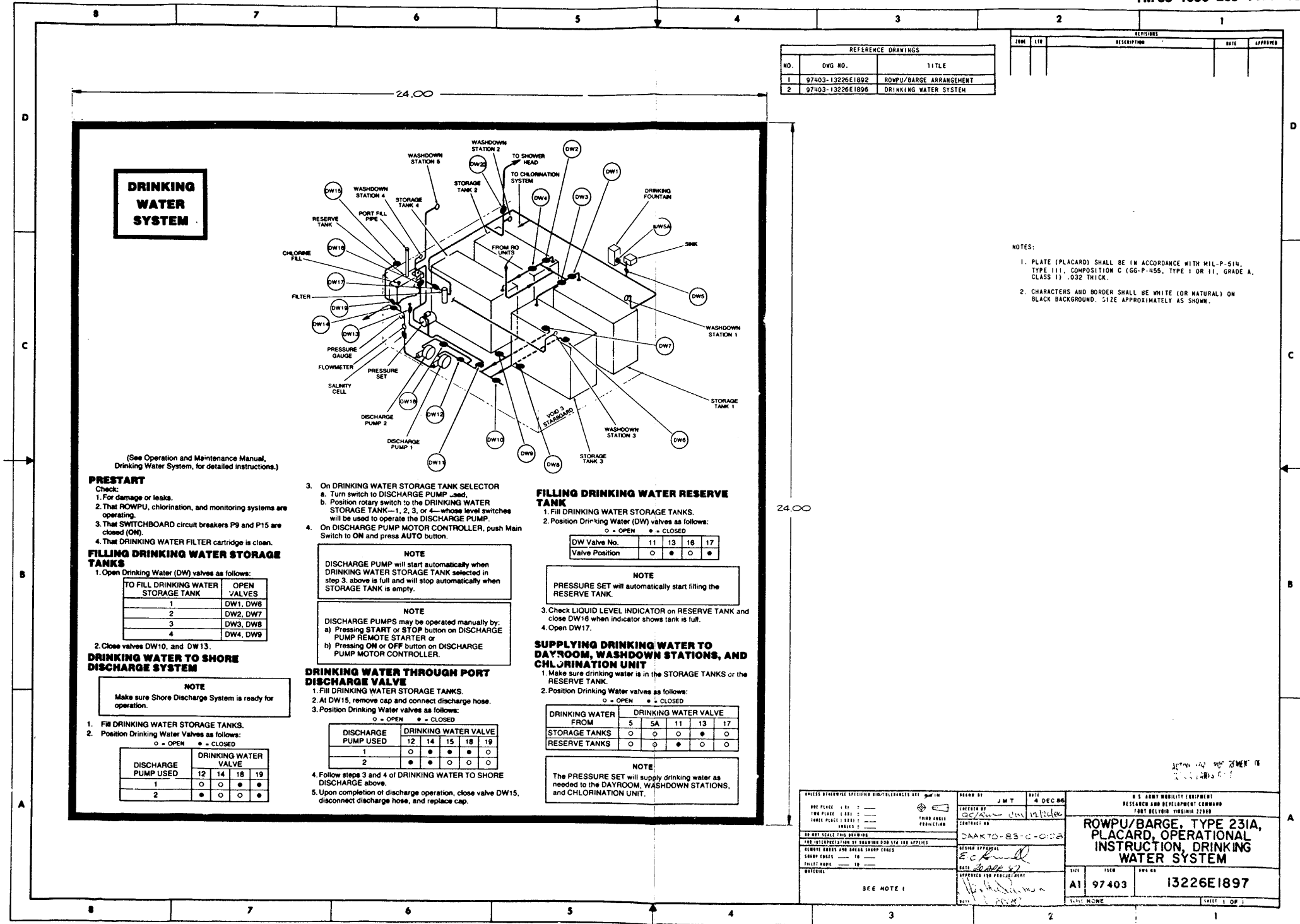


Figure FO-8 (Sheet 8 of 8)
FP-103/ (FP-104 Blank)



DRINKING WATER SYSTEM

REFERENCE DRAWINGS

NO.	DWG NO.	TITLE
1	97403-13226E1892	ROWPU/BARGE ARRANGEMENT
2	97403-13226E1896	DRINKING WATER SYSTEM

- NOTES:
- PLATE (PLACARD) SHALL BE IN ACCORDANCE WITH MIL-P-514, TYPE III, COMPOSITION C (GG-P-455, TYPE I OR II, GRADE A, CLASS I) .032 THICK.
 - CHARACTERS AND BORDER SHALL BE WHITE (OR NATURAL) ON BLACK BACKGROUND. SIZE APPROXIMATELY AS SHOWN.

- PRESTART**
Check:
1. For damage or leaks.
2. That ROWPU, chlorination, and monitoring systems are operating.
3. That SWITCHBOARD circuit breakers P9 and P15 are closed (ON).
4. That DRINKING WATER FILTER cartridge is clean.

- FILLING DRINKING WATER STORAGE TANKS**
1. Open Drinking Water (DW) valves as follows:
2. Close valves DW10, and DW13.

- DRINKING WATER TO SHORE DISCHARGE SYSTEM**
NOTE: Make sure Shore Discharge System is ready for operation.
1. Fill DRINKING WATER STORAGE TANKS.
2. Position Drinking Water Valves as follows:

3. On DRINKING WATER STORAGE TANK SELECTOR a. Turn switch to DISCHARGE PUMP. b. Position rotary switch to the DRINKING WATER STORAGE TANK—1, 2, 3, or 4—whose level switches will be used to operate the DISCHARGE PUMP.
4. On DISCHARGE PUMP MOTOR CONTROLLER, push Main Switch to ON and press AUTO button.

- NOTE**
DISCHARGE PUMP will start automatically when DRINKING WATER STORAGE TANK selected in step 3. above is full and will stop automatically when STORAGE TANK is empty.
- NOTE**
DISCHARGE PUMPS may be operated manually by:
a) Pressing START or STOP button on DISCHARGE PUMP REMOTE STARTER or
b) Pressing ON or OFF button on DISCHARGE PUMP MOTOR CONTROLLER.

- DRINKING WATER THROUGH PORT DISCHARGE VALVE**
1. Fill DRINKING WATER STORAGE TANKS.
2. At DW15, remove cap and connect discharge hose.
3. Position Drinking Water valves as follows:
4. Follow steps 3 and 4 of DRINKING WATER TO SHORE DISCHARGE above.
5. Upon completion of discharge operation, close valve DW15, disconnect discharge hose, and replace cap.

FILLING DRINKING WATER RESERVE TANK

1. Fill DRINKING WATER STORAGE TANKS.
2. Position Drinking Water (DW) valves as follows:
3. Check LIQUID LEVEL INDICATOR on RESERVE TANK and close DW16 when indicator shows tank is full.
4. Open DW17.

SUPPLYING DRINKING WATER TO DAYROOM, WASHDOWN STATIONS, AND CHLORINATION UNIT

1. Make sure drinking water is in the STORAGE TANKS or the RESERVE TANK.
2. Position Drinking Water valves as follows:
NOTE: The PRESSURE SET will supply drinking water as needed to the DAYROOM, WASHDOWN STATIONS, and CHLORINATION UNIT.

ZONE	REV	DESCRIPTION	DATE	APPROVED

DATE: DEC 86		DRAWN BY: JMT	
CHECKED BY: [signature]		CONTRACT NO: DAAK70-83-C-0028	
PROJECT: ROWPU/BARGE ARRANGEMENT		DRAWING NO: 13226E1897	
SCALE: AS SHOWN		SHEET: 1 OF 1	

ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, DRINKING WATER SYSTEM

Figure FO-9
FP-105/ (FP-105 Blank)

Figure FO-9
FP-105/(FP-106 Blank)

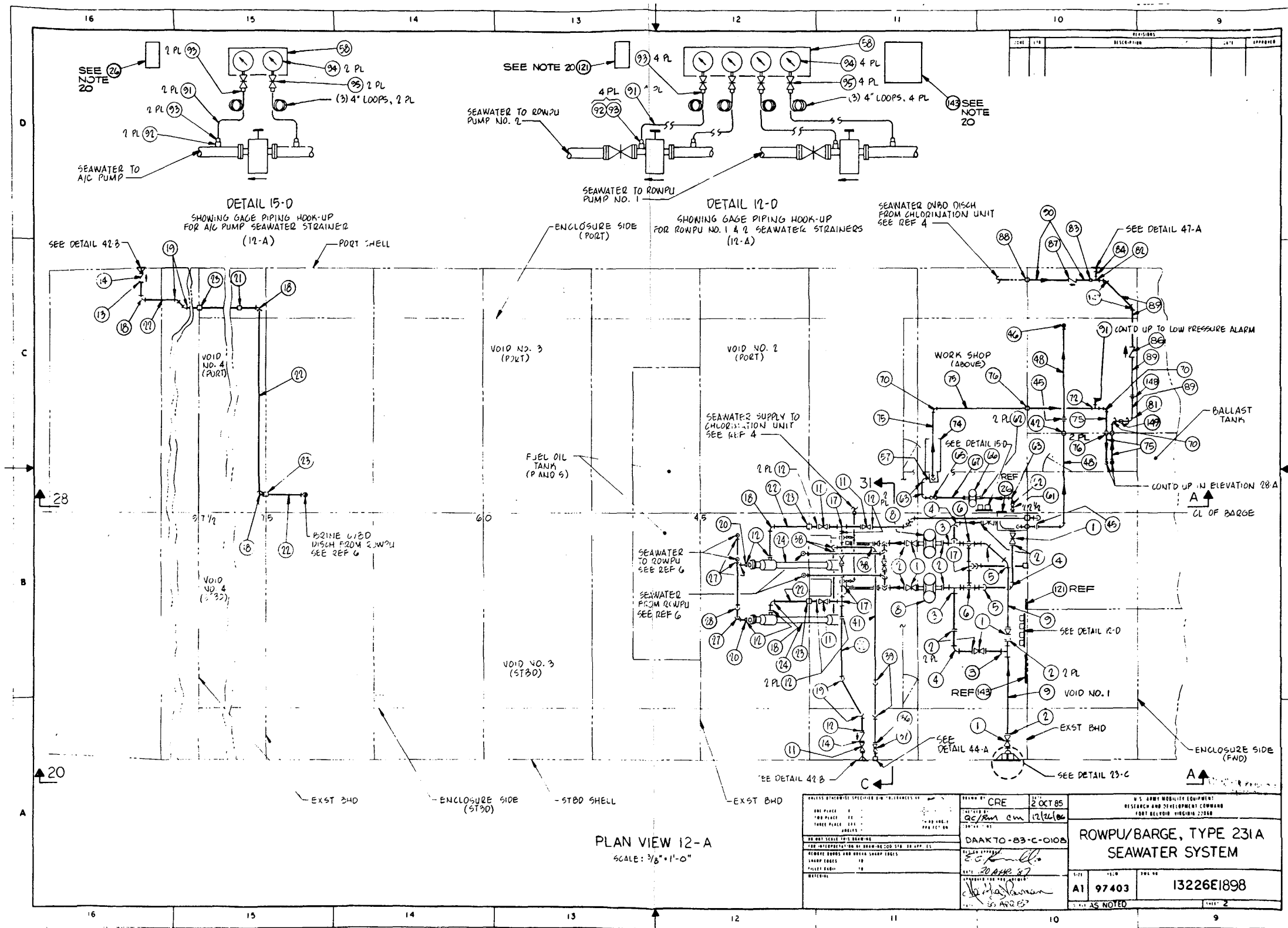


Figure FO-10 (Sheet 2 of 9)
FP-109/ (FP-110 Blank)

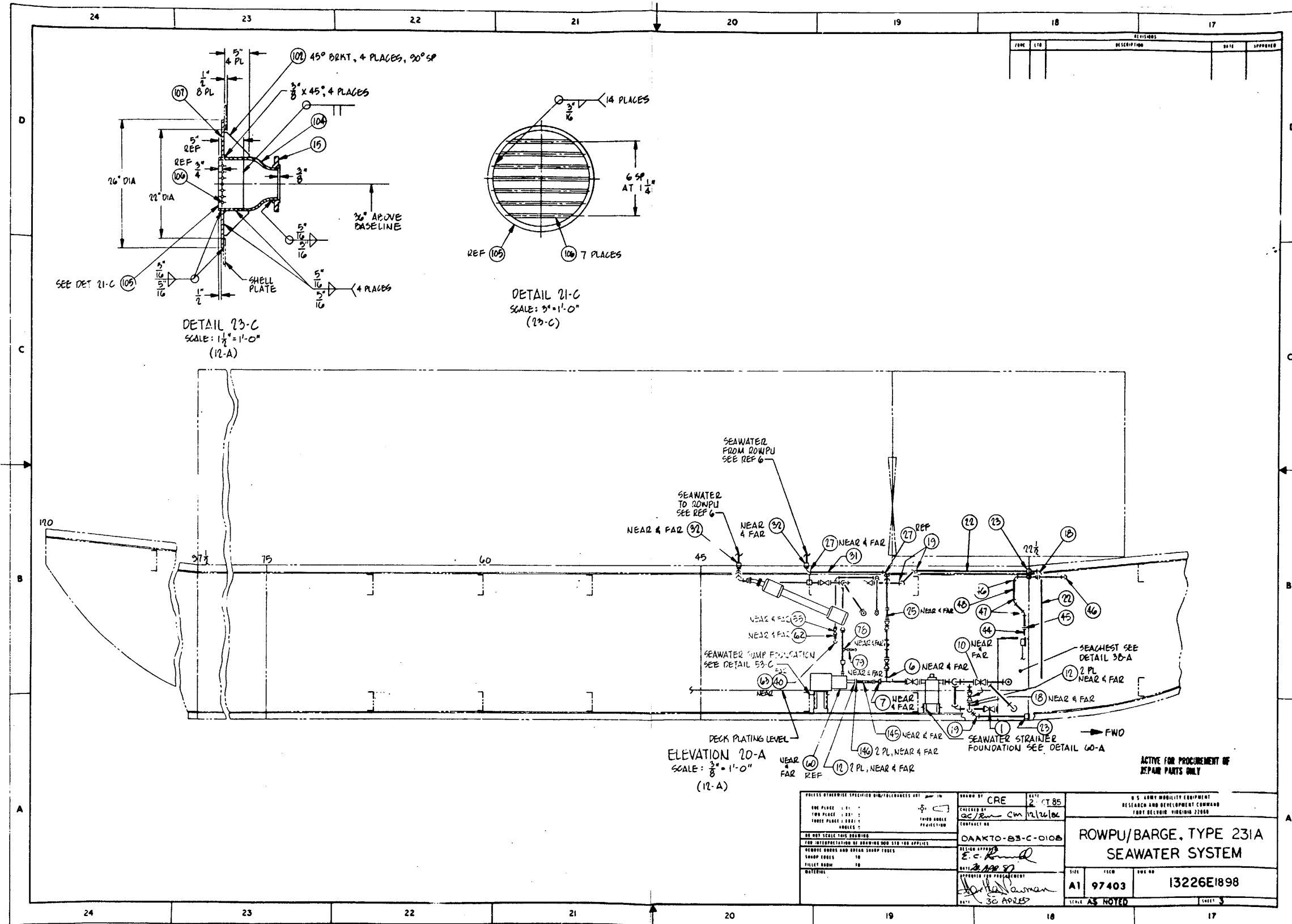


Figure FO-10 (Sheet 3 of 9)
FP-111/ (FP-112 Blank)

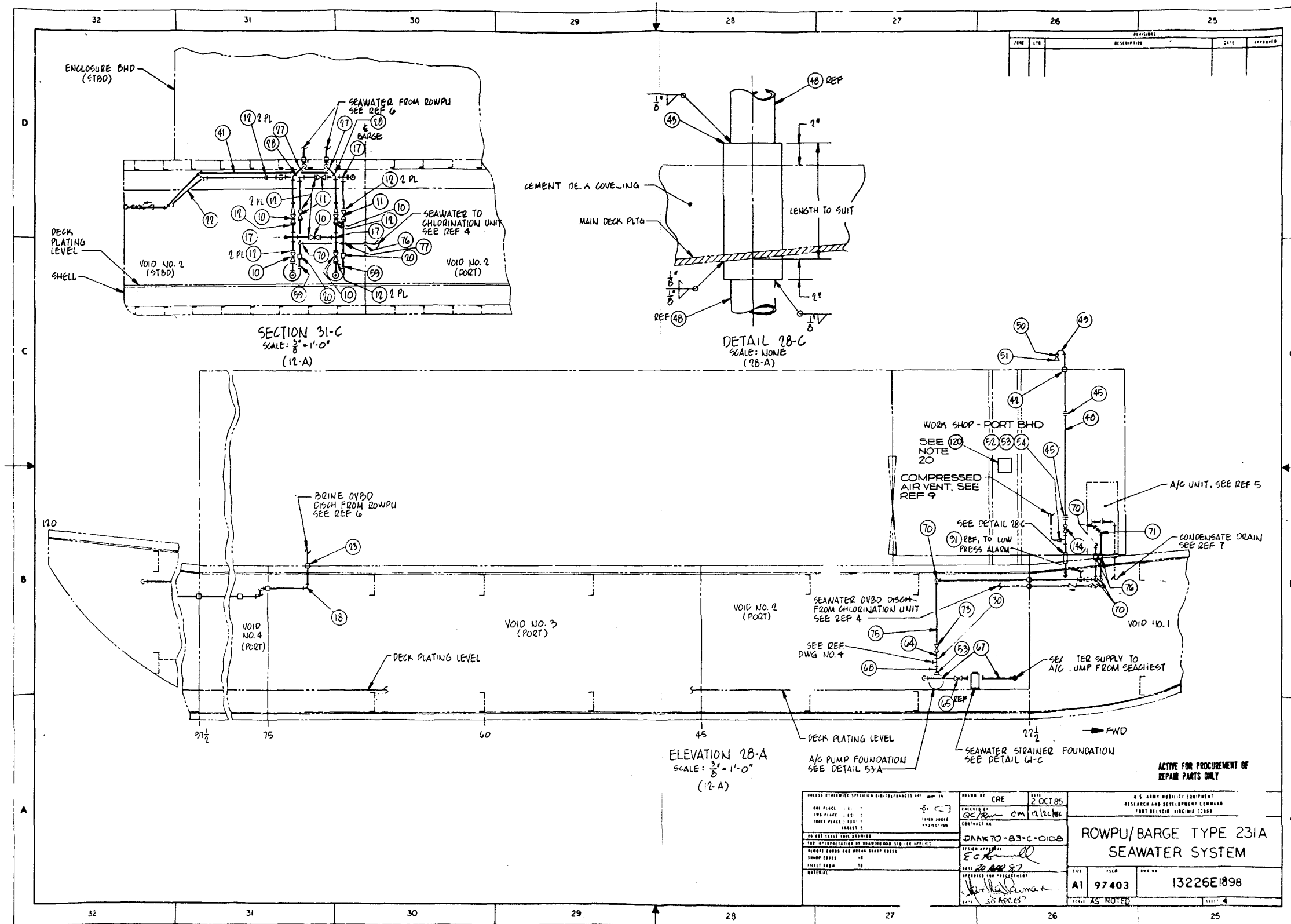


Figure FO-10 (Sheet 4 of 9)
FP-113/ (FP-114 Blank)

REVISIONS		DATE		APPROVED	
NO.	DESCRIPTION				

PREPARED BY: CRE CHECKED BY: SC/CM DATE: 2 OCT 85 DRAWING NO.: DAAK70-B3-C-0108 SCALE: AS NOTED SHEET NO.: 4	U.S. NAVY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060 ROWPU/BARGE TYPE 231A SEAWATER SYSTEM 13226E1898
---	--

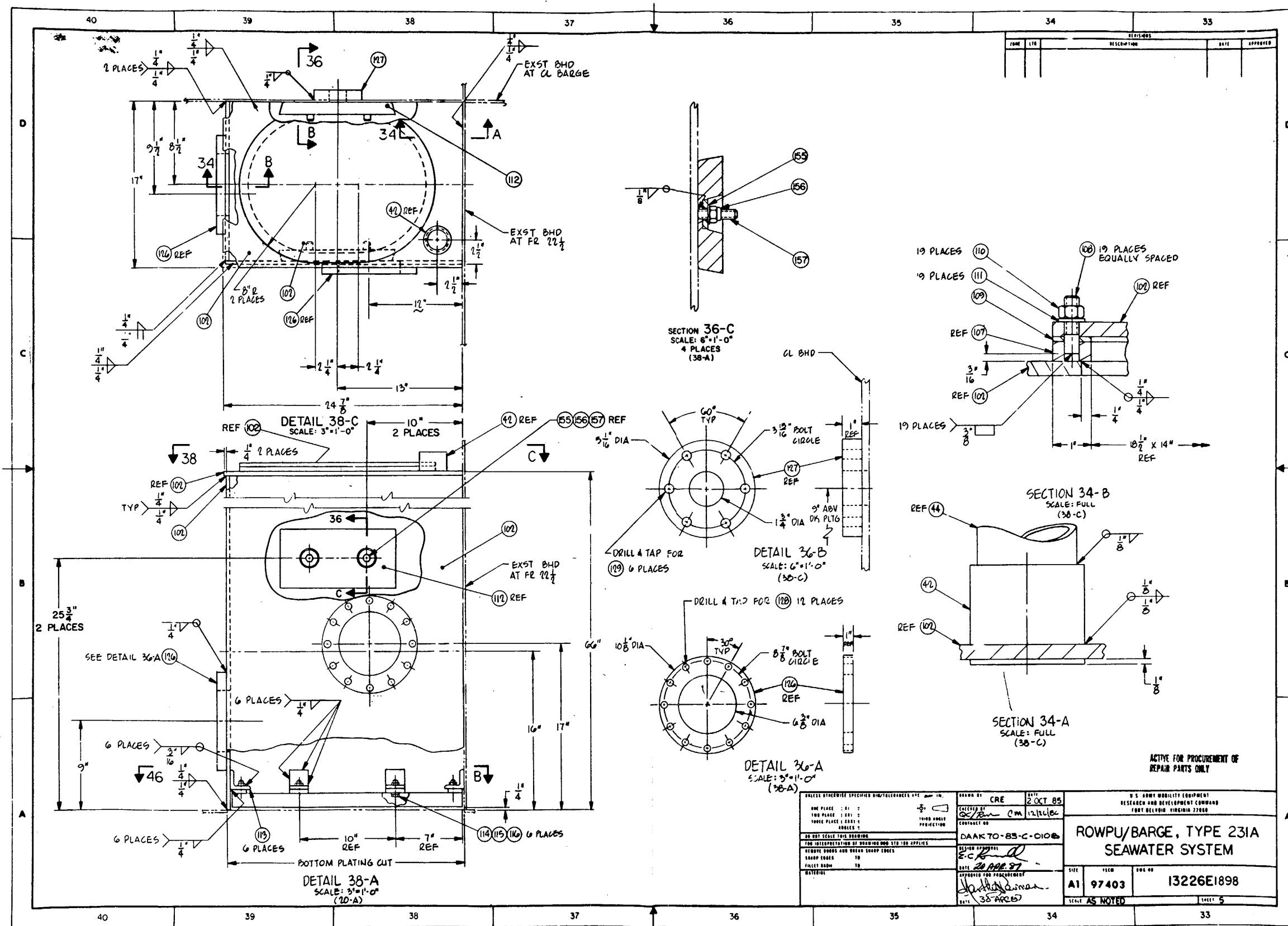


Figure FO-10 (Sheet 5 of 9)
 FP-115/ (FP-116 Blank)

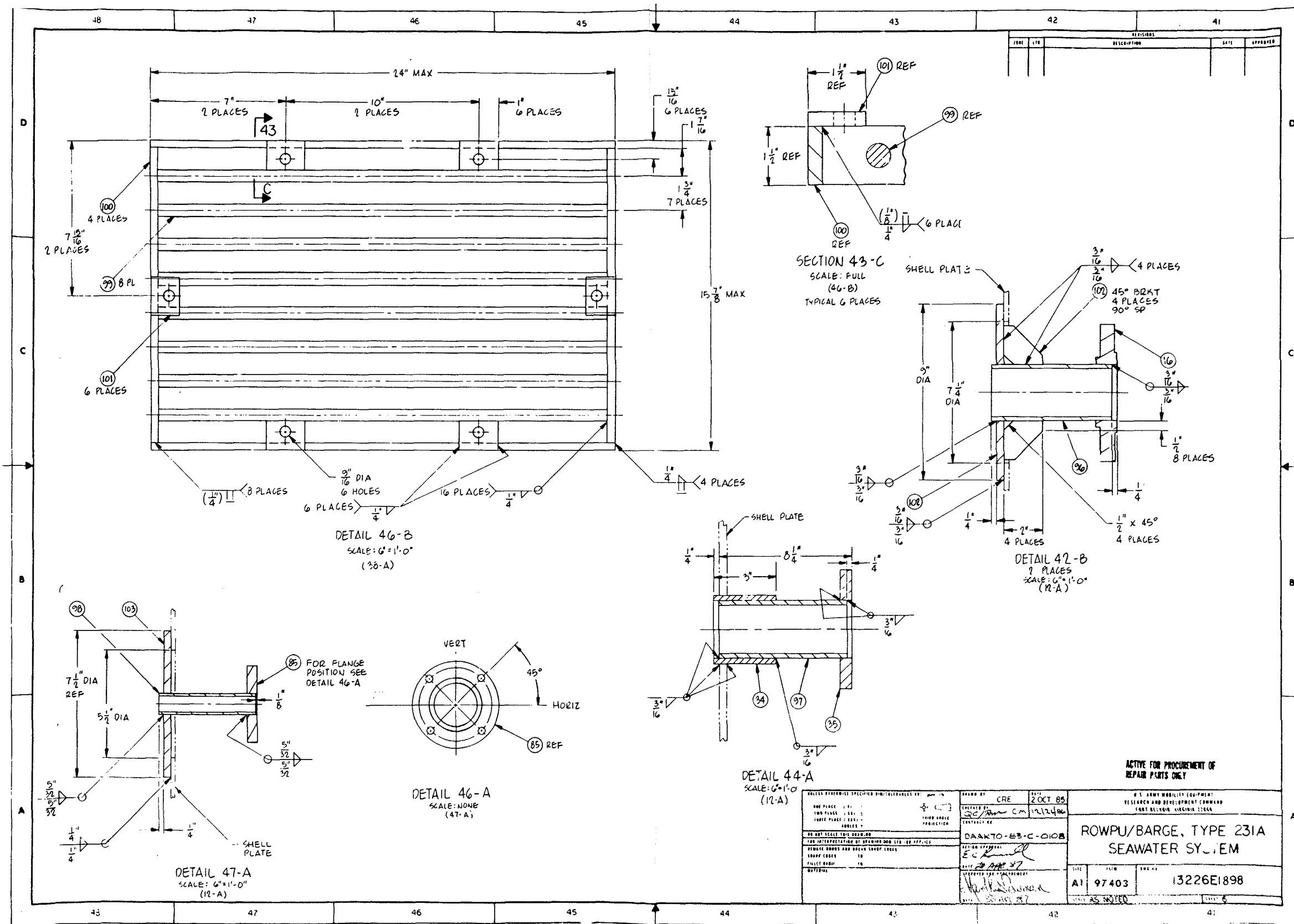


Figure FO-10 (Sheet 6 of 9)
FP-117/ (FP-118 Blank

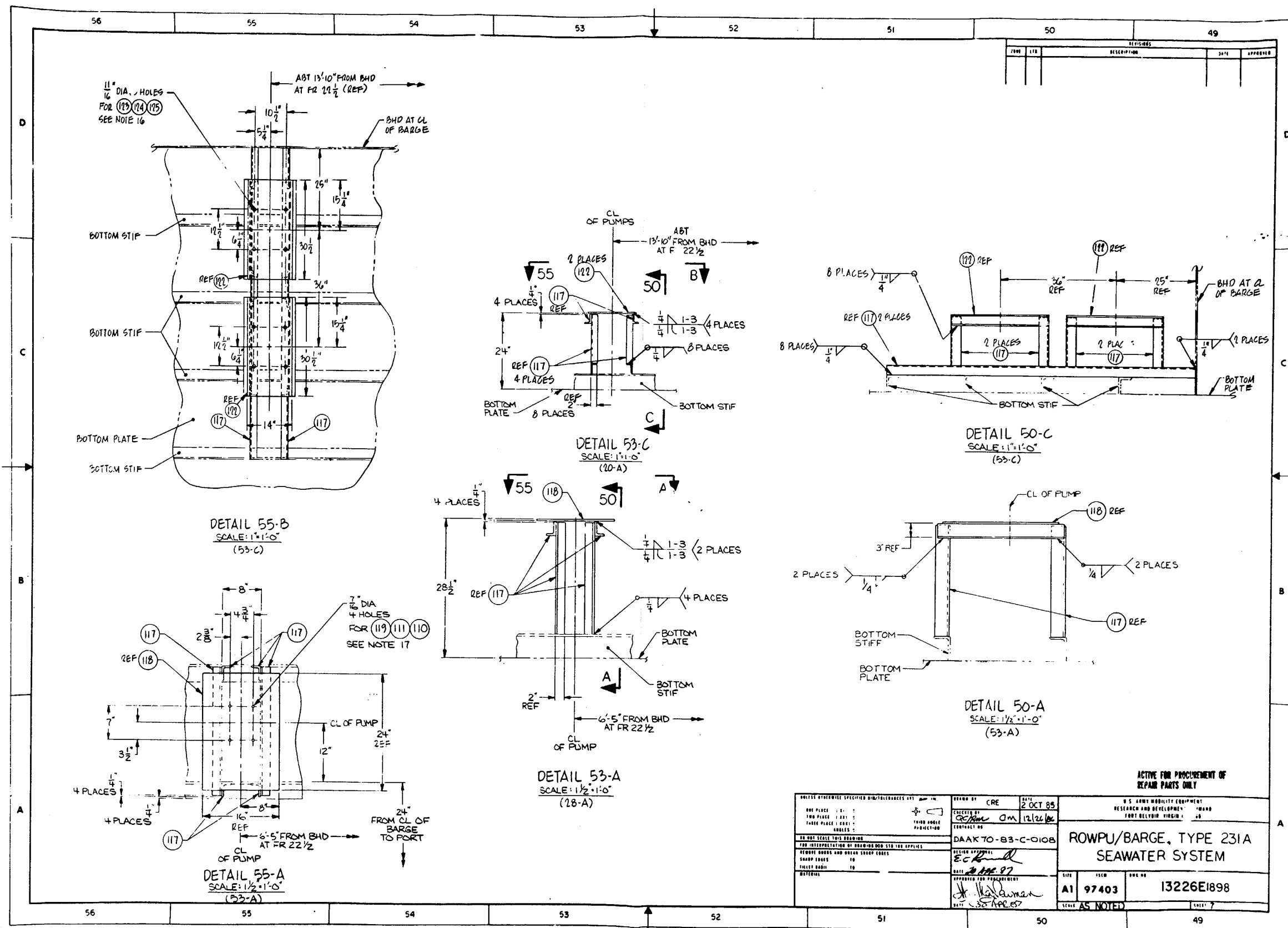


Figure FO-10 (Sheet 7 of 9)
FP-119/ (FP-120 Blank)

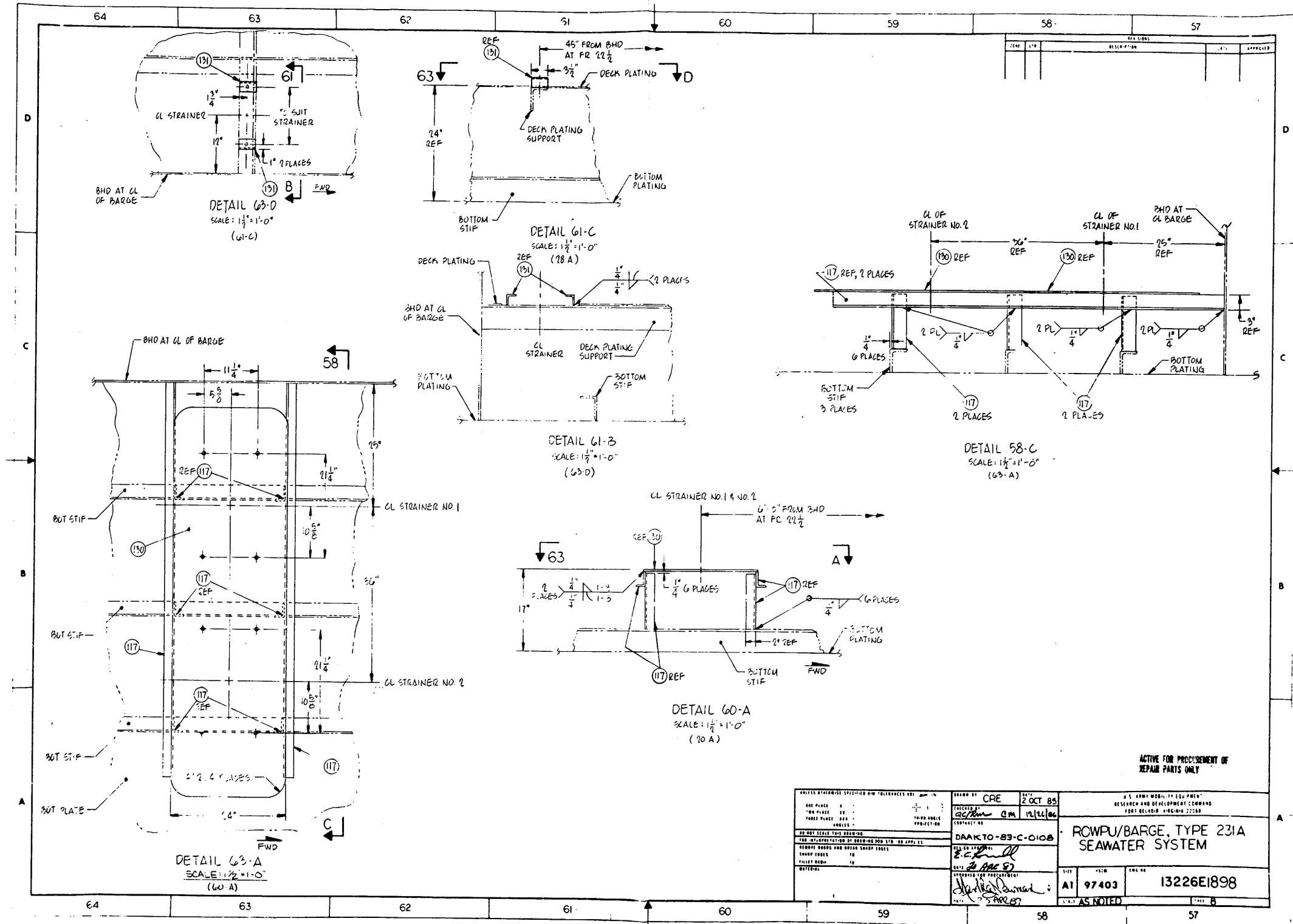


Figure FO-10 (Sheet 8 of 9)
FP-121/(FP-122 Blank)

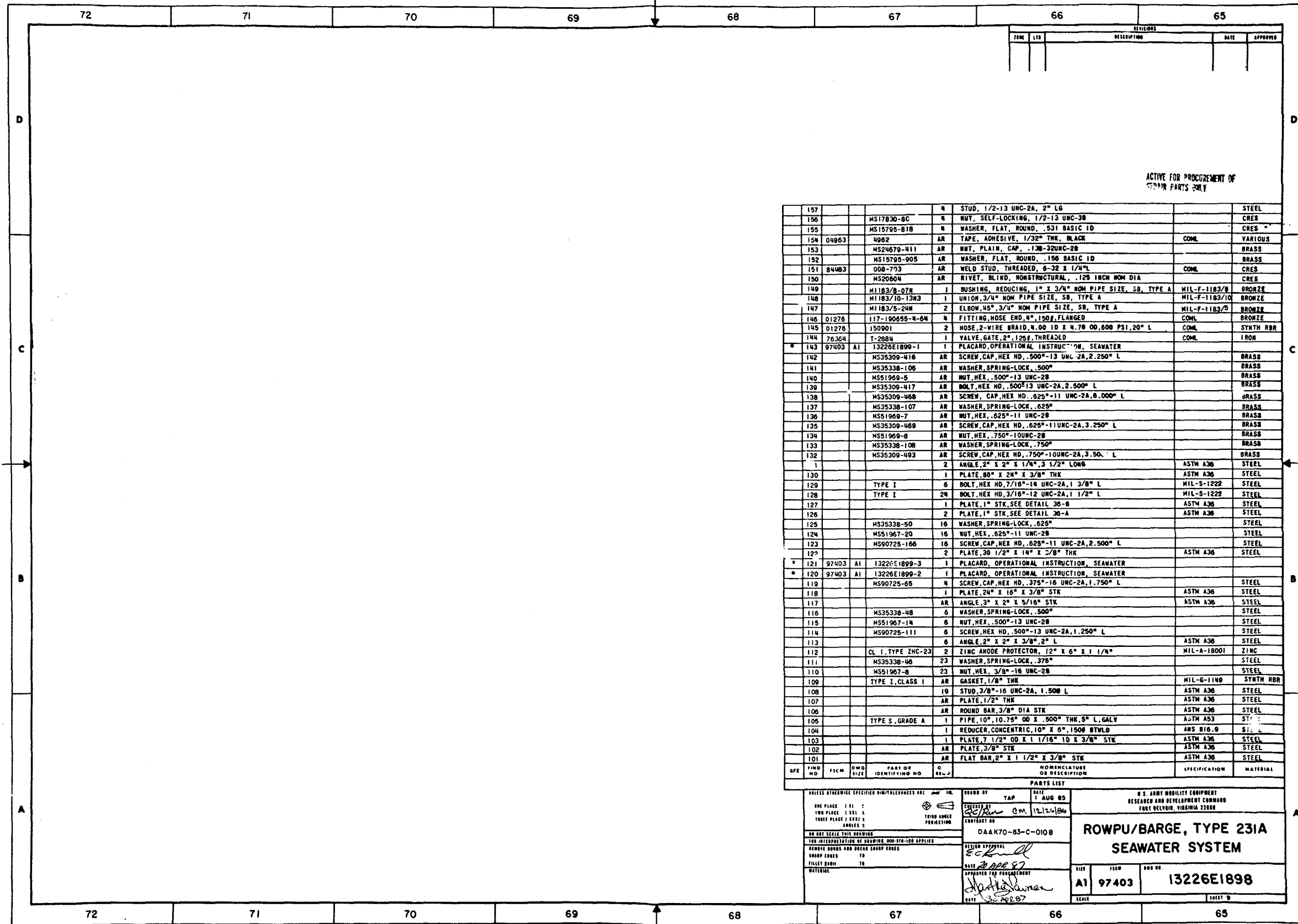
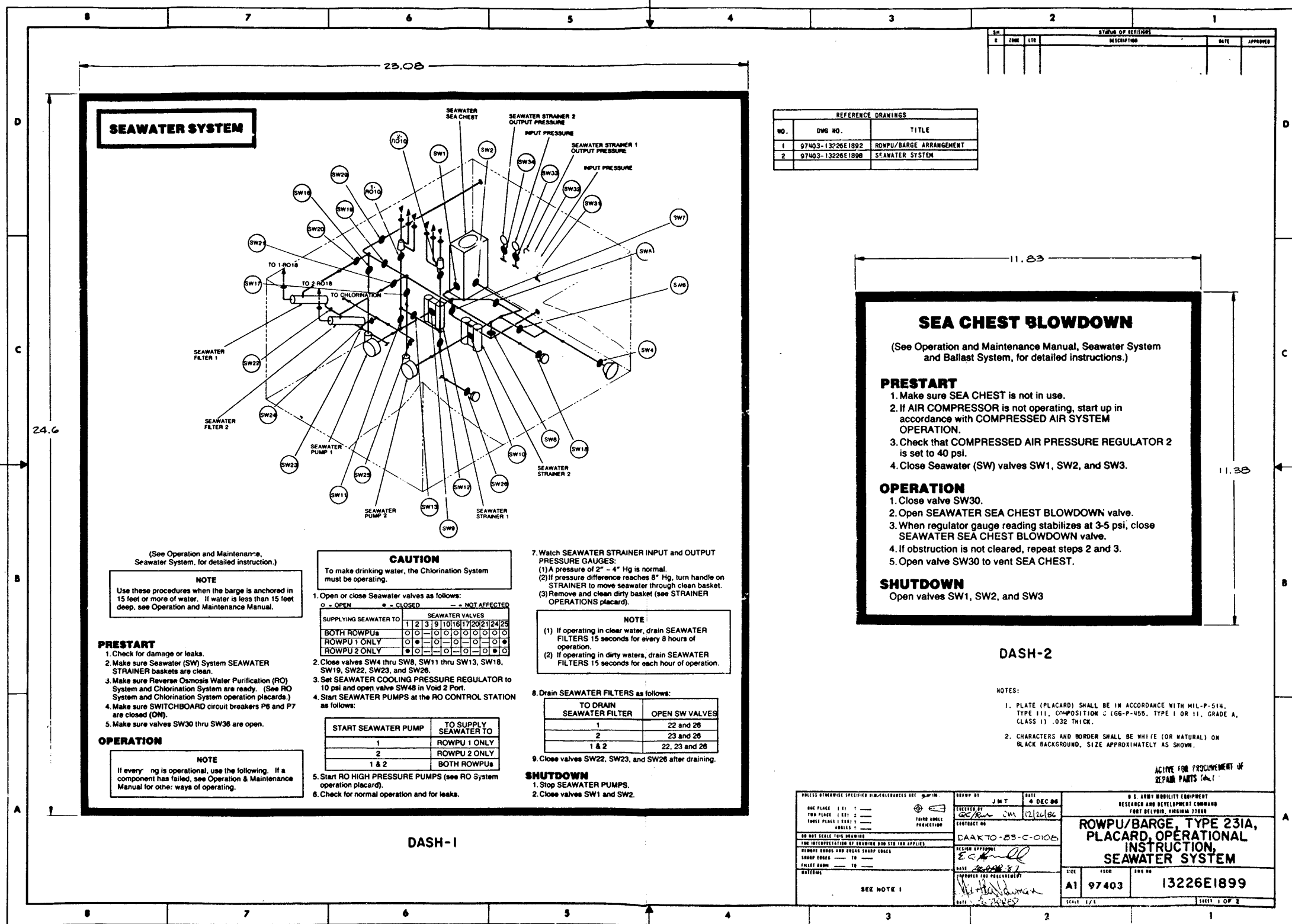


Figure FO-10 (Sheet 9 of 9)
FP-123/(FP-124 Blank)



STATUS OF REVISIONS			DATE	APPROVED
NO.	DATE	DESCRIPTION		

REFERENCE DRAWINGS		
NO.	DWG NO.	TITLE
1	97403-13226E1892	ROWPU/BARGE ARRANGEMENT
2	97403-13226E1898	SEAWATER SYSTEM

SEA CHEST BLOWDOWN

(See Operation and Maintenance Manual, Seawater System and Ballast System, for detailed instructions.)

PRESTART

1. Make sure SEA CHEST is not in use.
2. If AIR COMPRESSOR is not operating, start up in accordance with COMPRESSED AIR SYSTEM OPERATION.
3. Check that COMPRESSED AIR PRESSURE REGULATOR 2 is set to 40 psi.
4. Close Seawater (SW) valves SW1, SW2, and SW3.

OPERATION

1. Close valve SW30.
2. Open SEAWATER SEA CHEST BLOWDOWN valve.
3. When regulator gauge reading stabilizes at 3-5 psi, close SEAWATER SEA CHEST BLOWDOWN valve.
4. If obstruction is not cleared, repeat steps 2 and 3.
5. Open valve SW30 to vent SEA CHEST.

SHUTDOWN

Open valves SW1, SW2, and SW3

(See Operation and Maintenance, Seawater System, for detailed instruction.)

NOTE
Use these procedures when the barge is anchored in 15 feet or more of water. If water is less than 15 feet deep, see Operation and Maintenance Manual.

PRESTART

1. Check for damage or leaks.
2. Make sure Seawater (SW) System SEAWATER STRAINER baskets are clean.
3. Make sure Reverse Osmosis Water Purification (RO) System and Chlorination System are ready. (See RO System and Chlorination System operation placards.)
4. Make sure SWITCHBOARD circuit breakers P6 and P7 are closed (ON).
5. Make sure valves SW30 thru SW36 are open.

OPERATION

NOTE
If every- ng is operational, use the following. If a component has failed, see Operation & Maintenance Manual for other ways of operating.

CAUTION
To make drinking water, the Chlorination System must be operating.

7. Watch SEAWATER STRAINER INPUT and OUTPUT PRESSURE GAUGES:
(1) A pressure of 2" - 4" Hg is normal.
(2) If pressure difference reaches 8" Hg, turn handle on STRAINER to move seawater through clean basket.
(3) Remove and clean dirty basket (see STRAINER OPERATIONS placard).

NOTE
(1) If operating in clear water, drain SEAWATER FILTERS 15 seconds for every 8 hours of operation.
(2) If operating in dirty waters, drain SEAWATER FILTERS 15 seconds for each hour of operation.

8. Drain SEAWATER FILTERS as follows:

TO DRAIN SEAWATER FILTER	OPEN SW VALVES
1	22 and 26
2	23 and 26
1 & 2	22, 23 and 26

9. Close valves SW22, SW23, and SW26 after draining.

SHUTDOWN

1. Stop SEAWATER PUMPS.
2. Close valves SW1 and SW2.

1. Open or close Seawater valves as follows:
O = OPEN C = CLOSED - = NOT AFFECTED

SUPPLYING SEAWATER TO	1	2	3	9	10	16	17	20	21	24	25
BOTH ROWPUs	O	O	O	O	O	O	O	O	O	O	O
ROWPU 1 ONLY	O	C	O	O	O	O	O	O	O	O	O
ROWPU 2 ONLY	C	O	O	O	O	O	O	O	O	O	O

2. Close valves SW4 thru SW8, SW11 thru SW13, SW18, SW19, SW22, SW23, and SW26.

3. Set SEAWATER COOLING PRESSURE REGULATOR to 10 psi and open valve SW48 in Vond 2 Port.

4. Start SEAWATER PUMPS at the RO CONTROL STATION as follows:

START SEAWATER PUMP	TO SUPPLY SEAWATER TO
1	ROWPU 1 ONLY
2	ROWPU 2 ONLY
1 & 2	BOTH ROWPUs

5. Start RO HIGH PRESSURE PUMPS (see RO System operation placard).

6. Check for normal operation and for leaks.

DASH-2

NOTES:

1. PLATE (PLACARD) SHALL BE IN ACCORDANCE WITH MIL-P-514, TYPE III, COMPOSITION C (GG-P-455, TYPE I OR II, GRADE A, CLASS II) .032 THICK.
2. CHARACTERS AND BORDER SHALL BE WHITE (OR NATURAL) ON BLACK BACKGROUND, SIZE APPROXIMATELY AS SHOWN.

ACTIVE FOR PROCUREMENT OF REPAIR PARTS (A1)

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	GROUP BY: JMT	DATE: 4 DEC 86	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
ONE PLACE (1) 1	DESIGNED BY: G. J. W. J. W.	DATE: 12/26/86	
TWO PLACE (2) 2	TWO PLACE (2) 2	CONTRACT NO: DAAK70-83-C-0106	ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, SEAWATER SYSTEM
THREE PLACE (3) 3	THREE PLACE (3) 3	SCALE: 1/1	
DO NOT SCALE THIS DRAWING	THE INTERPRETATION OF DIMENSIONS DOES NOT APPLY	TEMPERATURE AND AREA DRAP GAUGE	SIZE: A1
TEMPERATURE AND AREA DRAP GAUGE	TEMPERATURE AND AREA DRAP GAUGE	TEMPERATURE AND AREA DRAP GAUGE	FILE NO: 97403
TEMPERATURE AND AREA DRAP GAUGE	TEMPERATURE AND AREA DRAP GAUGE	TEMPERATURE AND AREA DRAP GAUGE	DWG NO: 13226E1899
TEMPERATURE AND AREA DRAP GAUGE	TEMPERATURE AND AREA DRAP GAUGE	TEMPERATURE AND AREA DRAP GAUGE	SHEET 1 OF 2

Figure FO-11 (Sheet 1 of 2)
FP-125/(FP-126 Blank)

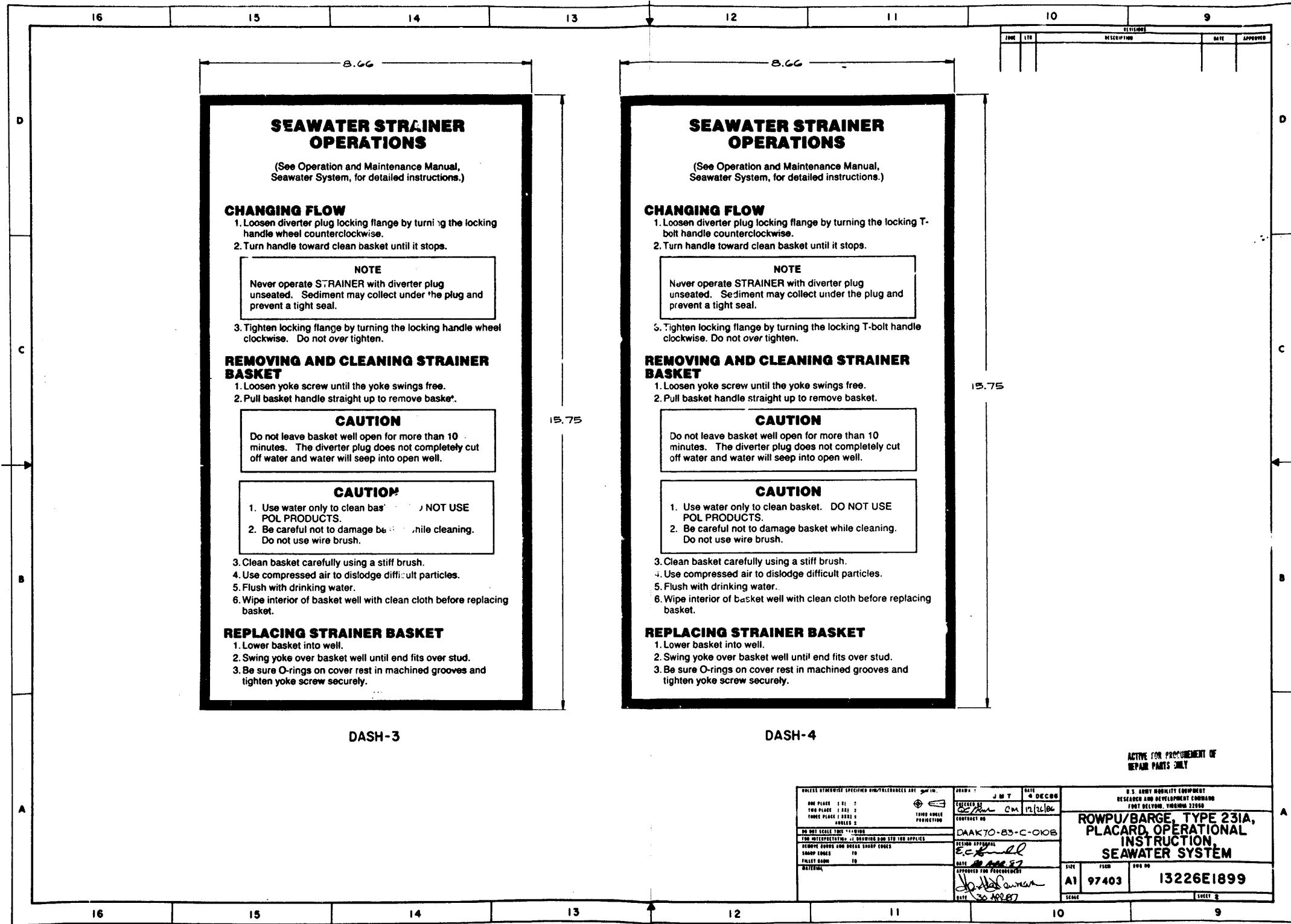


Figure FO-11 (Sheet 2 of 2)
 FP-127/(FP-128 Blank)

ACTIVE FOR PROCUREMENT OF REPAIR PARTS ONLY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ONE PLACE (1 1/2) TWO PLACE (1/32) THREE PLACE (0.001) ANGLES 1/2	DRAWN BY: J M T CHECKED BY: [Signature] CONTRACT NO: DAAK70-83-C-0108 DESIGN APPROVAL: [Signature] DATE: 12/26/84 APPROVED FOR PROCUREMENT: [Signature] DATE: 30 APR 87	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060 ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, SEAWATER SYSTEM SIZE: A1 ITEM NO: 97403 DWG NO: 13226E1899
--	---	---

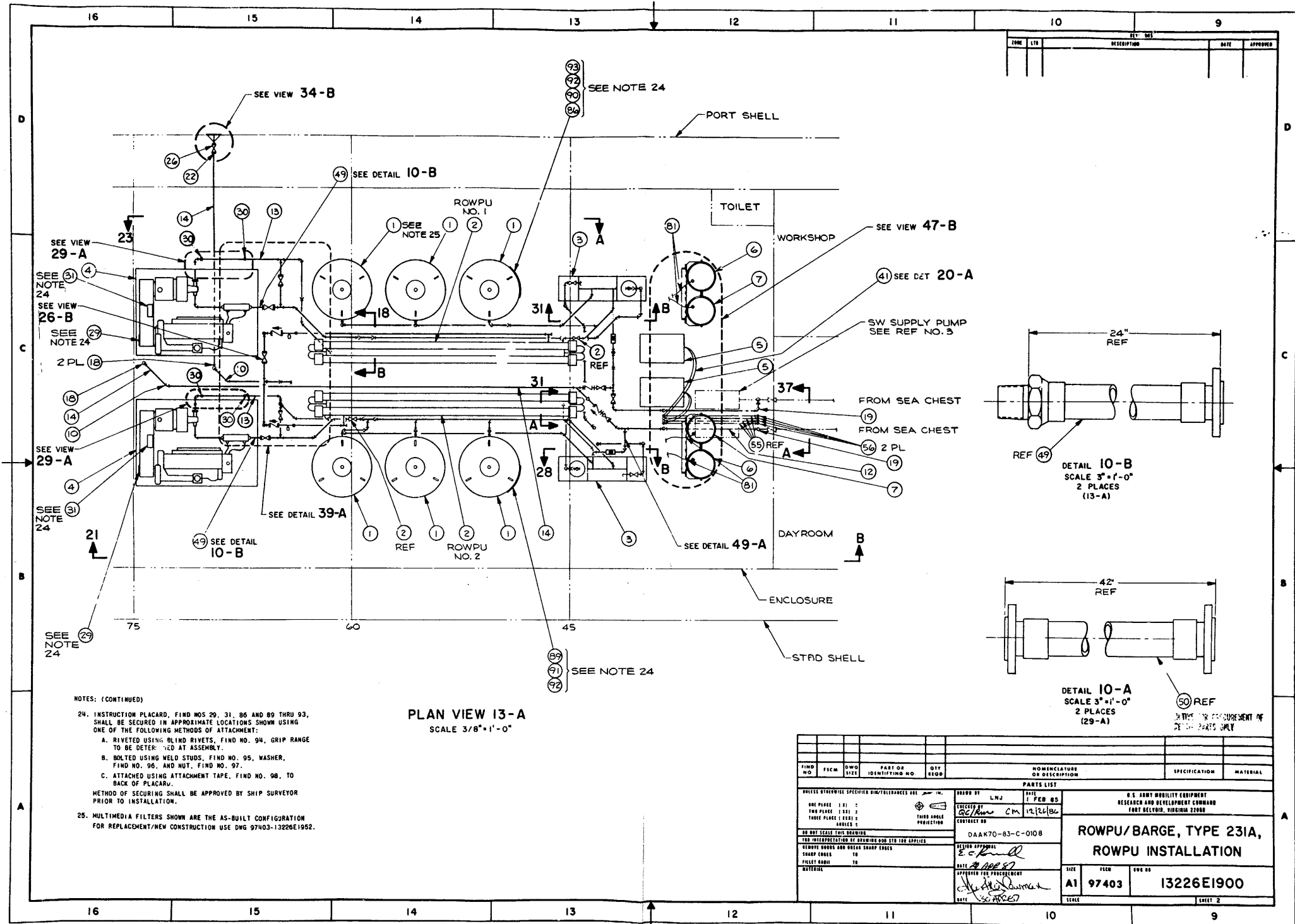


Figure FO-12 (Sheet 2 of 9)
FP-131/(FP-132 Blank)

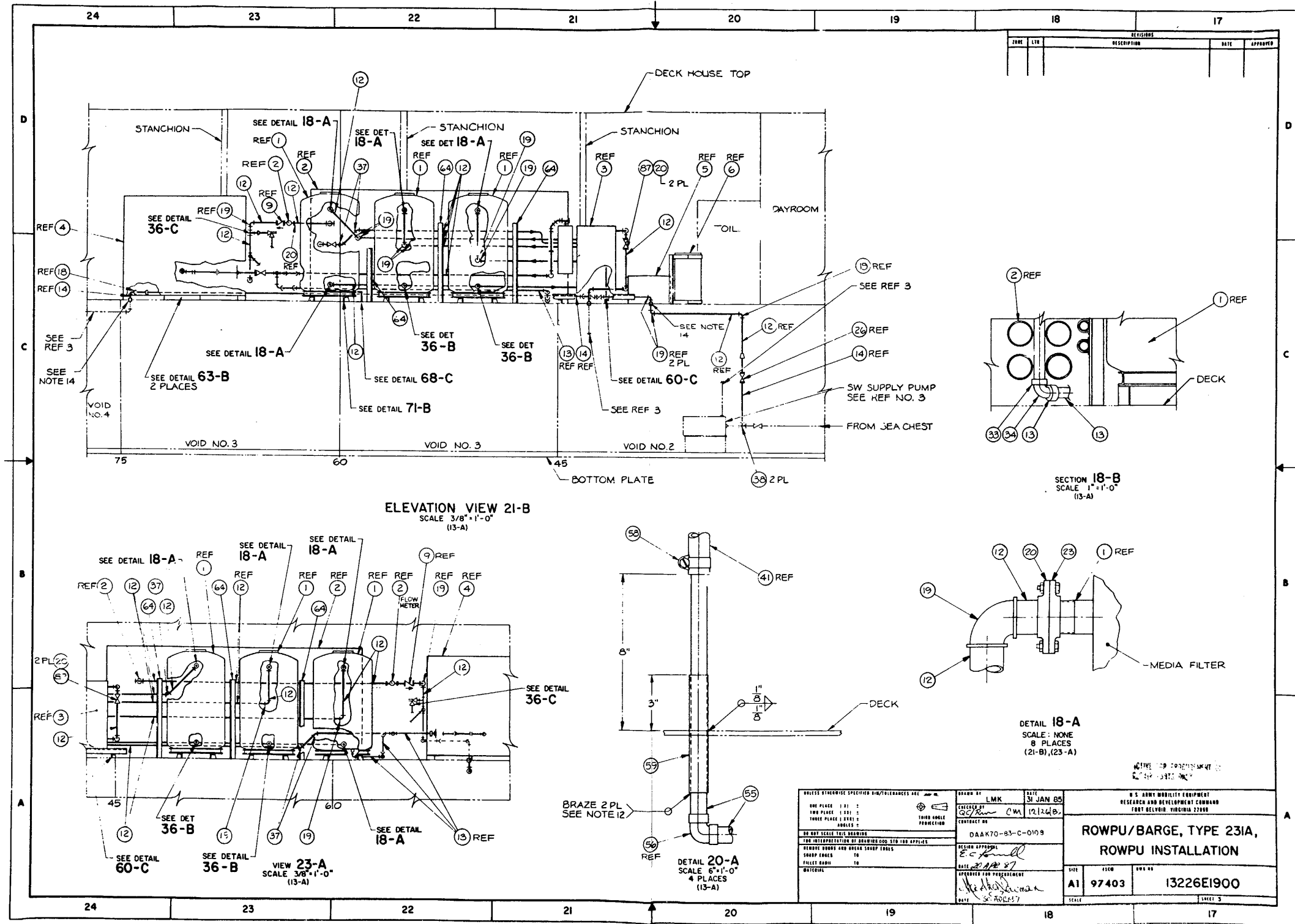


Figure FO-12 (Sheet 3 of 9)
FP-133/(FP-134 Blank)

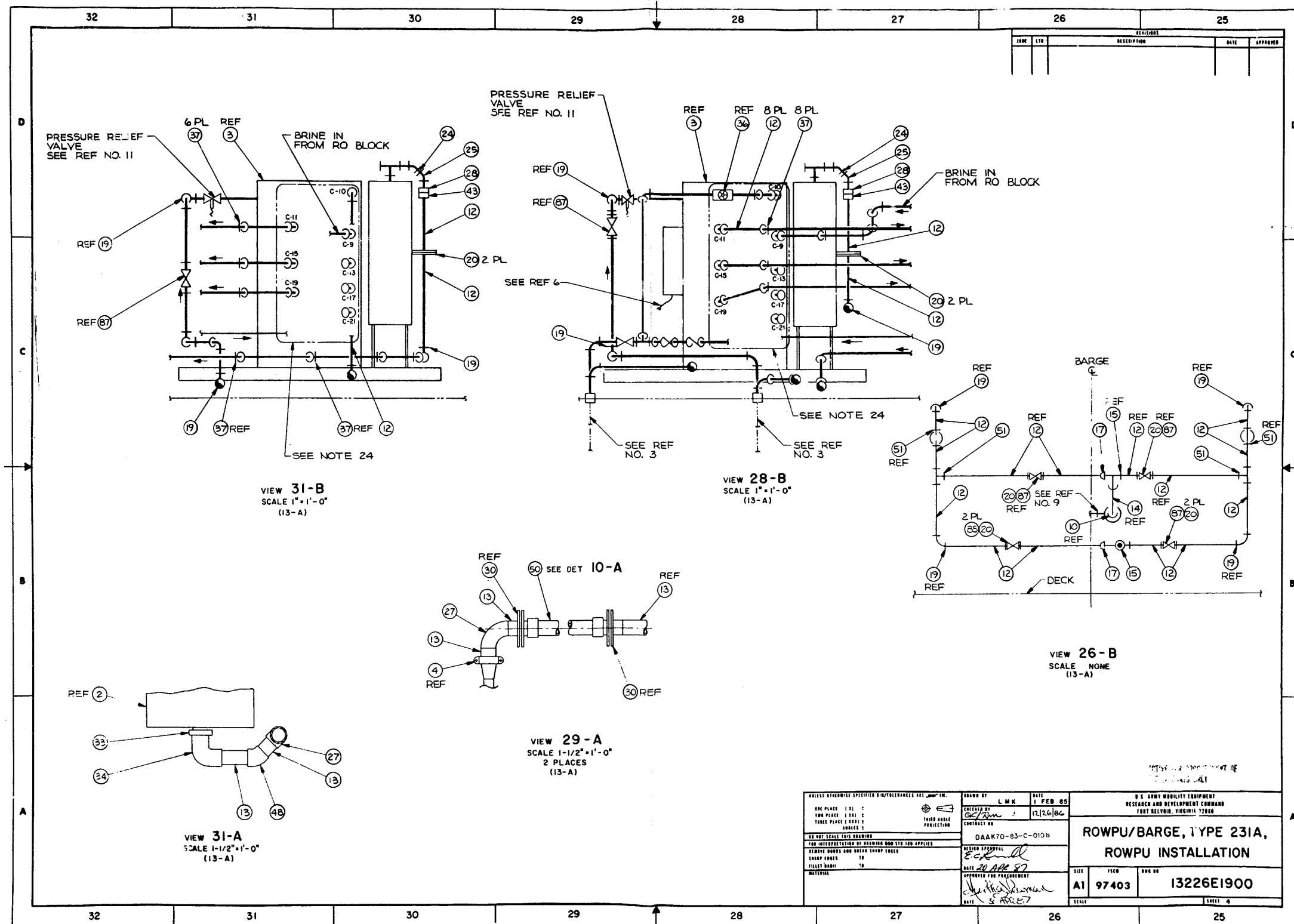


Figure FO-12 (Sheet 4 of 9)
FP-135/(FP-136 Blank)

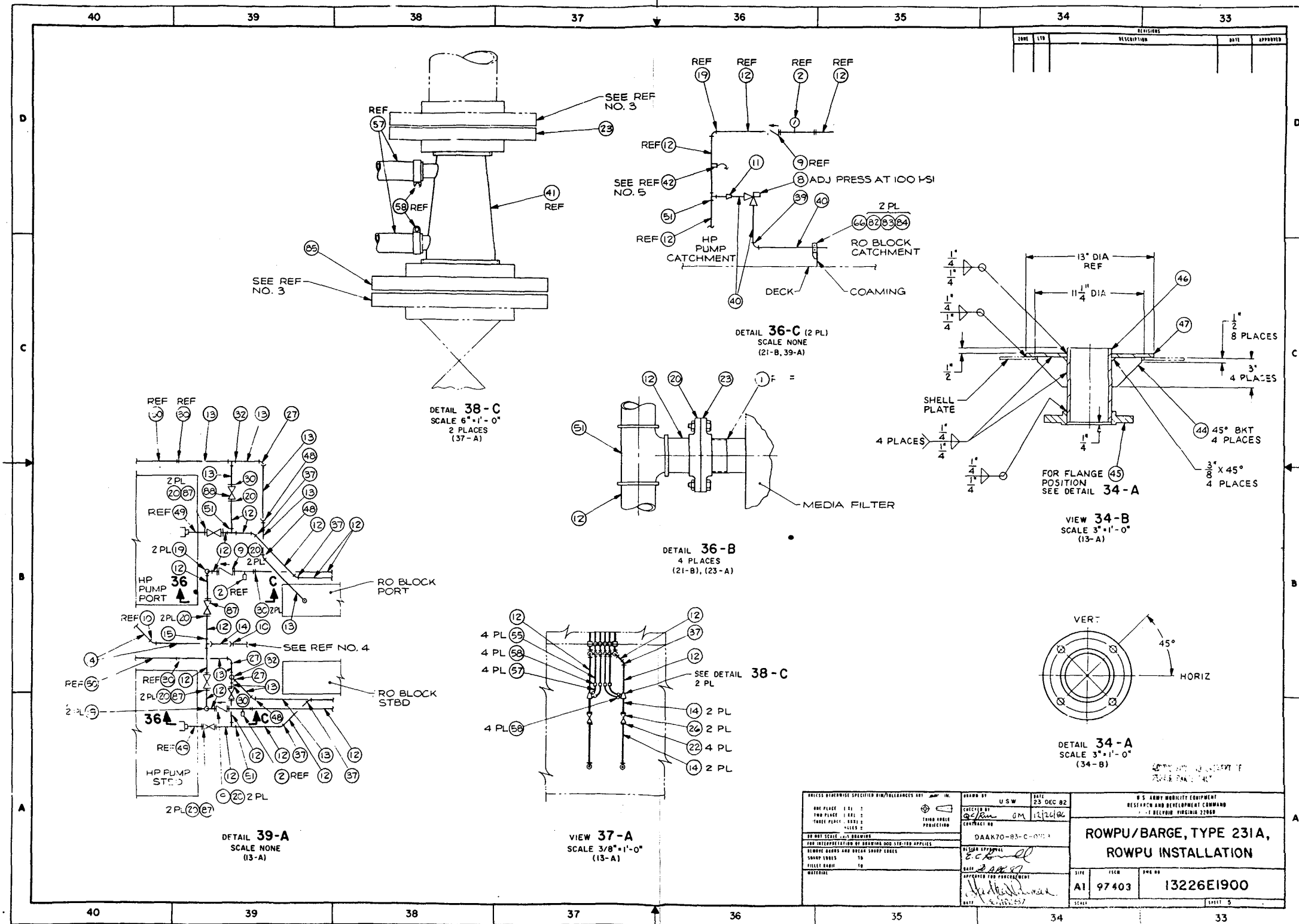


Figure FO-12 (Sheet 5 of 9)
FP-137/(FP-138 Blank)

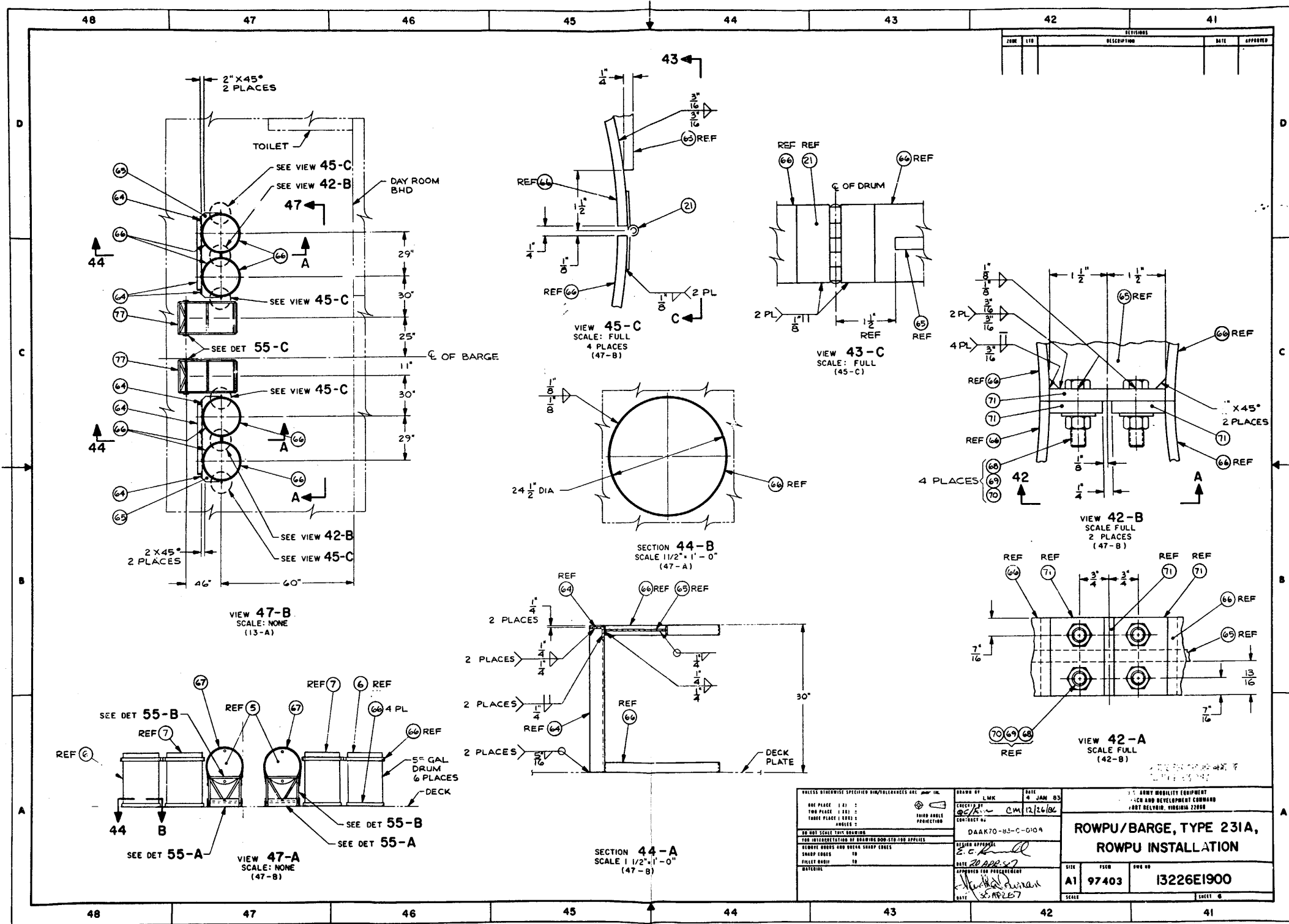


Figure FO-12 (Sheet 6 of 9)
FP-139/(FP-140 Blank)

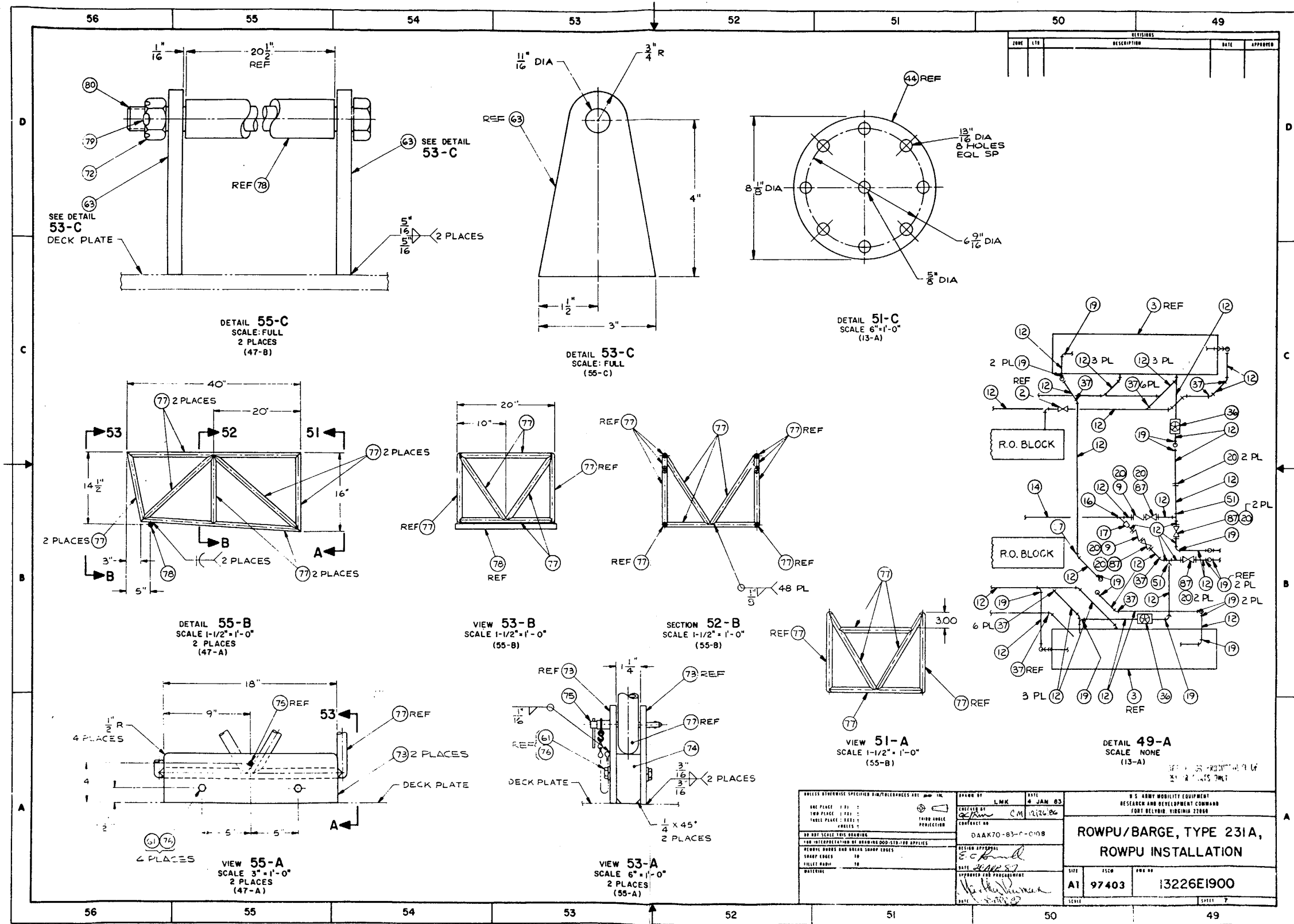


Figure FO-12 (Sheet 7 of 9)
FP-141/(FP-142 Blank)

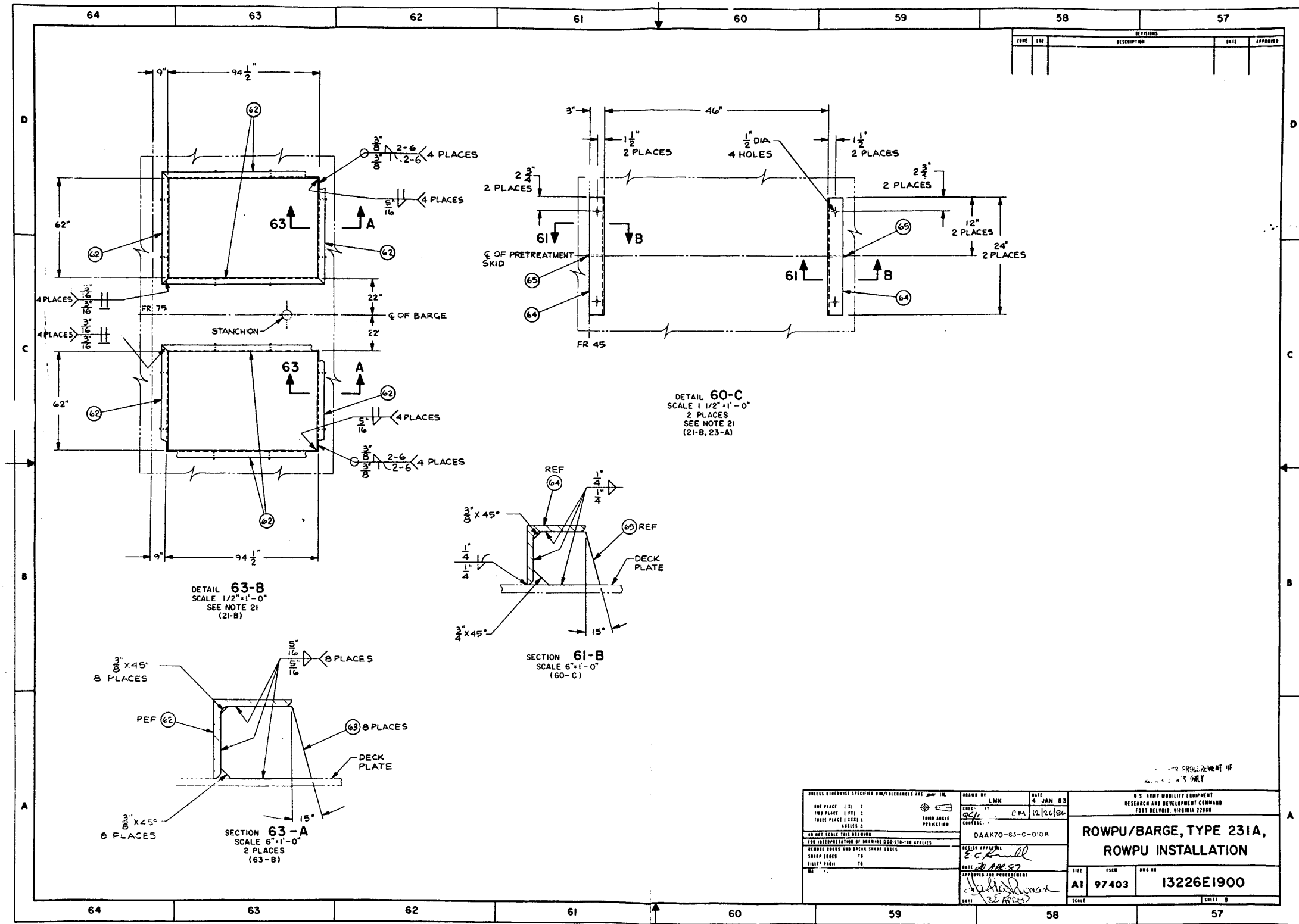


Figure FO-12 (Sheet 8 of 9)
FP-143/(FP-144 Blank)

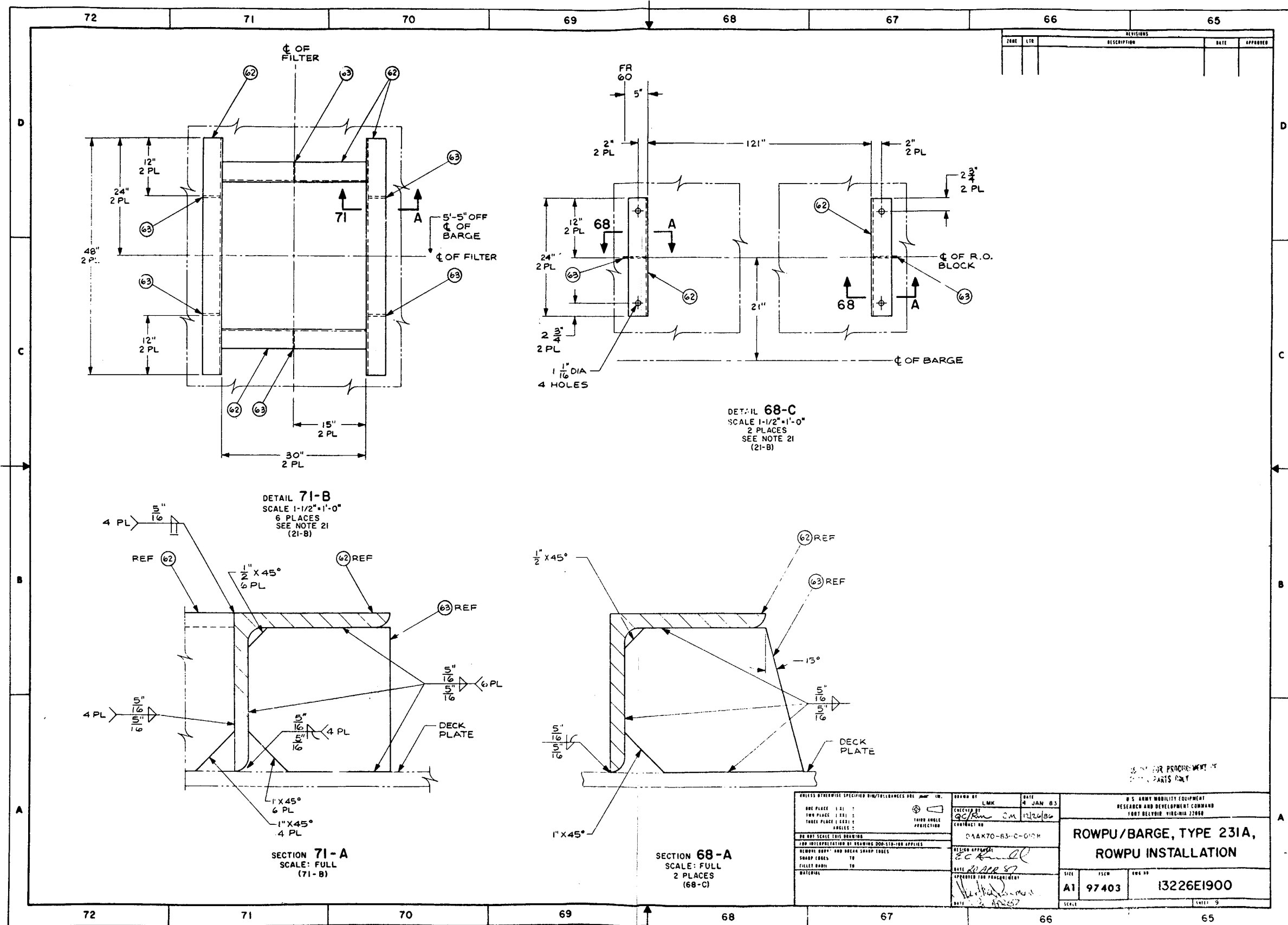
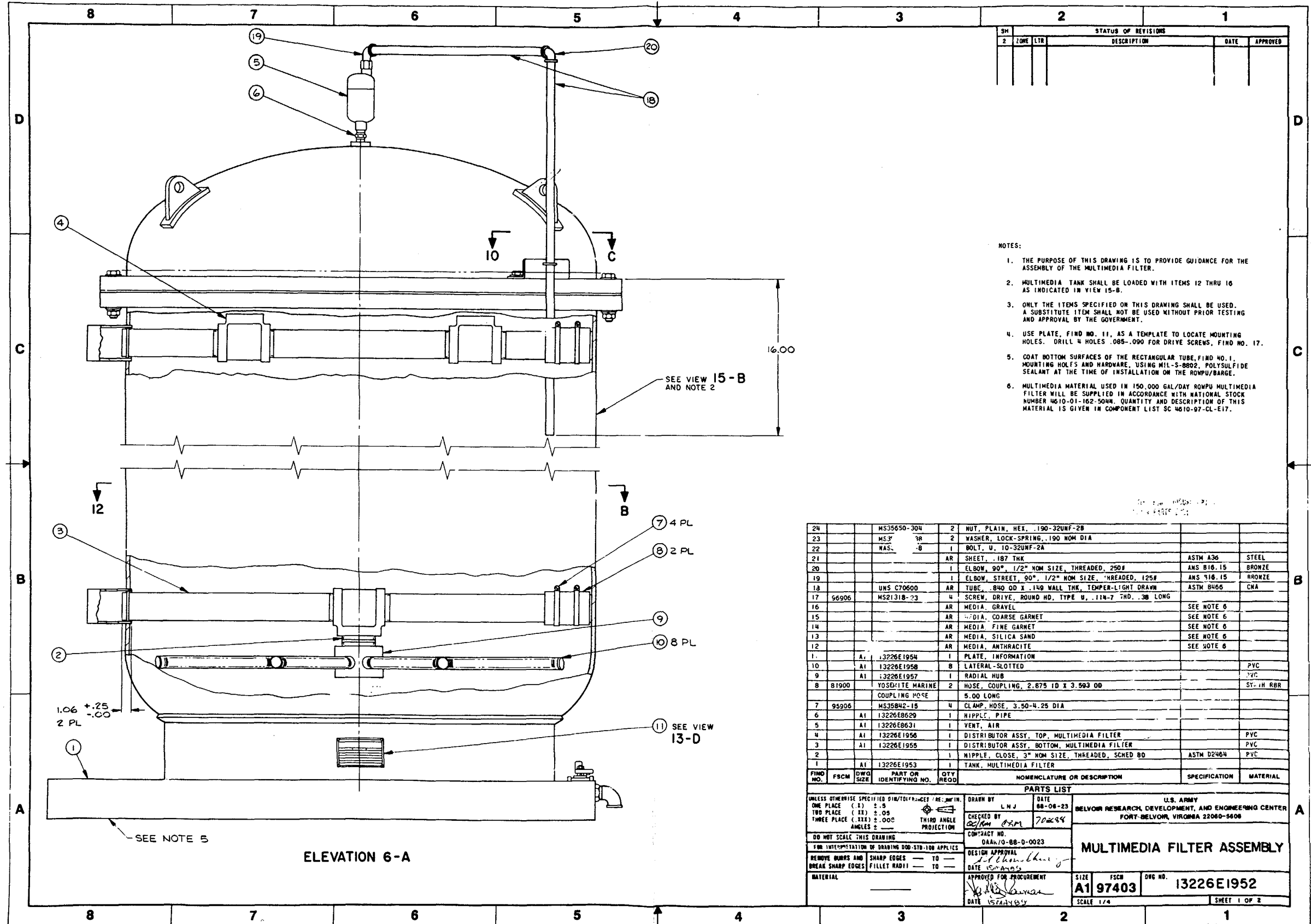


Figure FO-12 (Sheet 9 of 9)
FP-145/(FP-146 Blank)



STATUS OF REVISIONS				
NO.	DATE	DESCRIPTION	DATE	APPROVED
2				

- NOTES:
1. THE PURPOSE OF THIS DRAWING IS TO PROVIDE GUIDANCE FOR THE ASSEMBLY OF THE MULTIMEDIA FILTER.
 2. MULTIMEDIA TANK SHALL BE LOADED WITH ITEMS 12 THRU 16 AS INDICATED IN VIEW 15-B.
 3. ONLY THE ITEMS SPECIFIED ON THIS DRAWING SHALL BE USED. A SUBSTITUTE ITEM SHALL NOT BE USED WITHOUT PRIOR TESTING AND APPROVAL BY THE GOVERNMENT.
 4. USE PLATE, FIND NO. 11, AS A TEMPLATE TO LOCATE MOUNTING HOLES. DRILL 4 HOLES .085-.090 FOR DRIVE SCREWS, FIND NO. 17.
 5. COAT BOTTOM SURFACES OF THE RECTANGULAR TUBE, FIND NO. 1, MOUNTING HOLES AND HARDWARE, USING MIL-S-8802, POLYSULFIDE SEALANT AT THE TIME OF INSTALLATION ON THE ROWPU/BARGE.
 6. MULTIMEDIA MATERIAL USED IN 150,000 GAL/DAY ROWPU MULTIMEDIA FILTER WILL BE SUPPLIED IN ACCORDANCE WITH NATIONAL STOCK NUMBER 4610-01-162-5044. QUANTITY AND DESCRIPTION OF THIS MATERIAL IS GIVEN IN COMPONENT LIST SC 4610-07-CL-E17.

FIND NO.	FSCM	DWG SIZE	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL
24			MS35650-304	2	NUT, PLAIN, HEX., .190-32UNF-2B		
23			MS3	2	WASHER, LOCK-SPRING, .190 NOM DIA		
22			NAS-	1	BOLT, U, 10-32UNF-2A		
21				AR	SHEET, .187 THK	ASTM A36	STEEL
20				1	ELBOW, 90°, 1/2" NOM SIZE, THREADED, 250#	ANS B16.15	BRONZE
19				1	ELBOW, STREET, 90°, 1/2" NOM SIZE, THREADED, 125#	ANS B16.15	BRONZE
18			UNS C70600	AR	TUBE, .840 OD X .149 WALL THK, TEMPER-LIGHT DRAWN	ASTM B466	CNA
17	56906		MS21318-23	4	SCREW, DRIVE, ROUND HD, TYPE U, .114-7 THD, .38 LONG		
16				AR	MEDIA, GRAVEL		SEE NOTE 6
15				AR	MEDIA, COARSE GARNET		SEE NOTE 6
14				AR	MEDIA, FINE GARNET		SEE NOTE 6
13				AR	MEDIA, SILICA SAND		SEE NOTE 6
12				AR	MEDIA, ANTHRACITE		SEE NOTE 6
11				1	PLATE, INFORMATION		
10			A1 13226E1958	8	LATERAL-SLOTTED		PVC
9			A1 13226E1957	1	RADIAL HUB		PVC
8	81900		YOSHEITE MARINE	2	HOSE, COUPLING, 2.675 ID X 3.593 OD		SY-1H RBR
7	95906		MS35842-15	4	CLAMP, HOSE, 3.50-4.25 DIA		
6			A1 13226E8629	1	RIPPLE, PIPE		
5			A1 13226E8631	1	VENT, AIR		
4			A1 13226E1956	1	DISTRIBUTOR ASSY, TOP, MULTIMEDIA FILTER		PVC
3			A1 13226E1955	1	DISTRIBUTOR ASSY, BOTTOM, MULTIMEDIA FILTER		PVC
2				1	RIPPLE, CLOSE, 3" NOM SIZE, THREADED, SCHED 80	ASTM D2464	PVC
1			A1 13226E1953	1	TANK, MULTIMEDIA FILTER		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE: DIM. IN. ONE PLACE (X) 0.5 TWO PLACE (XX) 0.05 THREE PLACE (XXX) 0.000 ANGLES 1/2°

THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING

FOR INTERPRETATION OF DRAWING DDG-STD-100 APPLIES REMOVE BURRS AND SHARP EDGES TO TO BREAK SHARP EDGES FILLET RADIUS TO TO

MATERIAL

DATE 15 MAY 88

DRAWN BY LNJ DATE 88-08-23

CHECKED BY [Signature] DATE 7/26/88

DESIGN APPROVAL [Signature] DATE 15 MAY 88

APPROVED FOR PROCUREMENT [Signature] DATE 15 MAY 88

U.S. ARMY BELVOIR RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER FORT BELVOIR, VIRGINIA 22060-5606

CONTRACT NO. DAAG-88-0-0023

MULTIMEDIA FILTER ASSEMBLY

SIZE **A1 97403** FSCM **13226E1952** DWG NO. **13226E1952**

SCALE 1/4" = 1" SHEET 1 OF 2

Figure FO-13 (Sheet 1 of 2)
FP-147/(FP-148 Blank)

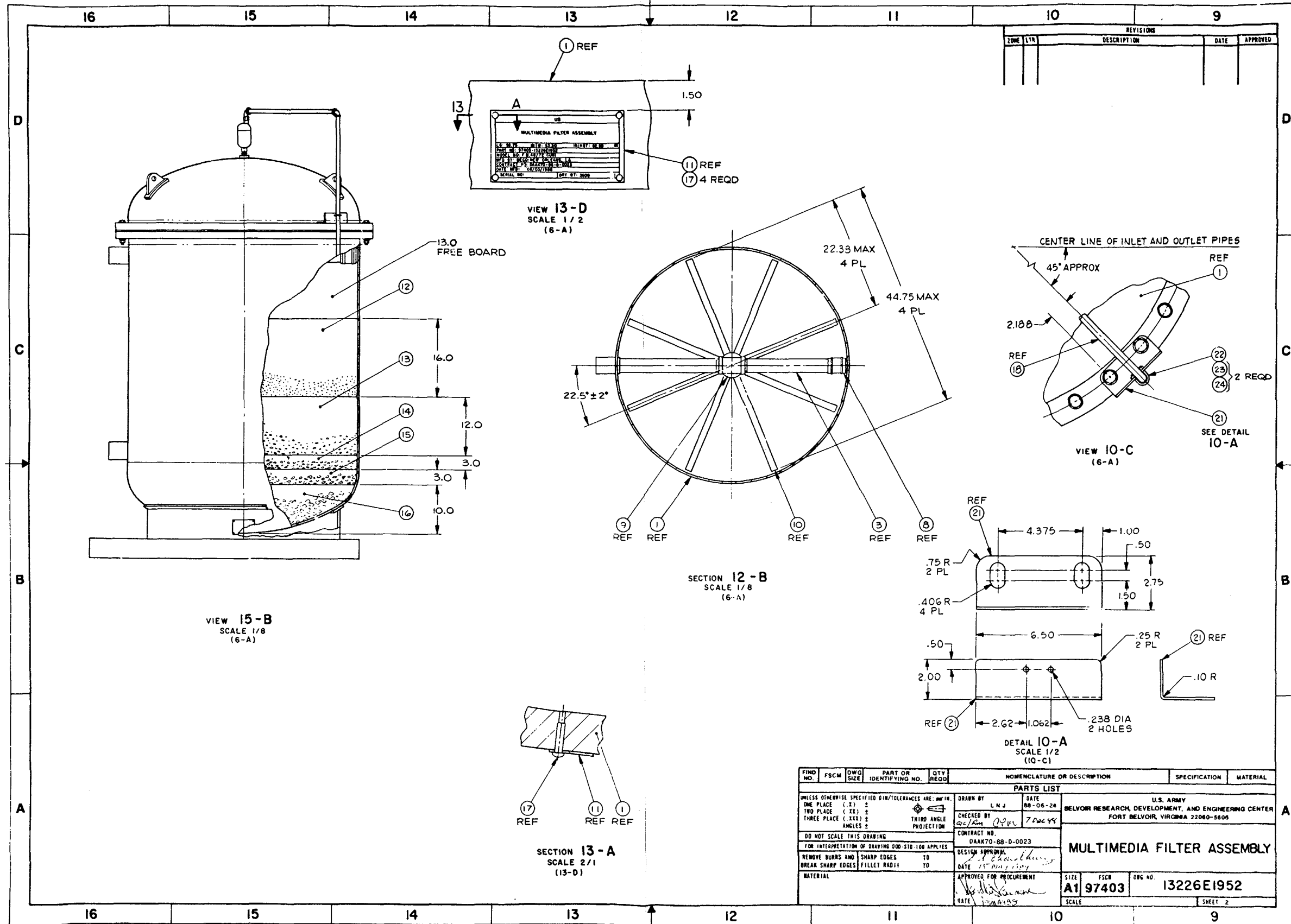


Figure FO-13 (Sheet 2 of 2)
FP-149/(FP-150 Blank)

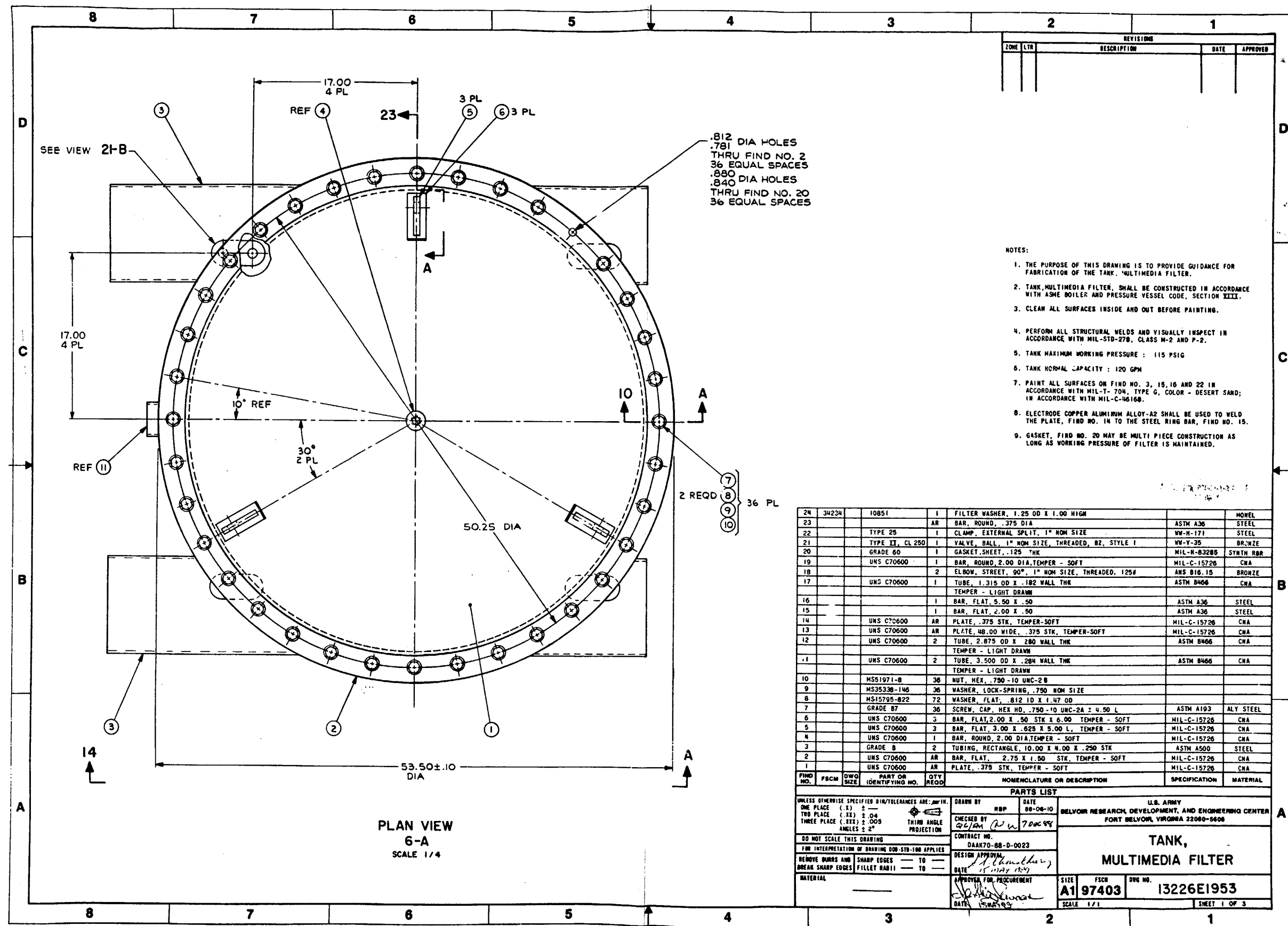


Figure FO-14 (Sheet 1 of 3)
FP-151/(FP-152 Blank)

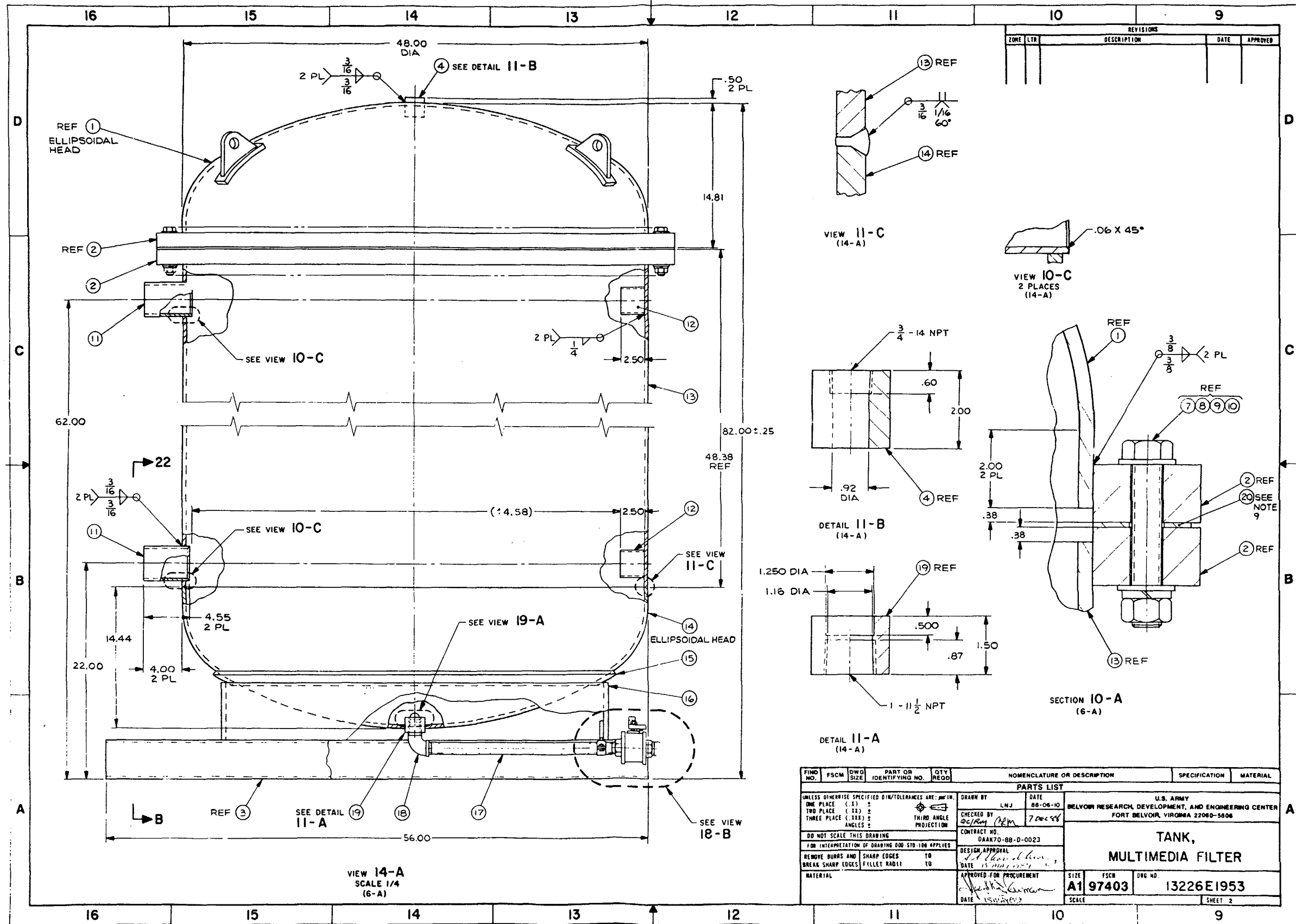


Figure FO-14 (Sheet 2 of 3)
FP-153/(FP-154 Blank)

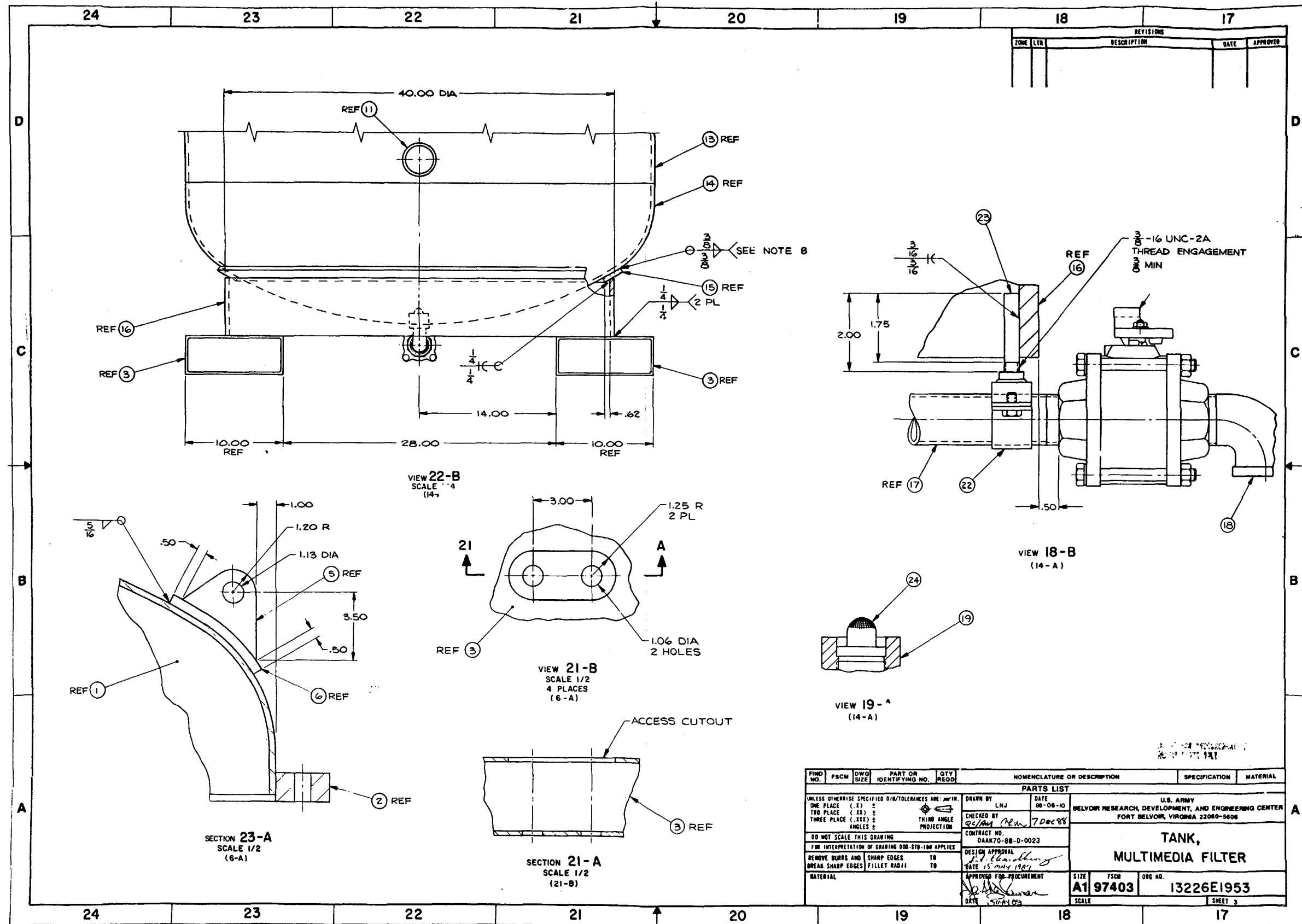


Figure FO-14 (Sheet 3 of 3)
FP-155/(FP-156 Blank)

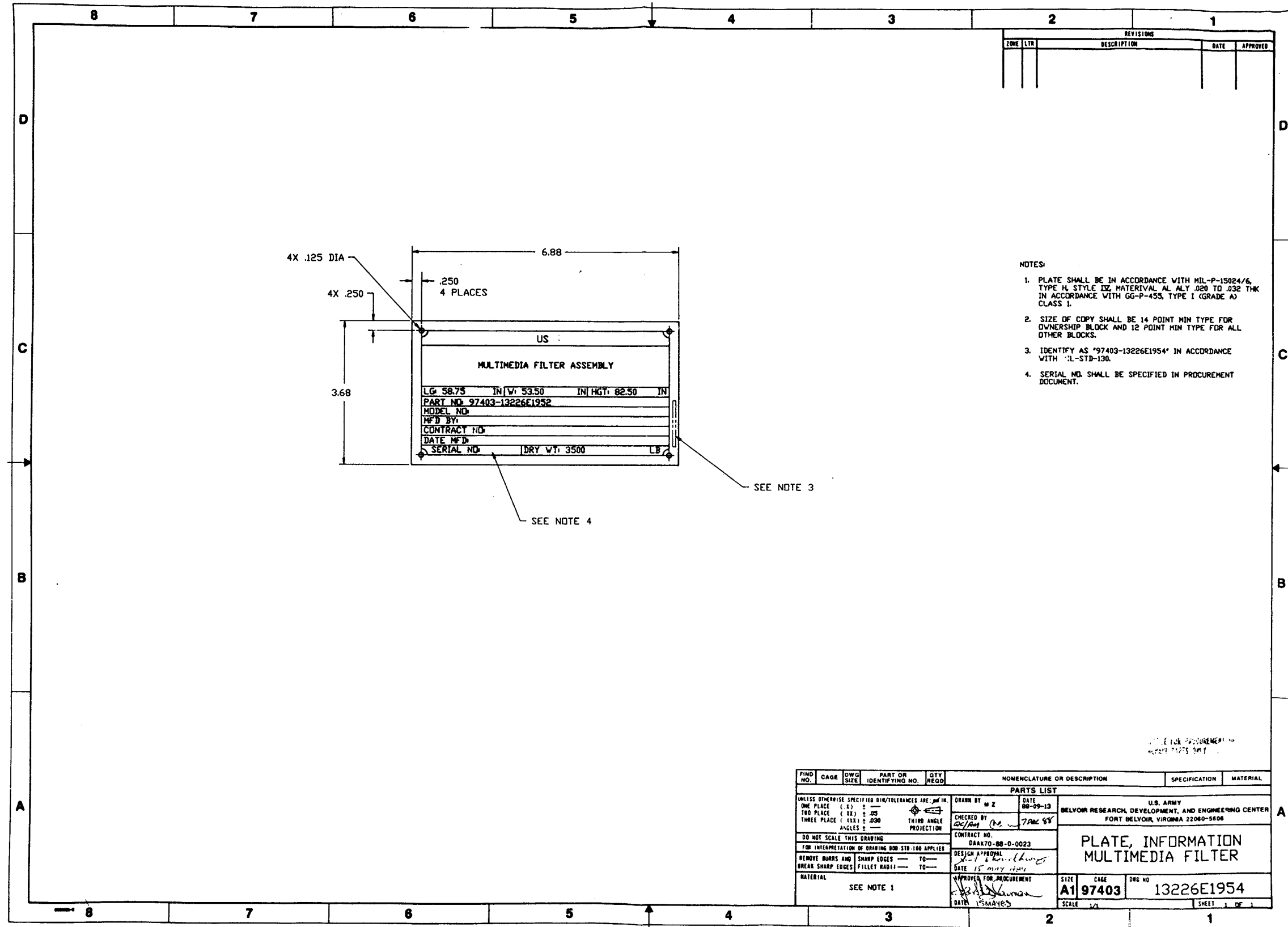


Figure FO-15
FP-157/(FP-158 Blank)

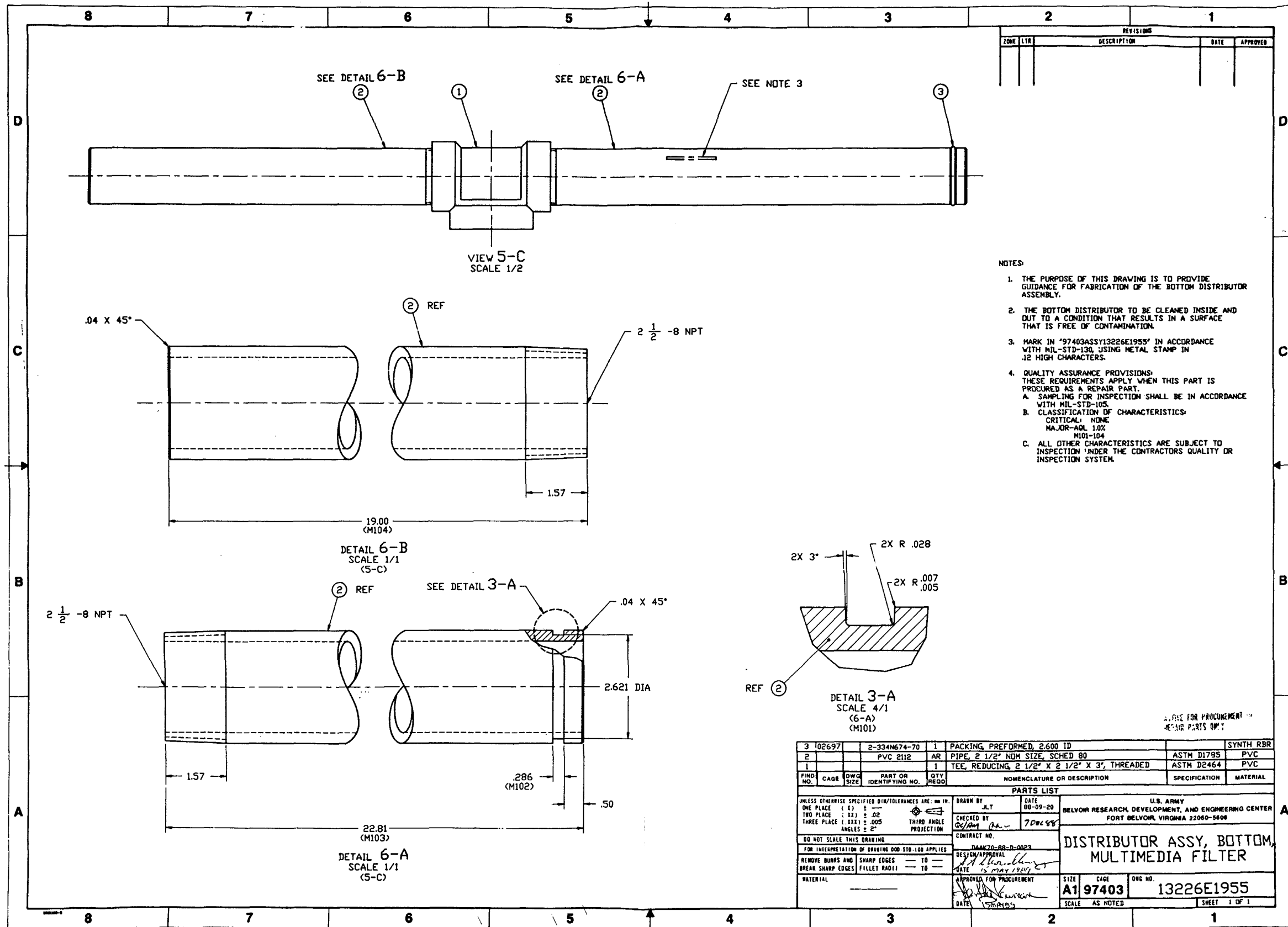


Figure FO-16
FP-159/(FP-160 Blank)

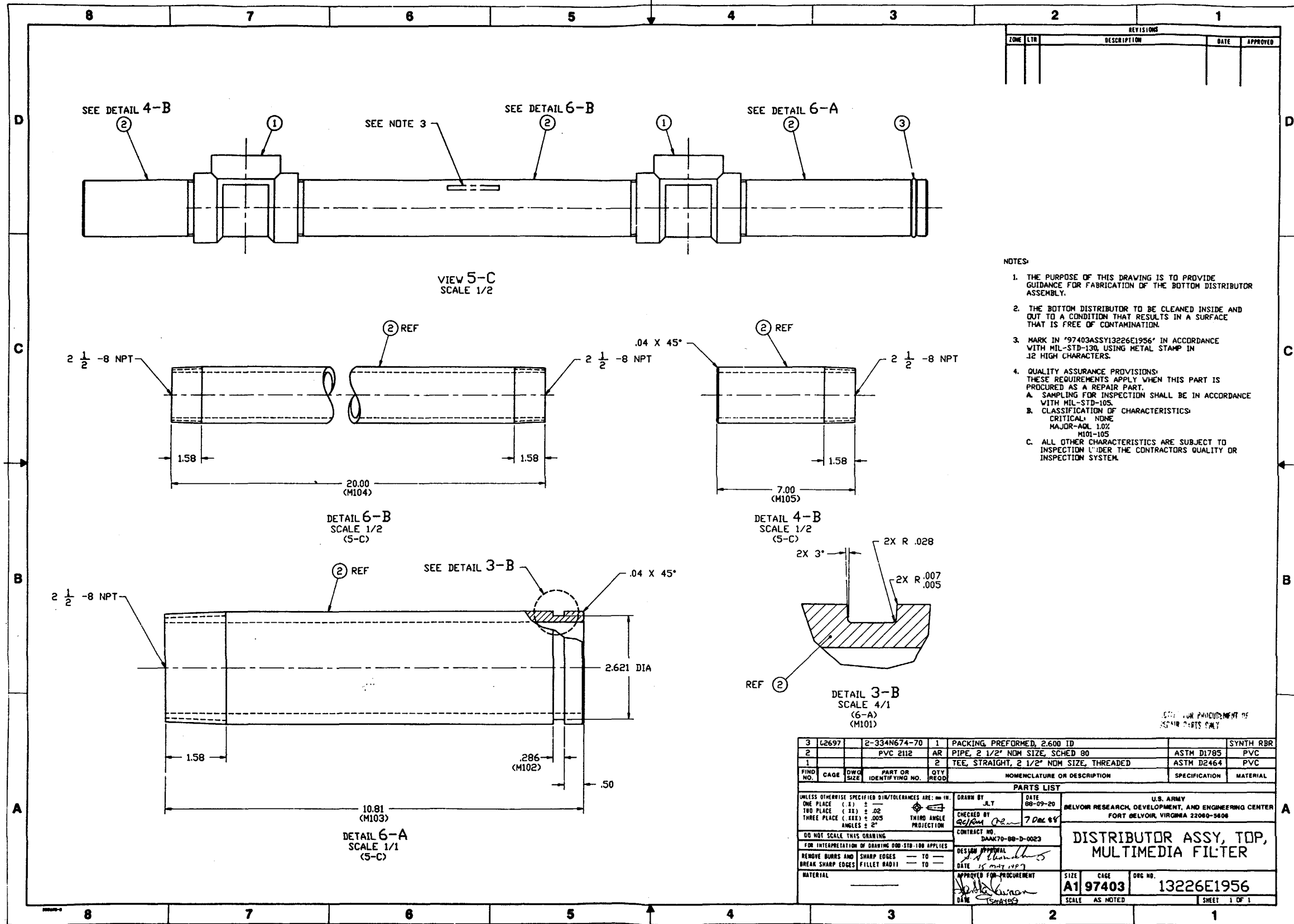


Figure FO-17
FP-161/(FP-162 Blank)

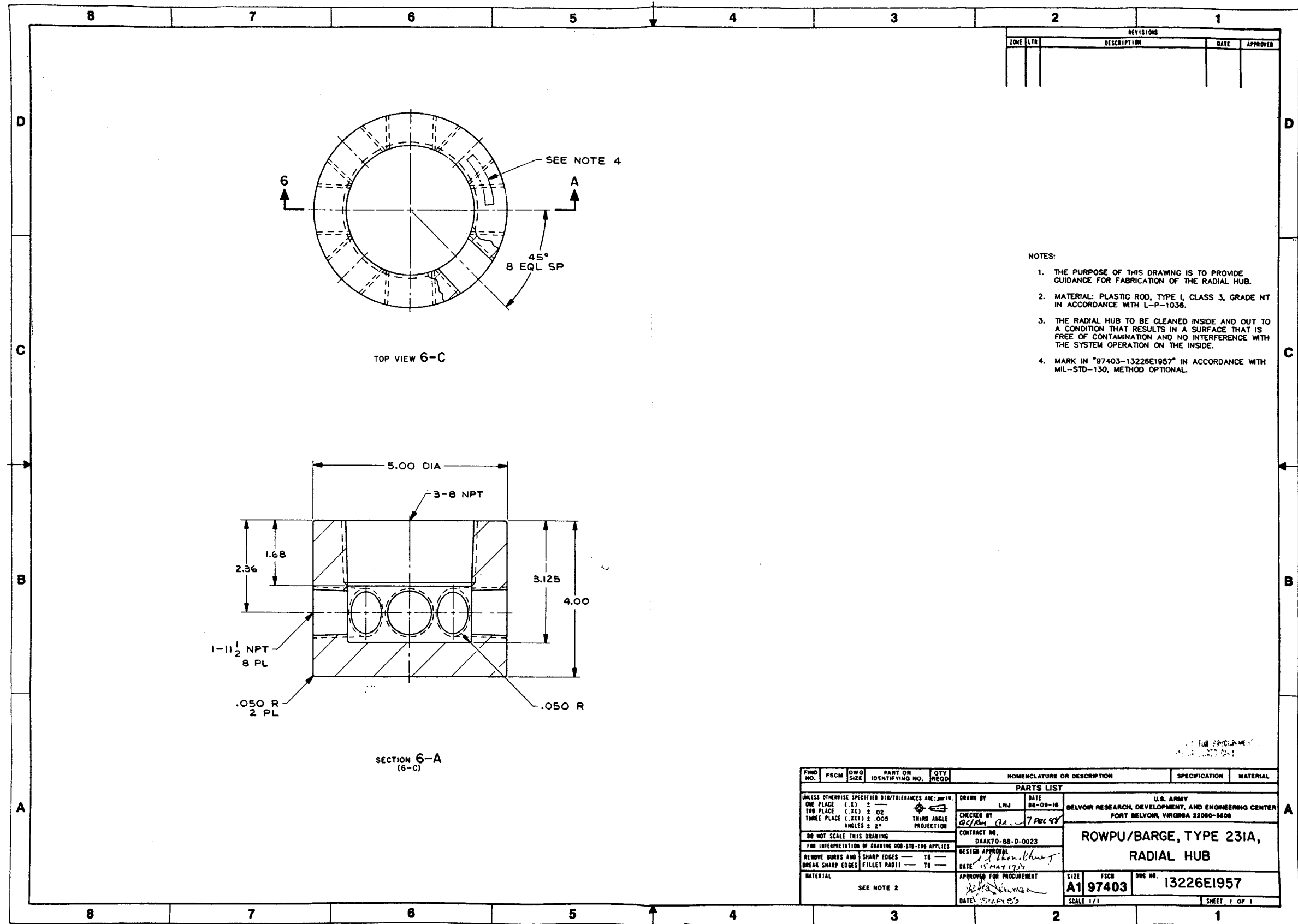


Figure FO-18
FP-163/(FP-164 Blank)

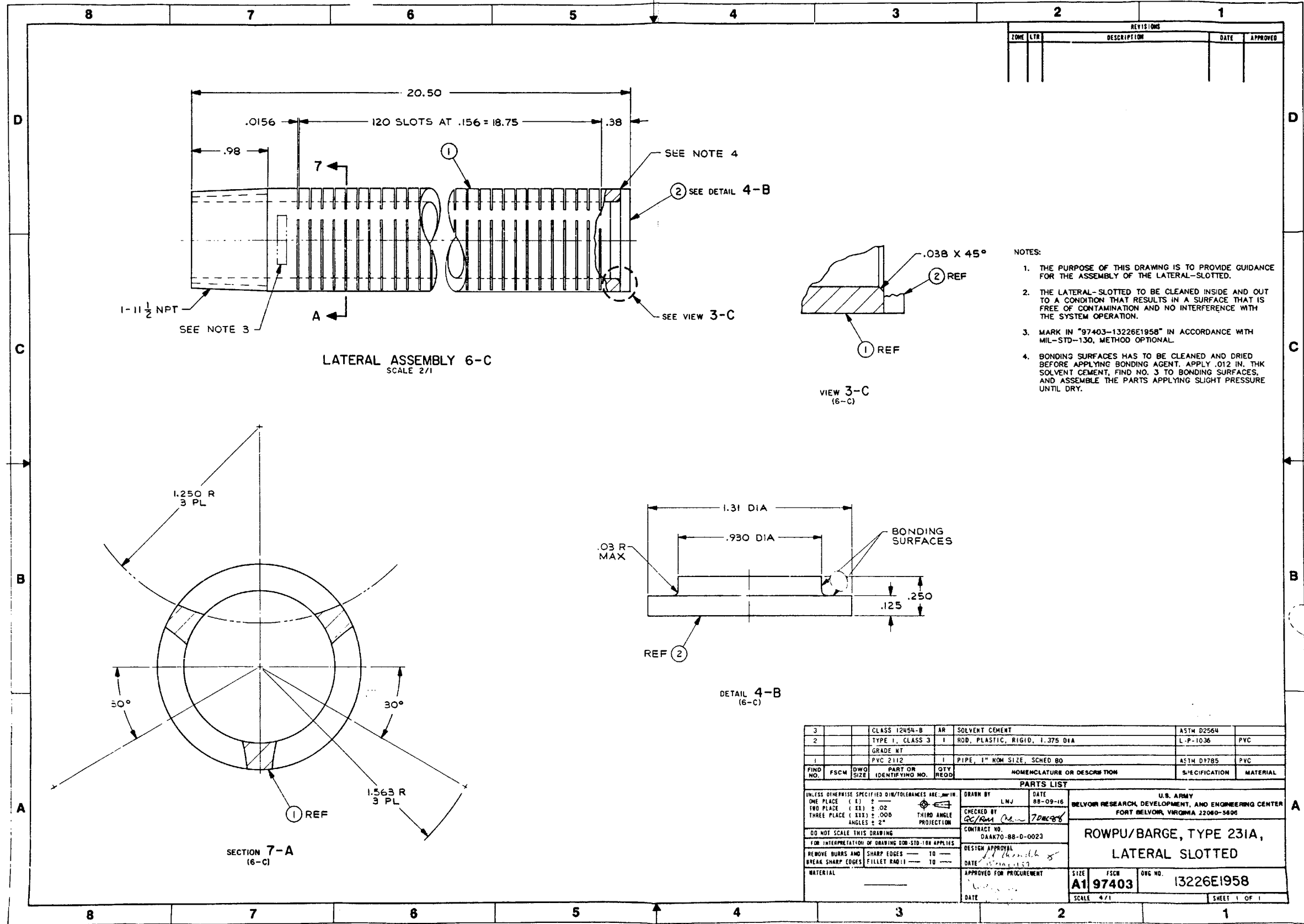
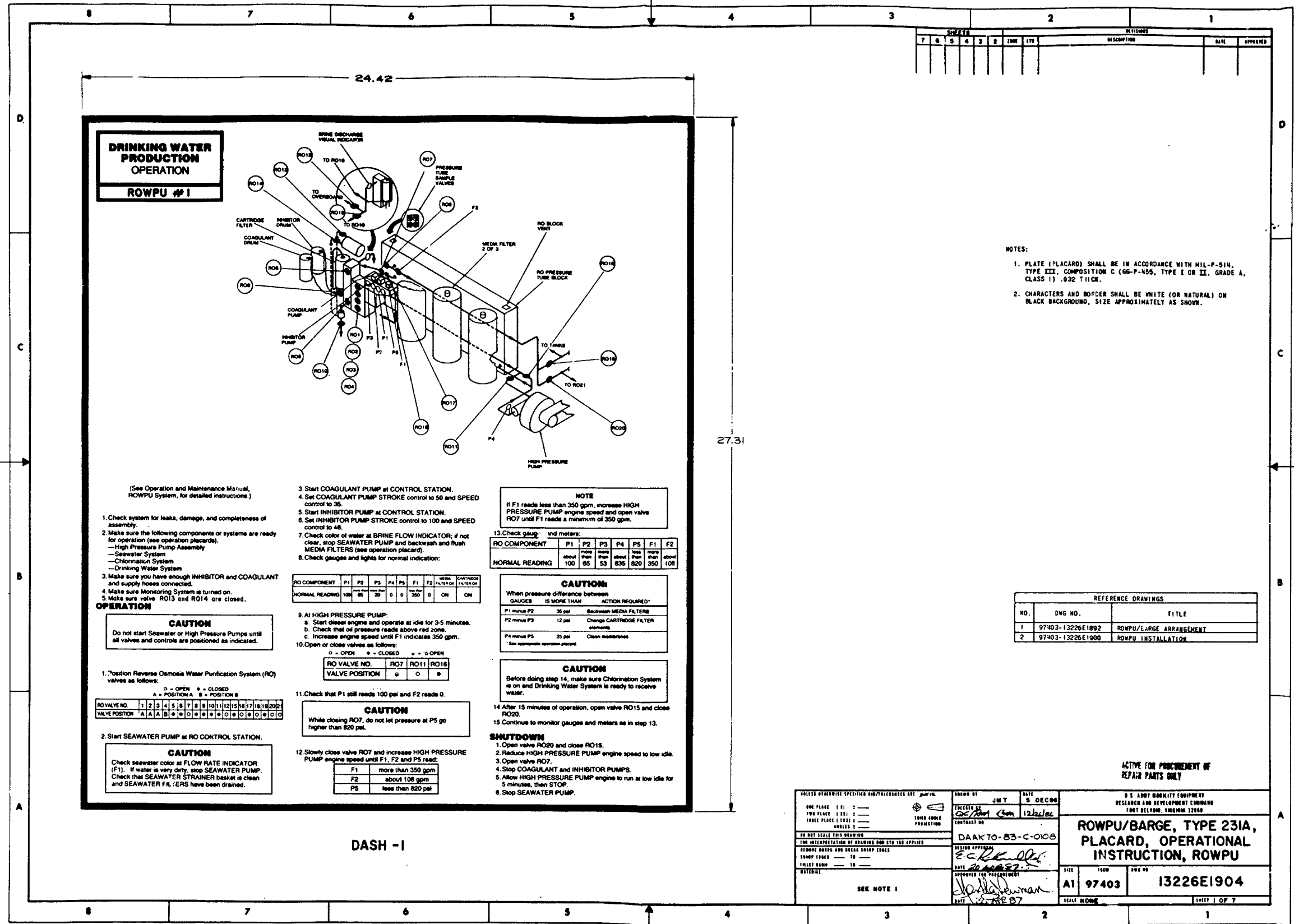


Figure FO-19
FP-165/(FP-166 Blank)



DRINKING WATER PRODUCTION OPERATION
ROWPU #1

SHEET					REVISIONS			
7	6	5	4	3	DATE	DESCRIPTION	DATE	APPROVED

- (See Operation and Maintenance Manual, ROWPU System, for detailed instructions.)
1. Check system for leaks, damage, and completeness of assembly.
 2. Make sure the following components or systems are ready for operation (see operation placards):
—High Pressure Pump Assembly
—Seawater System
—Chlorination System
—Drinking Water System
 3. Make sure you have enough INHIBITOR and COAGULANT and supply hoses connected.
 4. Make sure Monitoring System is turned on.
 5. Make sure valve RO13 and RO14 are closed.

OPERATION

CAUTION
Do not start Seawater or High Pressure Pump until all valves and controls are positioned as indicated.

1. Position Reverse Osmosis Water Purification System (RO) valves as follows:
O = OPEN C = CLOSED
A = POSITION A B = POSITION B

RO VALVE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
VALVE POSITION	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

2. Start SEAWATER PUMP at RO CONTROL STATION.
CAUTION
Check seawater color at FLOW RATE INDICATOR (F1). If water is very dirty, stop SEAWATER PUMP. Check that SEAWATER STRAINER basket is clean and SEAWATER FILTERS have been drained.

3. Start COAGULANT PUMP at CONTROL STATION.
4. Set COAGULANT PUMP STROKE control to 50 and SPEED control to 35.
5. Start INHIBITOR PUMP at CONTROL STATION.
6. Set INHIBITOR PUMP STROKE control to 100 and SPEED control to 48.
7. Check color of water at BRINE FLOW INDICATOR; if not clear, stop SEAWATER PUMP and backwash and flush MEDIA FILTERS (see operation placard).
8. Check gauges and lights for normal indication:

RO COMPONENT	P1	P2	P3	P4	P5	F1	F2	MEDIA FILTER ON	CARTRIDGE FILTER ON
NORMAL READING	100	65	53	820	350	0	0	ON	ON

9. At HIGH PRESSURE PUMP:
a. Start diesel engine and operate at idle for 3-5 minutes.
b. Check that oil pressure reads above red zone.
c. Increase engine speed until F1 indicates 350 gpm.
10. Open or close valves as follows:
O = OPEN C = CLOSED W = 1/2 OPEN

RO VALVE NO.	RO7	RO11	RO18
VALVE POSITION	C	C	C

11. Check that P1 still reads 100 psi and F2 reads 0.
12. Slowly close valve RO7 and increase HIGH PRESSURE PUMP engine speed until F1, F2 and P5 read:
F1 more than 350 gpm
F2 about 108 gpm
P5 less than 820 psi

NOTE
If F1 reads less than 350 gpm, increase HIGH PRESSURE PUMP engine speed and open valve RO7 until F1 reads a minimum of 350 gpm.

13. Check gauges and meters:

RO COMPONENT	P1	P2	P3	P4	P5	F1	F2
NORMAL READING	100	65	53	820	350	0	0

CAUTION
When pressure difference between GAUGES IS MORE THAN ACTION REQUIRED:
P1 minus P2 35 psi Backwash MEDIA FILTERS
P2 minus P3 12 psi Change CARTRIDGE FILTER elements
P4 minus P5 25 psi Clean membranes
*See appropriate operation placard.

CAUTION
Before doing step 14, make sure Chlorination System is on and Drinking Water System is ready to receive water.

14. After 15 minutes of operation, open valve RO15 and close RO20.
15. Continue to monitor gauges and meters as in step 13.

- SHUTDOWN**
1. Open valve RO20 and close RO15.
 2. Reduce HIGH PRESSURE PUMP engine speed to low idle.
 3. Open valve RO7.
 4. Stop COAGULANT and INHIBITOR PUMPS.
 5. Allow HIGH PRESSURE PUMP engine to run at low idle for 5 minutes, then STOP.
 6. Stop SEAWATER PUMP.

- NOTES:**
1. PLATE (PLACARD) SHALL BE IN ACCORDANCE WITH MIL-P-514, TYPE III, COMPOSITION C (GG-P-455, TYPE I OR II, GRADE A, CLASS 1) .032 THICK.
 2. CHARACTERS AND BORDER SHALL BE WHITE (OR NATURAL) ON BLACK BACKGROUND, SIZE APPROXIMATELY AS SHOWN.

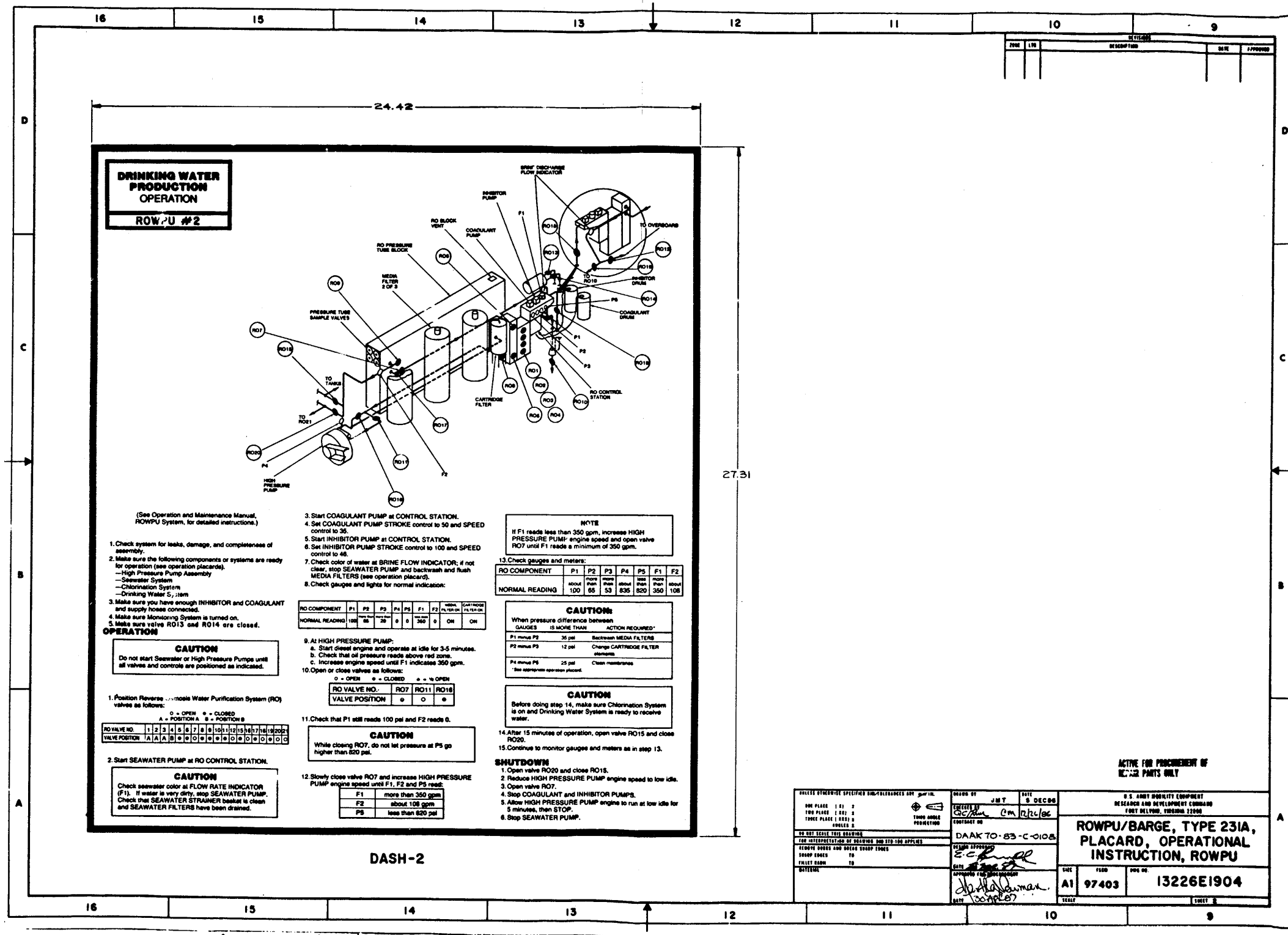
REFERENCE DRAWINGS

NO.	DWG NO.	TITLE
1	97403-13226E1892	ROWPU/LARGE ARRANGEMENT
2	97403-13226E1900	ROWPU INSTALLATION

ACTIVE FOR PROCUREMENT OF REPAIR PARTS ONLY

ONE PLACE (1) : TWO PLACE (2) : THREE PLACE (3) : FOUR PLACE (4) : FIVE PLACE (5) :	DRAWN BY CHECKED BY DATE APPROVED BY DATE	DATE 5 DEC 68 12/2/68 DAAK70-83-C-008 DATE 20 MAR 67 DATE 20 MAR 67	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060 ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, ROWPU SIZE A1 97403 13226E1904 SHEET 1 OF 7
---	---	--	---

Figure FO-20 (Sheet 1 of 7)
FP-167/(FP-168 Blank)



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ONE PLACE (1:1) 2 TWO PLACES (1:2) 2 THREE PLACES (1:32) 2 FRACTIONS 2	DESIGNED BY: JMT DATE: 5 DEC 88 CHECKED BY: [Signature] DATE: [Signature] DRAWN BY: [Signature] DATE: [Signature]	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELLEVILLE, ILLINOIS 62060 ROWPU/BARGE, TYPE 23IA, PLACARD, OPERATIONAL INSTRUCTION, ROWPU DATE: 1500 PWS NO: A1 97403 13226E1904
---	--	--

Figure FO-20 (Sheet 2 of 7)
FP-169/(FP-170 Blank)

24	23	22	21	20	19	18	17
----	----	----	----	----	----	----	----

TIME	LTS	REMARKS	DATE	APPROVED

16.75

ROWPU 1 MEMBRANE CLEANING

(See Operation and Maintenance Manual, ROWPU System, for detailed instructions.)

NOTE

This procedure is used when the difference between P4 and P5 is more than 25 psi.

PRESTART

NOTE

If ROWPU is operating, follow steps below. If unit has been stopped, prepare Seawater System for operation and go directly to OPERATION.

1. Make sure Reverse Osmosis Water Purification (RO) System valve RO21 is open.
2. Close valve RO15 and open valve RO20.
3. Slow HIGH PRESSURE PUMP engine speed to low idle.
4. Open valve RO7.
5. Stop COAGULANT and INHIBITOR PUMPS.
6. Wait 5 minutes, then stop HIGH PRESSURE PUMP engine.
7. Stop SEAWATER PUMP.

OPERATION

1. Connect hoses with valves RO13 and RO14 to full drum of membrane cleaning agent.
2. Open or close Seawater (SW) valves as indicated:

SW VALVE NO.	1	5	7	9	11	13	16	19	20	29
VALVE POSITION	○	●	●	○	○	●	○	●	○	●

3. Position RO valves as indicated:

○ = OPEN ● = CLOSED A = POSITION A
C = POSITION C

RO VALVE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VALVE POSITION	C	C	C	A	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

4. Open RO block vent on top of RO block.
5. Start SEAWATER PUMP.
6. Close RO block vent when steady stream of water appears.
7. Close valve SW9.
8. Open valves RO13 and RO14.
9. After 15 minutes, stop SEAWATER PUMP.
10. Close valves RO13 and RO14.
11. Disconnect used drum of MEMBRANE CLEANING AGENT and connect fresh drum.
12. Open valves RO13 and RO14.
13. Start SEAWATER PUMP.
14. Stop SEAWATER PUMP after operating for period of time shown below according to temperature at T1.

TEMPERATURE AT T1 (°F)	OPERATING TIME
60 or less	2 hours 40 minutes
65	2 hours 20 minutes
70	2 hours
75	1 hour 40 minutes
80	1 hour 30 minutes
85	1 hour 20 minutes
90 or more	1 hour 10 minutes

15. Close valves RO13 and RO14.
16. Open valve SW9.
17. Open valve RO12 and close RO20.
18. Start SEAWATER PUMP.
19. After 30 minutes, check pH of water taken at valve RO17.
 - a. If pH is not OK, check again in 30 minutes.
 - b. When pH is OK, stop SEAWATER PUMP.
20. Prepare RO unit for normal operation.

12.38

DASH -3

ACTIVE FOR PROCUREMENT OF REPAIR PARTS ONLY

TITLE: OPERATIONAL SPECIFICATION FOR ROWPU/BARGE ONE PLACE 1 01 2 TWO PLACE 1 001 3 THREE PLACE 1 001 3 FOUR PLACE 1 001 3 FIVE PLACE 1 001 3 SIX PLACE 1 001 3 SEVEN PLACE 1 001 3 EIGHT PLACE 1 001 3 NINE PLACE 1 001 3 TEN PLACE 1 001 3 ELEVEN PLACE 1 001 3 TWELVE PLACE 1 001 3 THIRTEEN PLACE 1 001 3 FOURTEEN PLACE 1 001 3 FIFTEEN PLACE 1 001 3 SIXTEEN PLACE 1 001 3 SEVENTEEN PLACE 1 001 3 EIGHTEEN PLACE 1 001 3 NINETEEN PLACE 1 001 3 TWENTY PLACE 1 001 3	DRAWN BY: <i>[Signature]</i> CHECKED BY: <i>[Signature]</i> DATE: 8 DEC 88 CONTRACT NO: DAAK70-83-C-0106 DRAWN BY: <i>[Signature]</i> CHECKED BY: <i>[Signature]</i> DATE: 30 Dec 87 APPROVED BY: <i>[Signature]</i> DATE: 30 Dec 87	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, COLORADO 80108 <p style="text-align: center; font-weight: bold;">ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, ROWPU</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">SIZE</td> <td style="width: 20%;">11x17</td> <td style="width: 20%;">FORM NO.</td> <td style="width: 40%;">13226E1904</td> </tr> <tr> <td>SCALE</td> <td>A1</td> <td>QTY</td> <td>97403</td> </tr> </table>	SIZE	11x17	FORM NO.	13226E1904	SCALE	A1	QTY	97403
SIZE	11x17	FORM NO.	13226E1904							
SCALE	A1	QTY	97403							

24	23	22	21	20	19	18	17
----	----	----	----	----	----	----	----

Figure FO-20 (Sheet 3 of 7)
FP-171/(FP-172 Blank)

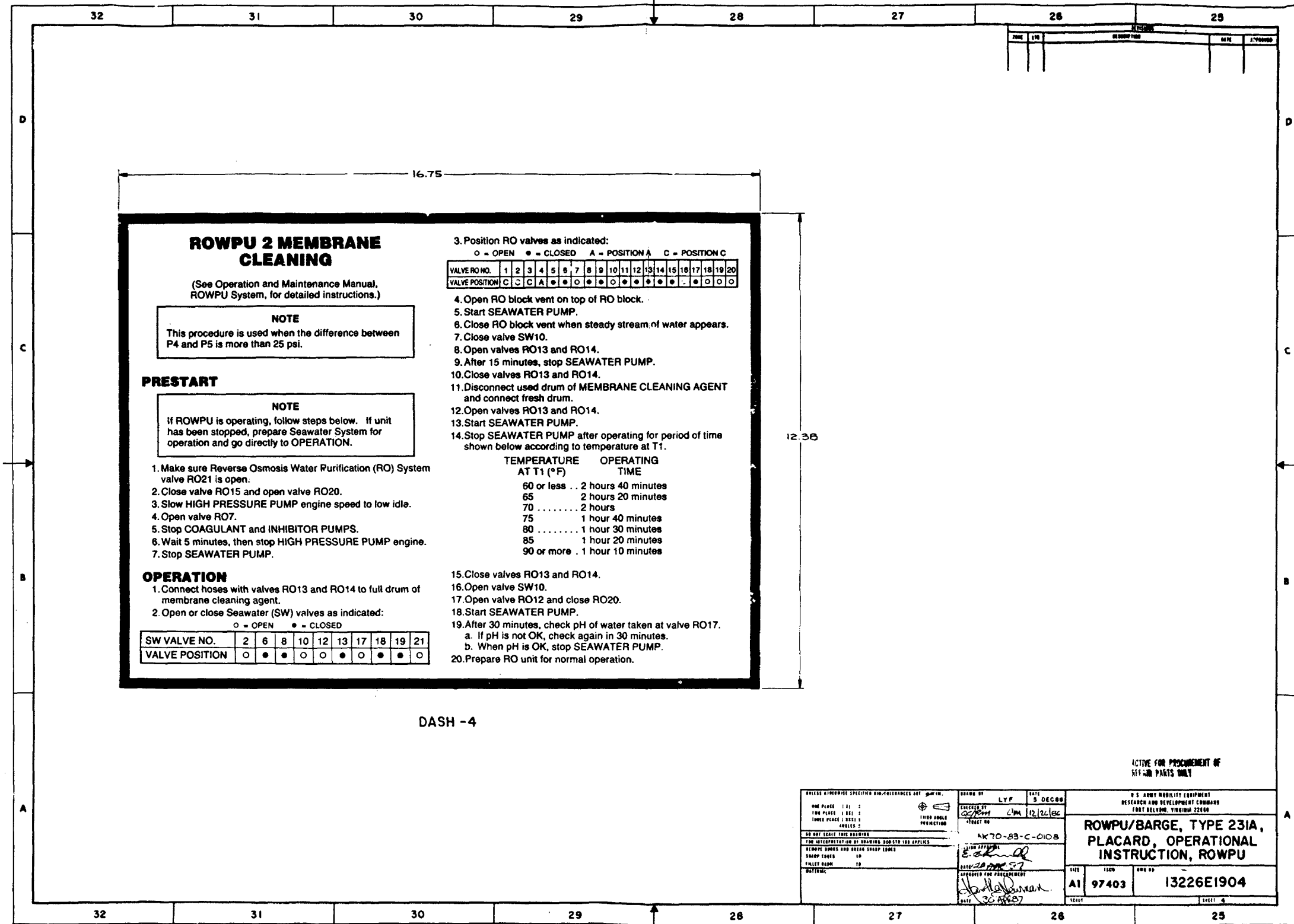


Figure FO-20 (Sheet 4 of 7)
FP-173/(FP-174 Blank)

40	39	38	37	36	35	34	33
----	----	----	----	----	----	----	----

MEDIA FILTER BACKWASH AND FLUSHING

(See Operation and Maintenance Manual, ROWPU System, for detailed instructions.)

NOTE

This procedure is used when:

- (1) The difference between P1 and P2 exceeds 35 psi,
- (2) Water sample from RO6 is dirty, or
- (3) MEDIA FILTER OK light goes out.

NOTE

The backwash procedures use filtered water from two MEDIA FILTERS to backwash the third. Flushing them prepares MEDIA FILTERS for normal operation.

PRESTART

NOTE

If ROWPU is operating, follow the steps below. If unit is stopped, prepare Seawater System for operation, and go directly to BACKWASHING.

1. Make sure Reverse Osmosis Water Purification (RO) System valve RO21 is open.
2. Close valve RO15 and open valve RO20.
3. Reduce HIGH PRESSURE PUMP engine speed to low idle.
4. Open valve RO7.
5. Stop COAGULANT and INHIBITOR PUMPS.
6. Wait 5 minutes, then stop HIGH PRESSURE PUMP engine.
7. Stop SEAWATER PUMP.

BACKWASHING MEDIA FILTER 1

1. Position RO valves as indicated:

○ = OPEN ◐ = 1/2 OPEN ● = CLOSED A = POSITION A
B = POSITION B C = POSITION C

RO VALVE NO.	1	2	3	4	5	6	7	12	18	19
VALVE POSITION	B	A	A	C	●	●	●	○	○	●

2. Start SEAWATER PUMP.
3. Open or close valve RO6 to obtain SLOW BACKWASH FLOW RATE reading at F1 shown below according to water temperature at T1.

TEMPERATURE at T1 (°F)	SLOW BACKWASH F1 FLOW RATE (GPM)	FAST BACKWASH F1 FLOW RATE (GPM)
55	115	180
60	125	200
65	135	220
70	144	240
75	153	255
80	162	270
85	170	285
90	177	300
95	184	315
100	191	325
105	198	334
110	204	342
115	210	350
120	218	355
125	222	360

4. Check cleanliness of backwash water at BRINE FLOW INDICATOR.
5. After 5 minutes or when water is clean, open valve RO6 to obtain FAST BACKWASH flow rate reading at F1 according to water temperature at T1 as shown in 3. above.
6. After 2 minutes of FAST BACKWASH, close valve RO6 until SLOW BACKWASH flow rate is indicated at F1.
7. After 2 minutes, stop SEAWATER PUMP.

BACKWASHING MEDIA FILTER 2

1. Position RO valves as indicated:

○ = OPEN ◐ = 1/2 OPEN ● = CLOSED A = POSITION A
B = POSITION B C = POSITION C

RO VALVE NO.	1	2	3	4	5	6	7	12	18	19
VALVE POSITION	A	B	A	C	●	●	●	○	○	●

2. Repeat steps 2. thru 7. as in BACKWASHING MEDIA FILTER 1.

BACKWASHING MEDIA FILTER 3

1. Position RO valves as indicated:

○ = OPEN ◐ = 1/2 OPEN ● = CLOSED A = POSITION A
B = POSITION B C = POSITION C

RO VALVE NO.	1	2	3	4	5	6	7	12	18	19
VALVE POSITION	A	A	B	C	●	●	●	○	○	●

2. Repeat steps 2. thru 7. as in BACKWASHING MEDIA FILTER 1.

FLUSHING ALL MEDIA FILTERS

1. Position RO valves as indicated:

○ = OPEN ● = CLOSED A = POSITION A C = POSITION C

RO VALVE NO.	1	2	3	4	5	6	7	12	18	19
VALVE POSITION	A	A	A	C	○	○	●	○	○	●

2. Start SEAWATER PUMP.
3. After 10 minutes of operation, stop SEAWATER PUMP.

ACTIVE FOR PROCUREMENT OF REPAIR PARTS ONLY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSIONS IN PARENTHESIS ARE IN MILLIMETERS DIMENSIONS IN SQUARES ARE IN MILLIMETERS DIMENSIONS IN CIRCLES ARE IN MILLIMETERS DIMENSIONS IN DIAMETERS ARE IN MILLIMETERS DIMENSIONS IN SQUARES ARE IN MILLIMETERS DIMENSIONS IN CIRCLES ARE IN MILLIMETERS DIMENSIONS IN DIAMETERS ARE IN MILLIMETERS	DRAWN BY: LYP CHECKED BY: GE/AM CM DATE: 12/14/86 CONTRACT NO: DAAK70-83-C-0108 DESIGN APPROVAL: E.C. [Signature] DATE: 3/28/87 APPROVED FOR PROCUREMENT: [Signature] DATE: 3/28/87	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060 ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, ROWPU SIZE: A1 QUANTITY: 97403 DOW NO: 13226E1904 SCALE: [Blank] SHEET: 8
---	--	--

DASH -5

40	39	38	37	36	35	34	33
----	----	----	----	----	----	----	----

Figure FO-20 (Sheet 5 of 7)
FP-175/(FP-176 Blank)

DASH - 6

CARTRIDGE FILTER REPLACEMENT

(See Operation and Maintenance Manual, ROWPU System, for detailed instructions.)

NOTE
Do this when difference between MEDIA FILTERS OUTPUT PRESSURE (P2) and CARTRIDGE FILTER OUTPUT PRESSURE (P3) exceeds 12 psi.

PRESTART

NOTE
If ROWPU is operating, follow steps below. If unit has been stopped, go directly to REMOVING FILTER ELEMENT ASSEMBLY.

1. Make sure Reverse Osmosis Water Purification (RO) System valve RO21 is open.
2. Close valve RO15 and open valve RO20.
3. Slow HIGH PRESSURE PUMP engine speed to low idle.
4. Open valve ROT.
5. Stop COAGULANT and INHIBITOR PUMPS.
6. Wait 5 minutes, then stop HIGH PRESSURE PUMP engine (see operation placard).
7. Stop SEAWATER PUMP.

REMOVING FILTER ELEMENT ASSEMBLY

1. Drain CARTRIDGE FILTER at RO8.
2. Disconnect camlock coupling (3) on output hose.
3. Remove four hex nuts (4) at top end (1).
4. Lift top end (1) from filter body (2).
5. Using hoist, slowly lift filter assembly (2) from filter body (2).

CAUTION
Be sure to lift assembly vertically and slowly to prevent damage. Use two persons to rotate slightly to overcome resistance while a steady lift is applied by hoist.

6. Turn filter assembly upside down.

REPLACING CARTRIDGE FILTER ELEMENTS

NOTE
All work is done while CARTRIDGE FILTER element assembly is upside down.

CAUTION
Do not mix upper and lower seals; leakage may result. Lower seals are thicker and softer.

1. Remove three nuts (3), washers (2), and springs (3) from lower spider (6).
2. Lift off lower spider (6).
3. Remove and discard all filter elements (5).

NOTE
If elements contain large amounts of sand and they have to be replaced often, check MEDIA FILTERS for internal damage.

4. Remove upper seals (7) and lower seals (8) for reuse if undamaged.
5. Clean all internal parts and inside of filter body with water and stiff brush (do not use wire brush). Flush with clean water.
6. Check all seals for damage and replace if nicked; then place new or reused upper seals (7) in sockets on upper spider (7).
7. Place lower seals (8) on guide pins on lower spider (6).
8. Position new elements in three center sockets on upper spider (7); make sure upper seals are in place.
9. Place lower spider (6) on assembly so that:
 - a. tie rods (9) align with holes in spider, and
 - b. center guide pins hold elements. Make sure center lower seals are in place.

NOTE
Press lower spider (6) into position to the point where center guide pins just hold elements.

10. Place new elements (5) in sockets in upper spider (7).
11. Make sure upper and lower seals seat on each element.
12. Slowly press lower spider (6) down, moving elements as needed to align with the guide pins.
13. Install washers (2), springs (3), and hex nuts (4) on tie rod (9) end.
14. Hand tighten each hex nut until it contacts spring.
15. Tighten hex nuts evenly (about seven turns each) to compress but not completely flatten springs.

REPLACING FILTER ELEMENT ASSEMBLY

CAUTION
Make sure O-rings (3) are correctly positioned and not damaged. Lubricate O-rings slightly with silicone lubricant before inserting assembly into filter body.

1. Turn assembly right side up and hoist to filter body.
2. Carefully lower assembly into filter body, rotating assembly slightly as required to aid lifting into filter body.
3. Place top end assembly (1) on filter body so that tie rod holes align with tie rods (9) and camlock connections are aligned.
4. Tighten hex nuts evenly to 10 foot-pounds.
5. Connect camlock coupling (3).
6. Close valve RO8.

DATE		DESCRIPTION		DATE	APPROVED

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

ROW PLACED 1 41 1
TYP PLACED 1 41 1
TYP PLACED 1 41 1
TYP PLACED 1 41 1

FOR REFERENCE TO THE USER
FOR INTERPRETATION OF DRAWING 300 SITE FOR APPLICABLE
REQUIRE DRAWING AND OTHER GROUP CHANGES
DRAWING NO. 10
FILED DRAW. 10

DATE 30 DEC 88
DRAWN BY J. H. ...
CHECKED BY ...

FORM NO. 1 LYP 3 DEC 88

CHECKED BY ... CM 12/22/88
CONTRACT NO. DAAG 70-83-C-0108

DATE 30 DEC 88
DRAWN BY J. H. ...
CHECKED BY ...

ACTIVE FOR PROCUREMENT OF REPAIR PARTS ONLY

U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELLEVILLE, ILLINOIS 62206

ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, ROWPU

SHEET 1 OF 1
FIG. NO. 97403
GPO NO. 13226E1904

Figure FO-20 (Sheet 6 of 7)
FP-177/(FP-178 Blank)

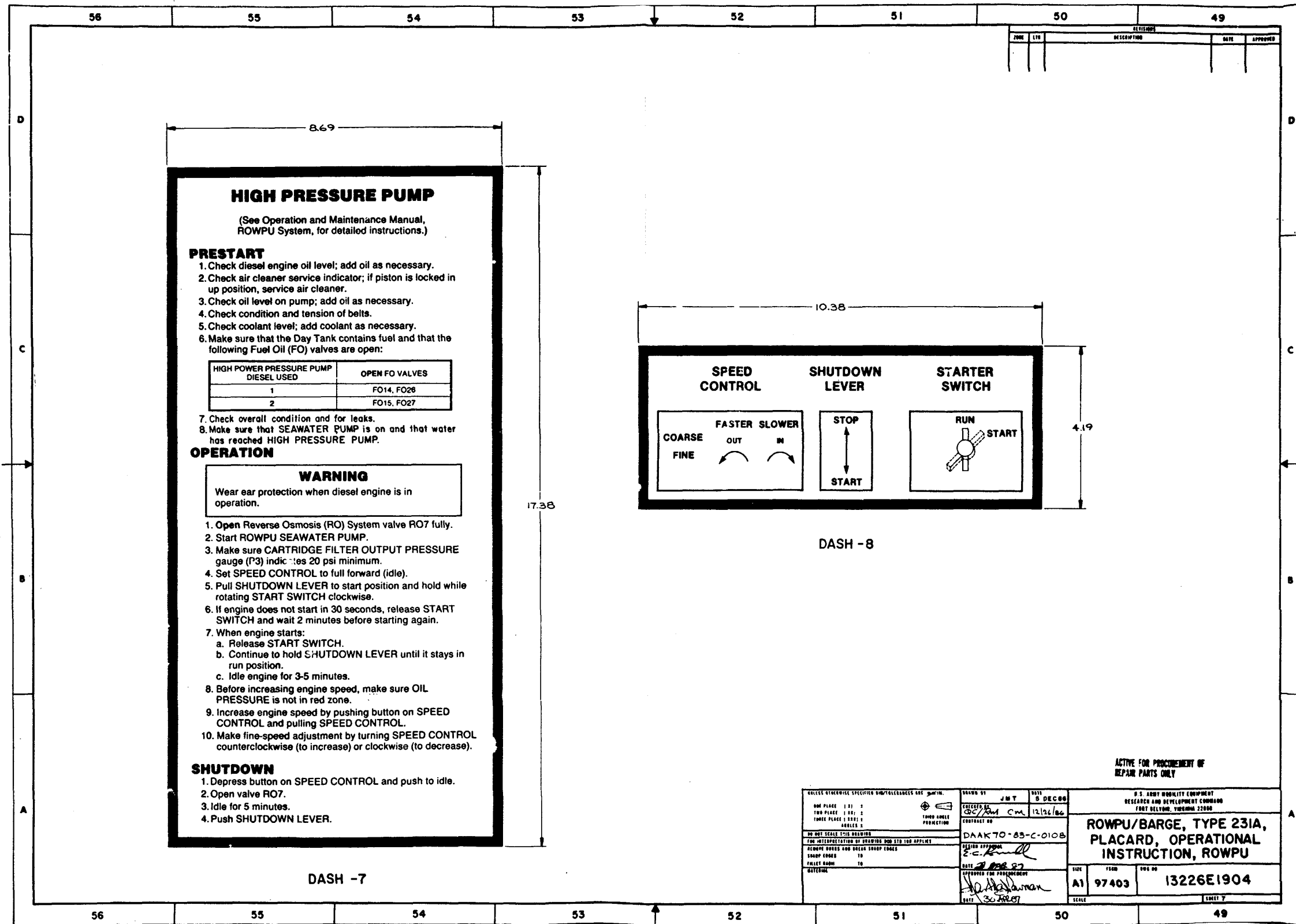


Figure FO-20 (Sheet 7 of 7)
FP-179/(FP-180 Blank)

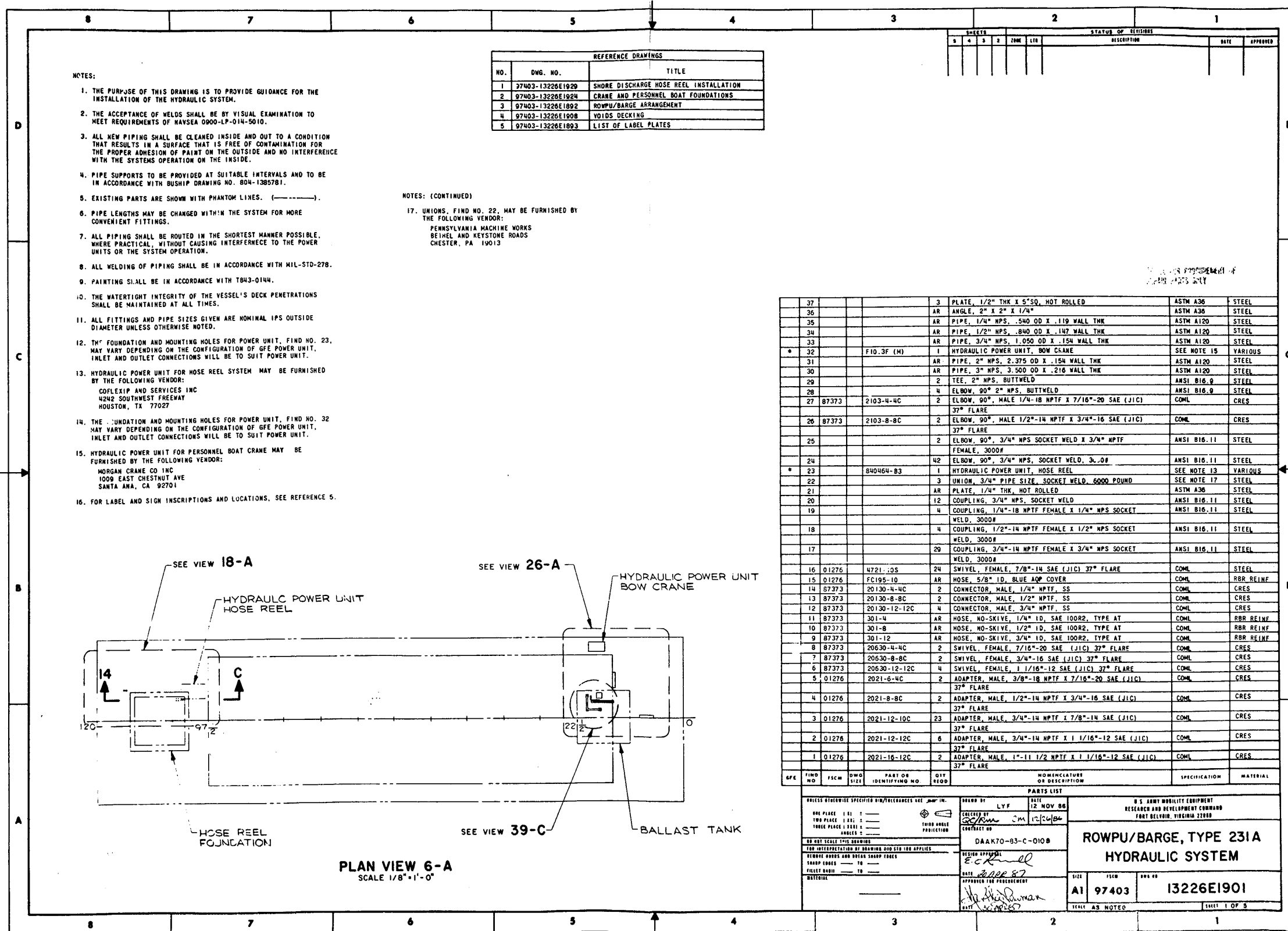


Figure FO-21 (Sheet 1 of 5)
FP-181/(FP-182 Blank)

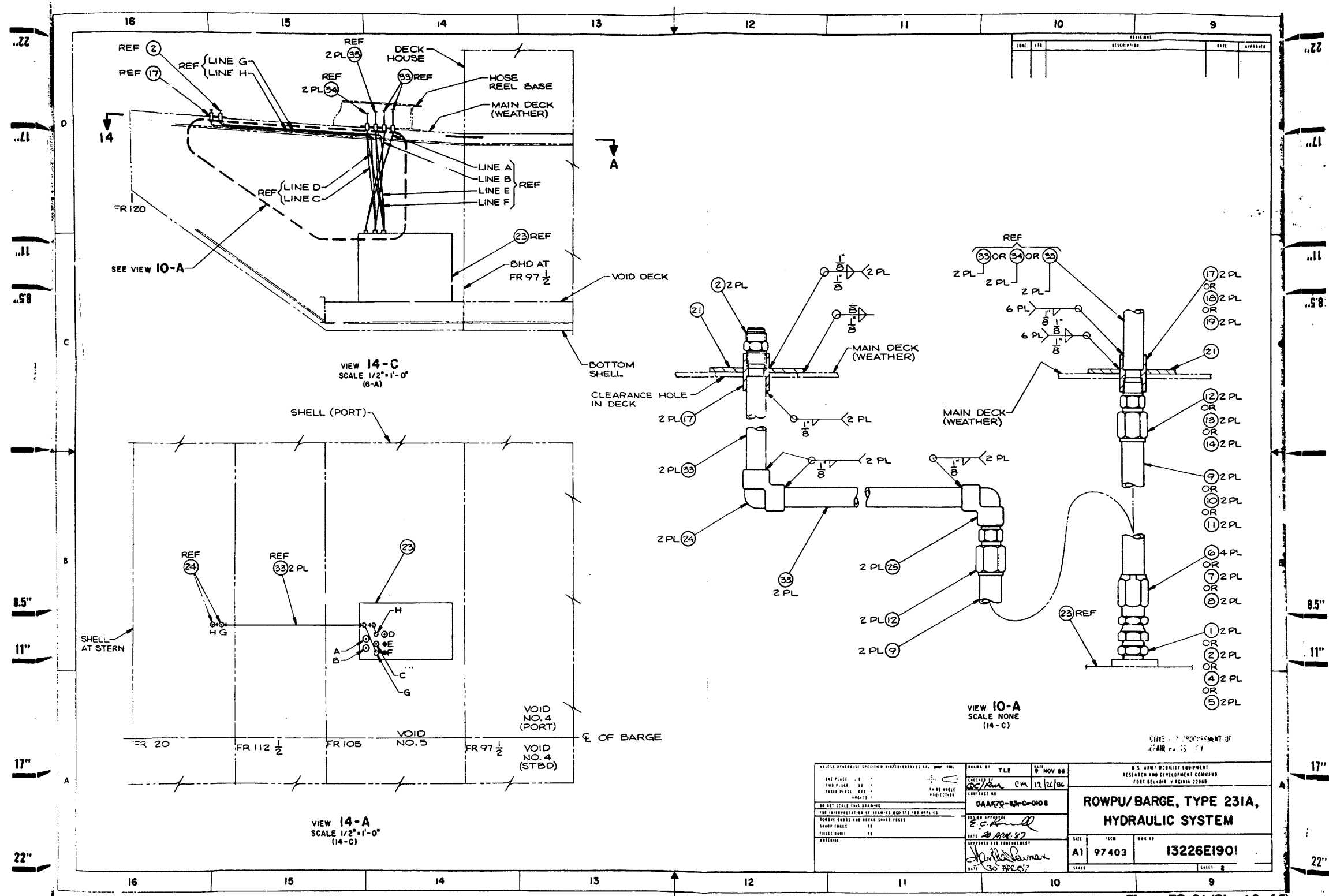


Figure FO-21 (Sheet 2 of 5)
FP-183/(FP-184 Blank)

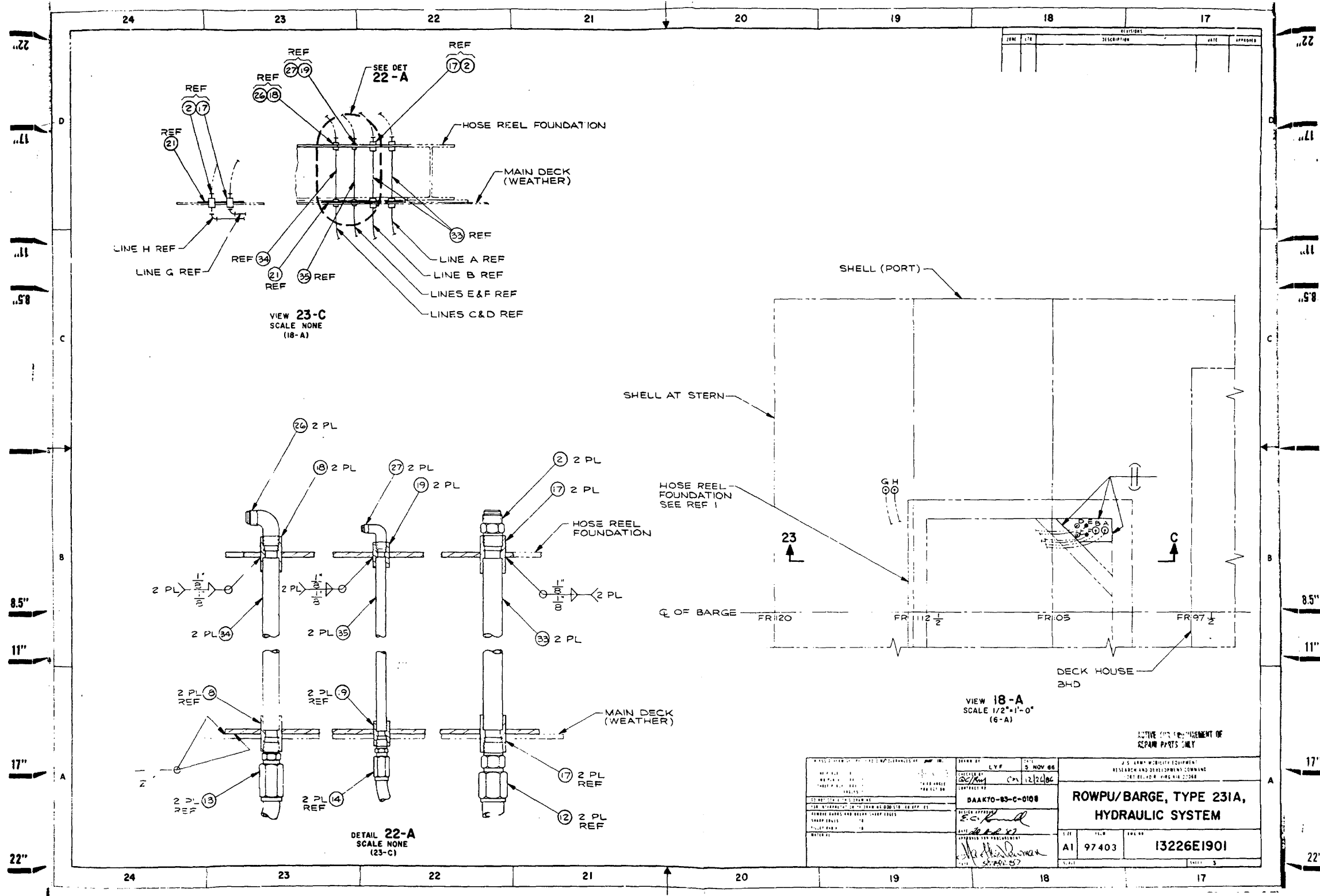


Figure FO-21 (Sheet 3 of 5)
FP-185/(FP-186 Blank)

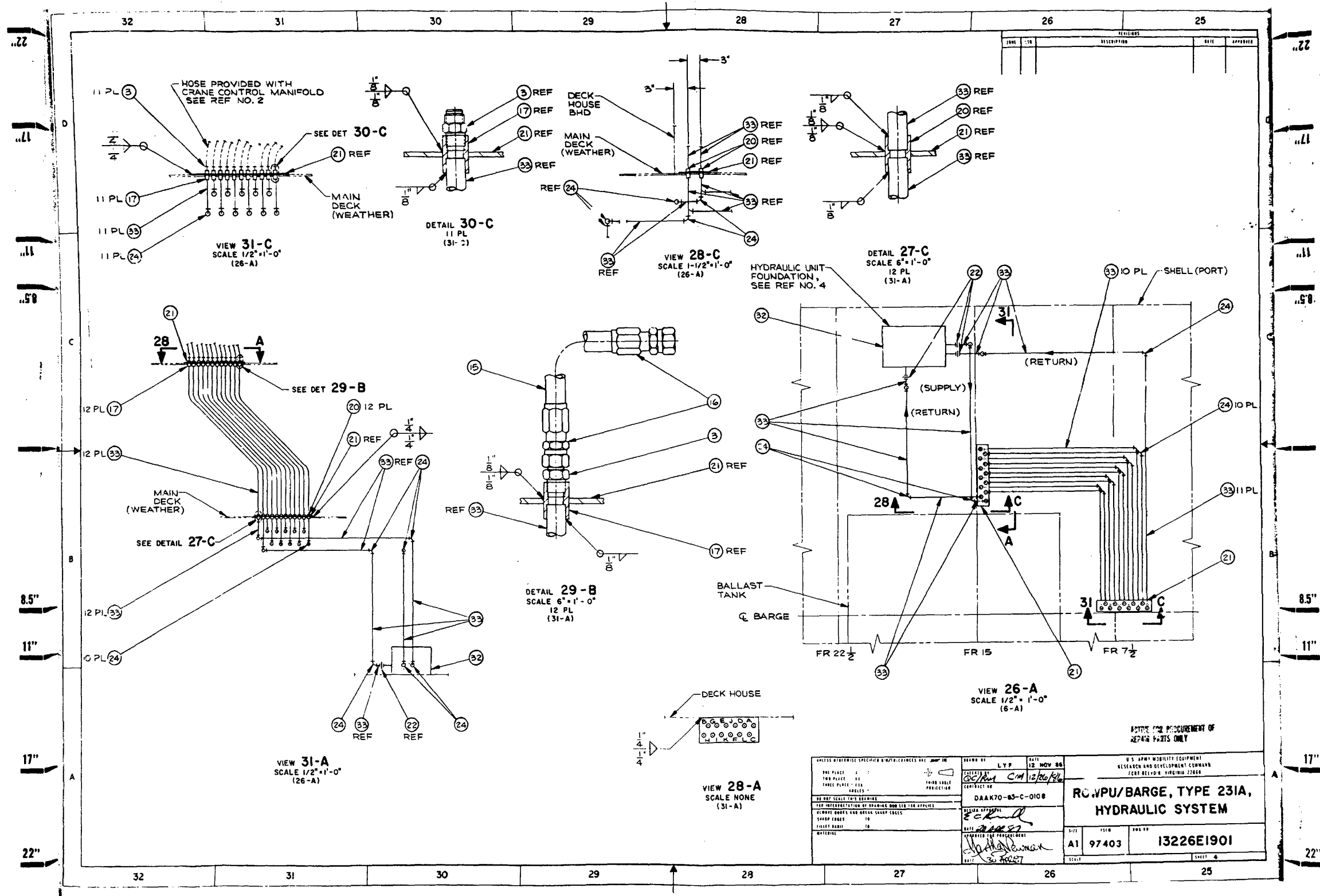


Figure FO-21 (Sheet 4 of 5)
FP-187/(FP-188 Blank)

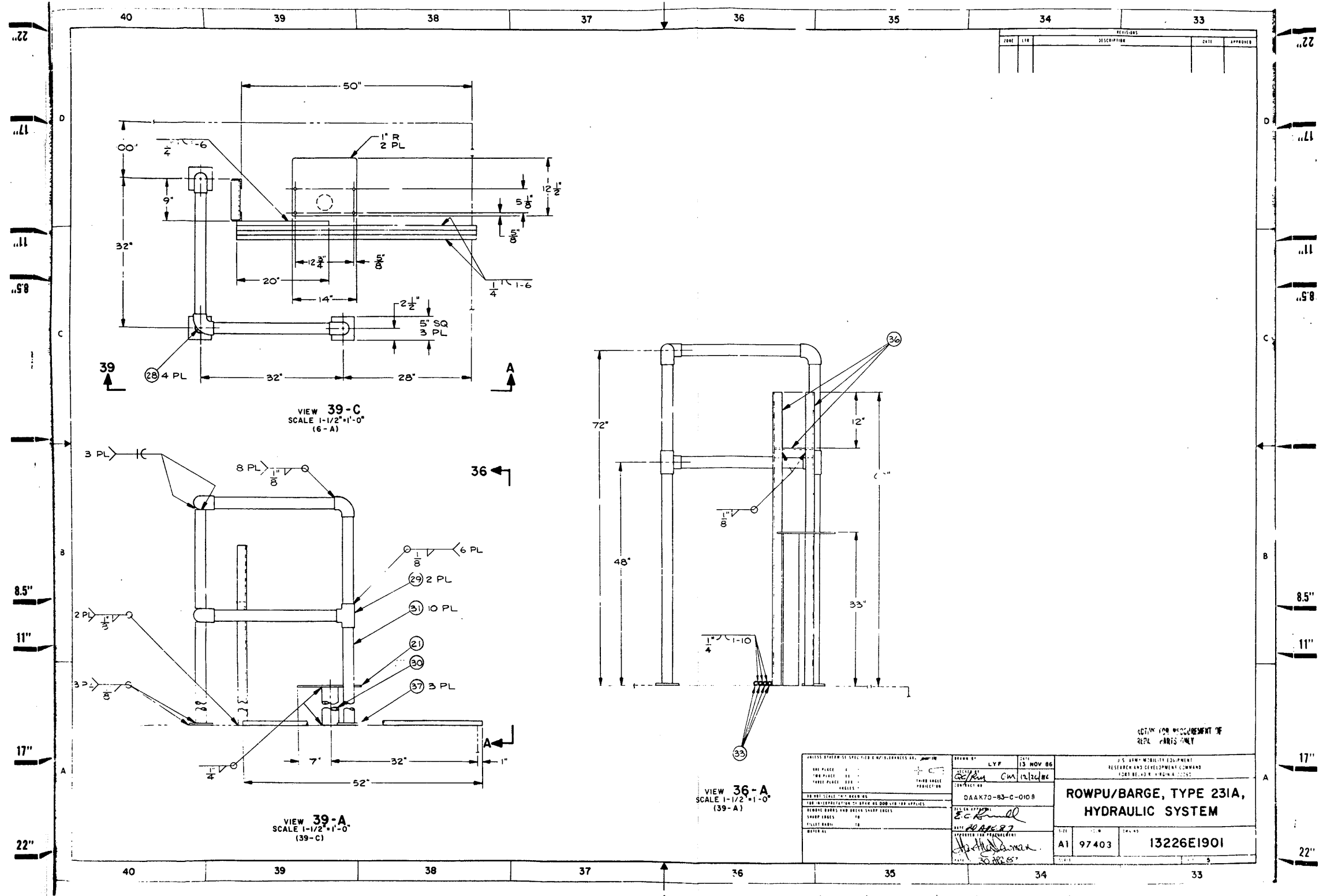


Figure FO-21 (Sheet 5 of 5)
FP-189/(FP-190 Blank)

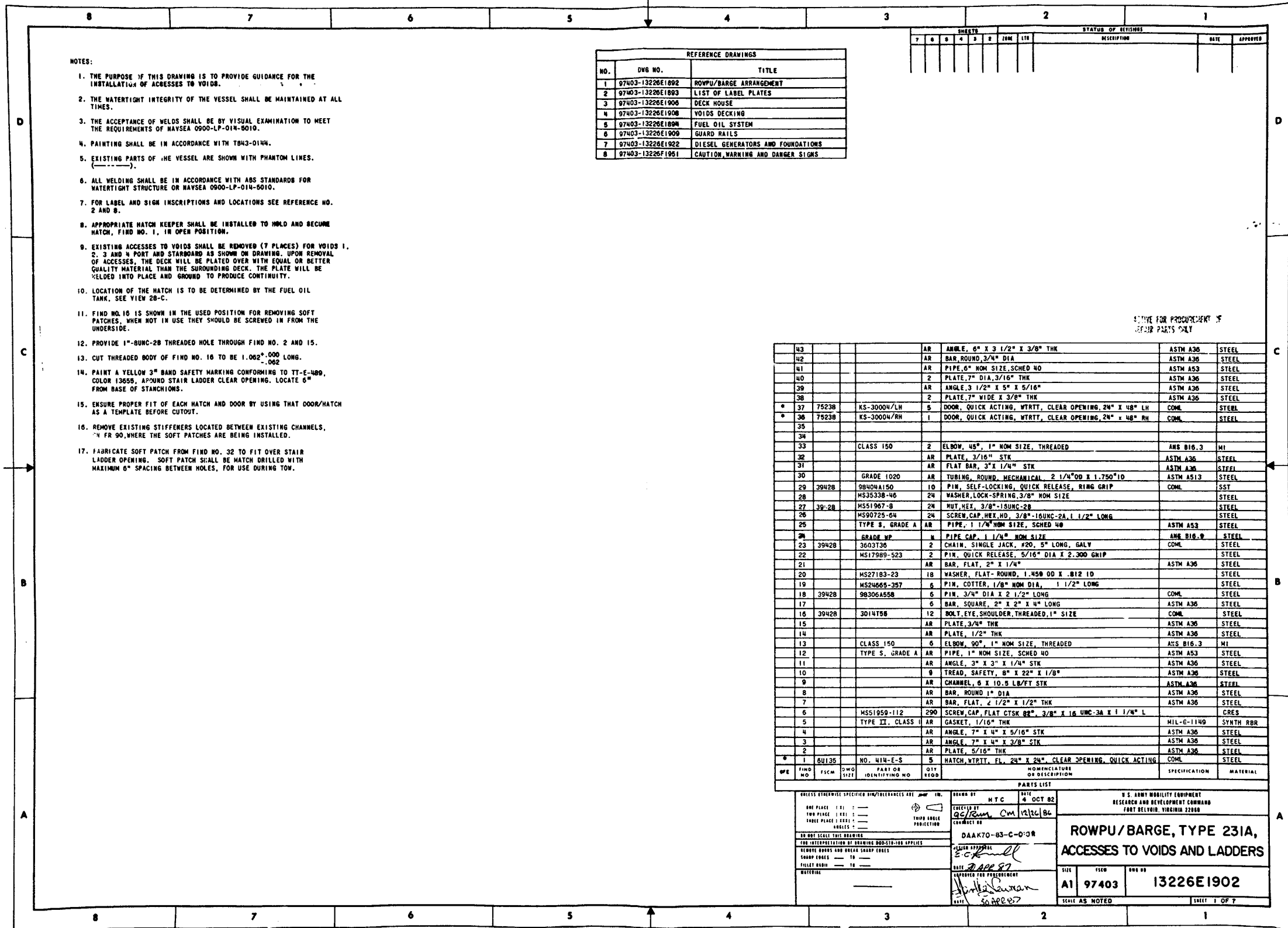


Figure FO-22 (Sheet 1 of 7)
FP-191/(FP-192 Blank)

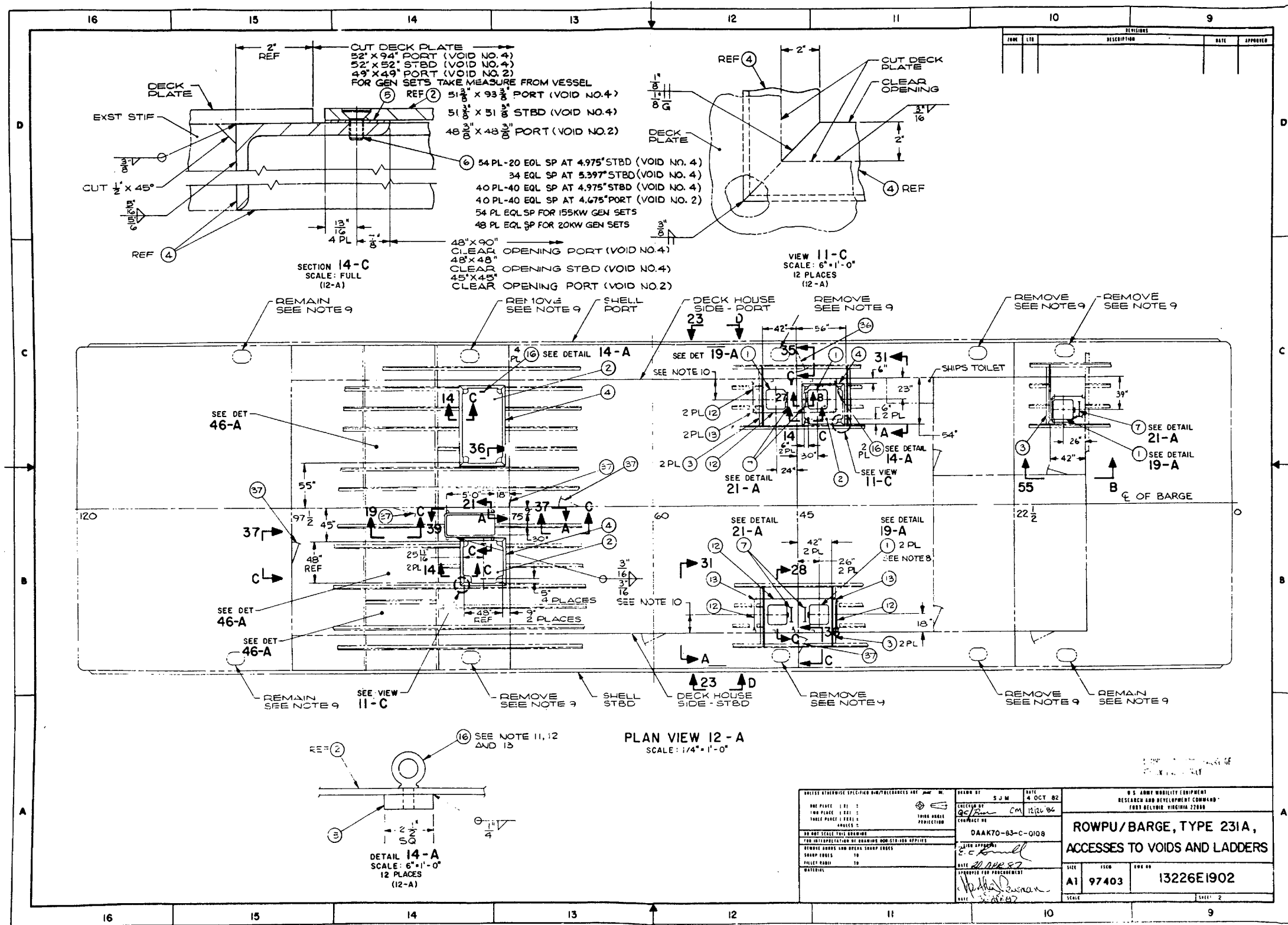


Figure FO-22 (Sheet 2 of 7)
FP-193/(FP-194 Blank)

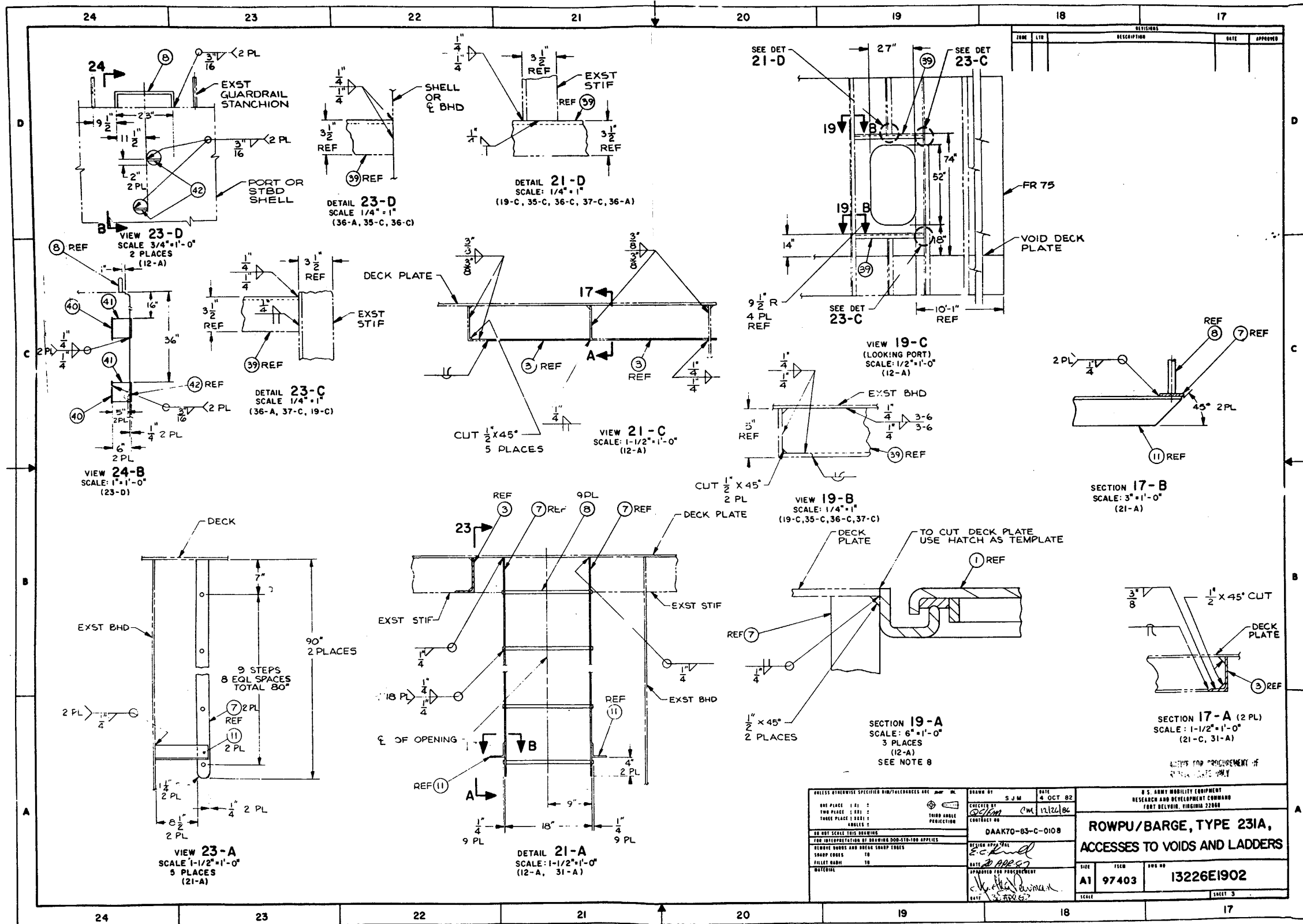


Figure FO-22 (Sheet 3 of 7)
FP-195/(FP-196 Blank)

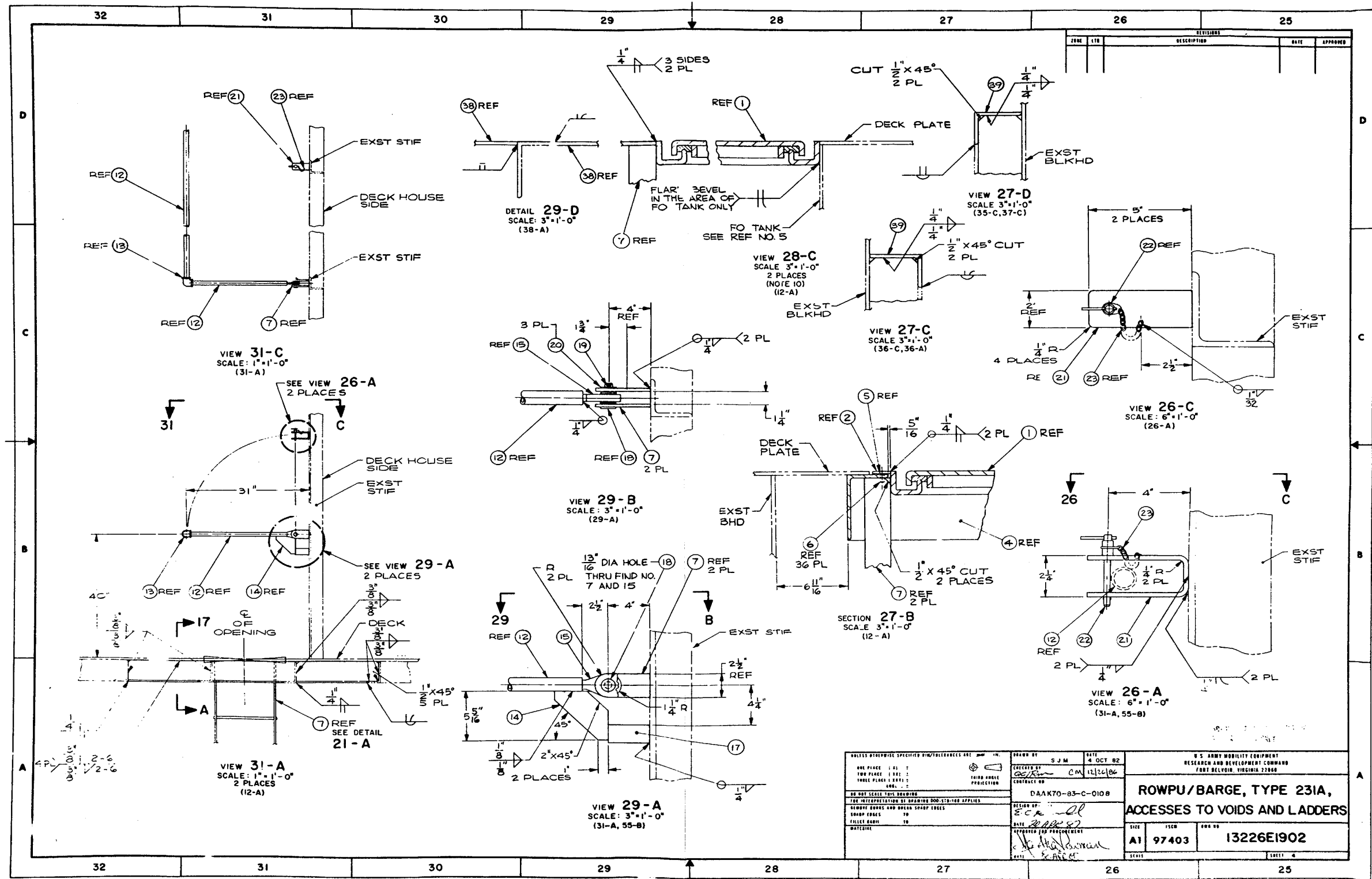


Figure FO-22 (Sheet 4 of 7)
FP-197/(FP-198 Blank)

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY SJM	DATE 4 OCT 82	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
ONE PLACE (1:1) TWO PLACES (1:2) THREE PLACES (1:3) FOUR PLACES (1:4) FIVE PLACES (1:5) SIX PLACES (1:6) SEVEN PLACES (1:7) EIGHT PLACES (1:8) NINE PLACES (1:9) TEN PLACES (1:10)	CHECKED BY CM	CONTRACT NO. DAAK70-83-C-0108	ROWPU/BARGE, TYPE 231A, ACCESS TO VOIDS AND LADDERS
DO NOT SCALE THIS DRAWING	DESIGN BY E.C.R.	DATE 20 OCT 82	SIZE A1
FOR INTERPRETATION OF DRAWING 300-103-100 APPLIES	APPROVED AND FORWARDED [Signature]	DATE [Signature]	FIG NO 13226E1902
SHARP EDGES TO FILLET RADIUS TO DATE			SHEET 4

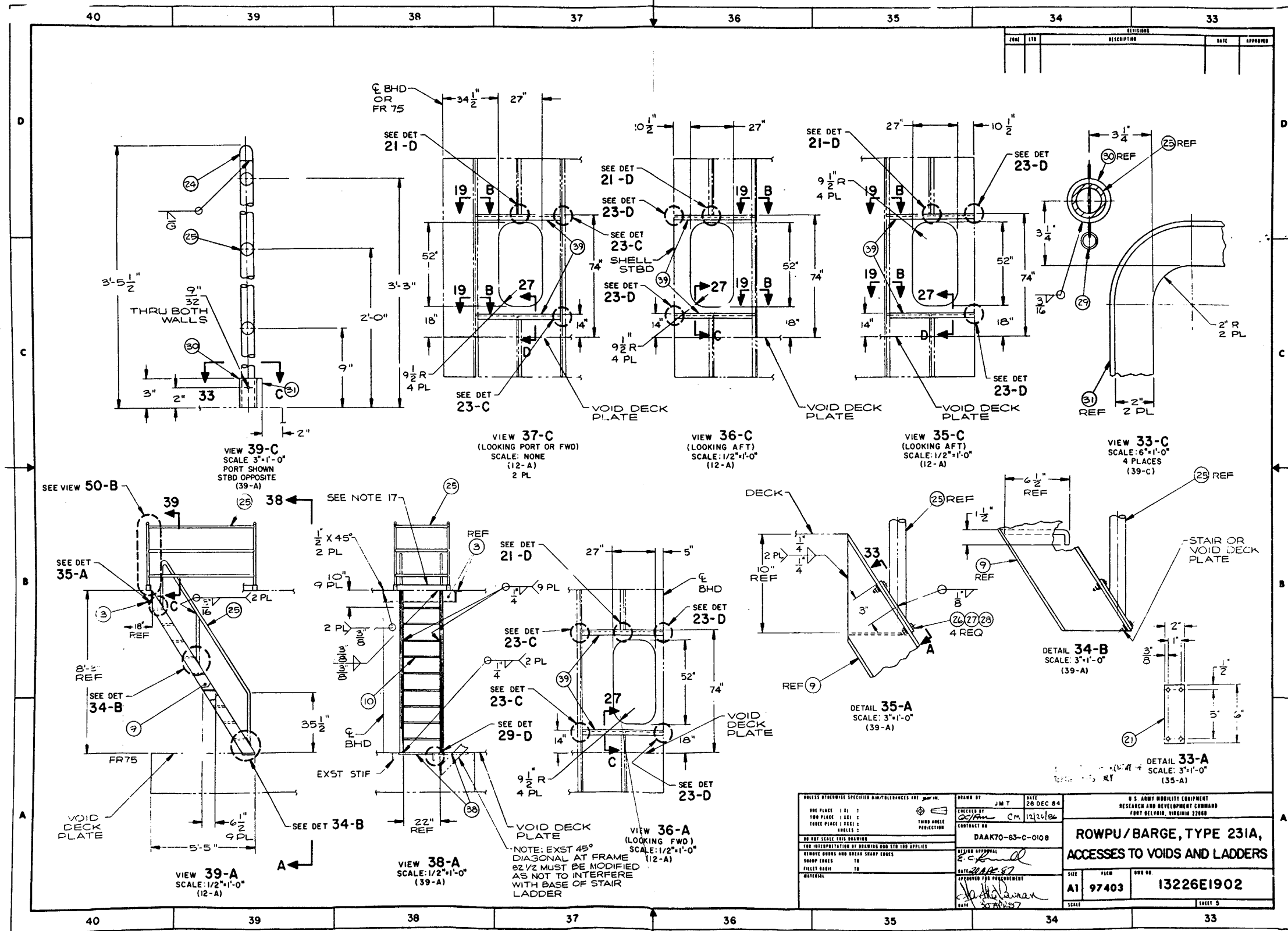


Figure FO-22 (Sheet 5 of 7)
FP-199/(FP-200 Blank)

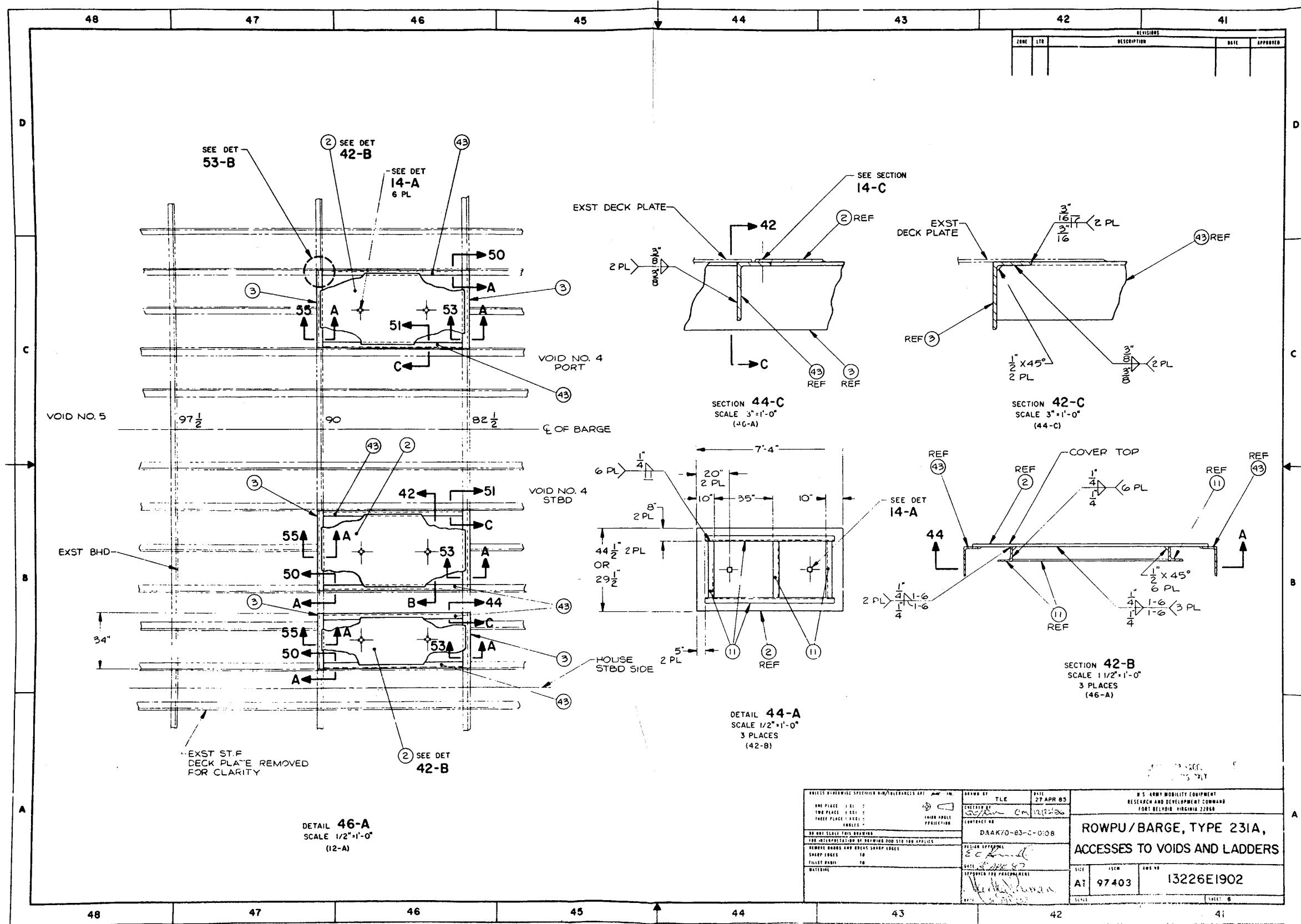
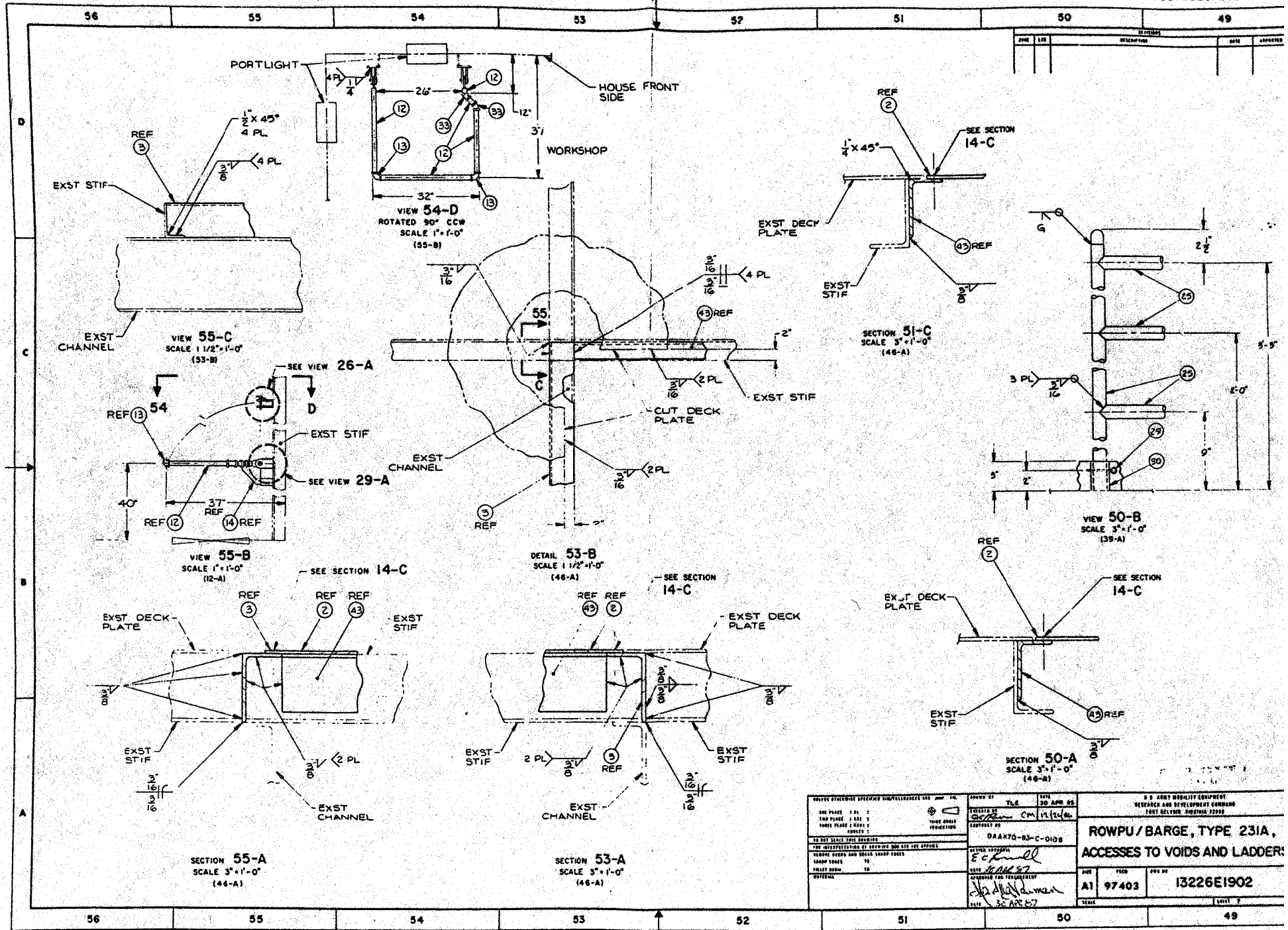


Figure FO-22 (Sheet 6 of 7)
FP-201/(FP-202 Blank)

CHECKS BY: TLE DATE: 27 APR 85 DRAWN BY: TLE CHECKED BY: [Signature] CONTRACT NO: DAAK70-83-C-0108 PROJECT APPROVAL: [Signature] DATE: [Signature] APPROVED FOR PERFORMANCE: [Signature]	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060 ROWPU / BARGE, TYPE 231A, ACCESSSES TO VOIDS AND LADDERS SIZE: A1 ISSUE: 97403 PART NO: 13226E1902 SHEET: 6
---	---



DESIGN SPECIFICATIONS SPECIFIED AND PERFORMANCE USE ONLY ONE PLACE 1 OF 2 TWO PLACE 1 OF 2 THREE PLACE 1 OF 2 CONTRACT NO.		DRAWN BY CHECKED BY DATE APPROVED FOR FABRICATION TITLE	FILE DATE 30 APR 65	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELLEVILLE, ILLINOIS 62205 ROWPU/BARGE, TYPE 231A, ACCESS TO VOIDS AND LADDER
CONTRACT NO. DAAN70-83-C-0108 FOR IDENTIFICATION OF SECTIONS AND SIZE SEE SPREADS WEIGHT, DIMENSIONS AND SERIAL NUMBER FIGURES DRAWN TO SCALE TO MATERIAL		E. C. Knull 16 APR 67 J. H. [Signature] 20 APR 67	SHEET NO. A1 97403	PART NO. 13226E1902

Figure FO-22 (Sheet 7
FP-203/(FP-204 Blank

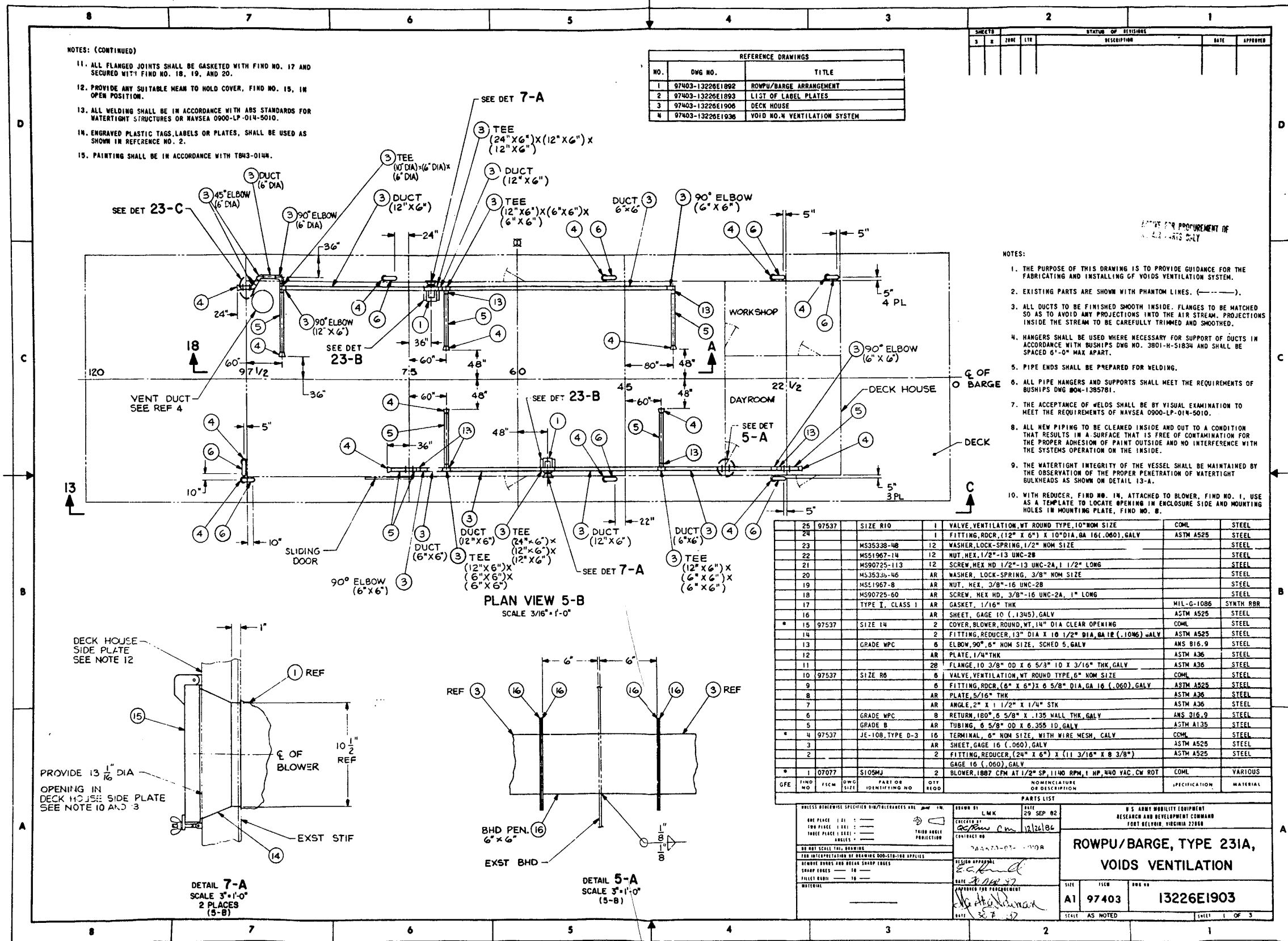


Figure FO-23 (Sheet 1 of 3)
FP-205/(FP-206 Blank)

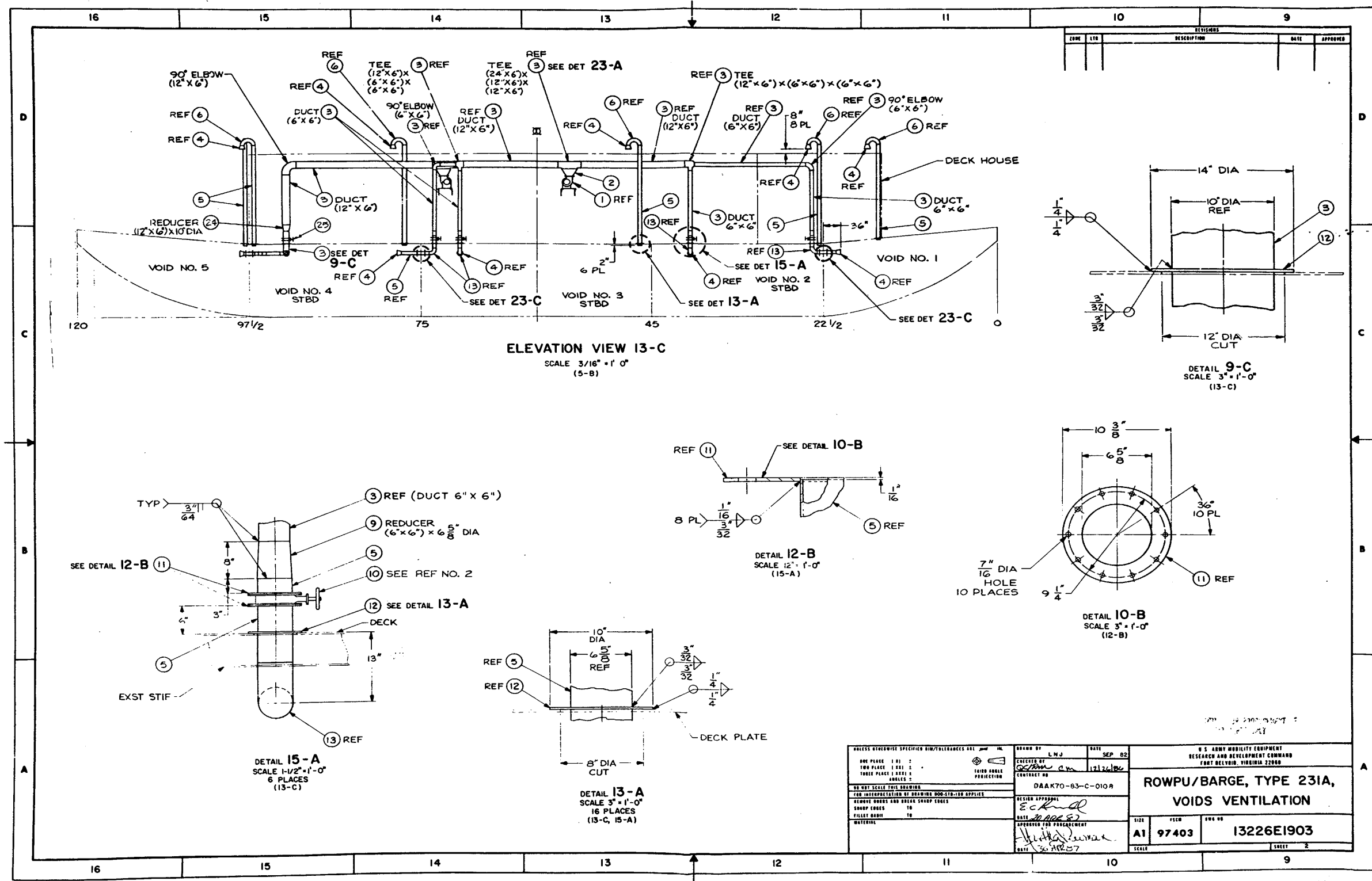


Figure FO-23 (Sheet 2 of 3)
FP-207/(FP-208 Blank)

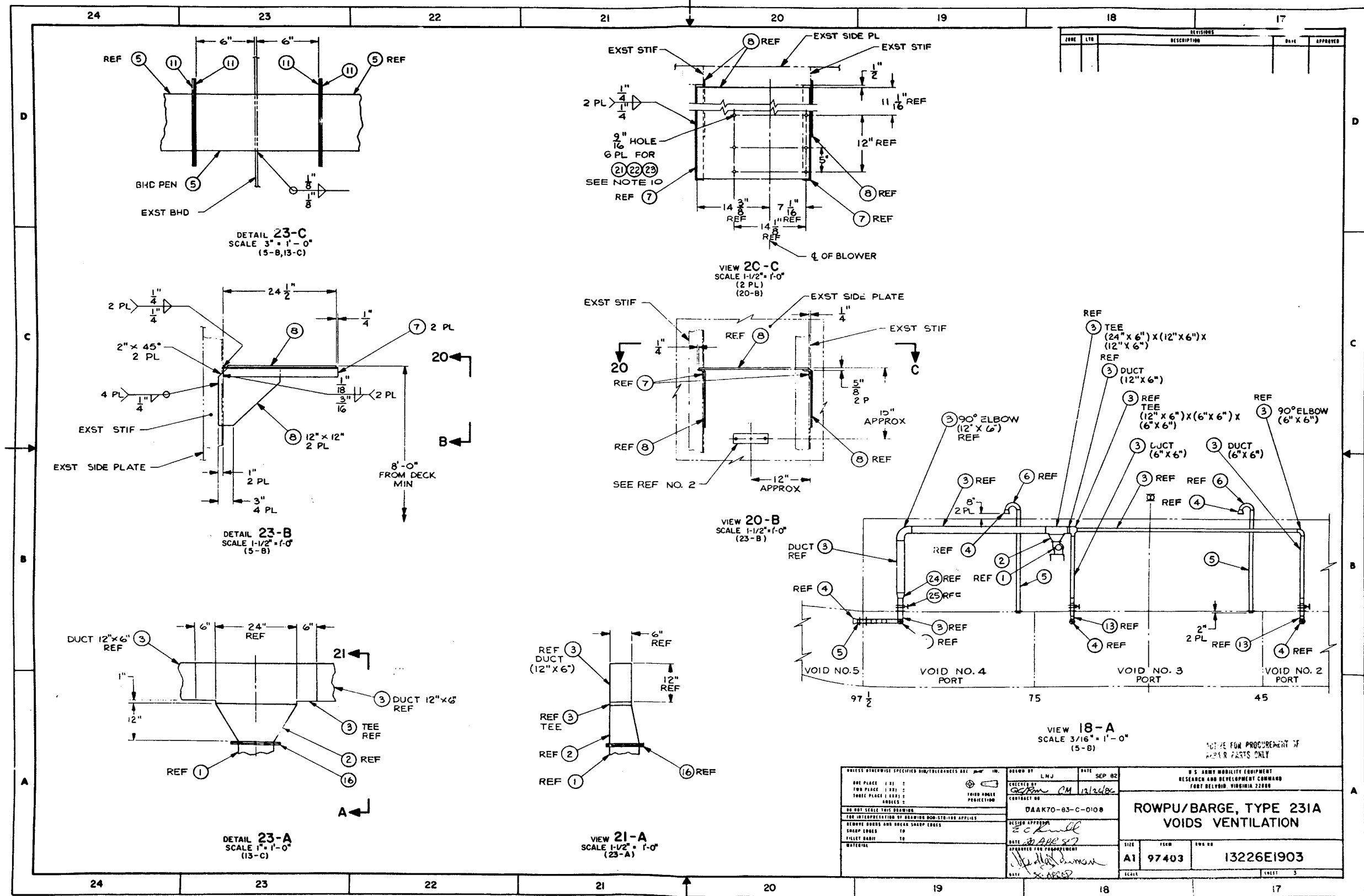


Figure FO-23 (Sheet 3 of 3)
FP-209/(FP-210 Blank)

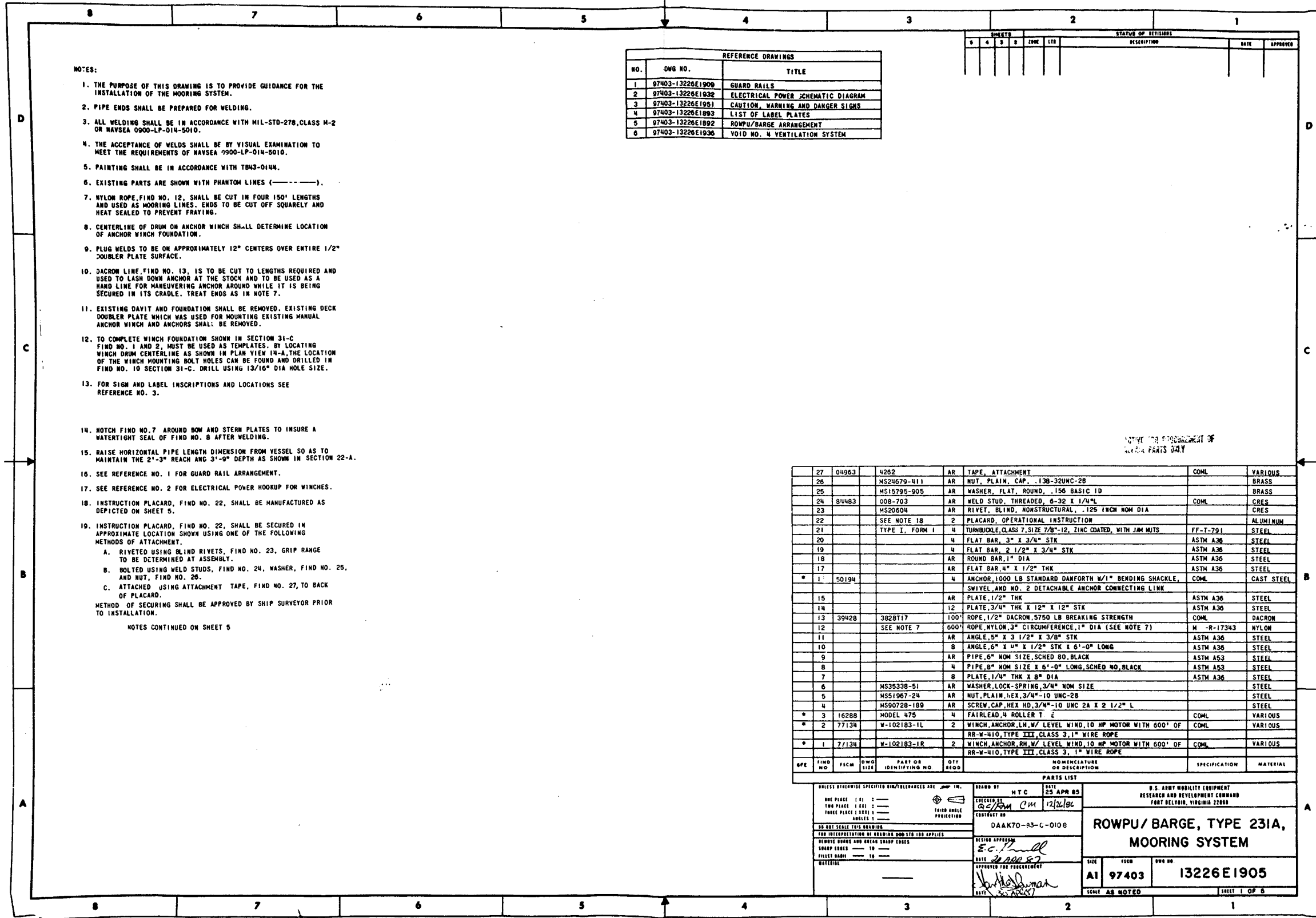


Figure FO-24 (Sheet 1 of 5)
 FP-211/(FP-212 Blank)

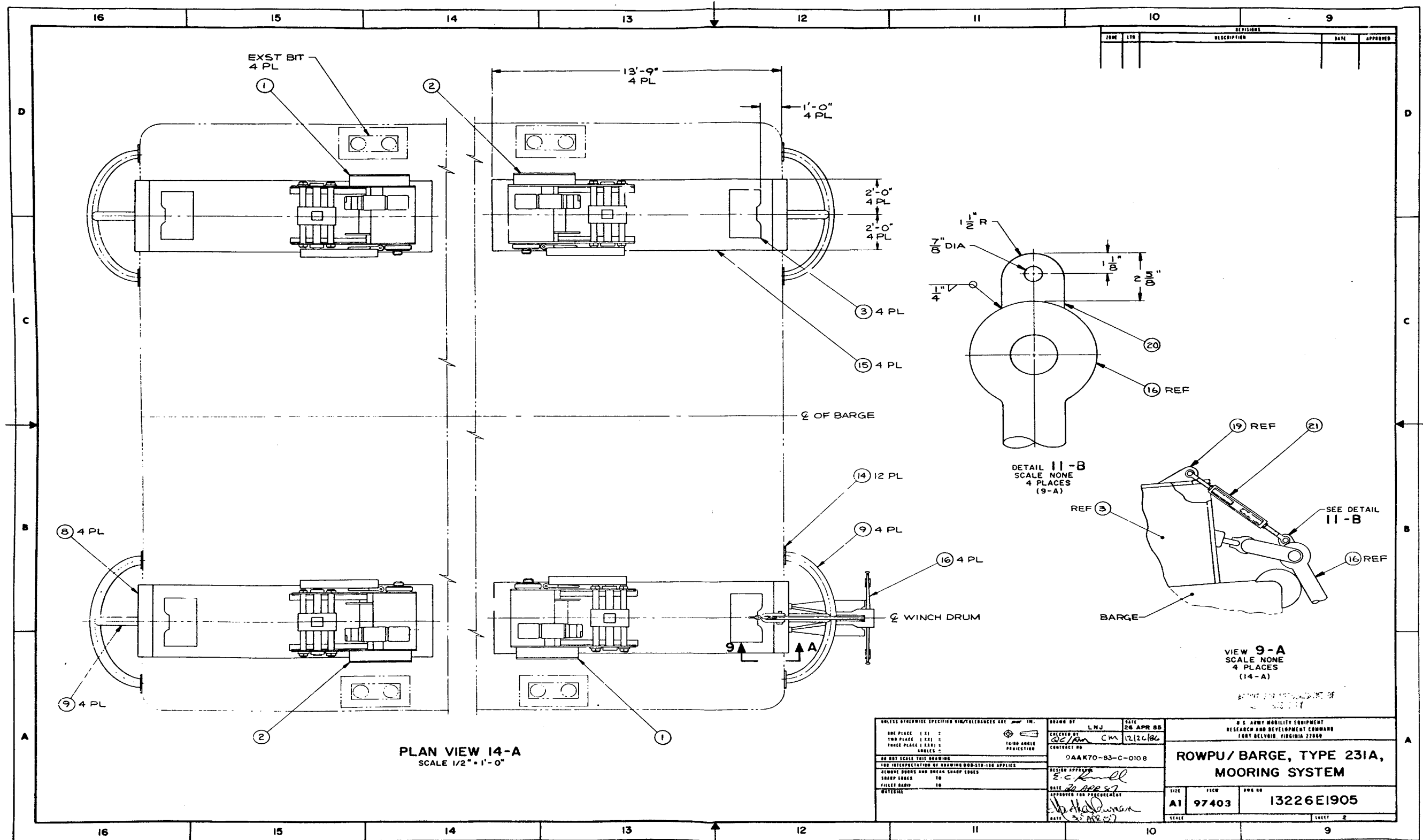


Figure FO-24 (Sheet 2 of 5)
FP-213/(FP-114 Blank)

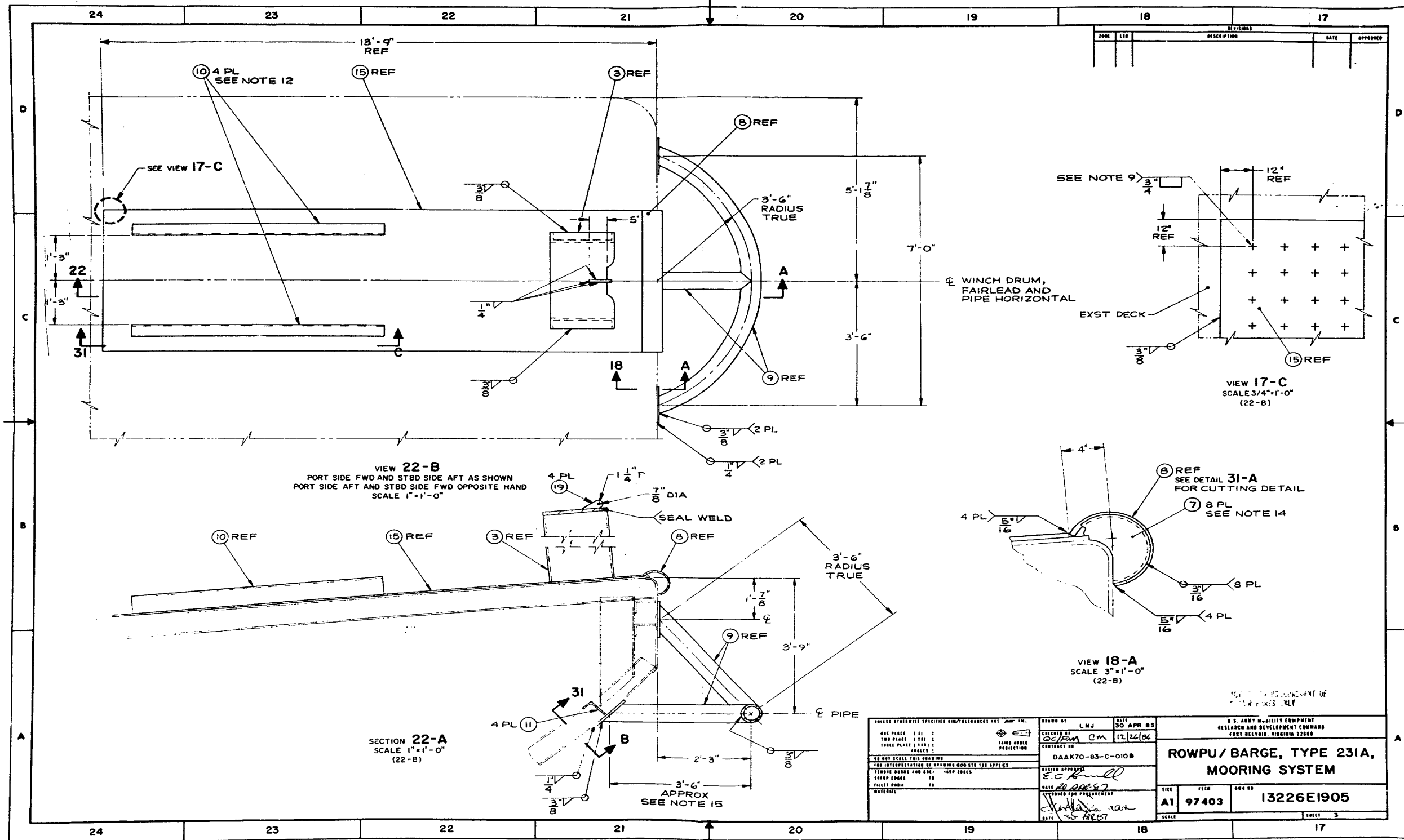


Figure FO-24 (Sheet 3 of 5)
FP-215/(FP-216 Blank)

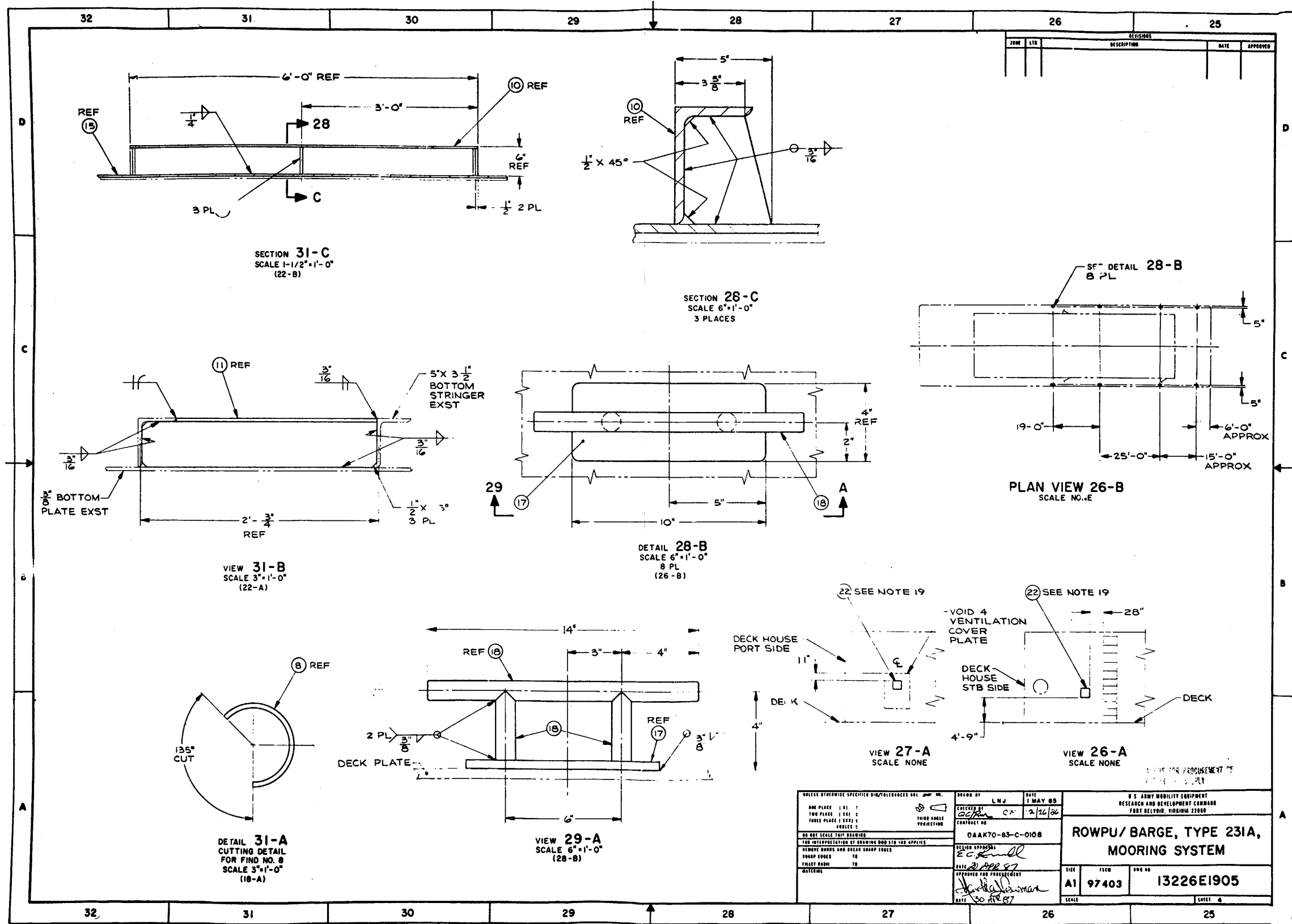


Figure FO-24 (Sheet 4 of 5)
FP-217/(FP-218 Blank)

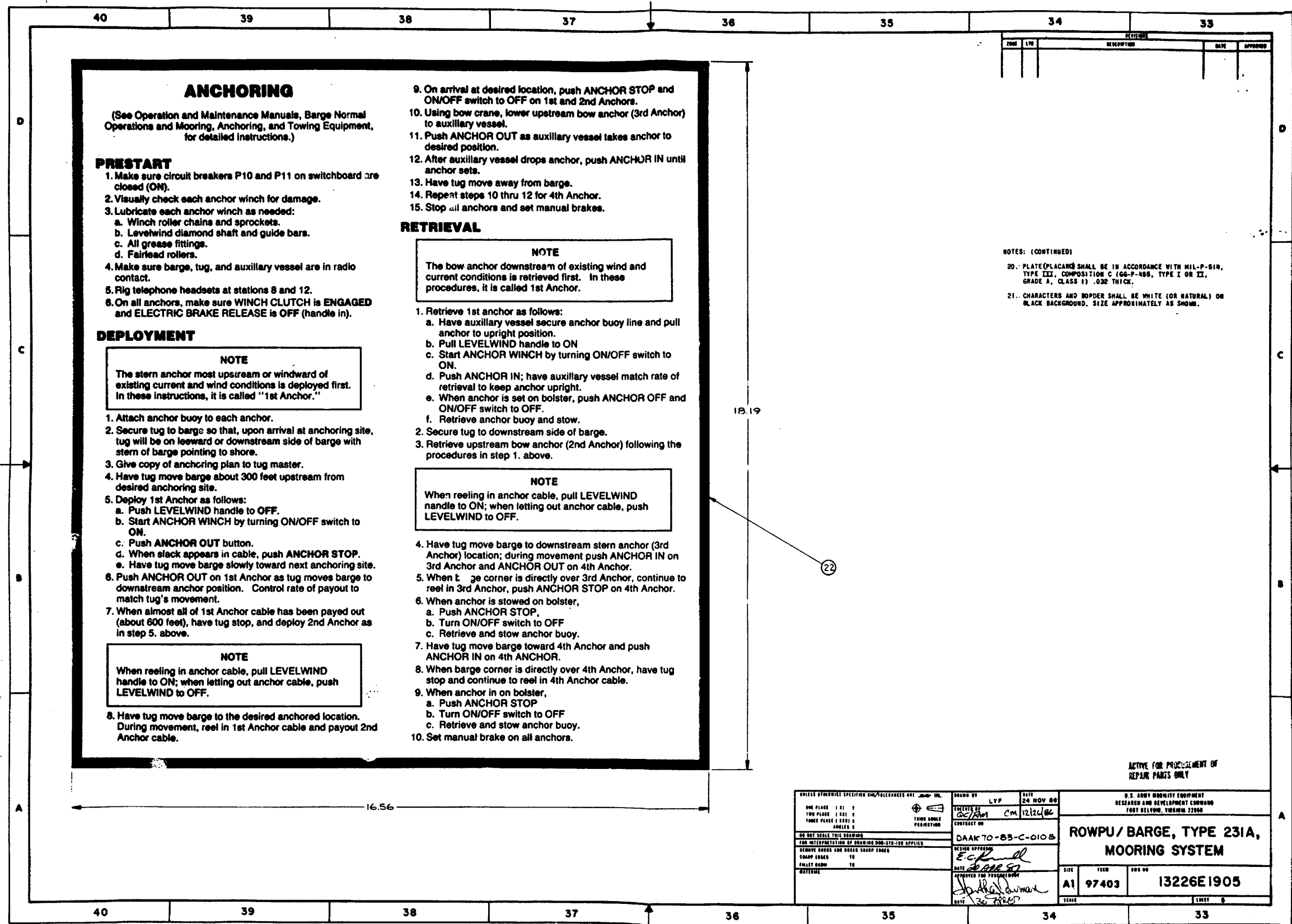


Figure FO-24 (Sheet 5 of 5)
FP-219/(FP-220 Blank)

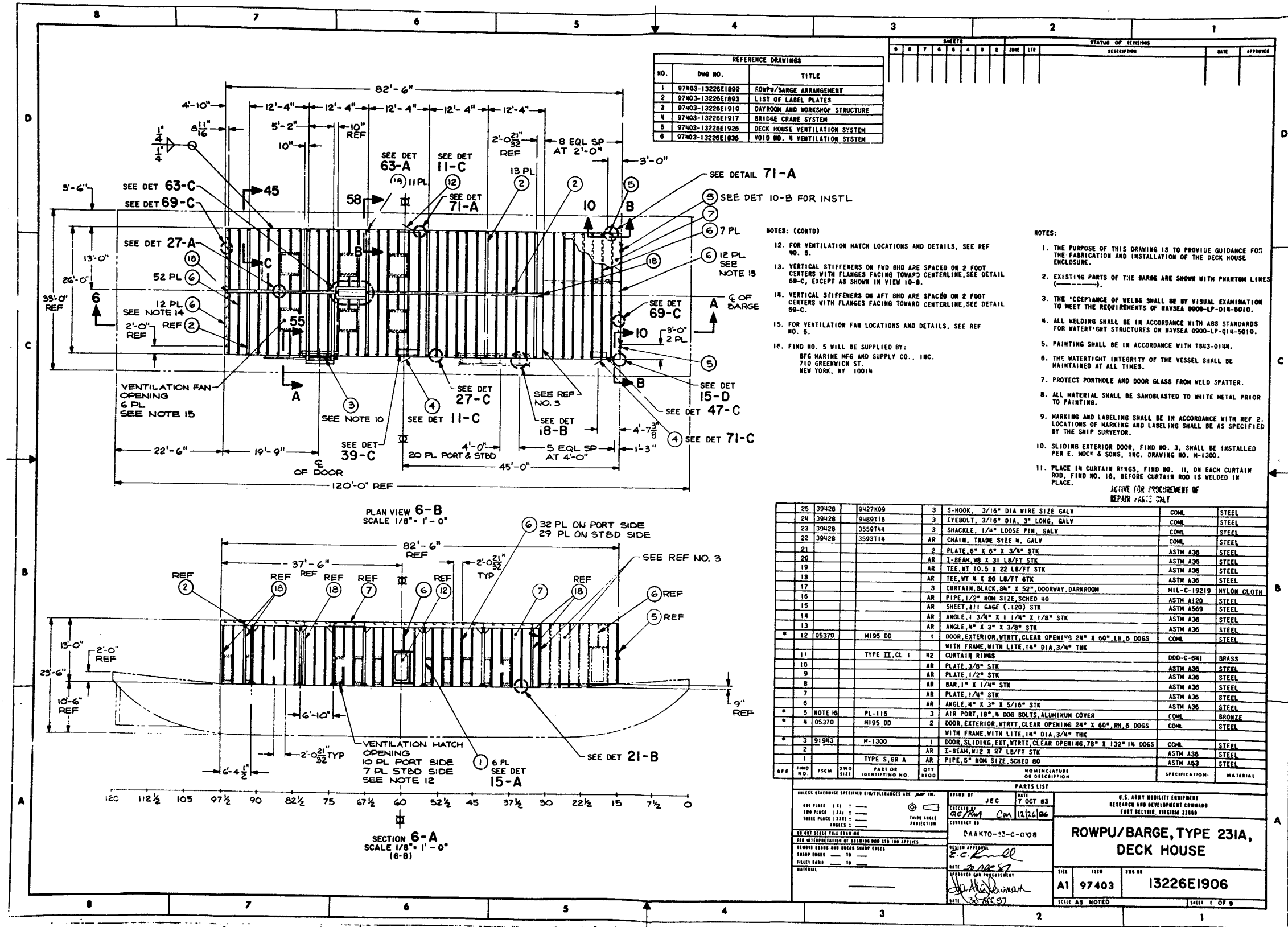


Figure FO-25 (Sheet 1 of 9)
FP-221/(FP-222 Blank)

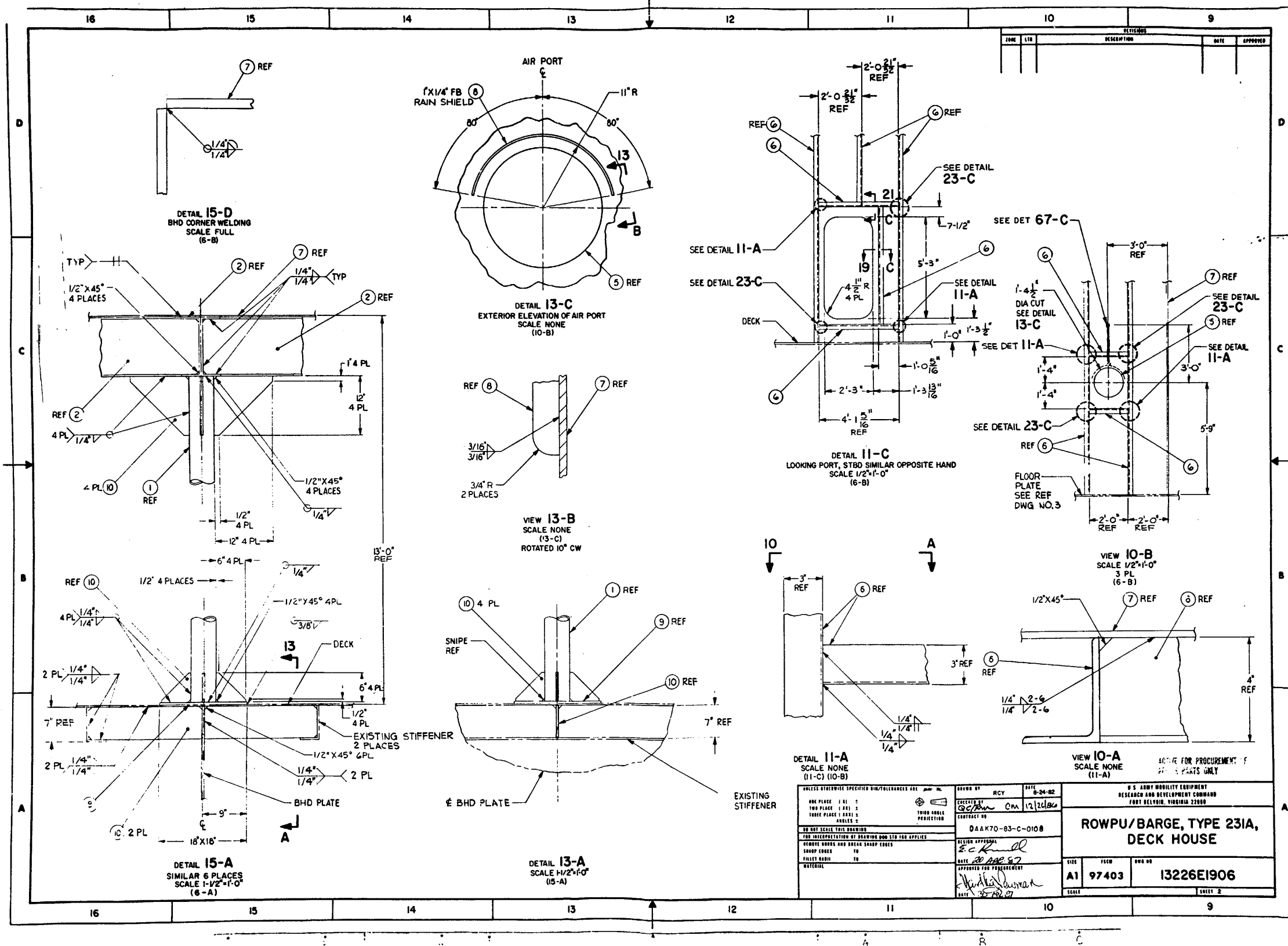
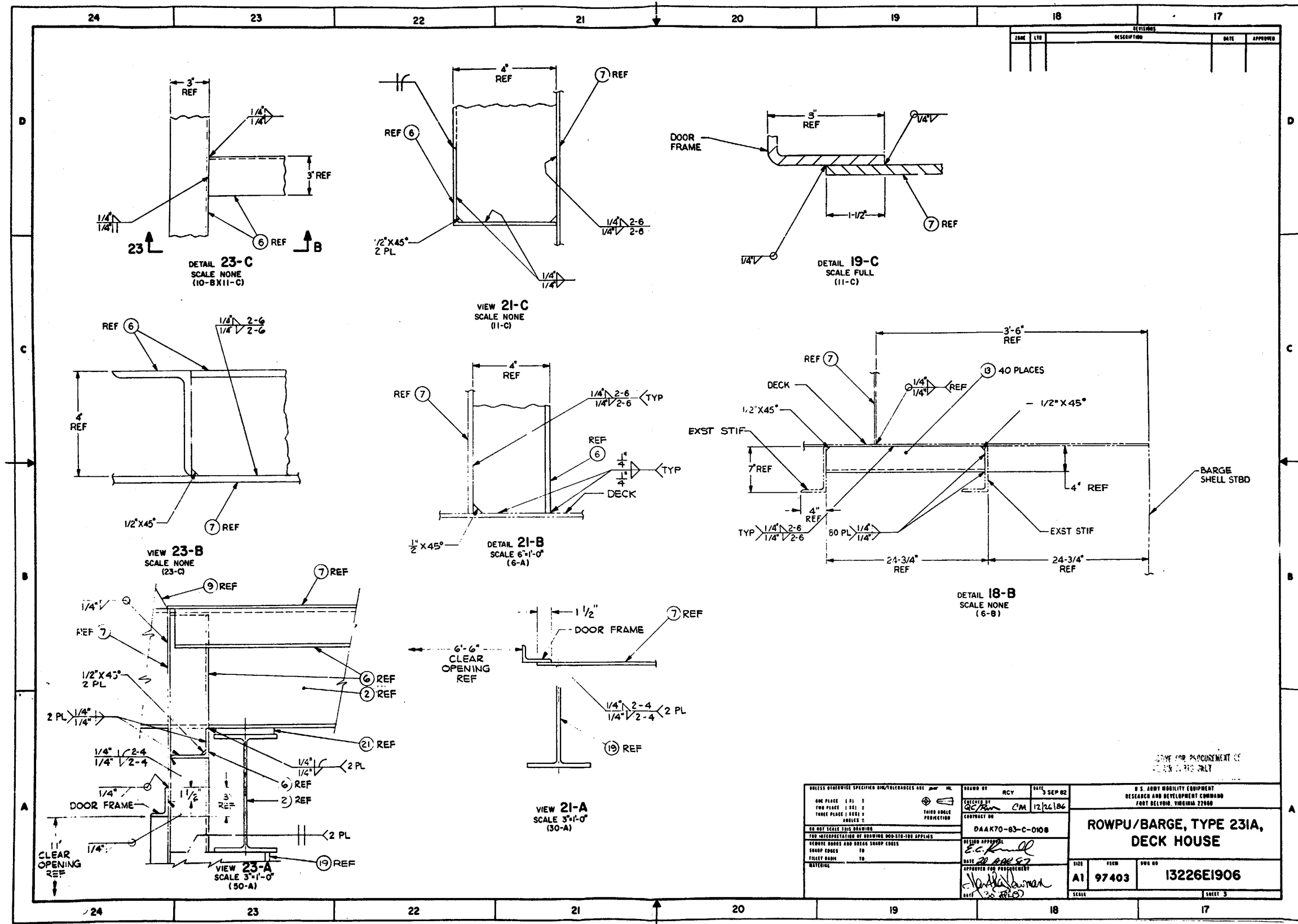


Figure FO-25 (Sheet 2 of 9)
FP-223/(FP-224 Blank)



REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		FIG. NO. 12/26/86	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060	
ONE PLACE (1-1)	2	DESIGNED BY C.M.	ROWPU/BARGE, TYPE 231A, DECK HOUSE	
TWO PLACE (1-11)	2	CONTRACT NO. DAAK70-83-C-0108	SIZE A1	ITEM NO. 97403
THREE PLACE (1-111)	2	DATE 20 APR 87	QWS NO. 13226E1906	SHEET 3
FOUR PLACE (1-1111)	2	APPROVED FOR PRODUCTION E.C. K... DATE 20 APR 87	MATERIALS	

Figure FO-25 (Sheet 3 of 9)
FP-225/(FP-226 Blank)

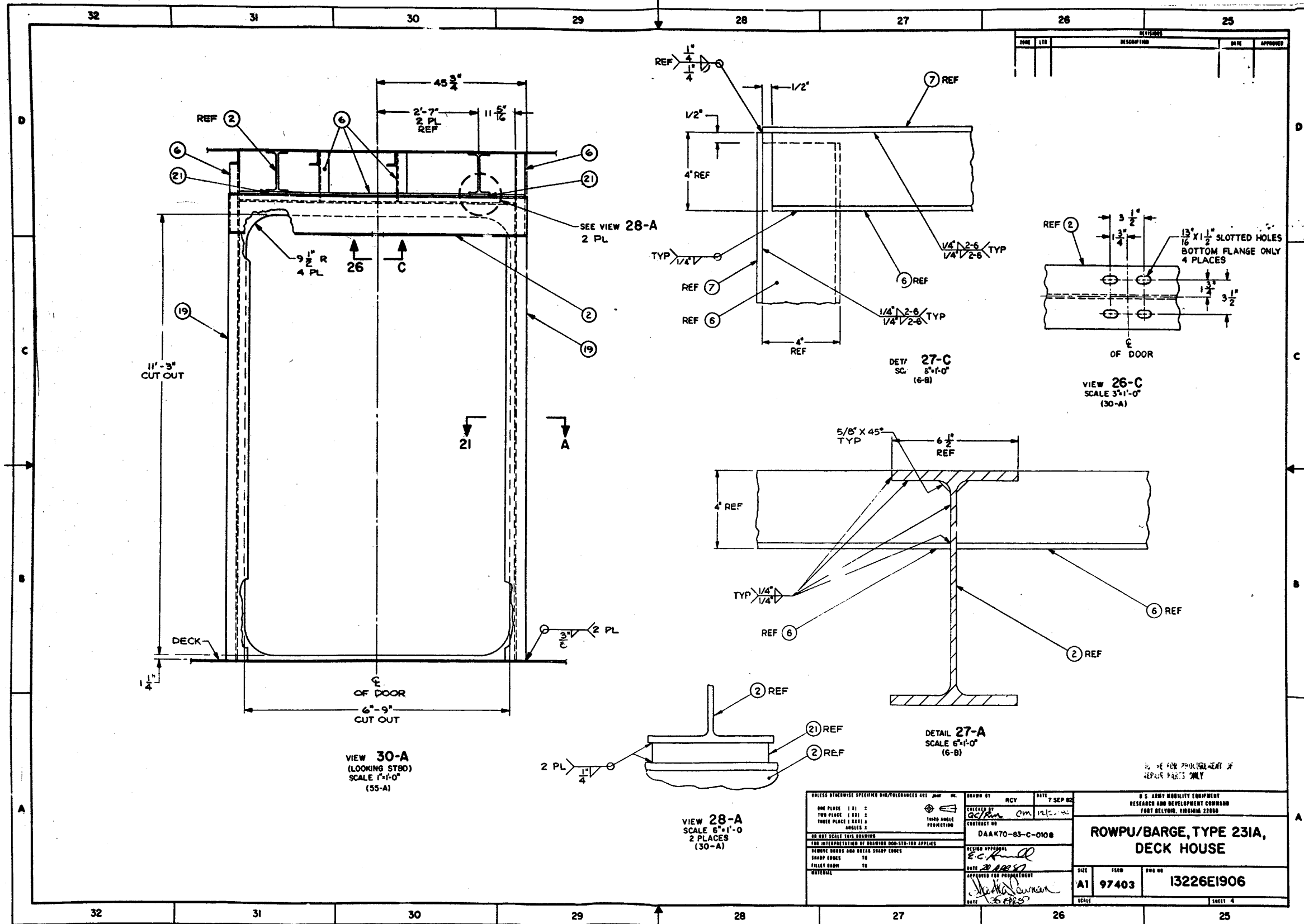


Figure FO-25 (Sheet 4 of 9)
FP-227/(FP-228 Blank)

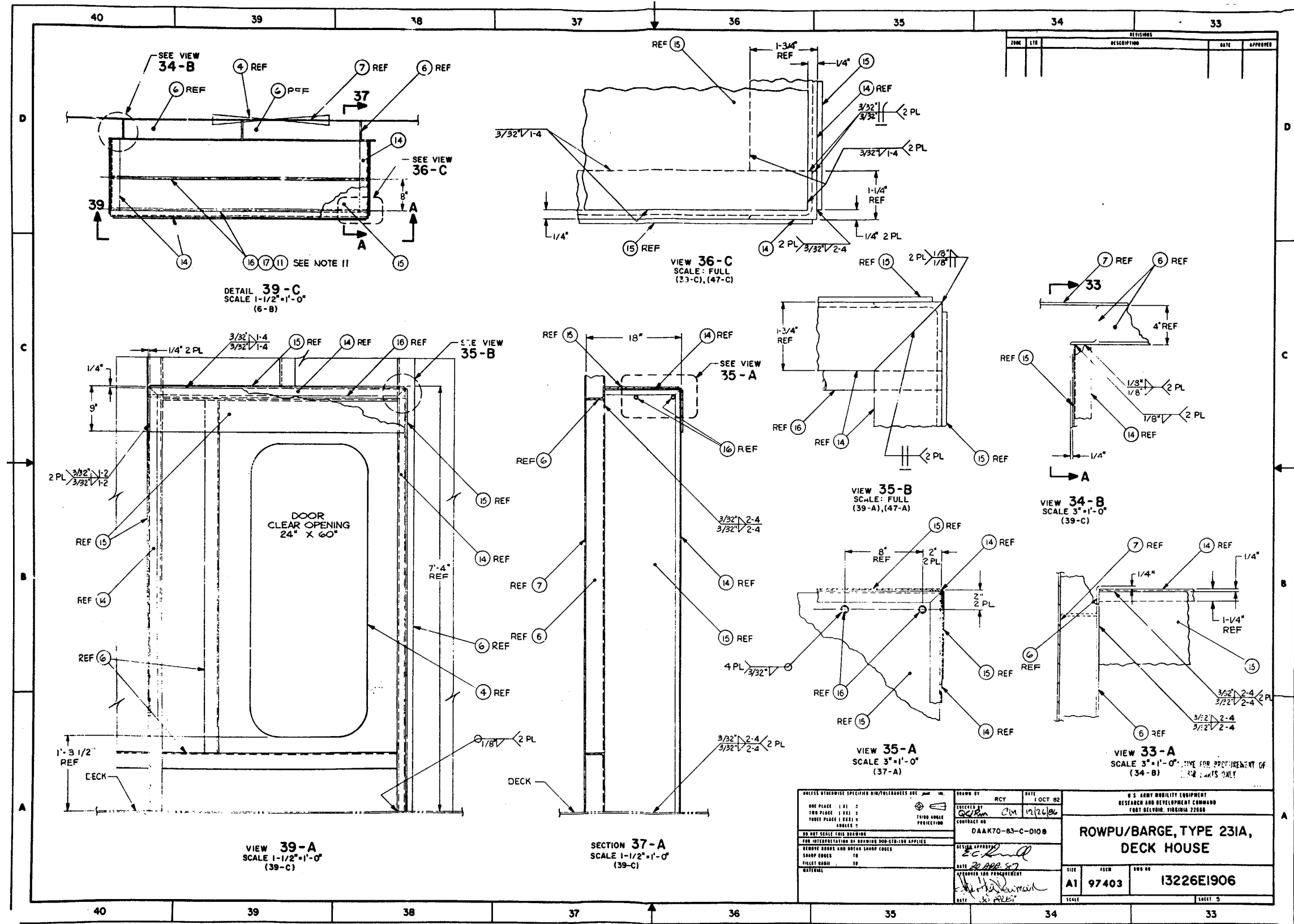
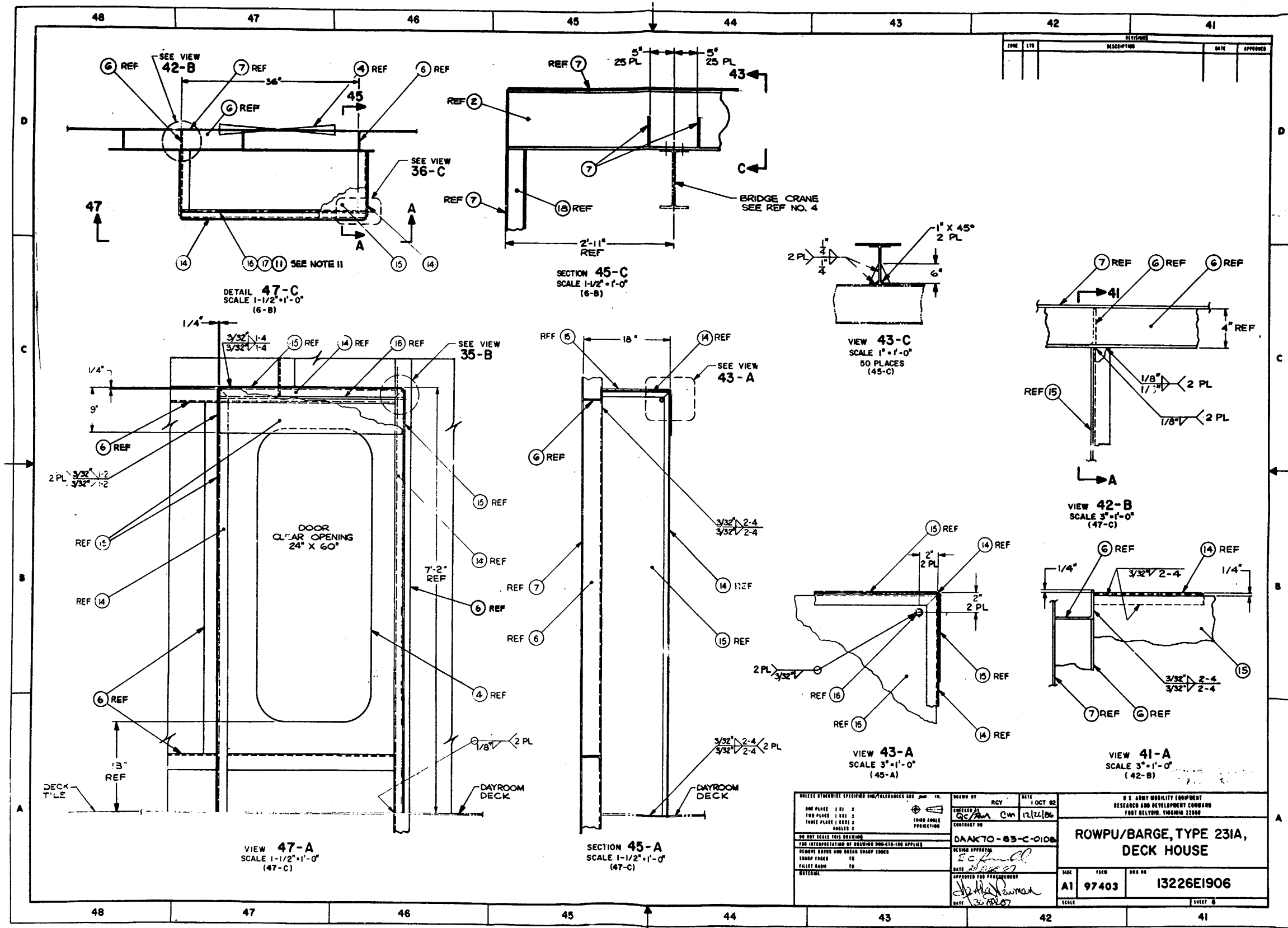


Figure FO-25 (Sheet 5 of 9)
FP-229/(FP-230 Blank)



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DATE	1 OCT 66
ONE PLACE	1 01 2	DESIGNED BY	RCV
TWO PLACES	1 01 3	CHECKED BY	RCV
THREE PLACES	1 01 4	CONTRACT NO.	DAAKTO-83-C-0108
NO DIMENSIONS SPECIFIED DIMENSIONS ARE IN INCHES		FOR INTERPRETATION OF DIMENSIONS PROUD-100 APPLIES	
REMOVE DIMENSIONS AND BREAK SHARP EDGES		DATE	20 APR 67
CORNER EDGES TO		APPROVED FOR PRODUCTION	
FILLET RADIUS TO		DATE	30 APR 67
MATERIAL			
SHEET NO.		ROWPU/BARGE, TYPE 231A, DECK HOUSE	
PAGE		13226E1906	
SCALE		A1 97403	

Figure FO-25 (Sheet 6 of 9)
FP-231/(FP-232 Blank)

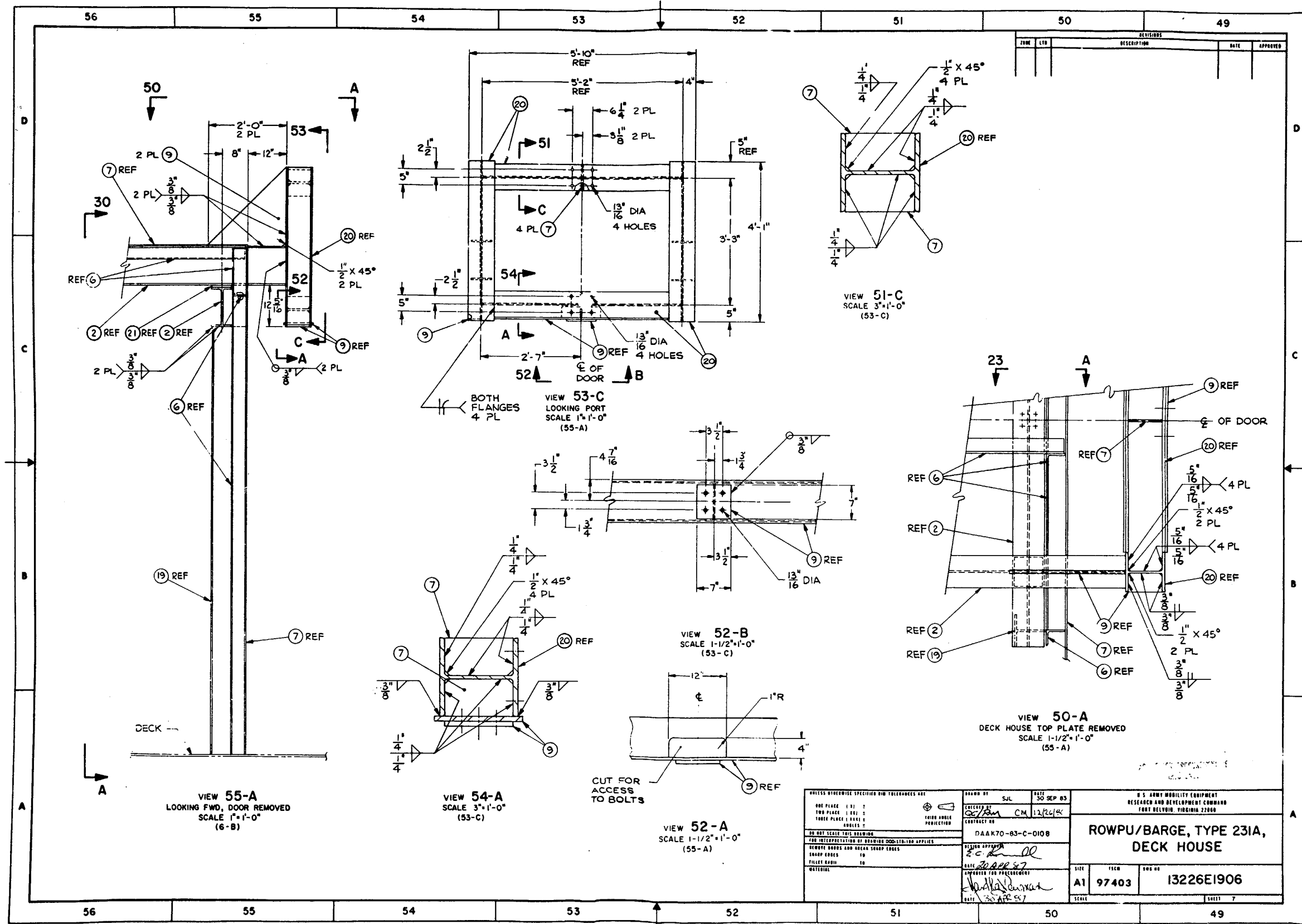


Figure FO-25 (Sheet 7 of 9)
 FP-233/(FP-234 Blank)

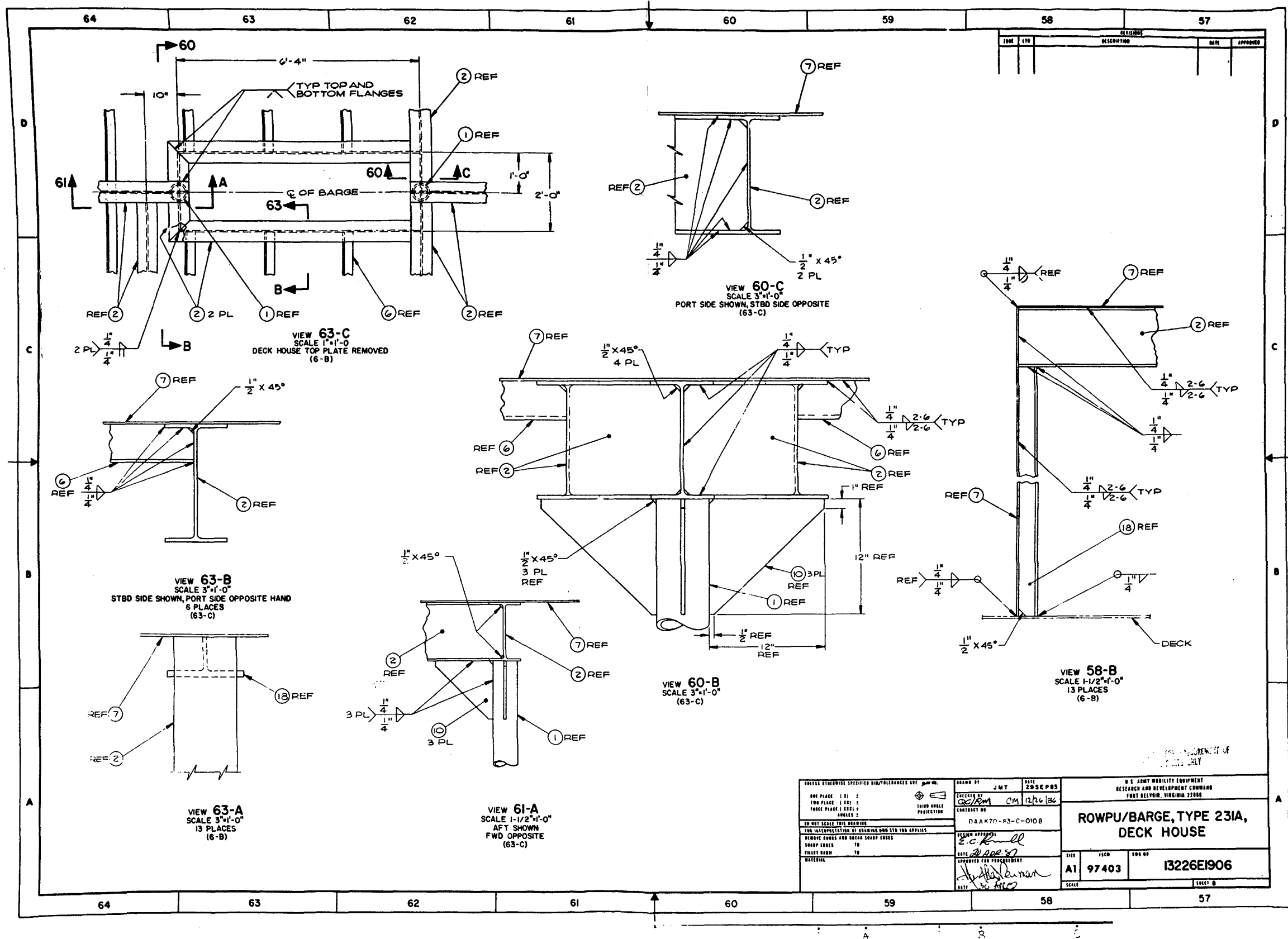


Figure FO-25 (Sheet 8 of 9)
 FP-235/(FP-236 Blank)

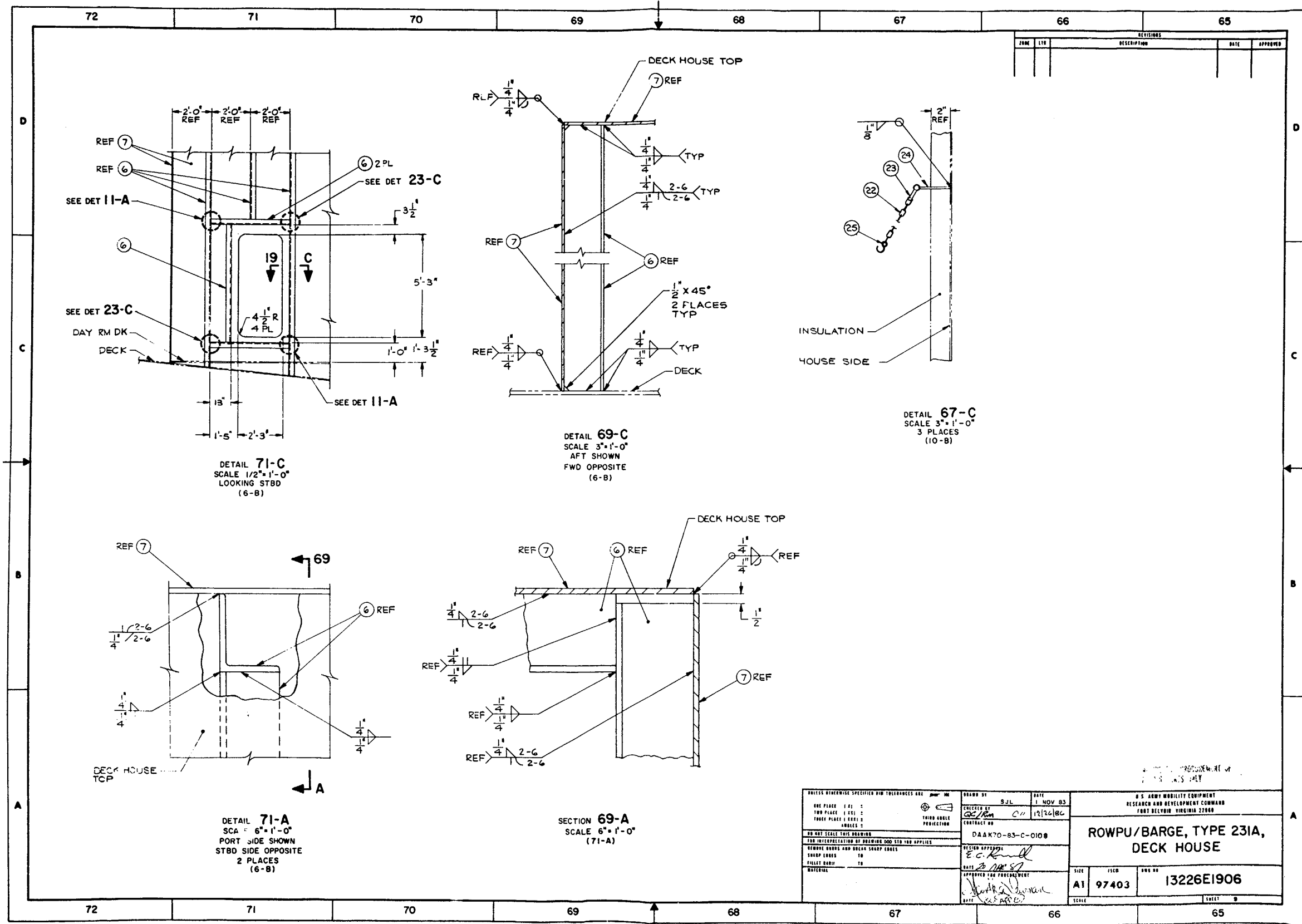


Figure FO-25 (Sheet 9 of 9)
FP-237/(FP-238 Blank)

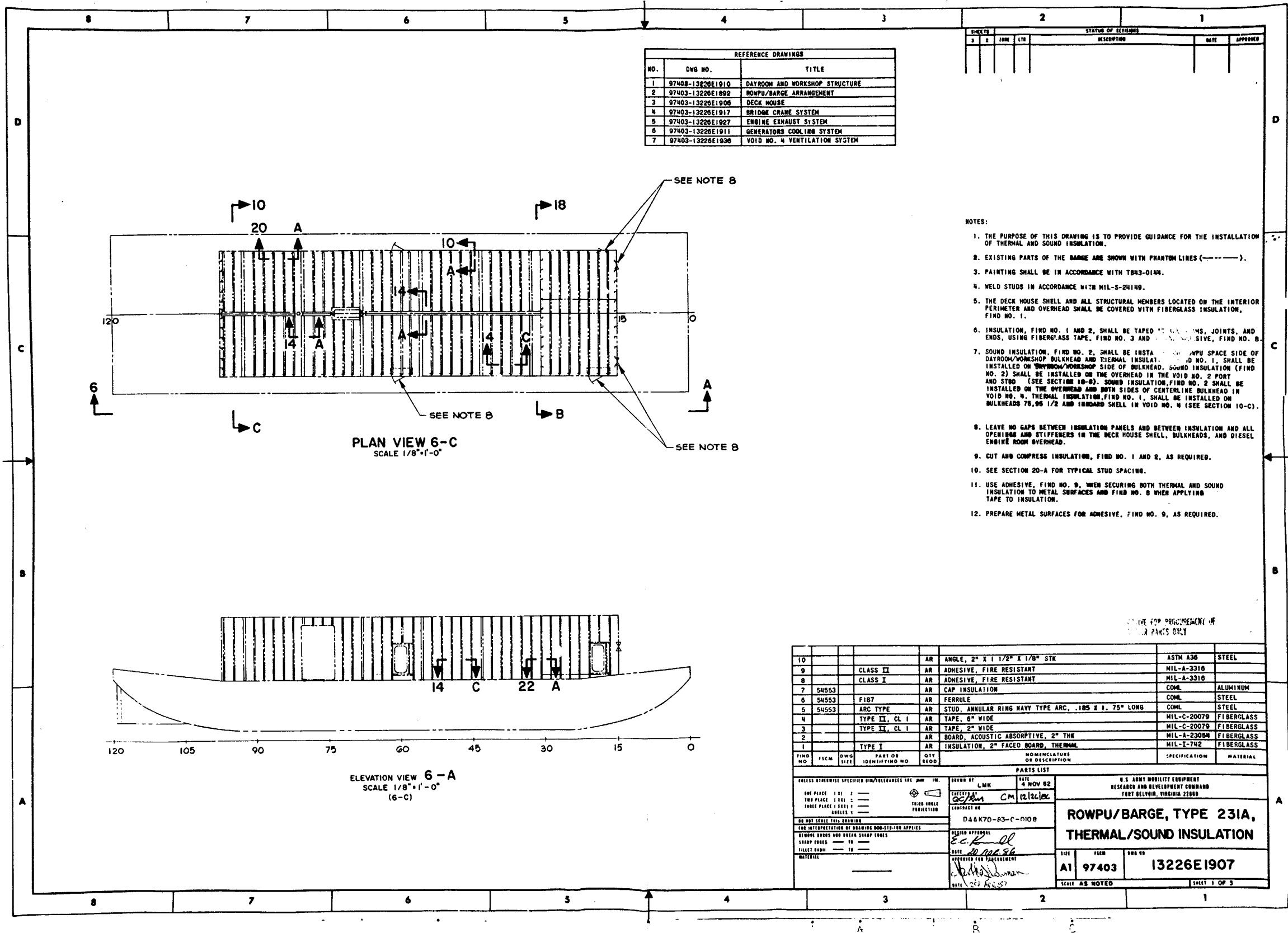


Figure FO-26 (Sheet 1 of 3)
FP-239/(FP-240 Blank)

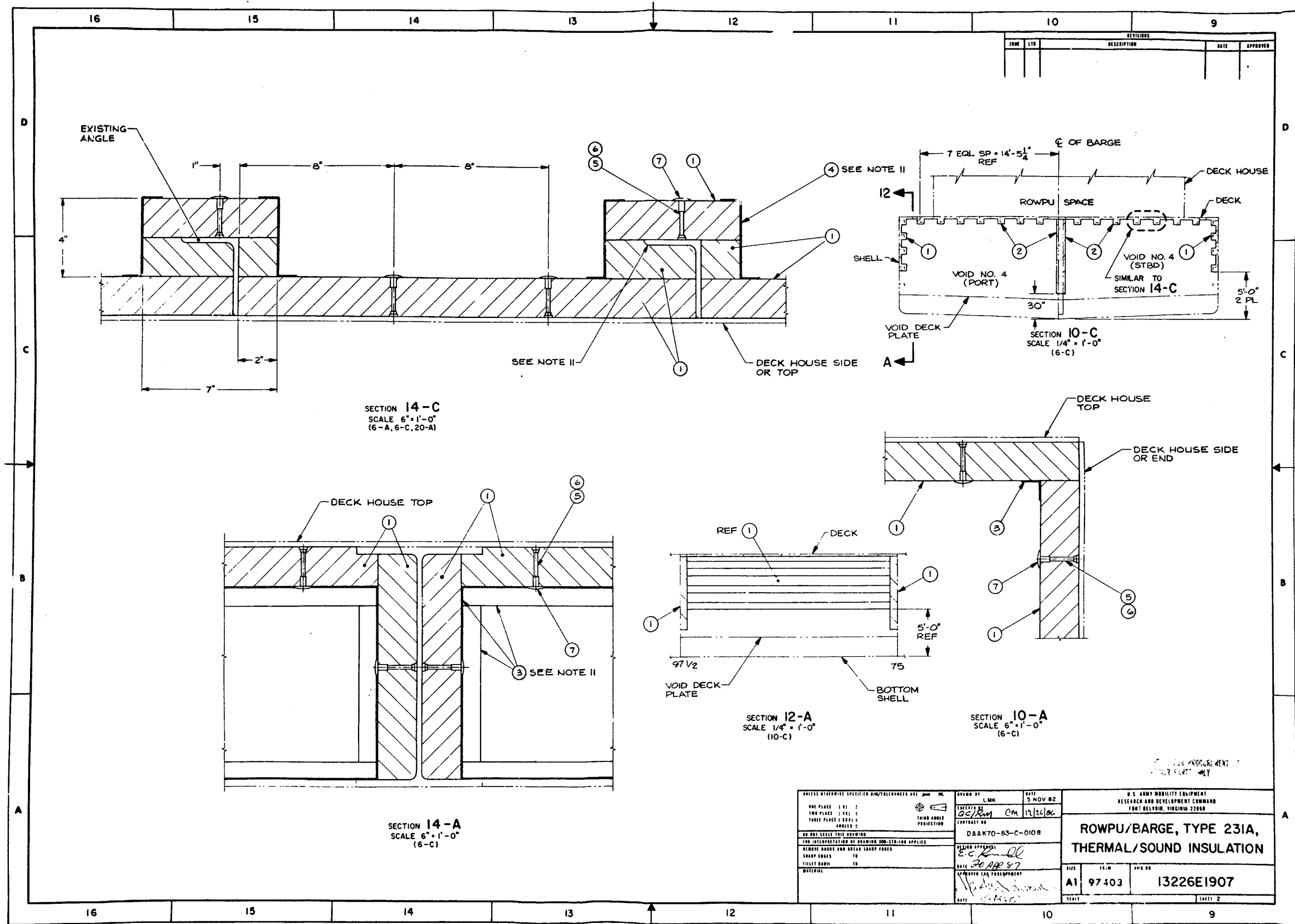


Figure FO-26 (Sheet 2 of 3)
FP-241/(FP-242 Blank)

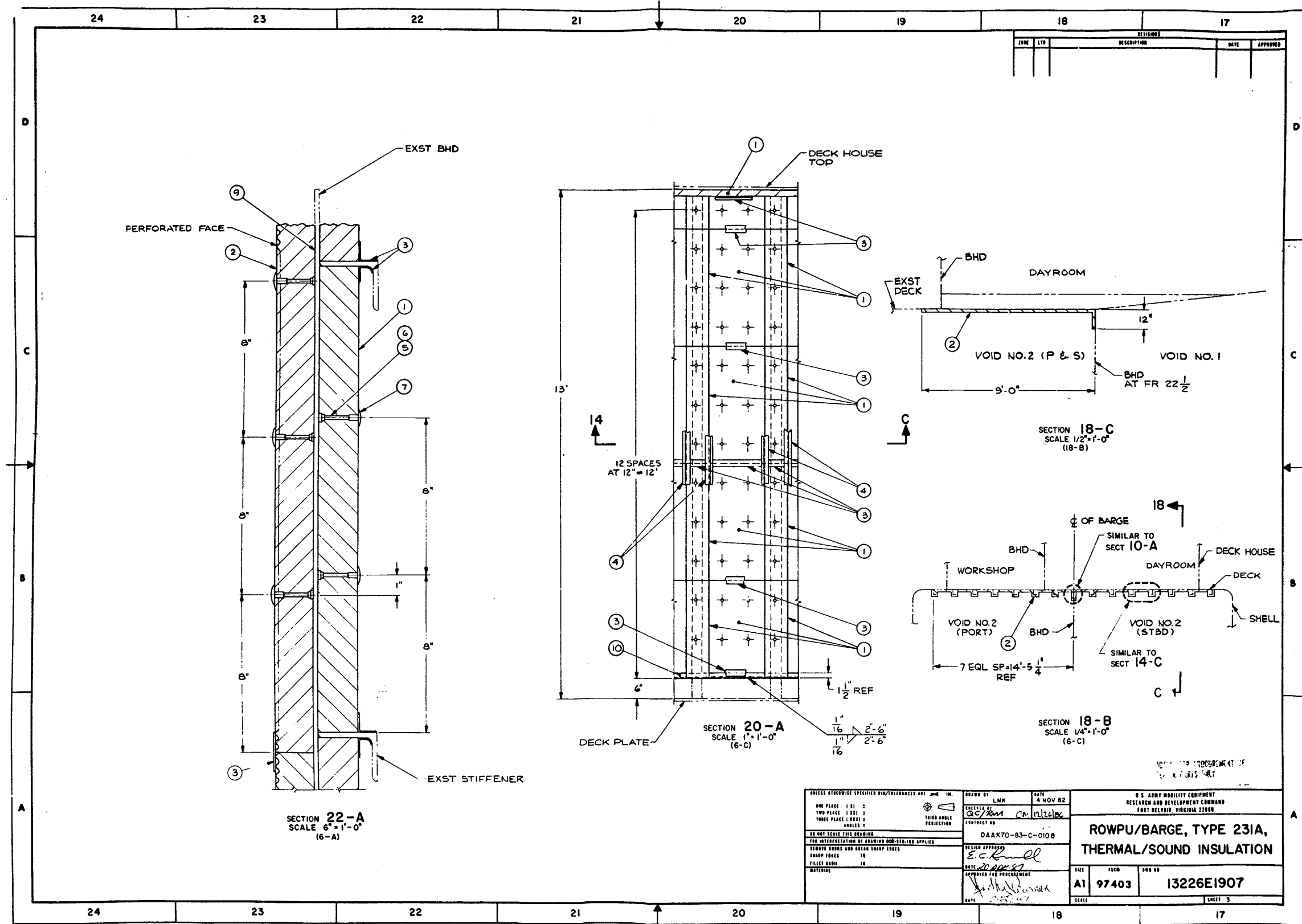


Figure FO-26 (Sheet 3 of 3)
FP-243/(FP-244 Blank)

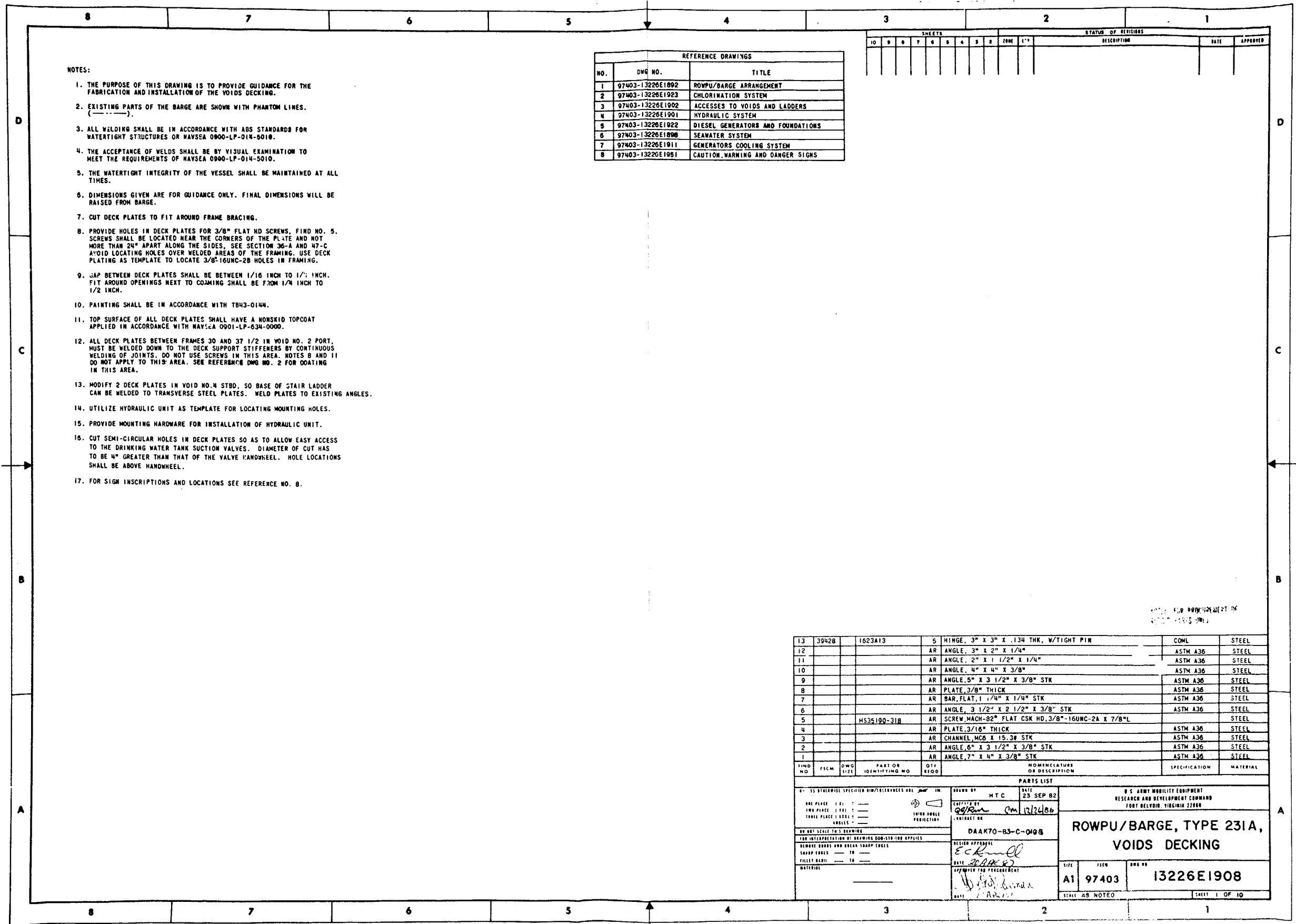


Figure FO-27 (Sheet 1 of 10)
FP-245/(FP-246 Blank)

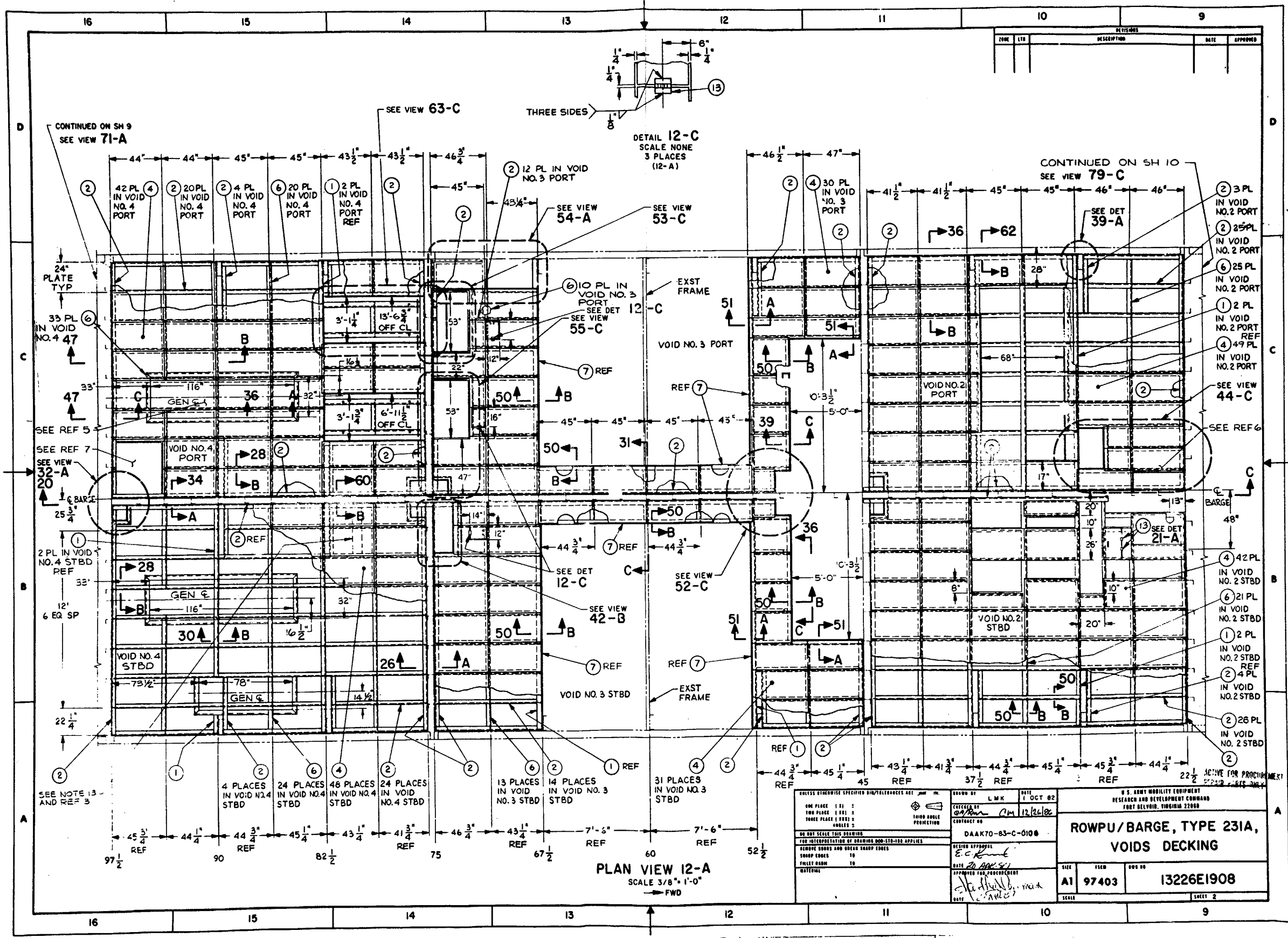


Figure FO-27 (Sheet 2 of 10)
FP-247/(FP-248 Blank)

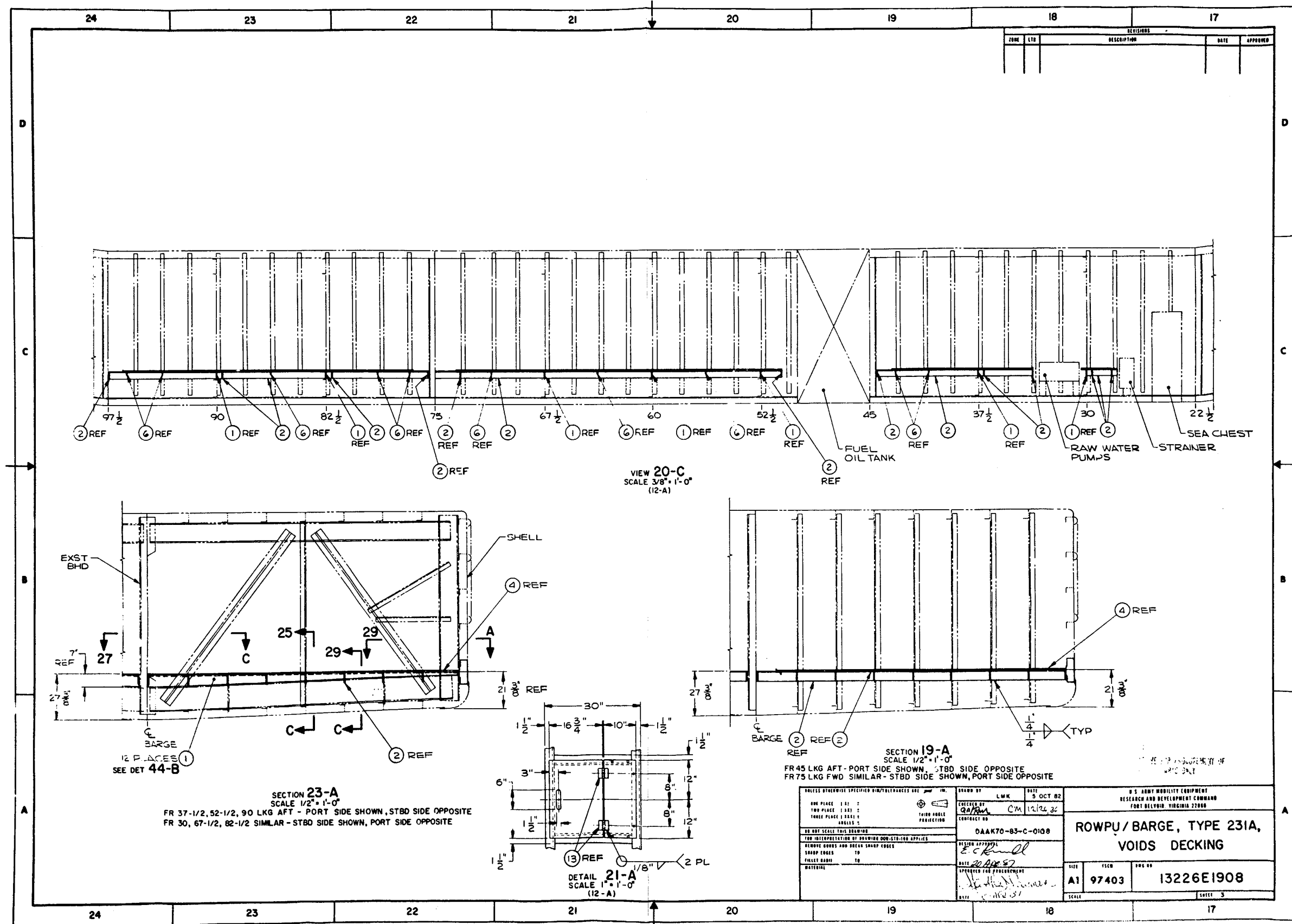


Figure FO-27 (Sheet 3 of 10)
FP-249/(FP-250 Blank)

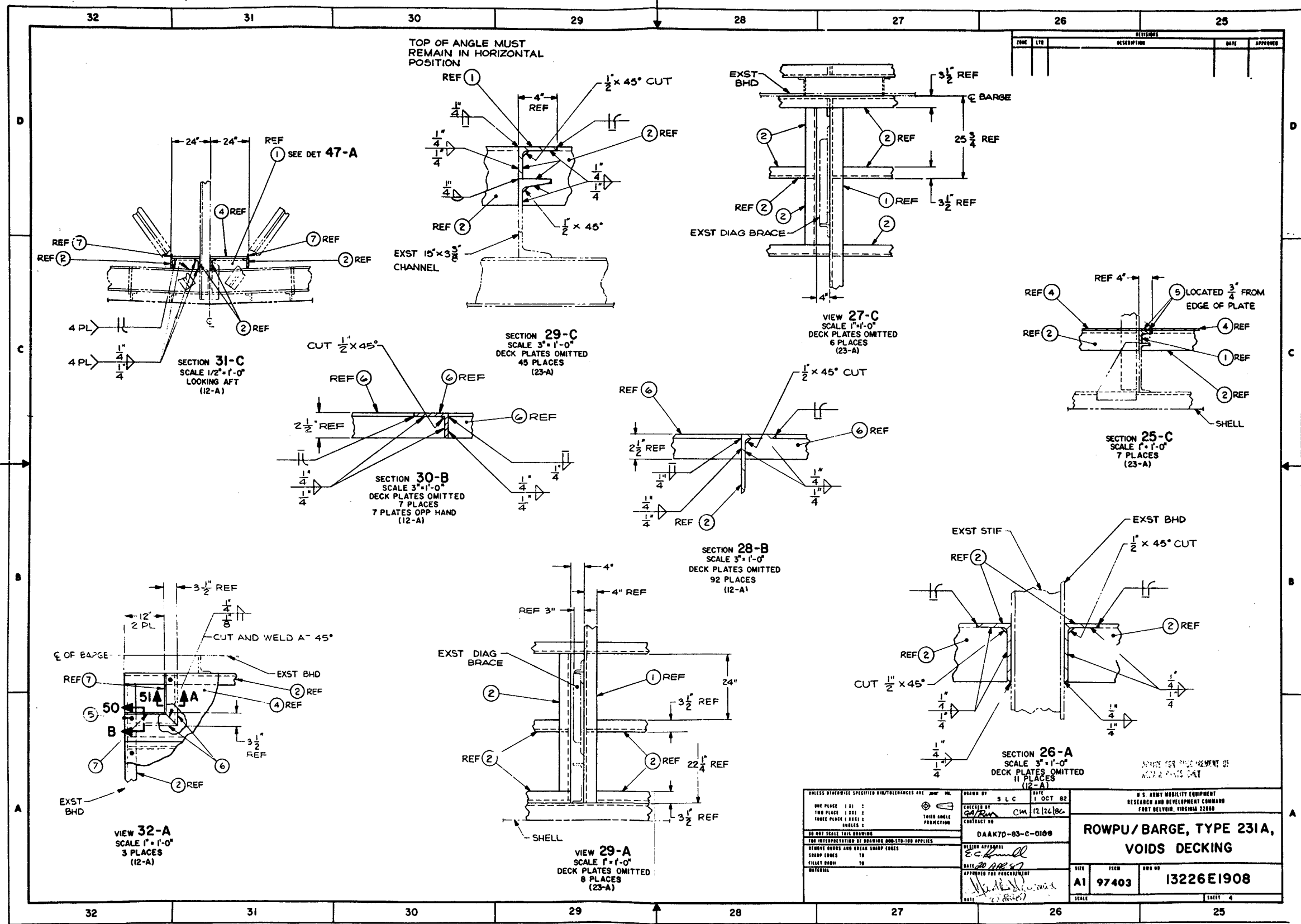


Figure FO-27 (Sheet 4 of 10)
FP-251/(FP-252 Blank)

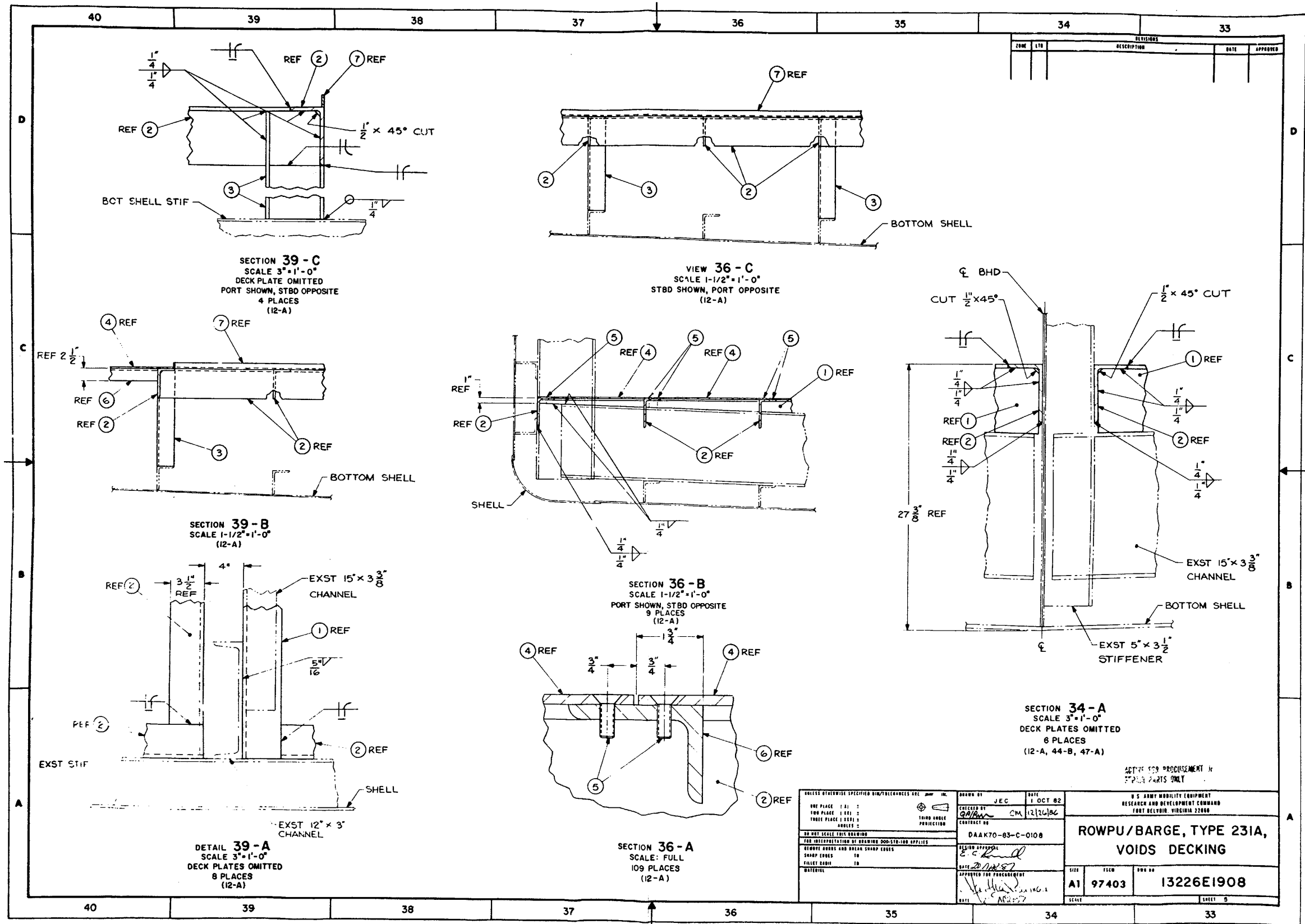
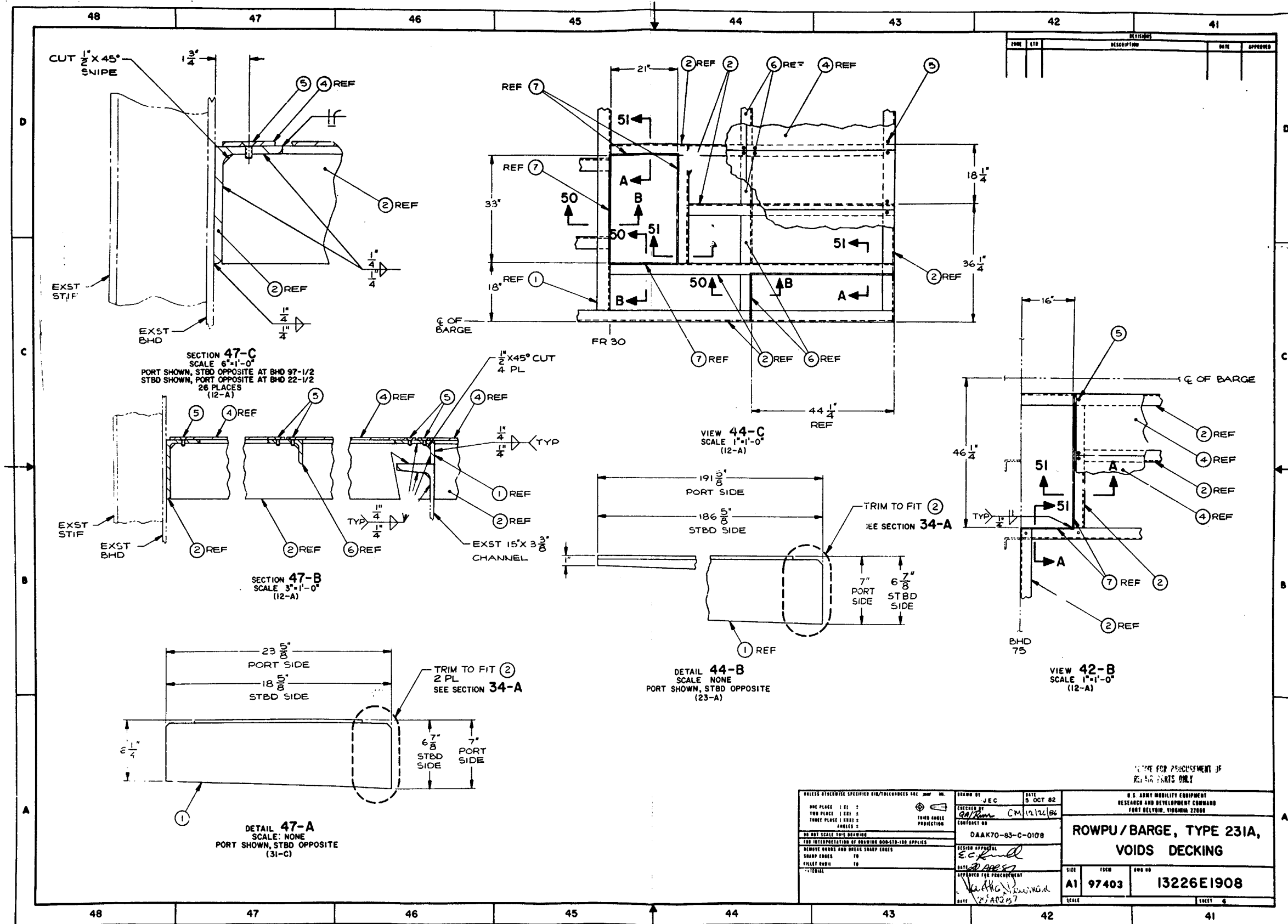


Figure FO-27 (Sheet 5 of 10)
FP-253/(FP-254 Blank)



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DESIGNED BY JEC	DATE 5 OCT 82	FOR USE FOR PROCUREMENT OF RESERVE PARTS ONLY	
ONE PLACE (1) 1/2"	THIRD ANGLE PROJECTION	CHECKED BY G. M. [Signature]	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060	
TWO PLACE (1) 1/8"		CONTRACT NO. DAAK70-83-C-0108	ROWPU/BARGE, TYPE 231A, VOIDS DECKING	
THREE PLACE (1) 1/16"		DESIGN APPROVAL E.C. [Signature]	SIZE A1	ITEM NO. 13226E1908
FOUR PLACE (1) 1/32"		DATE 21 APR 83	SCALE AS SHOWN	SHEET 6
FILLET RADIUS TO		APPROVED FOR PROCUREMENT [Signature]		
ALL DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED		DATE 21 APR 83		

Figure FO-27 (Sheet 6 of 10)
FP-255/(FP-256 Blank)

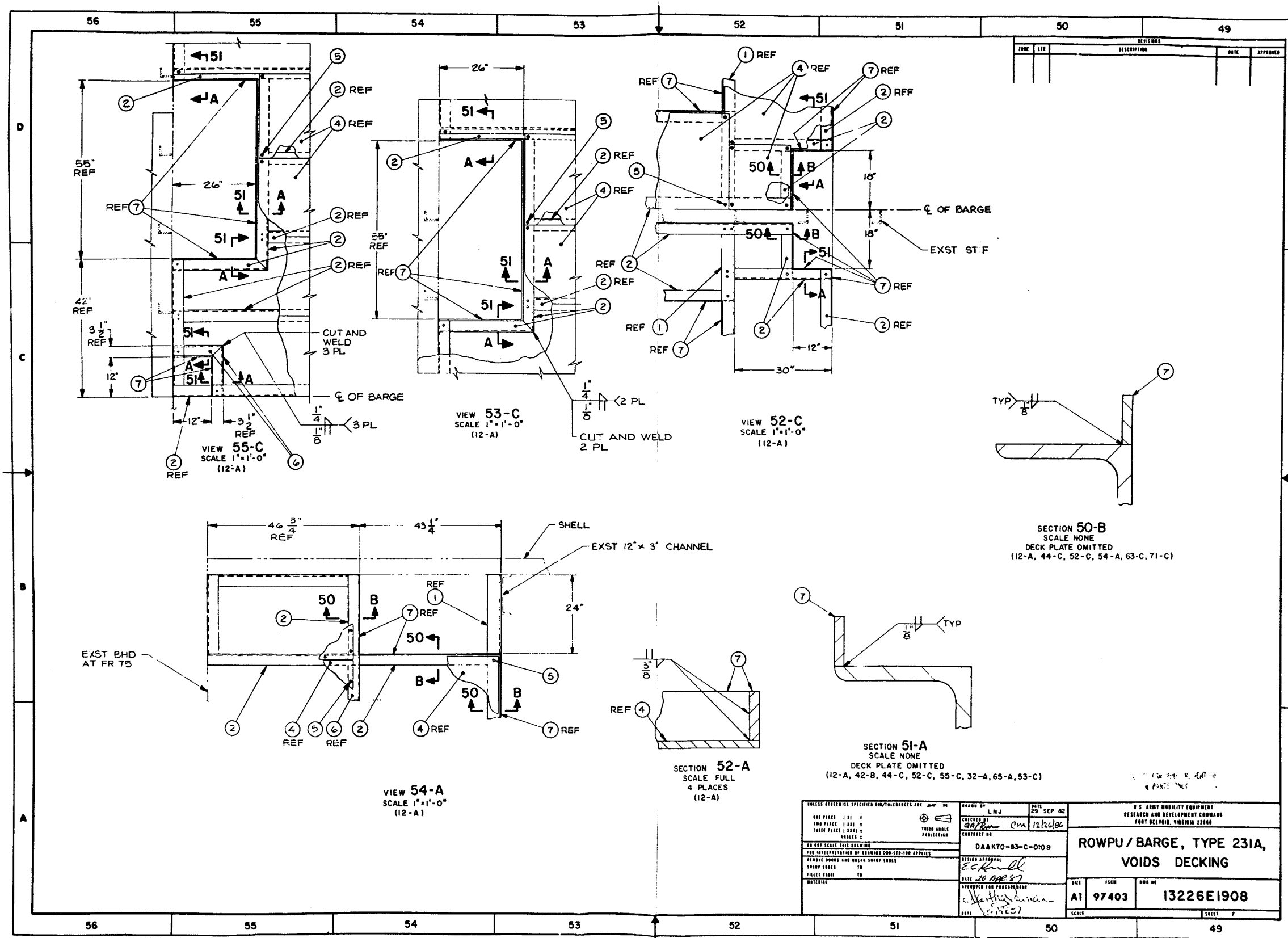


Figure FO-27 (Sheet 7 of 10)
FP-257/(FP-258 Blank)

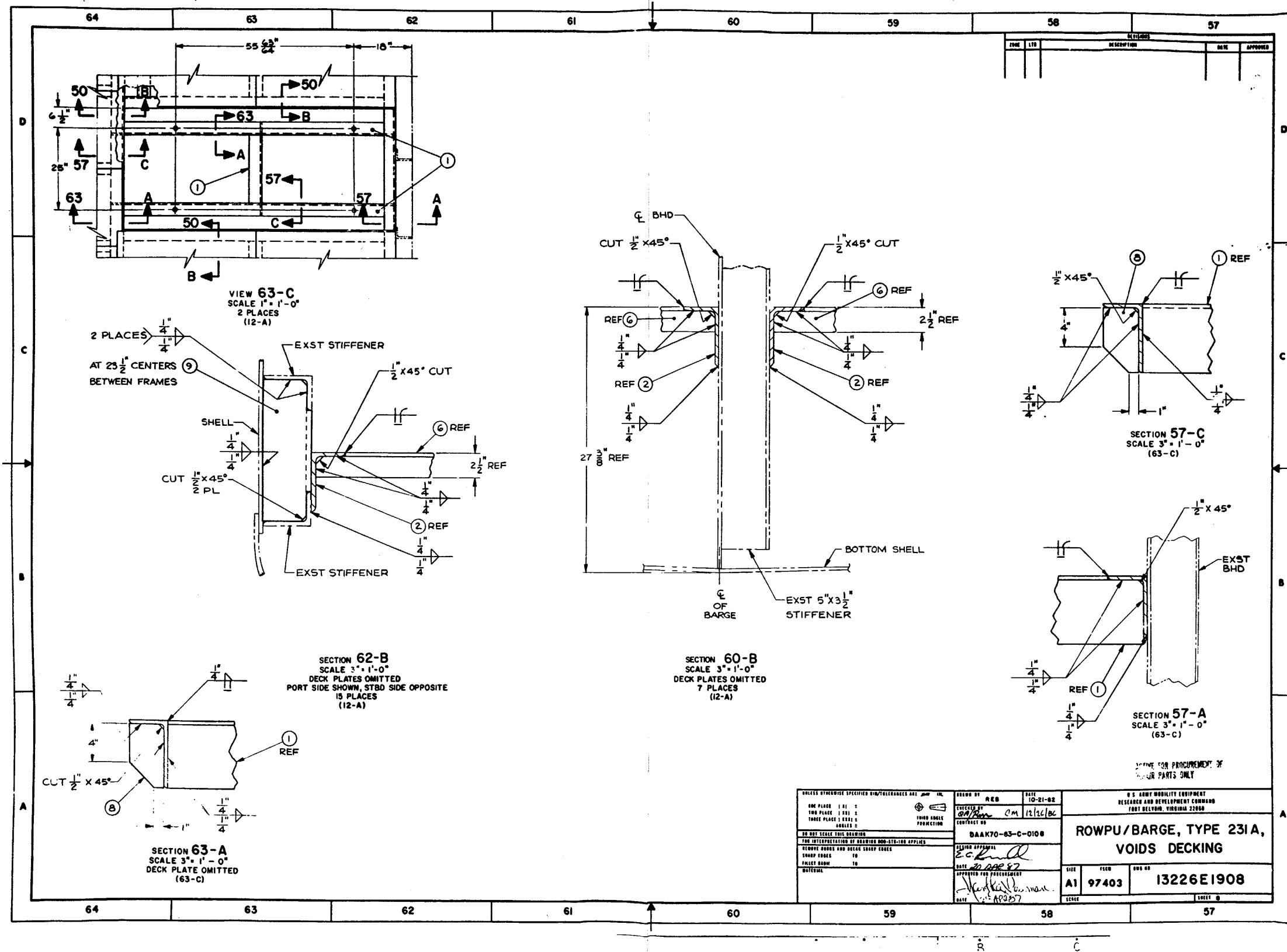


Figure FO-27 (Sheet 8 of 10)
FP-259/(FP-260 Blank)

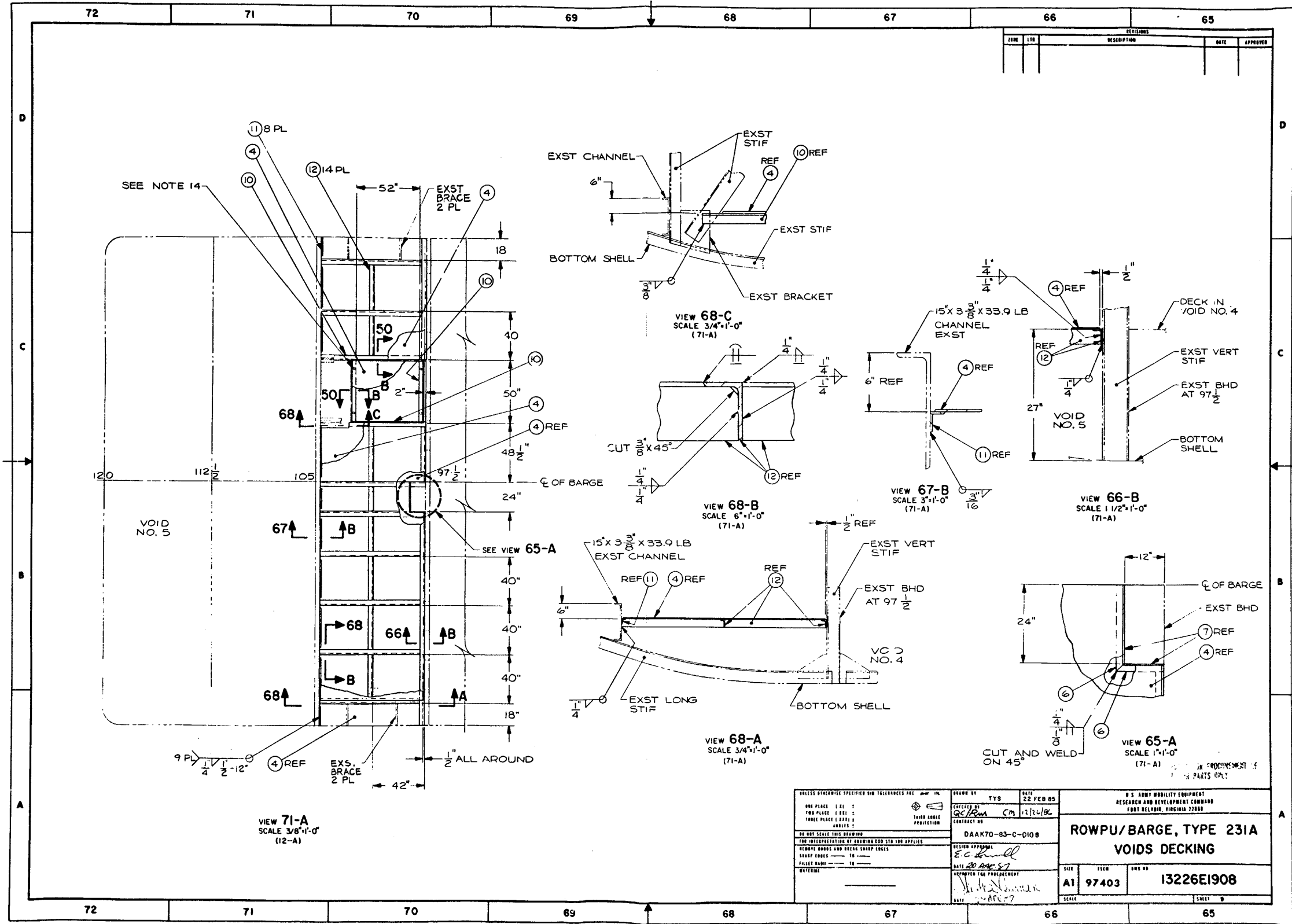


Figure FO-27 (Sheet 9 of 10)
FP-261/(FP-262 Blank)

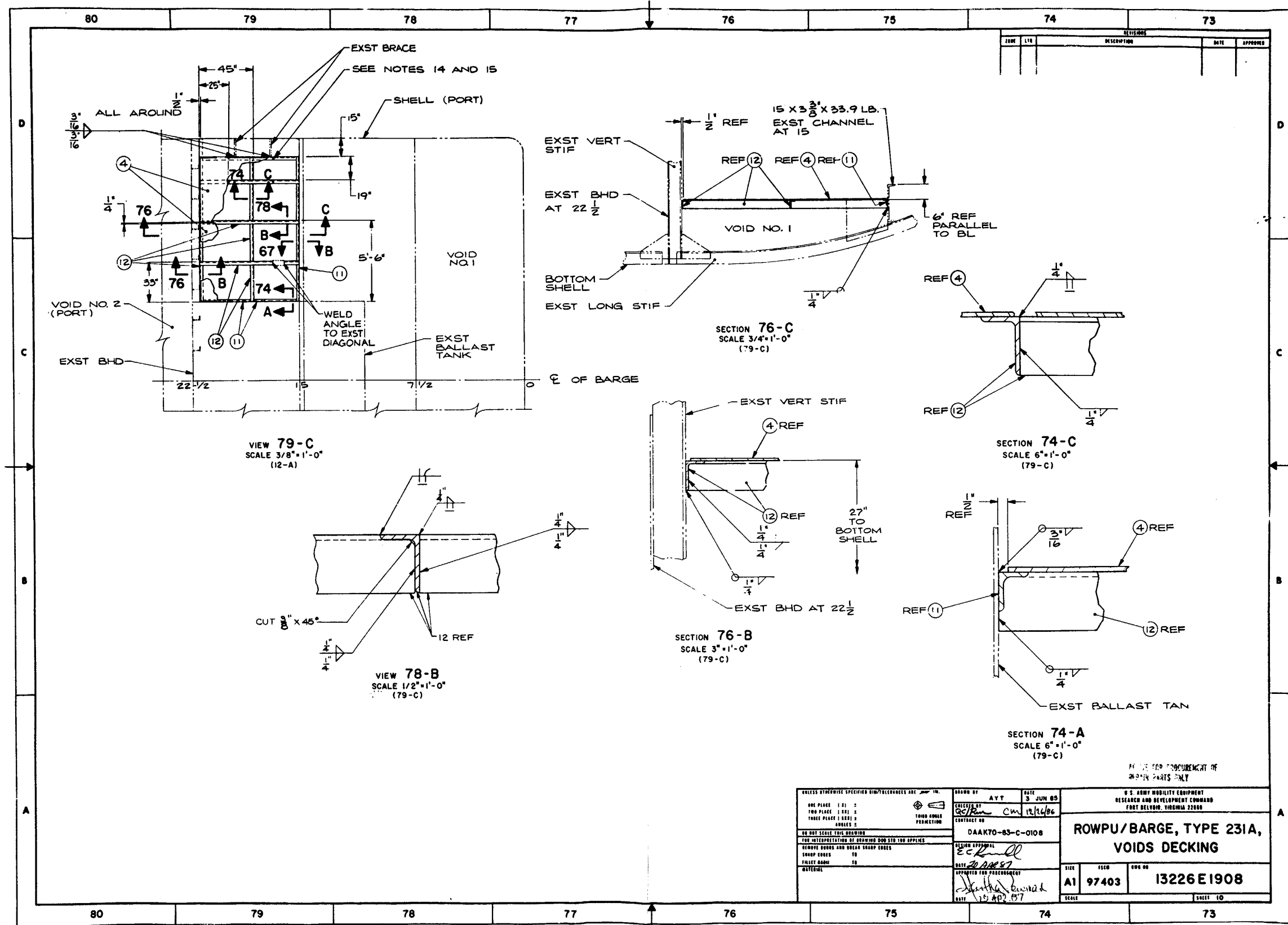
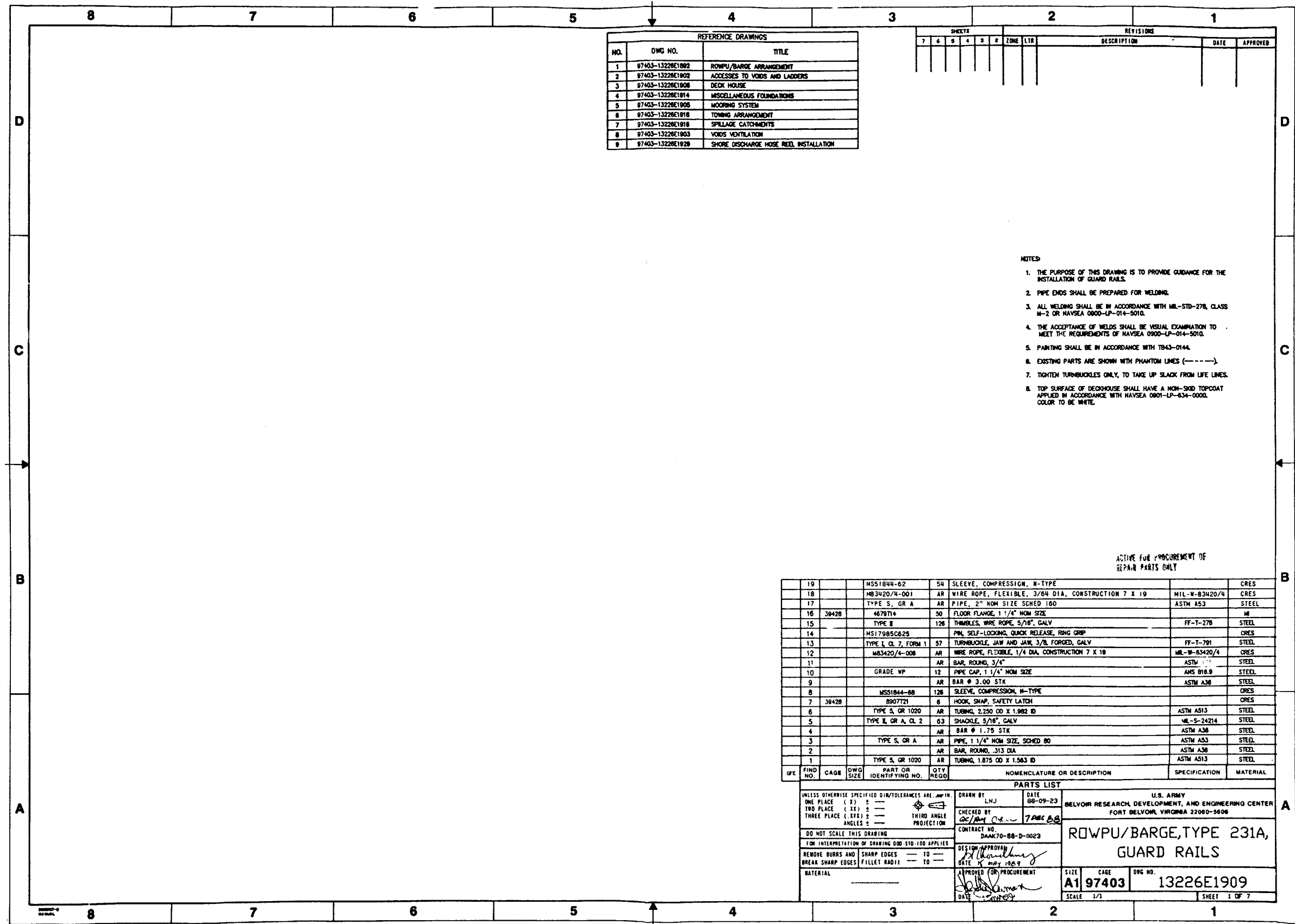


Figure FO-27 (Sheet 10 of 10)
FP-263/(FP-264 Blank)



REFERENCE DRAWINGS		
NO.	DWG NO.	TITLE
1	97403-13226E1902	ROWPU/BARGE ARRANGEMENT
2	97403-13226E1902	ACCESSSES TO VOIDS AND LADDERS
3	97403-13226E1908	DECK HOUSE
4	97403-13226E1914	MISCELLANEOUS FOUNDATIONS
5	97403-13226E1906	MOORING SYSTEM
6	97403-13226E1918	TOWING ARRANGEMENT
7	97403-13226E1916	SPILLAGE CATCHMENTS
8	97403-13226E1903	VOIDS VENTILATION
9	97403-13226E1928	SHORE DISCHARGE HOSE REEL INSTALLATION

SHEETS							REVISIONS		
7	6	5	4	3	2	1	DESCRIPTION	DATE	APPROVED

- NOTES:
1. THE PURPOSE OF THIS DRAWING IS TO PROVIDE GUIDANCE FOR THE INSTALLATION OF GUARD RAILS.
 2. PIPE ENDS SHALL BE PREPARED FOR WELDING.
 3. ALL WELDING SHALL BE IN ACCORDANCE WITH MIL-STD-278, CLASS W-2 OR NAVSEA 0900-LP-014-5010.
 4. THE ACCEPTANCE OF WELDS SHALL BE VISUAL EXAMINATION TO MEET THE REQUIREMENTS OF NAVSEA 0900-LP-014-5010.
 5. PAINTING SHALL BE IN ACCORDANCE WITH TB43-0144.
 6. EXISTING PARTS ARE SHOWN WITH PHANTOM LINES (-----).
 7. TIGHTEN TURNBUCKLES ONLY, TO TAKE UP SLACK FROM LIFE LINES.
 8. TOP SURFACE OF DECKHOUSE SHALL HAVE A NON-SKID TOPCOAT APPLIED IN ACCORDANCE WITH NAVSEA 0801-LP-634-0006. COLOR TO BE WHITE.

ACTIVE FOR PROCUREMENT OF REPAIR PARTS ONLY

19		MSS1844-62	54	SLEEVE, COMPRESSION, N-TYPE		CRES
18		M83420/N-001	AR	WIRE ROPE, FLEXIBLE, 3/8" DIA, CONSTRUCTION 7 X 19	MIL-W-83420/N	CRES
17		TYPE S, GR A	AR	PIPE, 2" NOM SIZE SCHED 160	ASTM A53	STEEL
16	39428	467814	50	FLOOR FLANGE, 1 1/4" NOM SIZE		M
15		TYPE II	126	TURNBUCKLE, WIRE ROPE, 5/16", GALV	FF-T-276	STEEL
14		MS17985C825		PH, SELF-LOCKING, QUICK RELEASE, RING GRIP		CRES
13		TYPE I, CL 7, FORM 1	57	TURNBUCKLE, JAW AND JAW, 3/8" FORGED, GALV	FF-T-791	STEEL
12		M83420/A-008	AR	WIRE ROPE, FLEXIBLE, 1/4" DIA, CONSTRUCTION 7 X 19	MIL-W-83420/A	CRES
11			AR	BAR, ROUND, 3/4"	ASTM	STEEL
10		GRADE WP	12	PIPE CAP, 1 1/4" NOM SIZE	AMS B16.9	STEEL
9			AR	BAR # 3.00 STK	ASTM A36	STEEL
8		MSS1844-68	126	SLEEVE, COMPRESSION, N-TYPE		CRES
7	39428	8907721	6	HOOK, SNAP, SAFETY LATCH		CRES
6		TYPE S, GR 1020	AR	TUBING, 2.250 OD X 1.982 ID	ASTM A513	STEEL
5		TYPE II, GR A, CL 2	63	SHACKLE, 5/16", GALV	MIL-S-24214	STEEL
4			AR	BAR # 1.75 STK	ASTM A36	STEEL
3		TYPE S, GR A	AR	PIPE, 1 1/4" NOM SIZE, SCHED 80	ASTM A53	STEEL
2			AR	BAR, ROUND, .313 DIA	ASTM A36	STEEL
1		TYPE S, GR 1020	AR	TUBING, 1.875 OD X 1.563 ID	ASTM A513	STEEL

FIND NO.		CAGE	DWG SIZE	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL
PARTS LIST								
UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE .001 IN.				DRAWN BY		DATE		U.S. ARMY
ONE PLACE (X) 2				LNJ		88-09-23		BELVOIR RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER
TWO PLACE (XX) 2				CHECKED BY		7 Aug 88		FORT BELVOIR, VIRGINIA 22060-5606
THREE PLACE (XXX) 2				THIRD ANGLE PROJECTION				
DO NOT SCALE THIS DRAWING				CONTRACT NO.		DAAK70-88-D-0023		ROWPU/BARGE, TYPE 231A,
FOR INTERPRETATION OF DRAWING Q&A STD-100 APPLIES				DESIGN APPROVAL				GUARD RAILS
REMOVE BURRS AND SHARP EDGES TO				DATE		15 May 1989		SIZE CAGE DWG NO.
BREAK SHARP EDGES FILLET RADIUS TO				APPROVED FOR PROCUREMENT				A1 97403 13226E1909
MATERIAL				DATE		1 May 1989		SCALE 1/1 SHEET 1 OF 7

Figure FO-28 (Sheet 1 of 7)
FP-265/FP-266 Blank

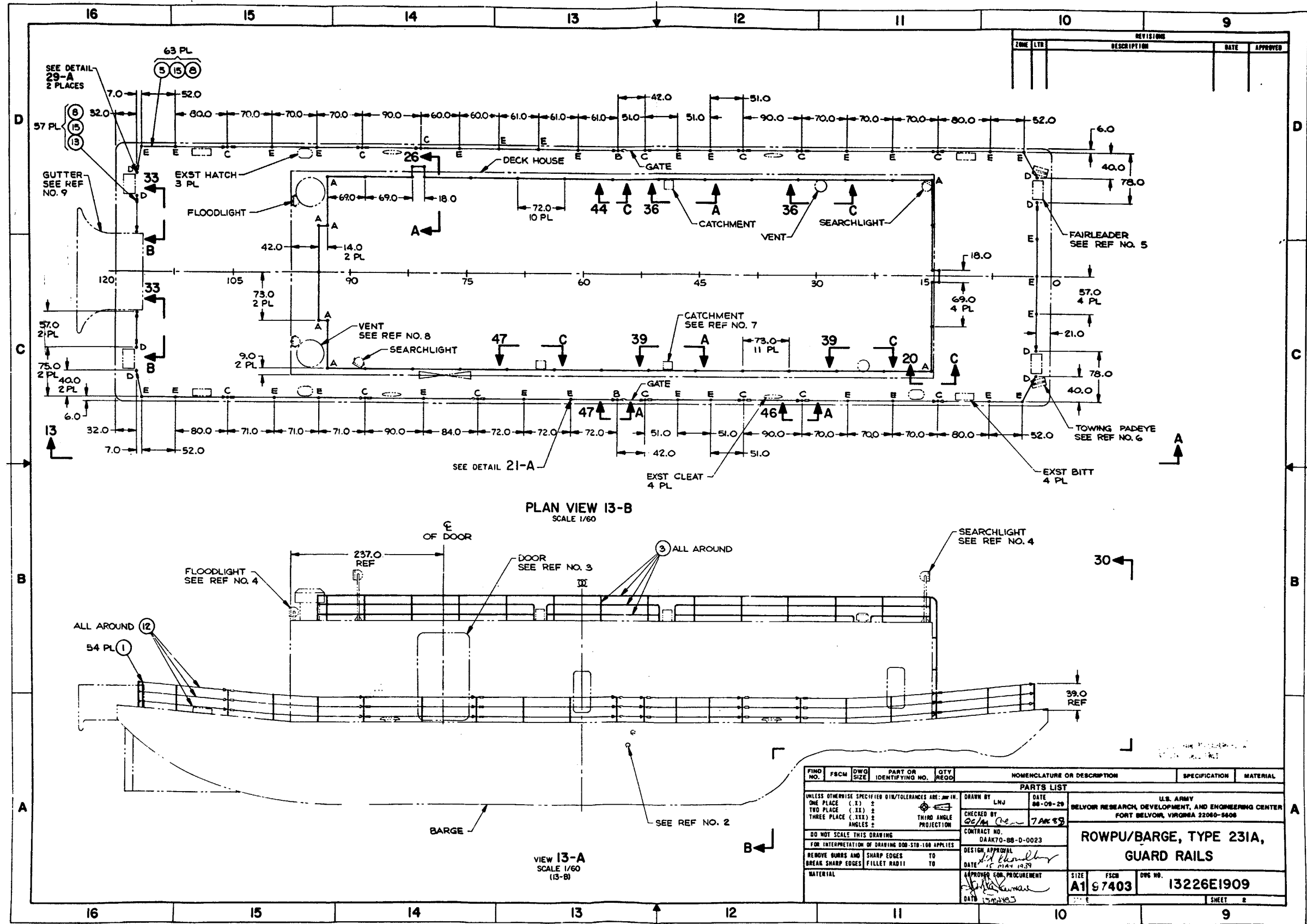


Figure FO-28 (Sheet 2 of 7)
FP-267/FP-268 Blank

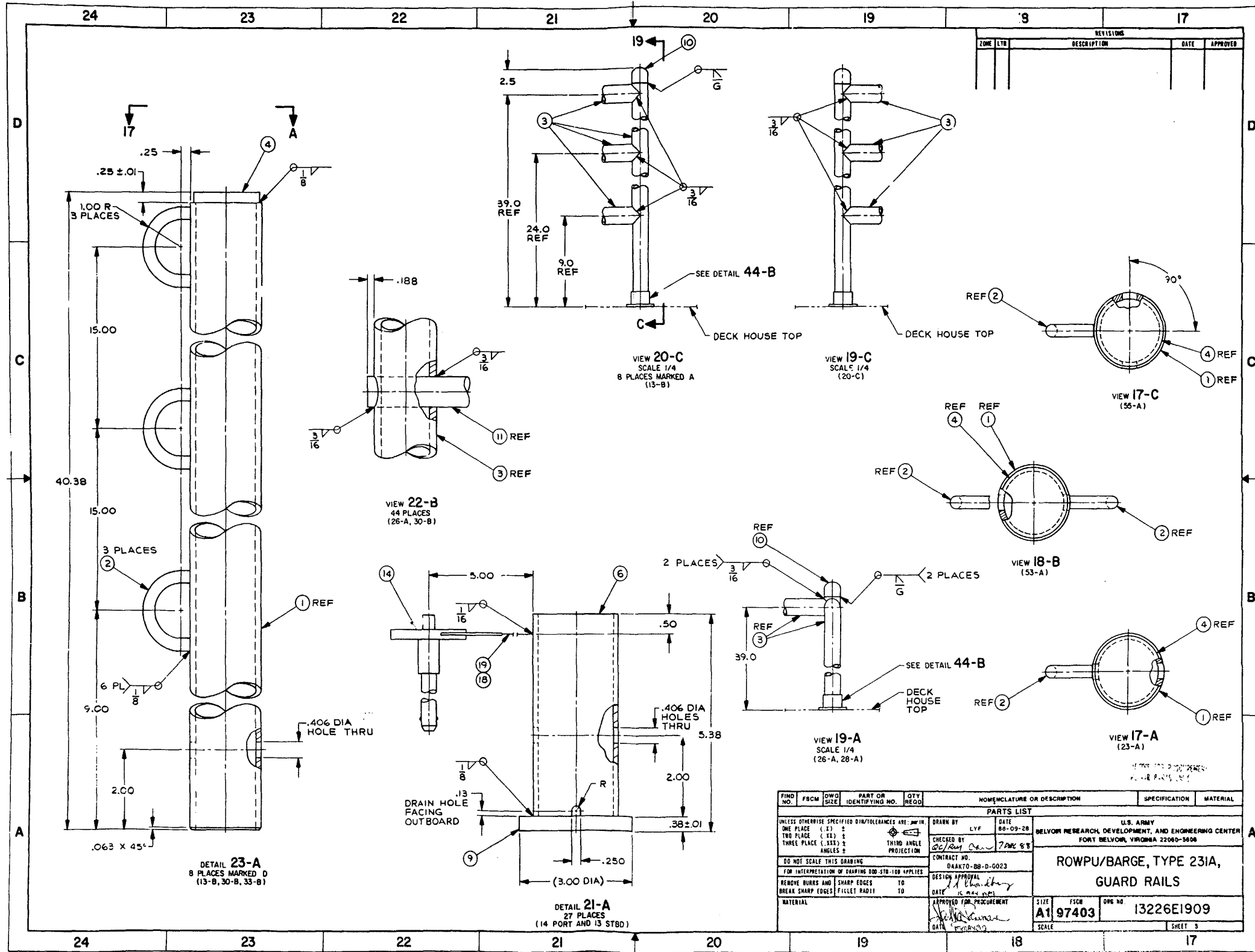
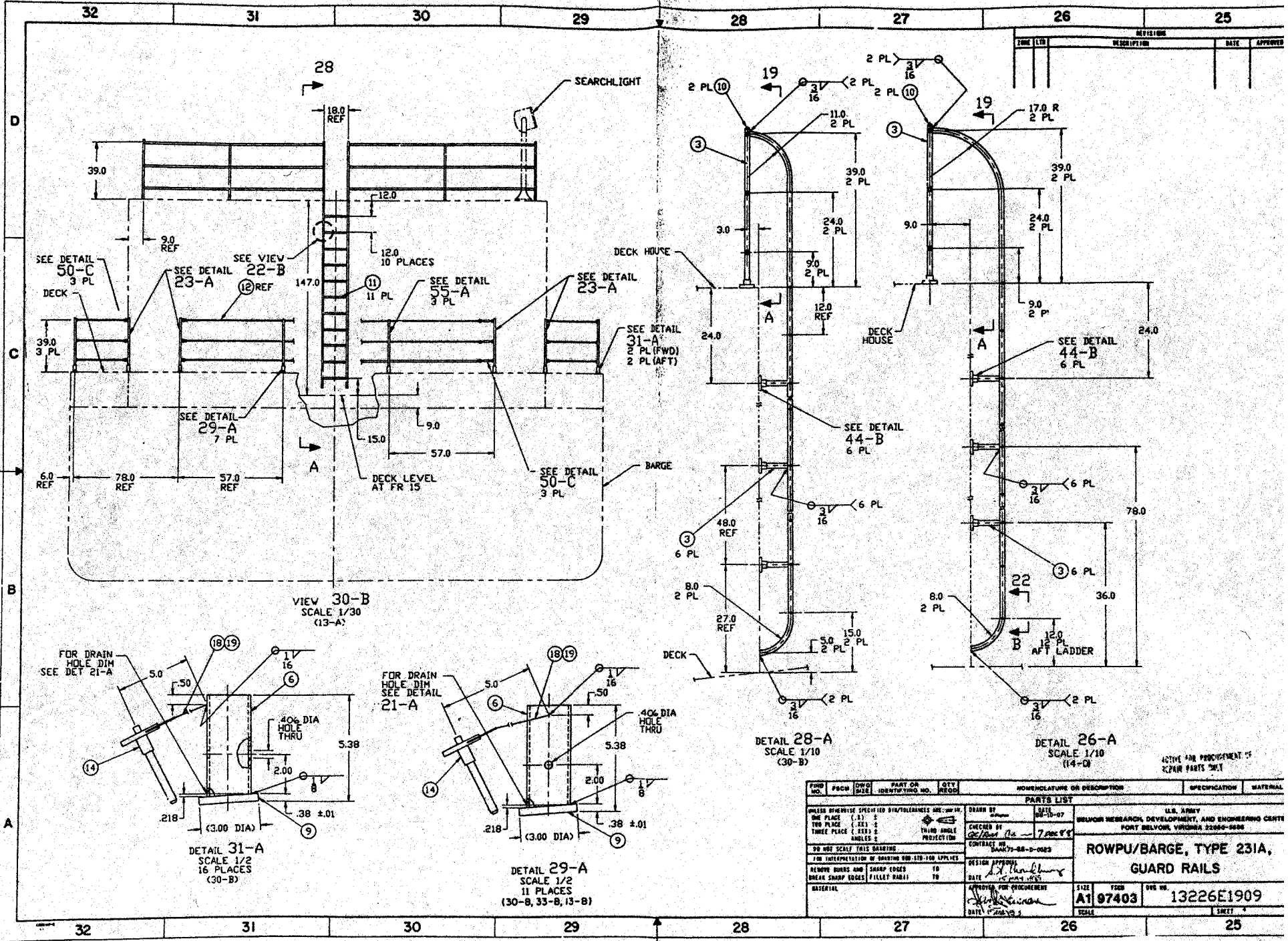


Figure FO-28 (Sheet 3 of 7)
FP-269/FP-270 Blank



TIME	LIB	DESCRIPTION	DATE	APPROVED

PORD NO.	FORM	DATE	IDENTIFYING NO.	QTY	DESCRIPTION	SPECIFICATION	MATERIAL
PARTS LIST							
DRAWN BY		DATE		U.S. ARMY			
CHECKED BY		DATE		BELVON RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER			
CONTRACT NO.		DRAWING NO.		FORT BELVON, VIRGINIA 22060-9808			
ROWPU/BARGE, TYPE 231A, GUARD RAILS							
DESIGN APPROVAL		DATE		APPROVED FOR PROCUREMENT		SCALE	
REWORK BURS AND SHARP EDGES		TO		DATE		SIZE	
BREAK SHARP EDGES (FILLET RADIUS)		TO		DATE		QSS NO.	
MATERIAL						13226E1909	
SCALE						SHEET	

Figure FO-28 (Sheet 4 of FP-271/(FP-272 Blank)

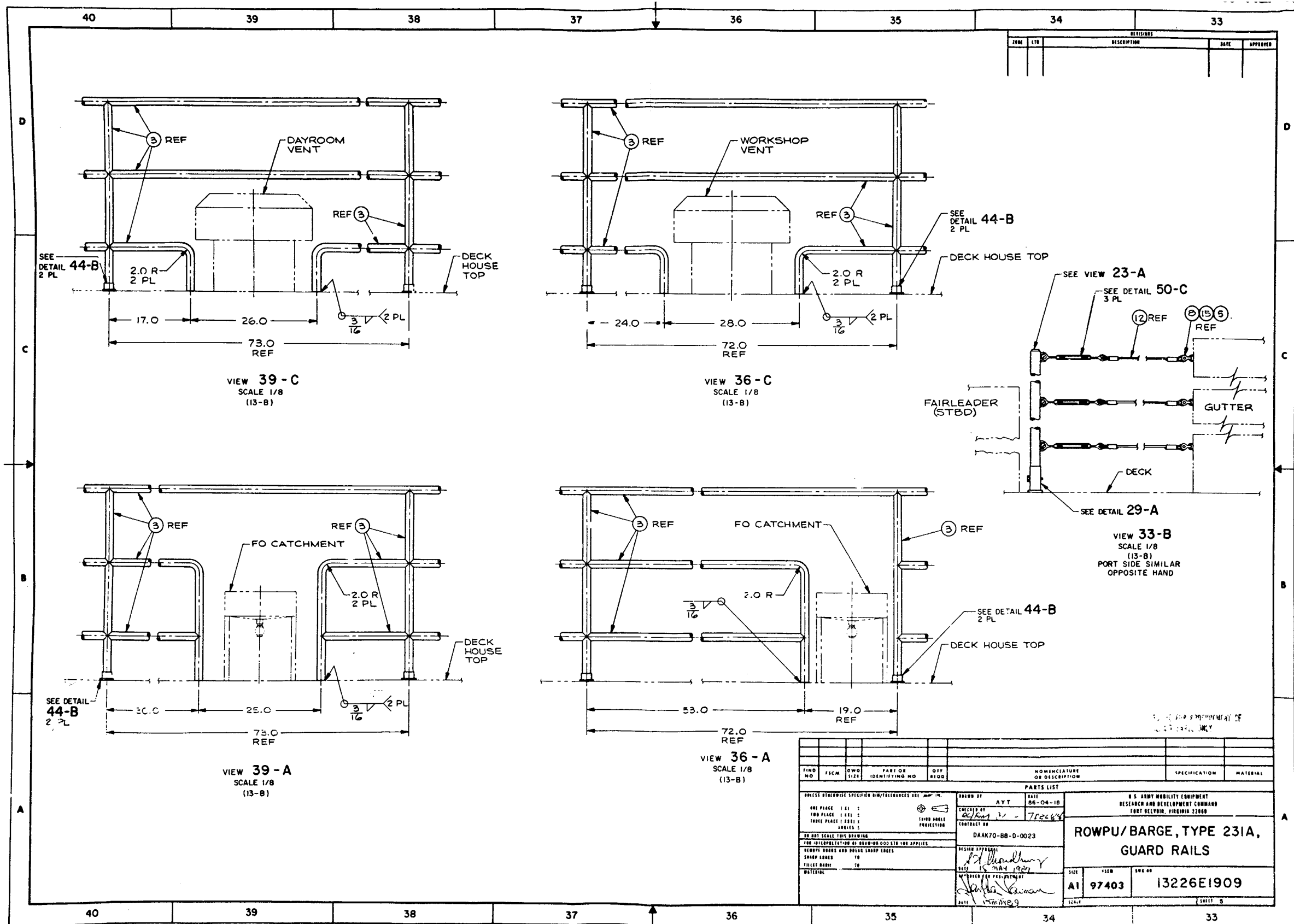


Figure FO-28 (Sheet 5 of 7)
 FP-273/FP-274 Blank

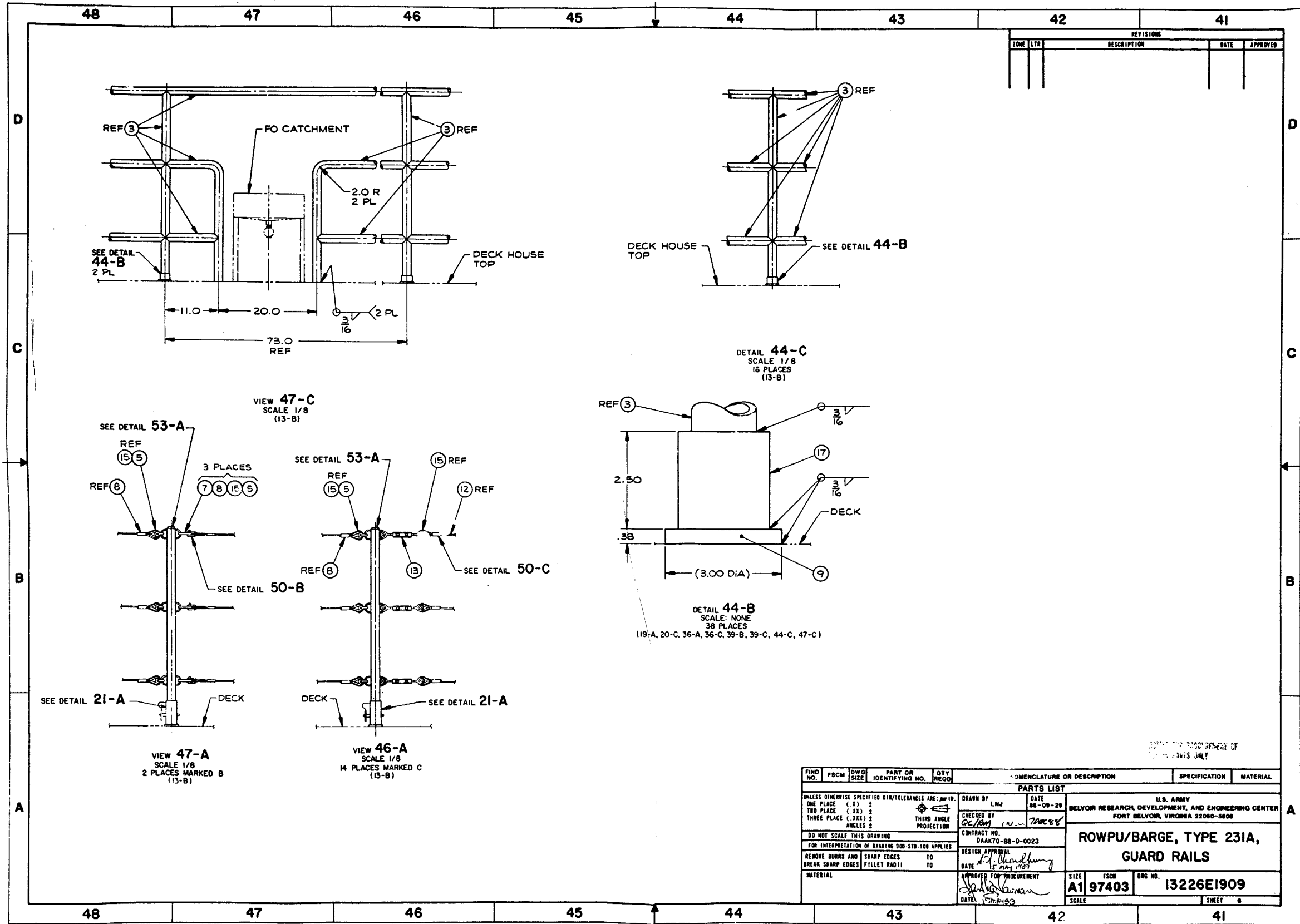


Figure FO-28 (Sheet 6 of 7)
FP-275/FP-276 Blank

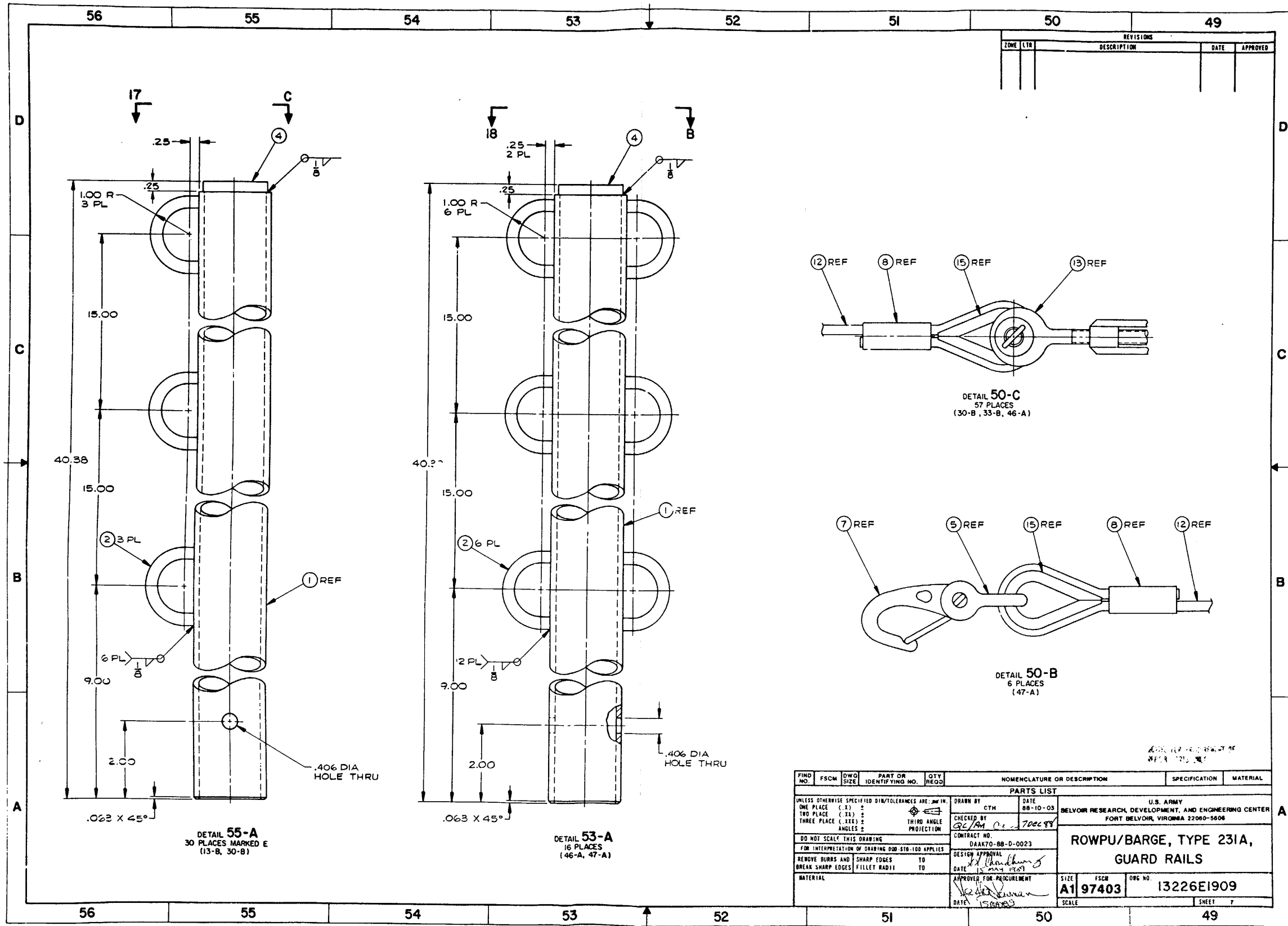


Figure FO-28 (Sheet 7 of 7)
FP-277/FP-278 Blank

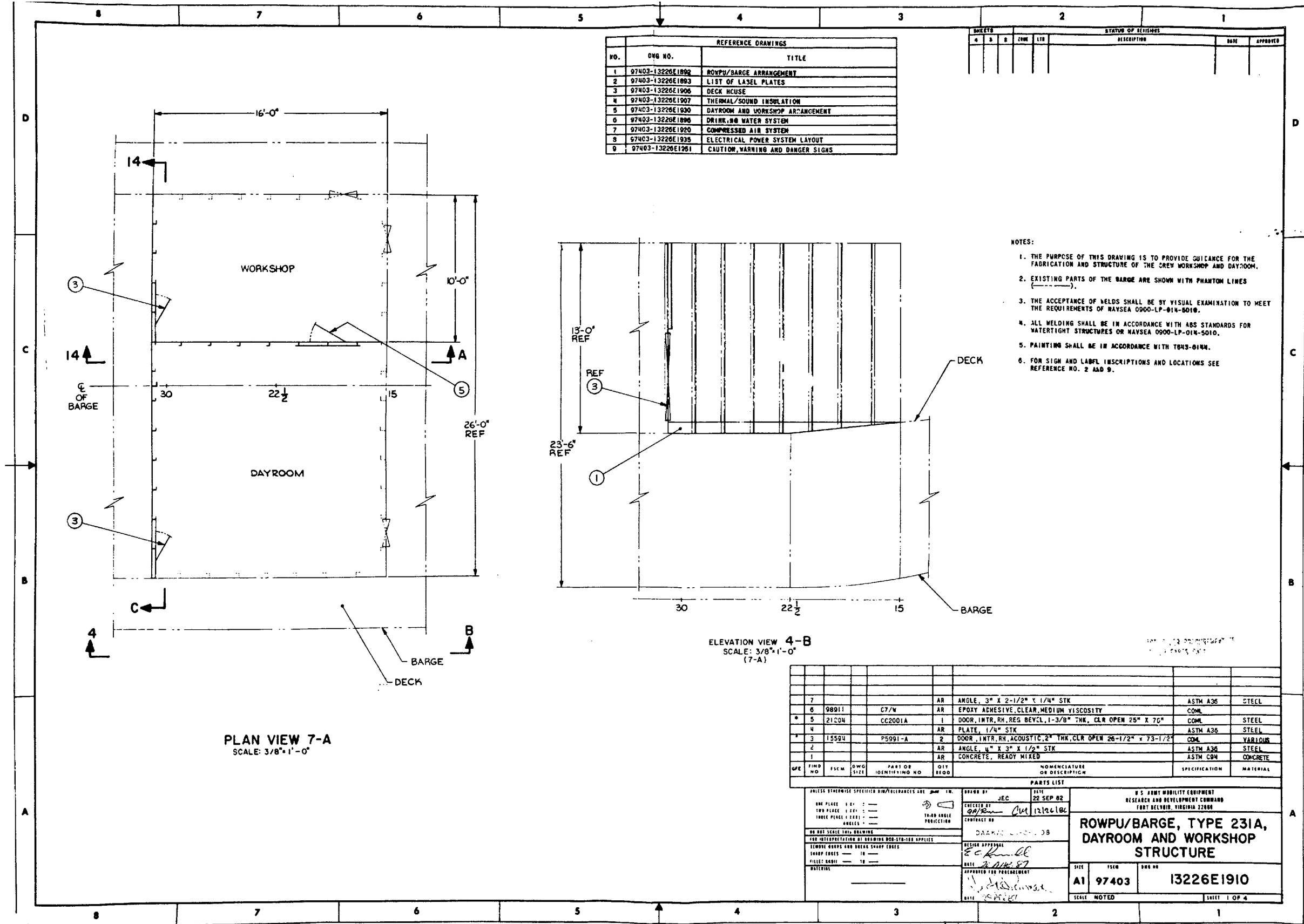


Figure FO-29 (Sheet 1 of 4)
FP-279/FP-280 Blank

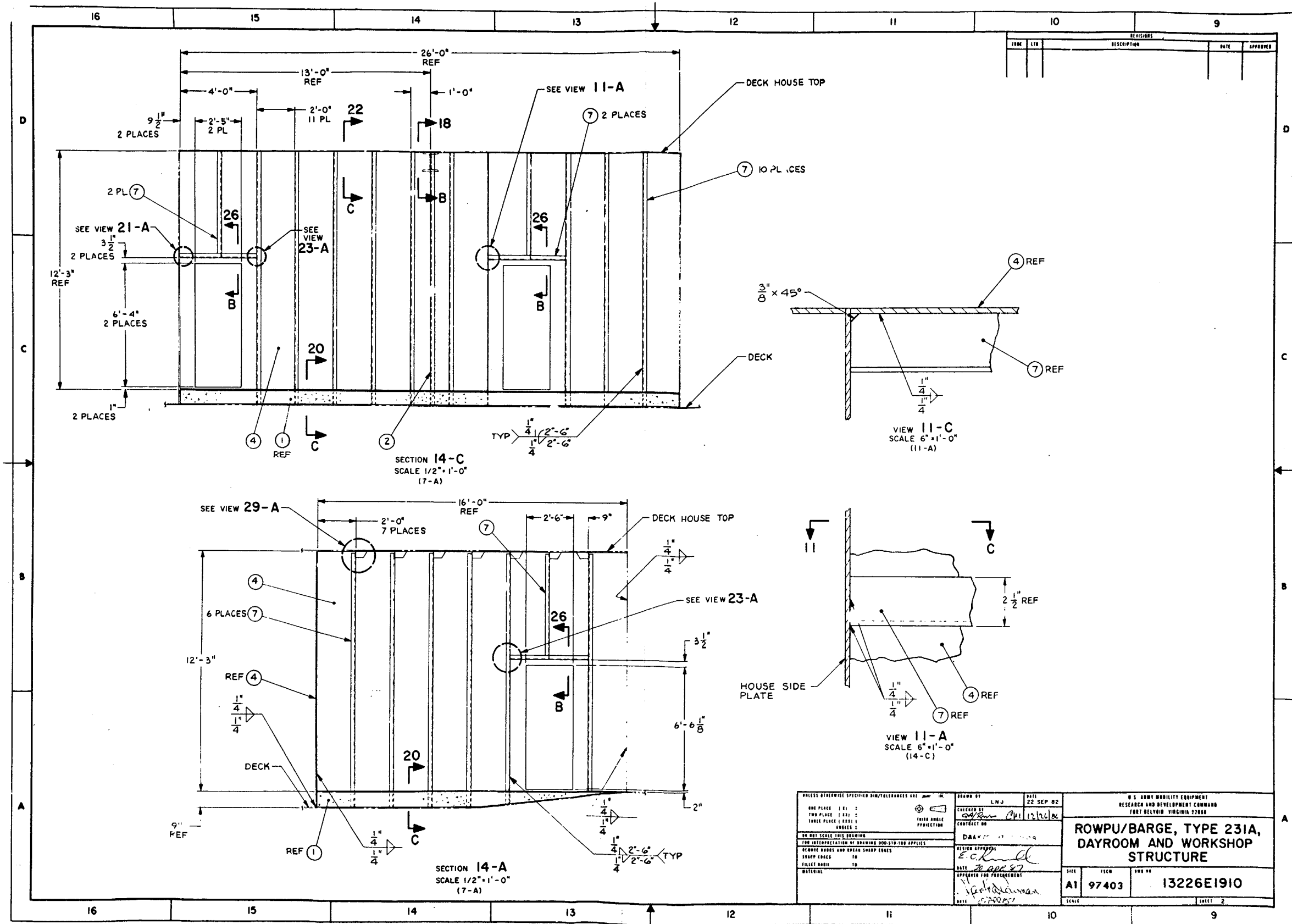
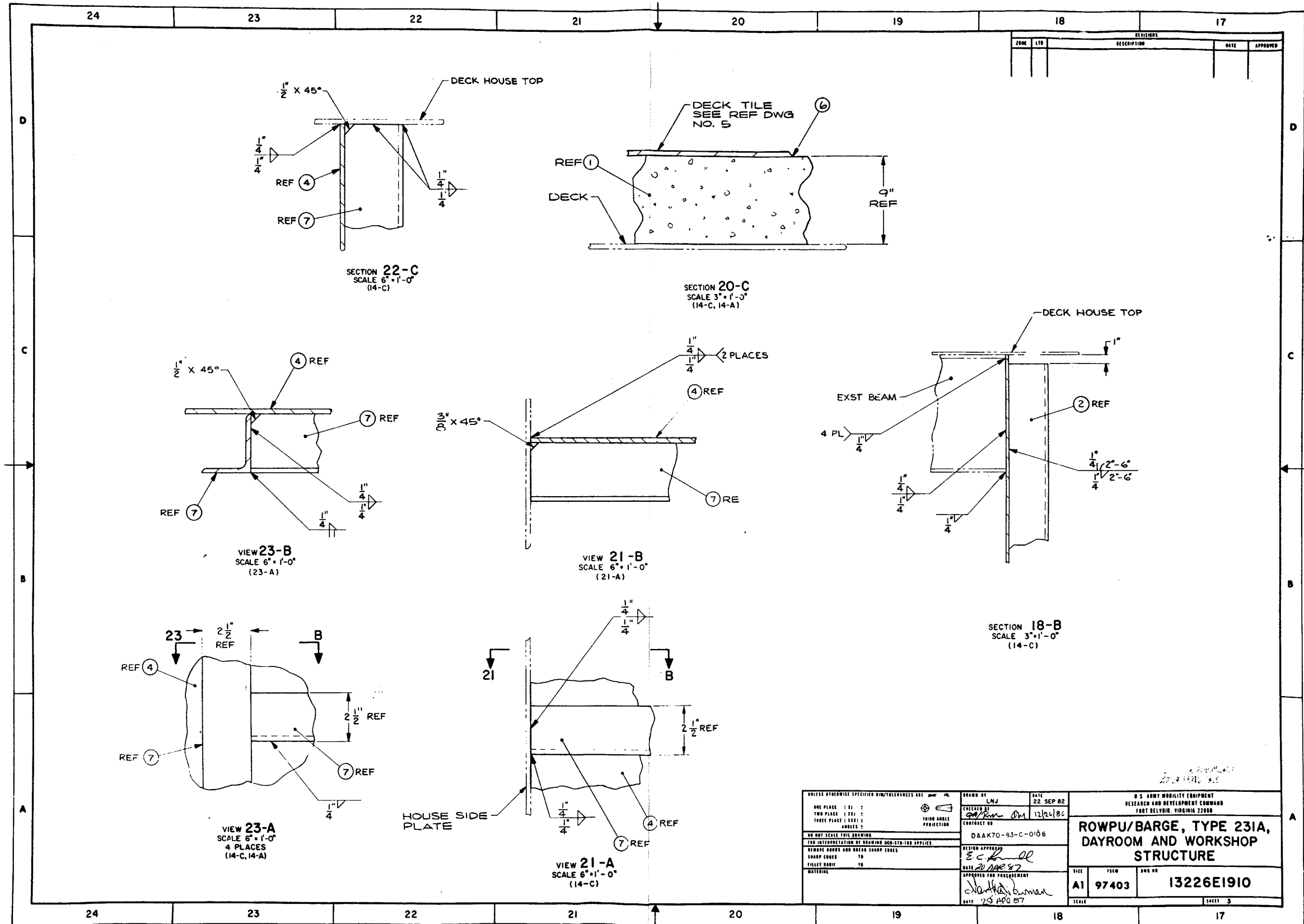


Figure FO-29 (Sheet 2 of 4)
FP-281/FP-282 Blank

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DRAWN BY: LWJ		DATE: 22 SEP 82	
ONE PLACE (1): 2	TWO PLACE (2): 3	THREE PLACE (3): 4	FOUR PLACE (4): 5	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060	
DO NOT SCALE THIS DRAWING FOR INTERPRETATION OF DRAWING DIMENSIONS TO APPLY		DESIGN APPROVAL: E.C. Knull		ROWPU/BARGE, TYPE 231A, DAYROOM AND WORKSHOP STRUCTURE	
REMOVE DIMENSIONS AND OPEN SHARP CORNERS GROUP DIMENSIONS TO FILLER MARK		DATE: 24 OCT 82		SIZE: A1 97403	
MATERIAL:		APPROVED FOR PRODUCTION: W. J. ...		FIG NO: 13226E1910	
		DATE: 07 20 82		SCALE: SHEET 2	



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DRAWN BY LMJ	DATE 22 SEP 82	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT CENTER FORT BELVOIR, VIRGINIA 22060
ONE PLACE : 1/8" ±	TWO PLACE : 1/16" ±	CHECKED BY GWR/Row Dm	DATE 12/24/82	
THREE PLACE : 0.001" ±	ANGLES :	CONTRACT NO. DAAK70-83-C-0108	ROWPU/BARGE, TYPE 231A, DAYROOM AND WORKSHOP STRUCTURE	
DO NOT SCALE THIS DRAWING	FOR INTERPRETATION OF DRAWING DIMENSIONS APPLIES	DESIGN APPROVAL E.C. [Signature]	DATE 20 APR 87	SITE A1
SHARP EDGES TO	FILLET RADIUS TO	APPROVED FOR PROCUREMENT C. [Signature]	DATE 20 APR 87	
MATERIAL		SCALE 1" = 1'-0"		FIG NO 97403
				QWG NO 13226E1910
				SHEET 3

Figure FO-29 (Sheet 3 of 4)
FP-283/FP-284 Blank

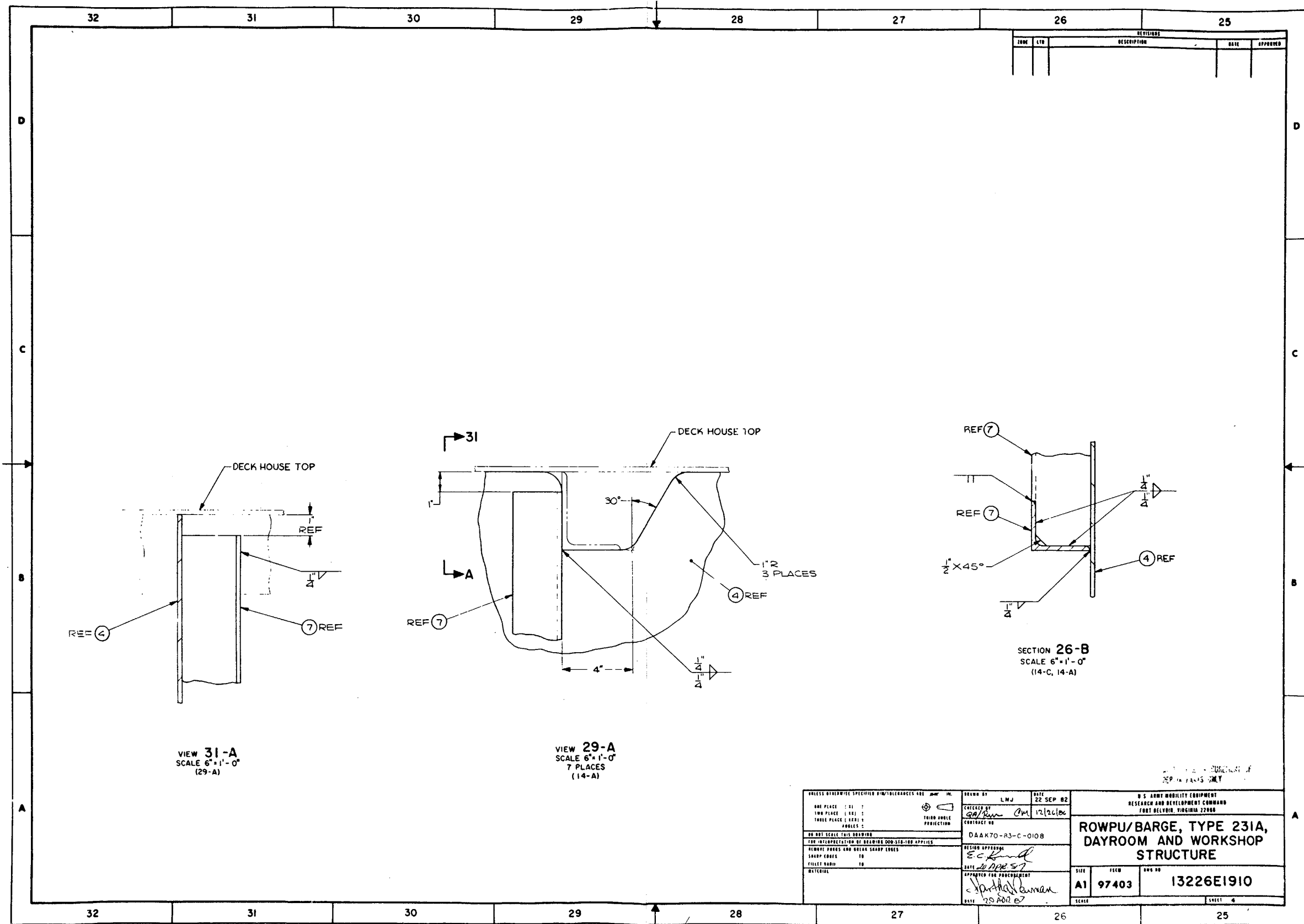


Figure FO-29 (Sheet 4 of 4)
FP-285/FP-286 Blank

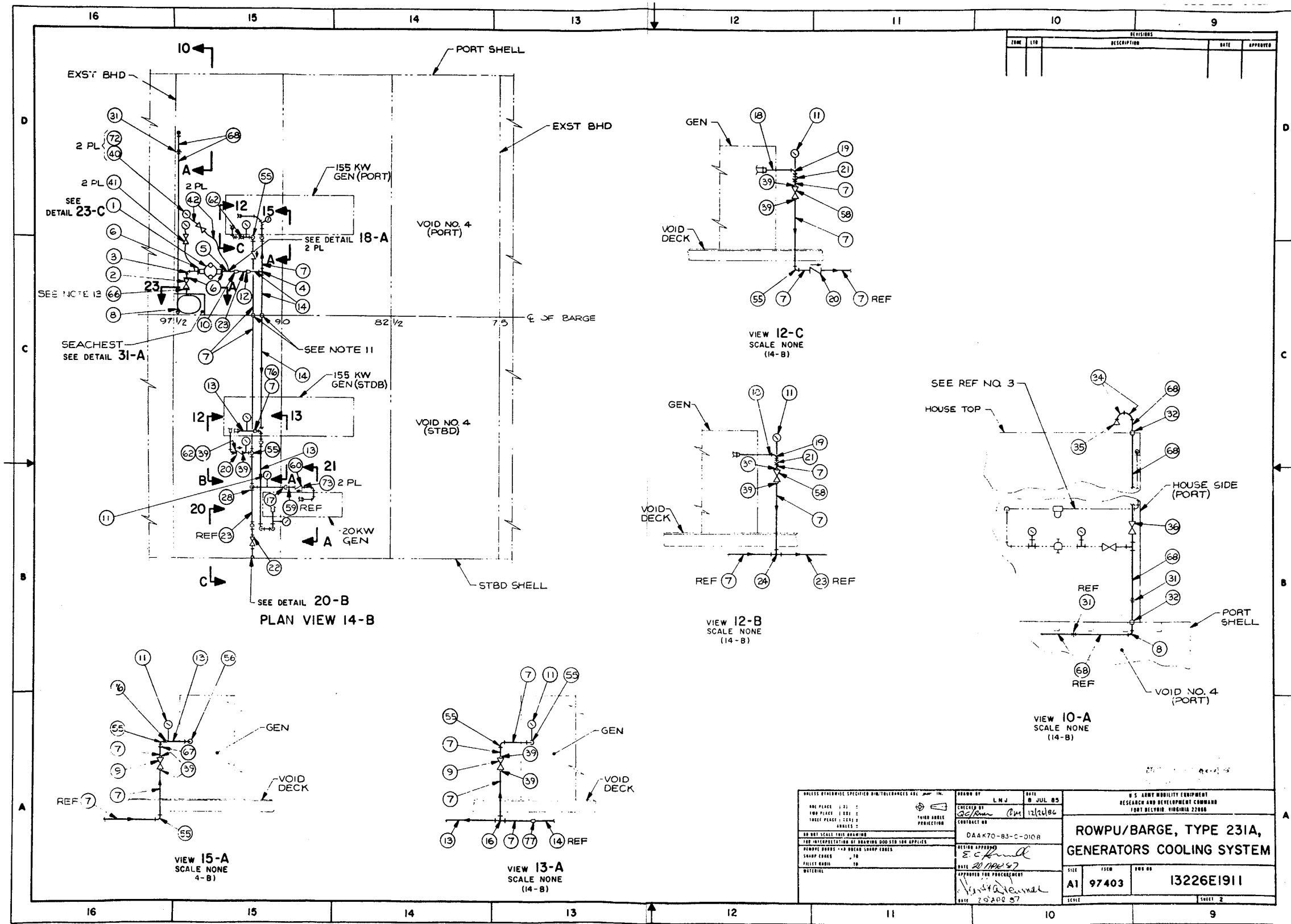


Figure FO-30 (Sheet 2 of 6)
FP-289/(FP-290 Blank)

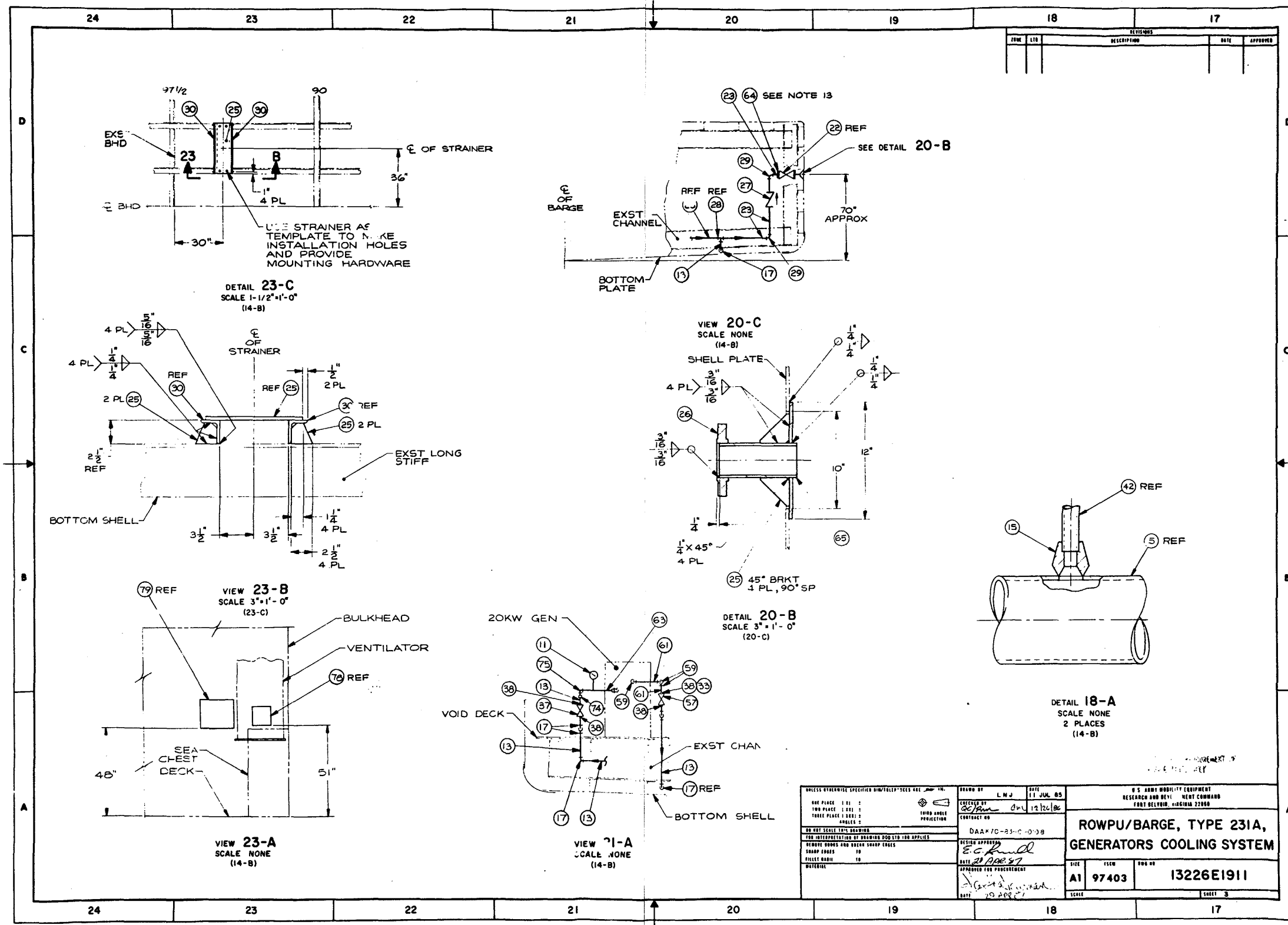


Figure FO-30 (Sheet 3 of 6)
FP-291/(FP-292 Blank)

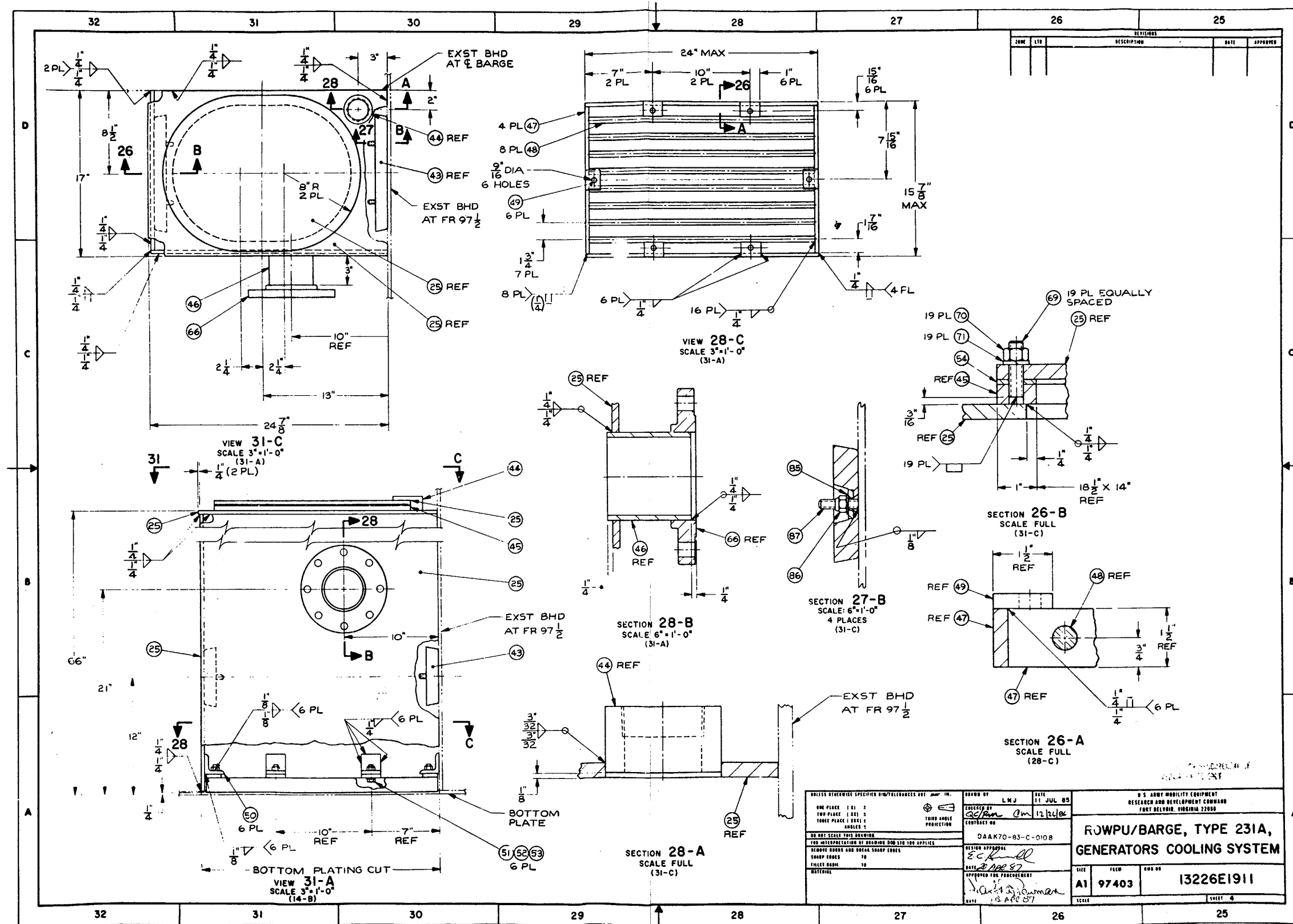


Figure FO-30 (Sheet 4 of 6)
FP-293/(FP-294 Blank)

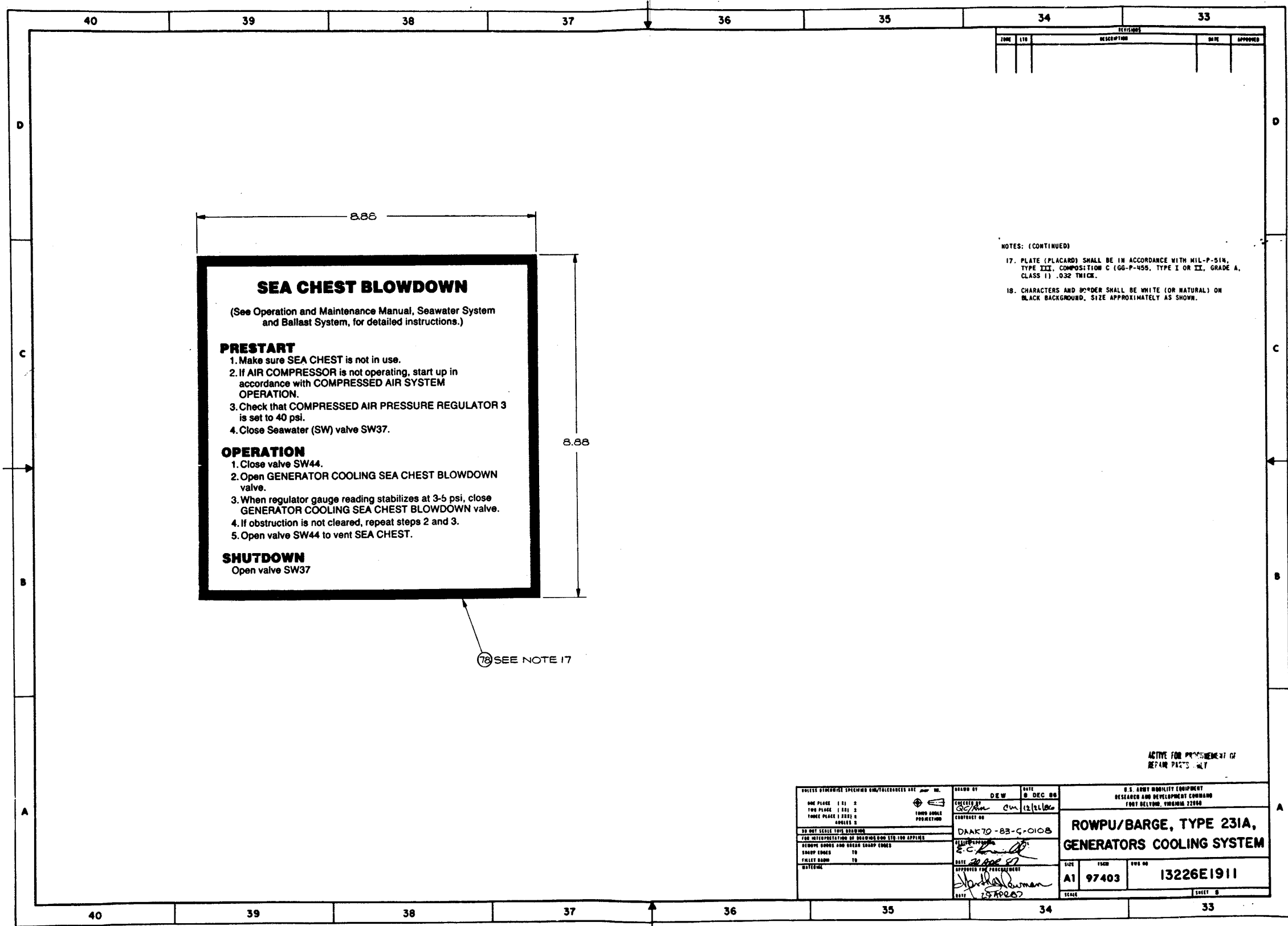
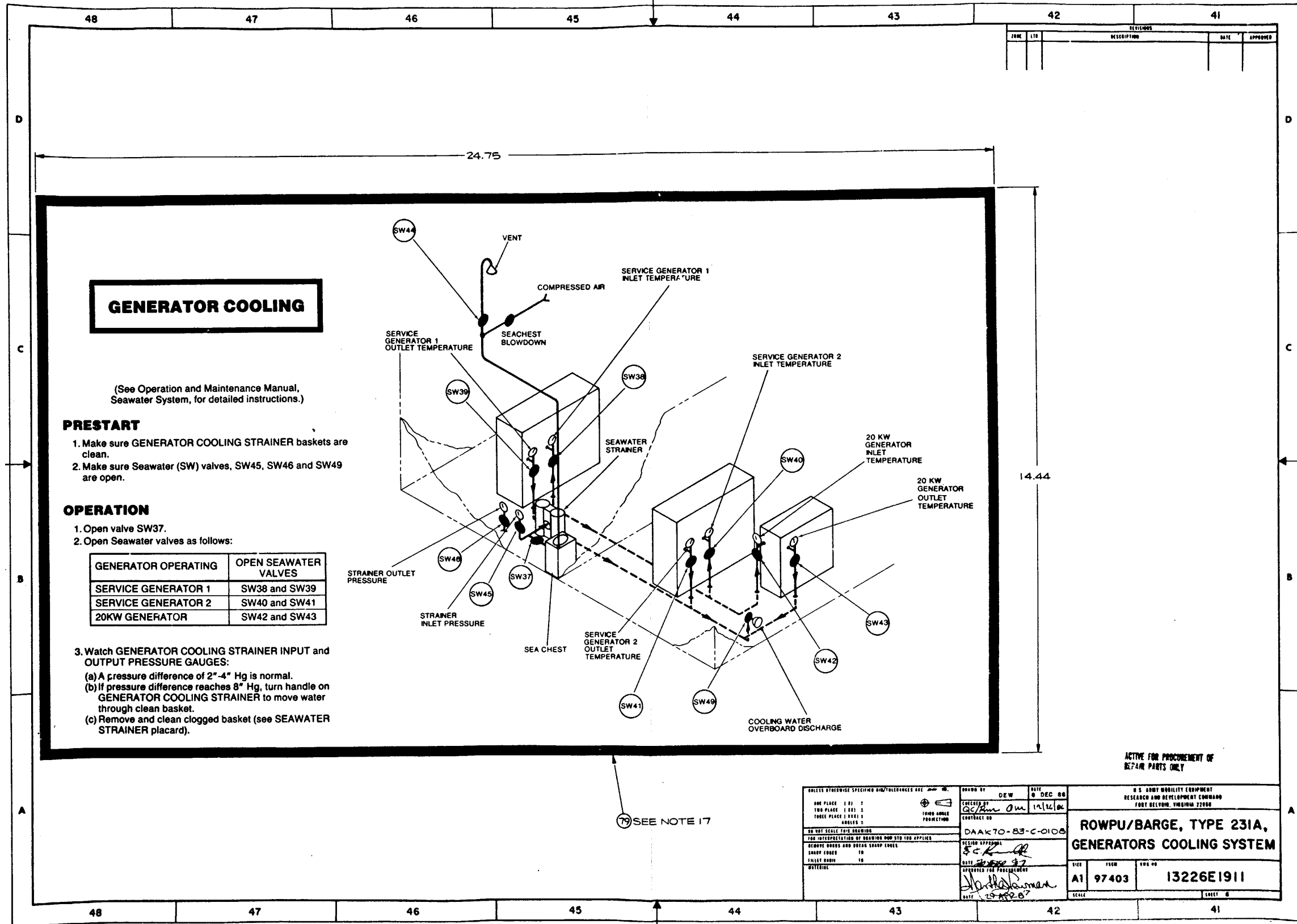


Figure FO-30 (Sheet 5 of 6)
FP-295/(FP-296 Blank)



GENERATOR COOLING

(See Operation and Maintenance Manual, Seawater System, for detailed instructions.)

PRESTART

1. Make sure GENERATOR COOLING STRAINER baskets are clean.
2. Make sure Seawater (SW) valves, SW45, SW46 and SW49 are open.

OPERATION

1. Open valve SW37.
2. Open Seawater valves as follows:

GENERATOR OPERATING	OPEN SEAWATER VALVES
SERVICE GENERATOR 1	SW38 and SW39
SERVICE GENERATOR 2	SW40 and SW41
20KW GENERATOR	SW42 and SW43

3. Watch GENERATOR COOLING STRAINER INPUT and OUTPUT PRESSURE GAUGES:
 - (a) A pressure difference of 2"-4" Hg is normal.
 - (b) If pressure difference reaches 8" Hg, turn handle on GENERATOR COOLING STRAINER to move water through clean basket.
 - (c) Remove and clean clogged basket (see SEAWATER STRAINER placard).

ACTIVE FOR PROCUREMENT OF REPAIR PARTS ONLY

UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE AS SHOWN.		DESIGNED BY D.E.W.	DATE 8 DEC 88	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, COLORADO 80208	
ONE PLACE (1:1) :	TWO PLACE (1:2) :	CHECKED BY G.A.M. Om	DATE 12/12/88	ROWPU/BARGE, TYPE 231A, GENERATORS COOLING SYSTEM	
THREE PLACE (1:3) :	FOUR PLACE (1:4) :	CONTRACT NO. DAAK70-83-C-0108	SCALE A1		
DO NOT SCALE THIS DRAWING	FOR INTERPRETATION BY DRAWING AND TO BE APPLIED	DESIGN APPROVAL S.C.K.	DATE 25 APR 87	FIG NO. 13226E1911	SHEET NO. 6
WORKING DIMENSIONS AND DIMENSIONS SHOWN IN THIS DRAWING	SHOWN IN THIS DRAWING	APPROVED FOR PROCUREMENT [Signature]	DATE 25 APR 87		

Figure FO-30 (Sheet 6 of 6)
FP-297/(FP-298 Blank)

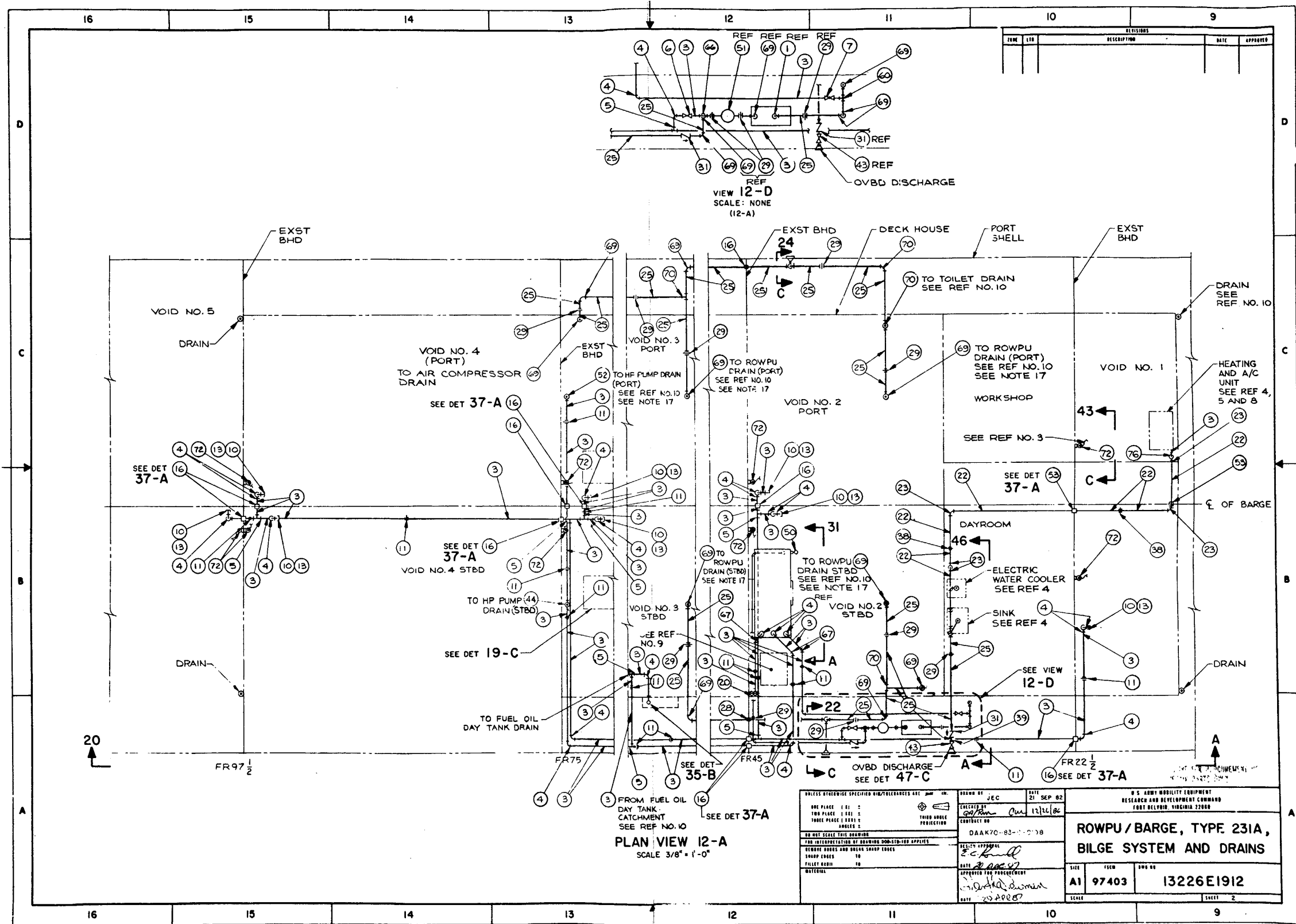


Figure FO-31 (Sheet 2 of 7)
FP-301/(FP-302 Blank)

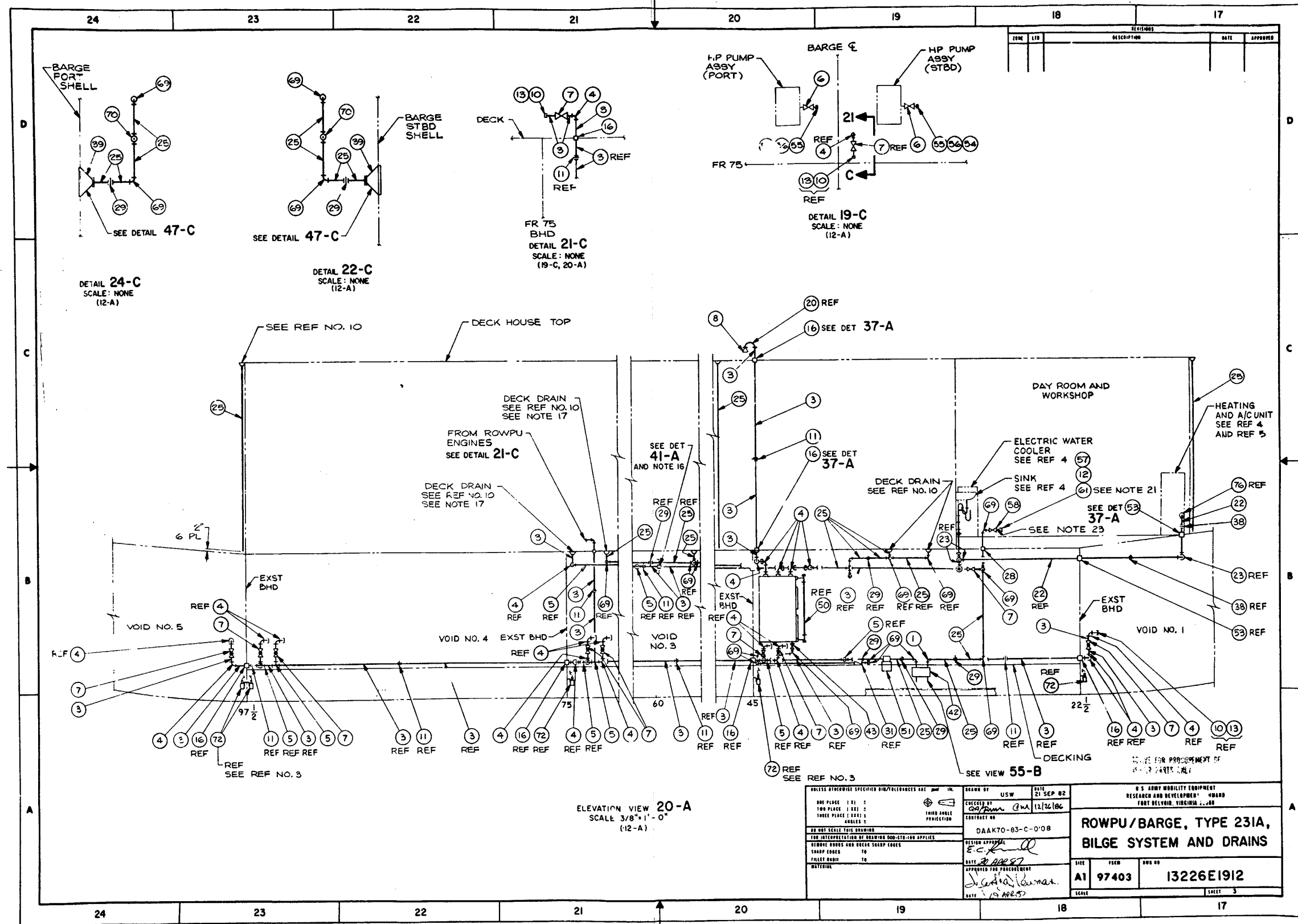


Figure FO-31 (Sheet 3 of 7)
FP-303/(FP-304 Blank)

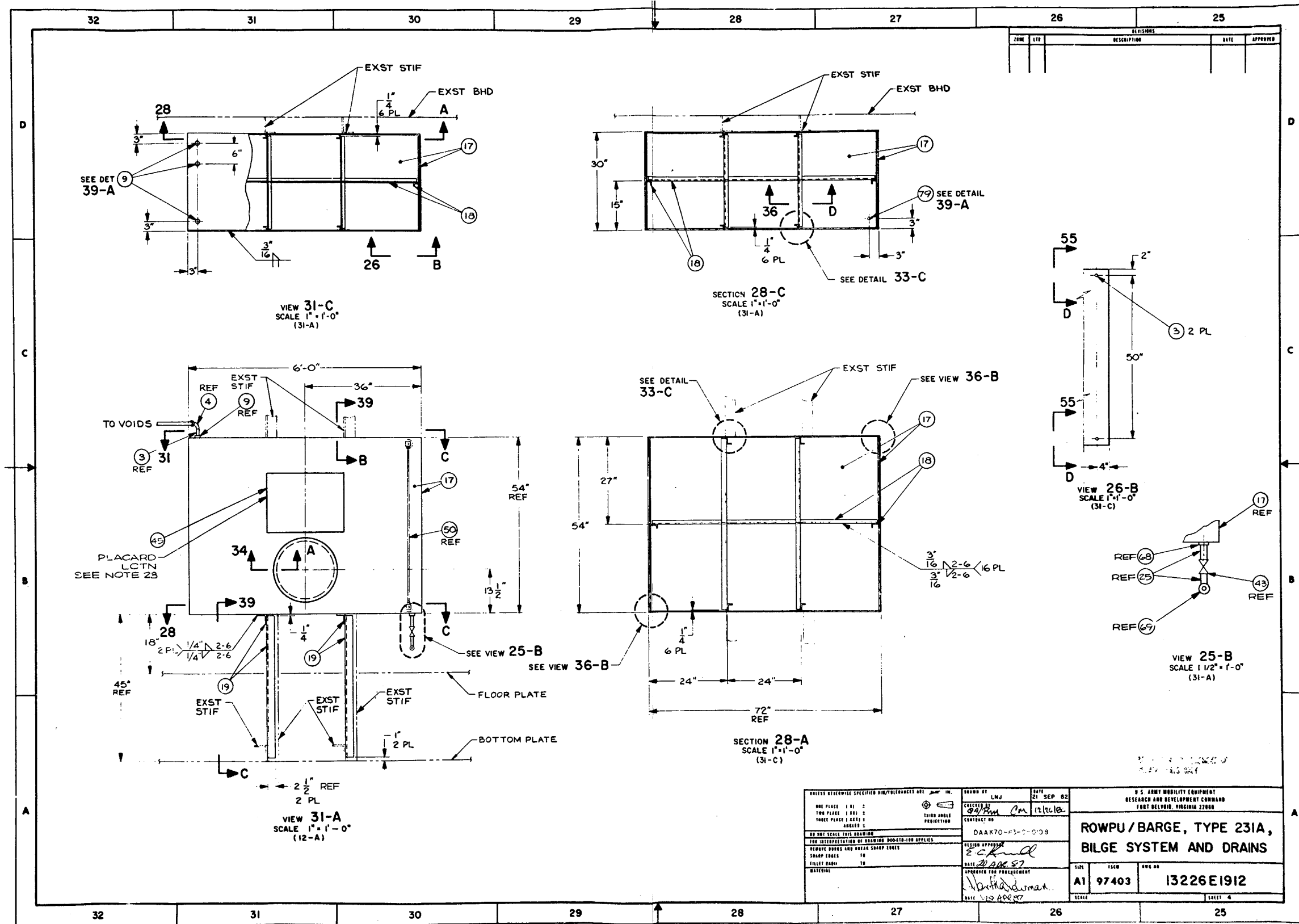


Figure FO-31 (Sheet 4 of 7)
FP-305/(FP-306 Blank)

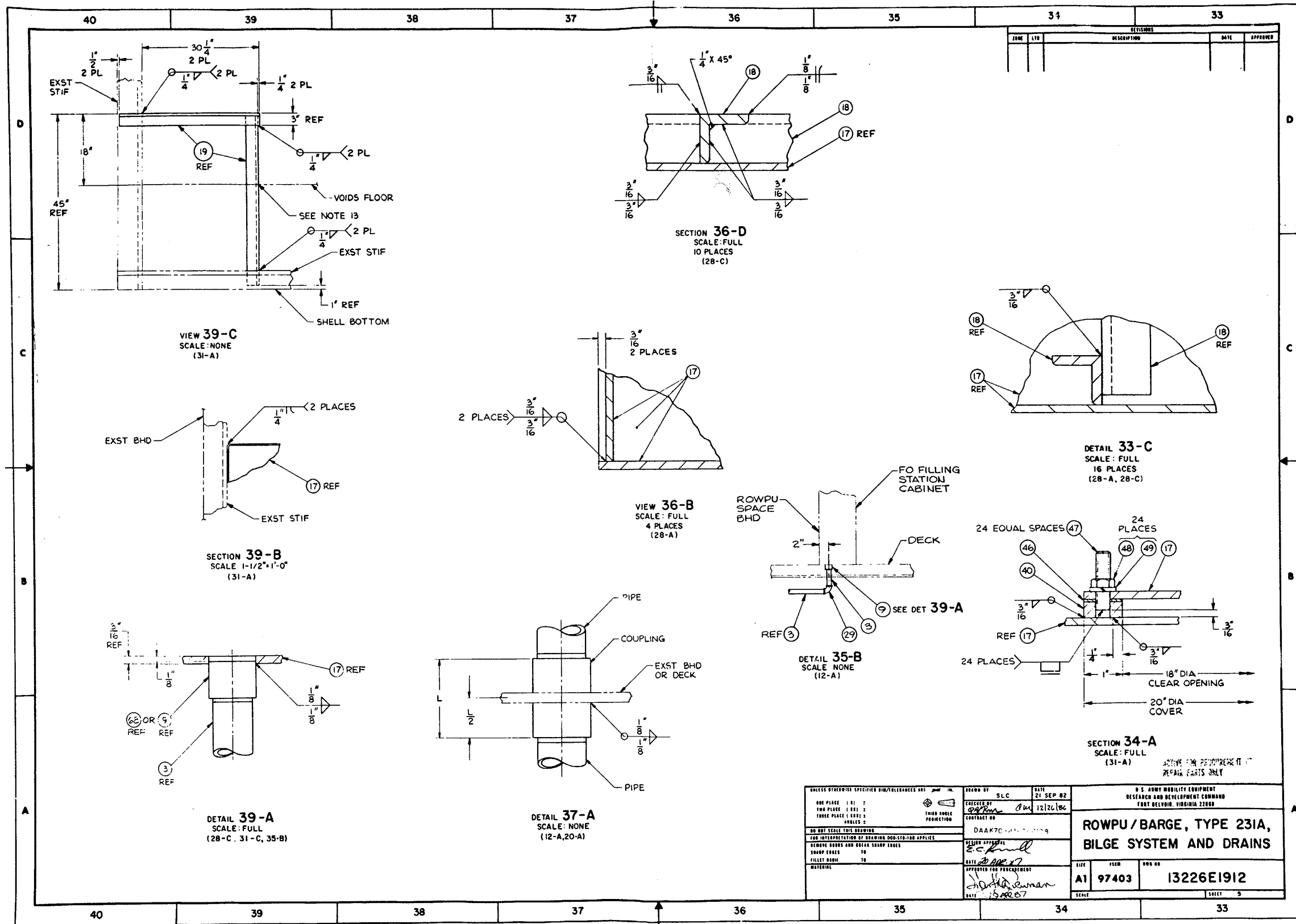


Figure FO-31 (Sheet 5 of 7)
FP-305/(FP-306 Blank)

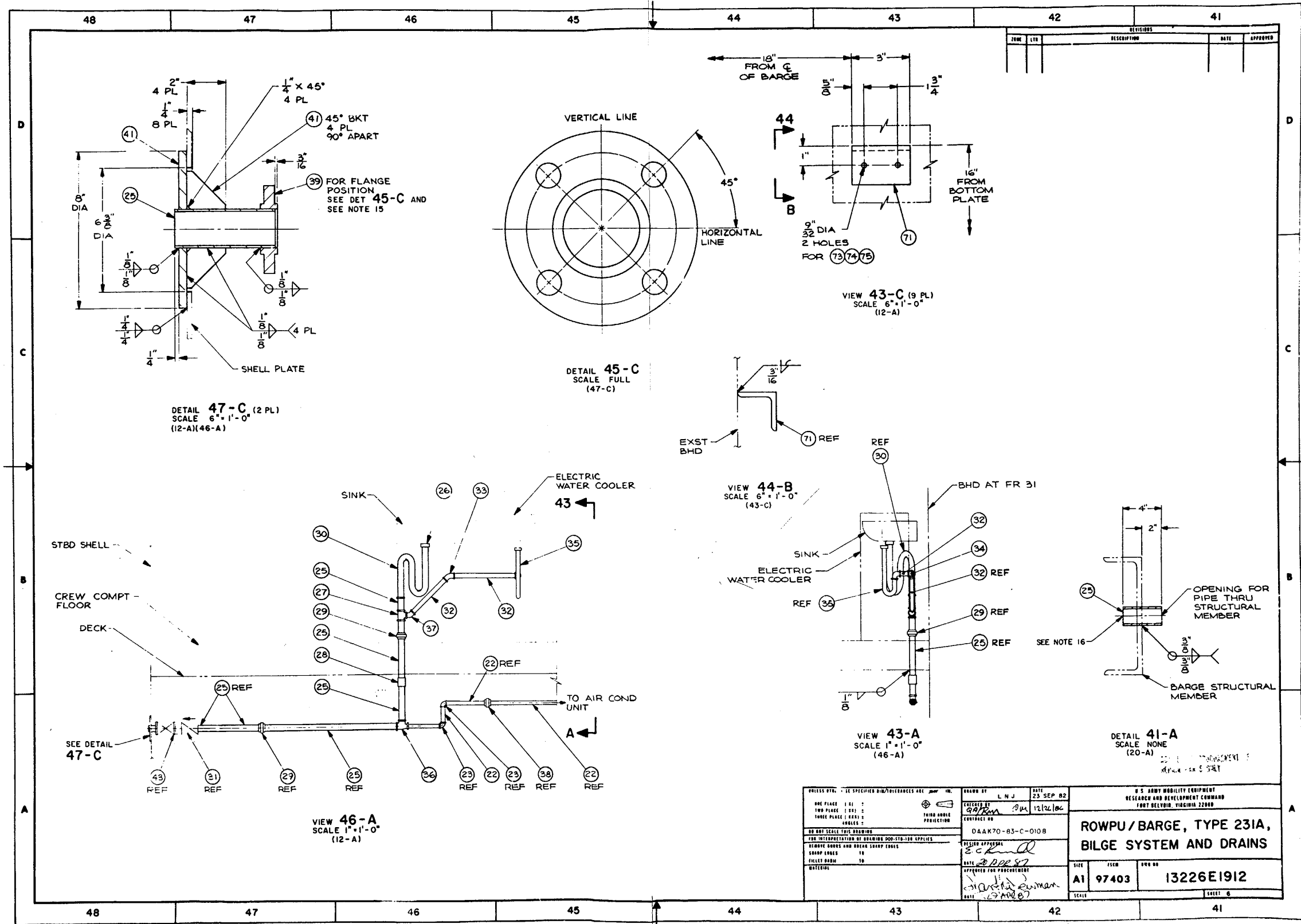


Figure FO-31 (Sheet 6 of 7)
FP-305/(FP-306 Blank)

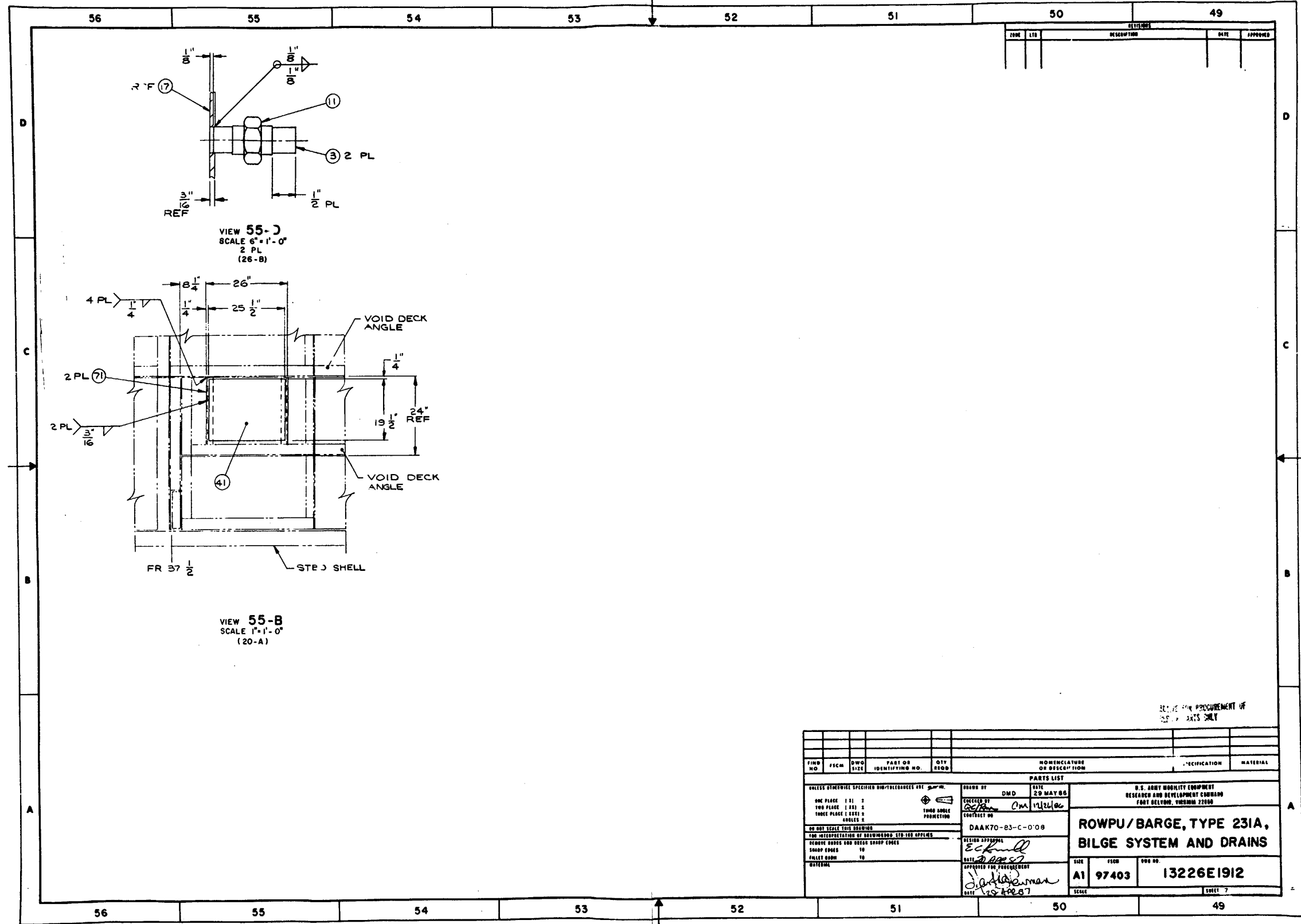
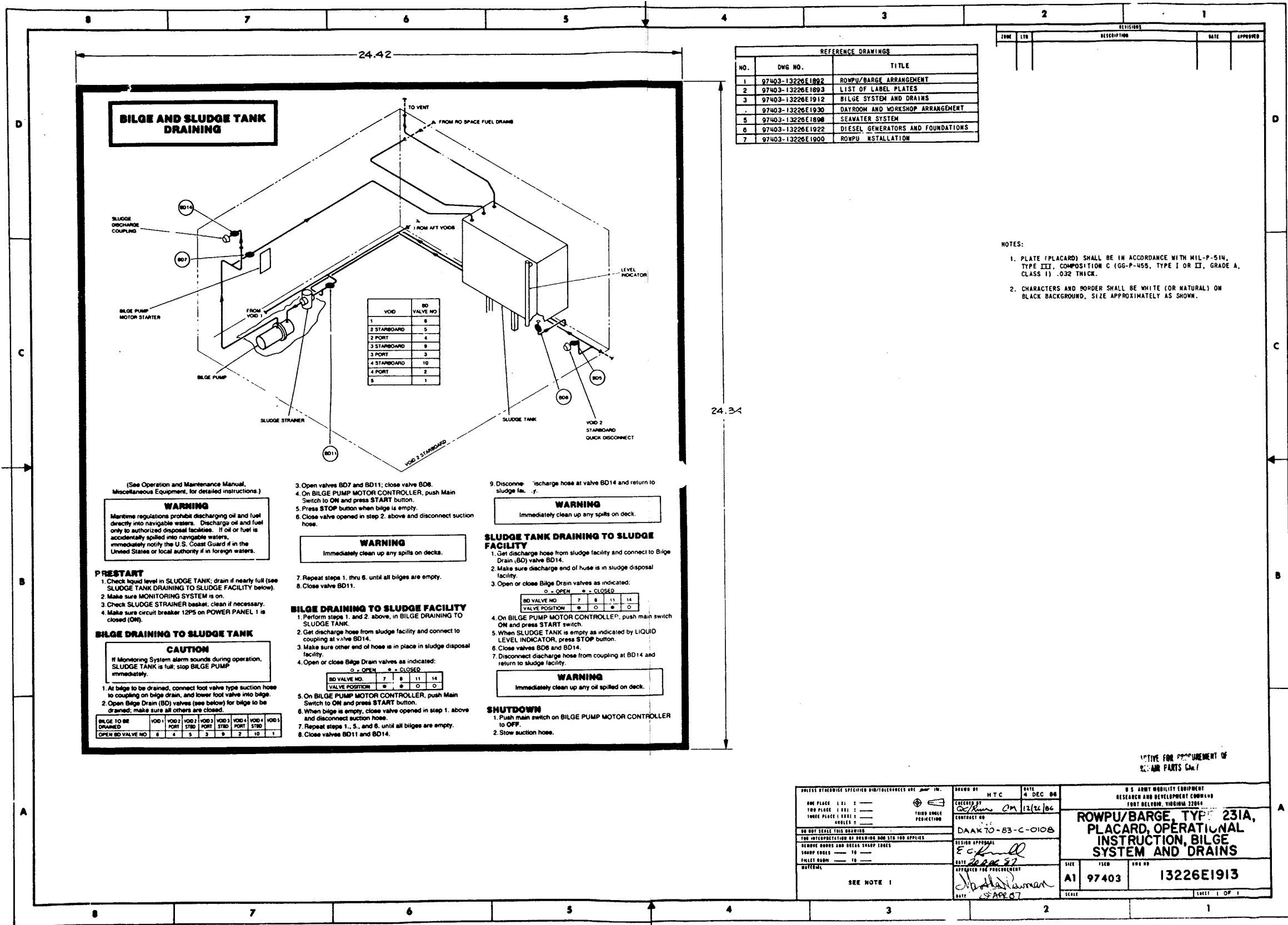


Figure FO-31 (Sheet 7 of 7)
FP-311/(FP-312 Blank)



REFERENCE DRAWINGS		
NO.	DWG NO.	TITLE
1	97403-13226E1892	ROWPU/BARGE ARRANGEMENT
2	97403-13226E1893	LIST OF LABEL PLATES
3	97403-13226E1912	BILGE SYSTEM AND DRAINS
4	97403-13226E1930	DAYROOM AND WORKSHOP ARRANGEMENT
5	97403-13226E1896	SEAWATER SYSTEM
6	97403-13226E1922	DIESEL GENERATORS AND FOUNDATIONS
7	97403-13226E1900	ROWPU INSTALLATION

REVISIONS				
ZONE	LTN	DESCRIPTION	DATE	APPROVED

- NOTES:
- PLATE (PLACARD) SHALL BE IN ACCORDANCE WITH MIL-P-514, TYPE III, COMPOSITION C (GG-P-455, TYPE I OR II, GRADE A, CLASS 1) .032 THICK.
 - CHARACTERS AND BORDER SHALL BE WHITE (OR NATURAL) ON BLACK BACKGROUND, SIZE APPROXIMATELY AS SHOWN.

BILGE AND SLUDGE TANK DRAINING

VOID	BD VALVE NO.
1	8
2 STARBOARD	5
2 PORT	4
3 STARBOARD	9
3 PORT	3
4 STARBOARD	10
4 PORT	2
5	1

(See Operation and Maintenance Manual, Miscellaneous Equipment, for detailed instructions.)

WARNING
Maritime regulations prohibit discharging oil and fuel directly into navigable waters. Discharge of oil and fuel only to authorized disposal facilities. If oil or fuel is accidentally spilled into navigable waters, immediately notify the U.S. Coast Guard if in the United States or local authority if in foreign waters.

PRESTART
1. Check liquid level in SLUDGE TANK; drain if nearly full (see SLUDGE TANK DRAINING TO SLUDGE FACILITY below).
2. Make sure MONITORING SYSTEM is on.
3. Check SLUDGE STRAINER basket; clean if necessary.
4. Make sure circuit breaker 12PS on POWER PANEL 1 is closed (ON).

BILGE DRAINING TO SLUDGE TANK

CAUTION
If Monitoring System alarm sounds during operation, SLUDGE TANK is full; stop BILGE PUMP immediately.

1. At bilge to be drained, connect foot valve type suction hose to coupling on bilge drain, and lower foot valve into bilge.
2. Open Bilge Drain (BD) valves (see below) for bilge to be drained; make sure all others are closed.

BILGE TO BE DRAINED	VOID 1 PORT	VOID 2 STBD	VOID 3 PORT	VOID 3 STBD	VOID 4 PORT	VOID 4 STBD	VOID 5
OPEN BD VALVE NO.	8	4	5	3	9	2	10

3. Open valves BD7 and BD11; close valve BD8.
4. On BILGE PUMP MOTOR CONTROLLER, push Main Switch to ON and press START button.
5. Press STOP button when bilge is empty.
6. Close valve opened in step 2. above and disconnect suction hose.

WARNING
Immediately clean up any spills on deck.

SLUDGE TANK DRAINING TO SLUDGE FACILITY
1. Get discharge hose from sludge facility and connect to Bilge Drain (BD) valve BD14.
2. Make sure discharge end of hose is in sludge disposal facility.
3. Open or close Bilge Drain valves as indicated:

BD VALVE NO.	7	8	11	14
VALVE POSITION	●	○	●	○

4. On BILGE PUMP MOTOR CONTROLLER, push main switch ON and press START switch.
5. When SLUDGE TANK is empty as indicated by LIQUID LEVEL INDICATOR, press STOP button.
6. Close valves BD8 and BD14.
7. Disconnect discharge hose from coupling at BD14 and return to sludge facility.

WARNING
Immediately clean up any oil spilled on deck.

SHUTDOWN
1. Push main switch on BILGE PUMP MOTOR CONTROLLER to OFF.
2. Stow suction hose.

7. Repeat steps 1. thru 6. until all bilges are empty.
8. Close valve BD11.

BILGE DRAINING TO SLUDGE FACILITY
1. Perform steps 1. and 2. above, in BILGE DRAINING TO SLUDGE TANK.
2. Get discharge hose from sludge facility and connect to coupling at valve BD14.
3. Make sure other end of hose is in place in sludge disposal facility.
4. Open or close Bilge Drain valves as indicated:

BD VALVE NO.	7	8	11	14
VALVE POSITION	○	○	○	○

5. On BILGE PUMP MOTOR CONTROLLER, push Main Switch to ON and press START button.
6. When bilge is empty, close valve opened in step 1. above and disconnect suction hose.
7. Repeat steps 1., 5., and 6. until all bilges are empty.
8. Close valves BD11 and BD14.

9. Disconnect discharge hose at valve BD14 and return to sludge facility.

NOTICE FOR PROCUREMENT OF SECOND PARTS ONLY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ONE PLACE (1 1/2) : — TWO PLACE (1 1/32) : — THREE PLACE (1 3/32) : — FRACTIONS : — DECIMALS : — DO NOT SCALE THIS DRAWING. FOR INTERPRETATION OF DRAWING AND STD 100 APPLIES. REMOVE HOLES AND DRILL SHARP EDGES. SHARP EDGES : 10 — FILED EDGES : 10 — MATERIAL : —	DRAWN BY : HTC CHECKED BY : <i>John M</i> 12/22/06 CONTRACT NO : DAAK70-83-C-0108 DESIGN APPROVAL : <i>E. J. ...</i> DATE : <i>12/22/06</i> APPROVED FOR PROCUREMENT : <i>John A. ...</i> DATE : <i>12/22/06</i>	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22064 ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, BILGE SYSTEM AND DRAINS SIZE : 1500 A1 97403 13226E1913 SHEET 1 OF 1
---	--	--

Figure FO-32
FP-313/(FP-314 Blank)

NOTES:

- THE PURPOSE OF THIS DRAWING IS TO PROVIDE GUIDANCE FOR THE INSTALLATION OF MISCELLANEOUS FOUNDATIONS.
- THE ACCEPTANCE OF WELDS SHALL BE BY VISUAL EXAMINATION TO MEET ALL THE REQUIREMENTS OF NAVSEA 0900-LP-014-5010.
- PAINTING SHALL BE IN ACCORDANCE WITH TB43-0144.
- EXISTING PARTS OF THE VESSEL ARE SHOWN WITH PHANTOM LINES (-----).
- EXTEND STORAGE CAGE TO STBD SHELL AND ATTACH EXPANDED METAL, FIND NO.10, TO EXISTING STRUCTURAL MEMBERS ALONG FRAME 07 1/2.
- UTILIZE LIGHT FIXTURE WIRE COMPARTMENT AS TEMPLATE FOR LOCATING HMG HOLES.
- MOUNT ITEM #3 APPROXIMATELY CENTERED OVER LOWER CYLINDER FOUNDATION, AND WELD 3 PLACES TOP AND BOTTOM.
- USE EQUIPMENT AS A TEMPLATE TO CONFIRM BOLT PATTERNS AND FOUNDATIONS BEFORE FABRICATION.
- ALL WELDING SHALL BE IN ACCORDANCE WITH ABS STANDARDS FOR WATERTIGHT STRUCTURES OR NAVSEA 0900-LP-014-5010.
- BATTERY CHARGER, SMOKE DETECTOR, COMMUNICATION SYSTEM, INVERTER AND VIDEO MONITOR SHALL BE SECURED USING FIND NO. 4, 29 AND 30.
-
-
- MOUNTING PATTERN MAY VARY DEPENDING ON CONFIGURATION OF GFE FURNISHED PUMP.
- FIND NO.67 TO BE SUPPLIED BY:
U.S. BOAT
880 S. PICKETT ST.
ALEXANDRIA, VA 22304

REFERENCE DRAWINGS

NO.	DWG NO.	TITLE
1	97403-13226E1892	ROWPU/BARGE ARRANGEMENT
2	97403-13226E1906	DECK HOUSE
3	97403-13226E1909	GUARD RAILS
4	97403-13226E1902	ACCESSES TO VOIDS AND LADDERS
5	97403-13226E1908	VOIDS DECKING
6	97403-13226E1943	BATTERY BOX
7	97403-13226E1940	NAVIGATION/EXTERIOR LIGHTING
8	97403-13226E1935	ELECTRICAL POWER SYSTEM LAYOUT
9	97403-13226E1910	DAYROOM AND WORKSHOP STRUCTURE
10	97403-13226E1933	COMMUNICATION SYSTEM
11	97403-13226E1936	EMER ELEC POWER/LIGHTING SYSTEM
12	97403-13226E1928	ALARM/CASUALTY MONITORING SYSTEM
13	97403-13226E1893	LIST OF LABEL PLATES
14	97403-13226E1937	LIGHTING SYSTEM

STATUS OF REVISIONS

NO.	DATE	DESCRIPTION

NOTES FOR PROCUREMENT OF PARTS ONLY

NO.	FIND NO.	QTY REQD	DESCRIPTION	UNIT OF MEAS	REMARKS	ASTM SPEC	MATERIAL
50			BAR, FLAT, 2" X 1/4"			ASTM A36	STEEL
49	MS15795-819		WASHER, FLAT, 19/32" BASIC			CRES	CRES
48			PLATE, 3/16" STK			ASTM A36	STEEL
47			BAR, 1/4" DIA			ASTM A36	STEEL
46			PIPE, 1 1/2" NOM SIZE, SCHED 40			ASTM A53	STEEL
45			PIPE, 3" NOM SIZE, SCHED 40			ASTM A53	STEEL
44	MS35307-370		SCREW, HEX HD, 3/8"-16UNC-2A, 3" LONG			CRES	CRES
43	MS1971-5		NUT, HEX, 1/2"-13UNC-2B			CRES	CRES
42			GASKET, 1/8" THK			MIL-C-119D	SVL RBR
41	80064		CLEAT, HORN TYPE FOR 3/4" DIA ROPE MAX			COML	STEEL
40			PLATE, 1/2" THK			ASTM A36	STEEL
39	39428		ROPE, 1/4" DIA			COML	HANILA
38	39428		S-HOOK, 1/4" DIA, 1/2" DIA EYE, 2" L			COML	BRONZE
37	39428		PULLY SINGLE SHEAVE SWIVEL EYE, 1" OD, 1/4" ROPE DIA			COML	BRONZE
36	39428		SNAP, SWIVEL, 1/4"			COML	BRASS
35	04356		BLACK BALL DAY SIGNAL, 24" DIA			COML	VARIOUS
34			ANGLE, 3 1/2" X 2" X 3/16"			ASTM A36	STEEL
33			ANGLE, 3" X 2 1/2" X 1/4" THK			ASTM A36	STEEL
32			ANGLE, 4" X 4" X 3/8" THK			ASTM A36	STEEL
31			ANGLE, 2" X 2" X 3/16" THK			ASTM A36	STEEL
30	MS35338-46		WASHER, LOCK-SPRING, 3/8" NOM SIZE			STEEL	STEEL
29	MS1967-8		NUT, HEX, 3/8"-16 UNC-2B			STEEL	STEEL
28	MS35307-414		SCREW, HEX HD, 1/2"-13UNC-2A, 1 3/4" LONG			CRES	STEEL
27	MS35338-44		WASHER, LOCK-SPRING, 1/4" NOM SIZE			STEEL	STEEL
26	MS1967-2		NUT, HEX, 1/4"-20 UNC-2B			STEEL	STEEL
25	MS90725-12		SCREW, HEX HD, 1/4"-20 UNC-2A X 1 1/2" L			STEEL	STEEL
24			ANGLE, 3" X 3" X 1/4" THK			ASTM A36	STEEL
23	MS1967-5		NUT, HEX, 5/16"-18 UNC-2B			STEEL	STEEL
22	MS35338-45		WASHER, LOCK-SPRING, 5/16" NOM SIZE			STEEL	STEEL
21			BAR, 5/16" DIA STK			ASTM A36	STEEL
20	MS1967-14		NUT, HEX, 1/2"-13 UNC-2B			STEEL	STEEL
19			BAR, 1/2" DIA STK, 1/2"-13 UNC-2A			ASTM A36	STEEL
18			COUPLING, REDUCING, 3" X 1 1/4" SCHED 40			ANSI B16.9	STEEL
17	MS15795-824		WASHER, FLAT, 15/16" BASIC			CRES	STEEL
16	MS35338-47		WASHER, LOCK-SPRING, 7/16" NOM SIZE			STEEL	STEEL
15	MS1967-11		NUT, HEX, 7/16"-14 UNC-2B			STEEL	STEEL
14			ANGLE, 1 1/4" X 1 1/4" X 3/16"			ASTM A36	STEEL
13			PIPE, 1" NOM SIZE, X 6 1/2" LG, 1"-11 1/2" NPT, GALV SCHED 40			ASTM A53	STEEL
12			BAR, 1/8" DIA STK			ASTM A36	STEEL
11	39428		HINGE, BLANK, OPEN WIDTH 1 1/16", JOINT LG., 0.035 THK			COML	STEEL
10			METAL, EXPANDED, SIZE 3/4"-NO. 16, GRADE A			MIL-M-17194	STEEL
9			PLATE, 5/16" STK			ASTM A36	STEEL
8	04356		BLACK DIAMOND DAY SIGNAL, 24" X 8"			COML	VARIOUS
7			PLATE, 3/8" STK			ASTM A36	STEEL
6	MS1971-9		NUT, HEX, 7/8"-9UNC-2B			CRES	CRES
5	MS27183-14		WASHER, FLAT, 13/32"			STEEL	STEEL
4	MS90725-60		SCREW, HEX HD, 3/8"-16 UNC-2A X 1" L			STEEL	STEEL
3	MS90725-109		SCREW, HEX HD, 1/2"-13 UNC-2A X 1 1/2" L			STEEL	STEEL
2			BAR, FLAT, 1 1/2" X 3/16"			ASTM A36	STEEL
1			PIPE, 3/4" NOM SIZE, SCHED 40			ASTM A53	STEEL

REFERENCE DRAWINGS

NO.	DWG NO.	TITLE	COML	STEEL		
83	14625	WB2-23	1	BRACKET, WALL, DOUBLE CYLINDER	COML	STEEL
82			AR	ANGLE, 1 1/2" X 1 1/2" X 1/8" THK	ASTM A36	STEEL
81			AR	ANGLE, 2 1/2" X 3 1/2" X 3/8" THK	ASTM A36	STEEL
80			AR	BAR, FLAT, 4" X 3/8" THK	ASTM A36	STEEL
79			AR	BAR, 7/8" DIA STK, 7/8"-9 UNC-2A	ASTM A36	STEEL
78	39428	4509K52	AR	PIPE INSULATION, VINYL COVERED FOAM, 5/8" ID	COML	FOAM
77			AR	BAR, FLAT, 1 1/2" X 1/4" THK	ASTM A36	STEEL
76	36232	DC-250 THK	1	ARC WELDER, 230-460V, 32-16A, 3600 RPM	COML	VARIOUS
75			1	CHANNEL, MC 4 X 13.8, 20" LONG	ASTM A36	STEEL
74			AR	TUBING, MECHANICAL, 2" OD X 1/8" WALL THK	ASTM A513	STEEL
73			AR	PIPE, 2" NOM SIZE, SCHED 40	ASTM A53	STEEL
72			AR	PIPE, 1 1/4" NOM SIZE, SCHED 40	ASTM A53	STEEL
71			AR	ANGLE, 2" X 3" X 3/8" THK	ASTM A36	STEEL
70			AR	PLATE, 1/4" STK	ASTM A36	STEEL
69			3	NUT, HEX, 5/16"-18 UNC-2B	STEEL	STEEL
68			AR	TUBE, .5" OD X .402 ID	ASTM A519	STEEL
67			9	HOOK, COAT AND HAT, 2 1/4" LONG	SEE NOTE 14	BRASS
66			AR	BAR, FLAT, 3" X 3/8" THK	ASTM A36	STEEL
65			AR	ANGLE, 1 1/2" X 1 1/2" X 3/4" THK	ASTM A36	STEEL
64			AR	ANGLE, 2" X 2" X 1/4" THK	ASTM A36	STEEL
63			AR	BAR, FLAT, 3" X 1/4"	ASTM A36	STEEL
62			8	SCREW, HEX HD, 7/16" - 14 UNC - 2A, 2" LONG	STEEL	STEEL
61	80735	1322-1 1/2	1	HOIST TROLLEY, 1 1/2 TON	COML	VARIOUS
60			1	BEAM, S7 X 15.3# X 12'-0"	ASTM A36	STEEL
59	MS35338-52		8	WASHER, LOCK-SPRING, 7/8" NOM SIZE	STEEL	STEEL
58	MS1967-26		8	NUT, HEX, 7/8"-9 UNC-2B	STEEL	STEEL
57	MS90725-213		8	SCREW, HEX HD, 7/8"-9 UNC-2A, 3" LONG	STEEL	STEEL
56	MS35338-50		8	WASHER, LOCK-SPRING, 5/8" NOM SIZE	STEEL	STEEL
55	MS1967-20		8	NUT, HEX, 5/8"-11 UNC-2B	STEEL	STEEL
54	MS90725-166		8	SCREW, HEX HD, 5/8"-11 UNC-2A, 2 1/2" LONG	STEEL	STEEL
53	MS35338-48		44	WASHER, LOCK-SPRING, 1/2" NOM SIZE	STEEL	STEEL
52	MS90725-107		4	SCREW, HEX HD, 1/2"-13 UNC-2A X 3/4" L	STEEL	STEEL
51	MS35307-413		2	SCREW, HEX HD, 1/2"-13UNC-2A, 1 1/2" LONG	CRES	CRES

PARTS LIST

GFE FIND NO.	FSCM	DWG SIZE	PART OR IDENTIFYING NO.	QTY	RECD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DATE 13 MAY 83

BY [Signature]

FOR APPROVAL [Signature]

DATE 12/26/84

CONTRACT NO. DAAK70-83-C-0108

U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060

ROWPU/BARGE, TYPE 23IA, MISCELLANEOUS FOUNDATIONS

SIZE A1 **FSCM 97403** **DWG NO. 13226E1914**

SHEET 1 OF 12

Figure FO-33 (Sheet 1 of 12)
FP-315/(FP-316 Blank)

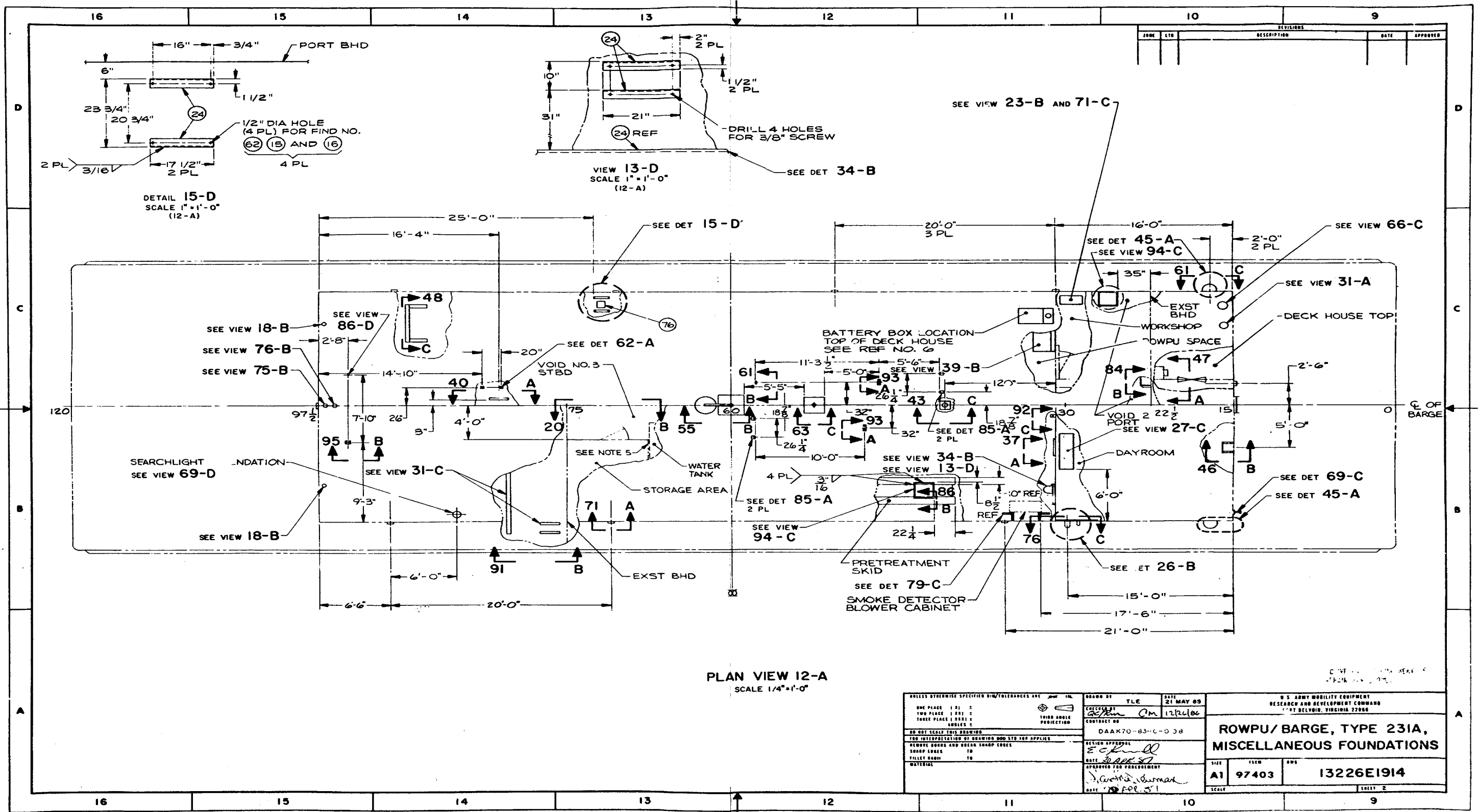
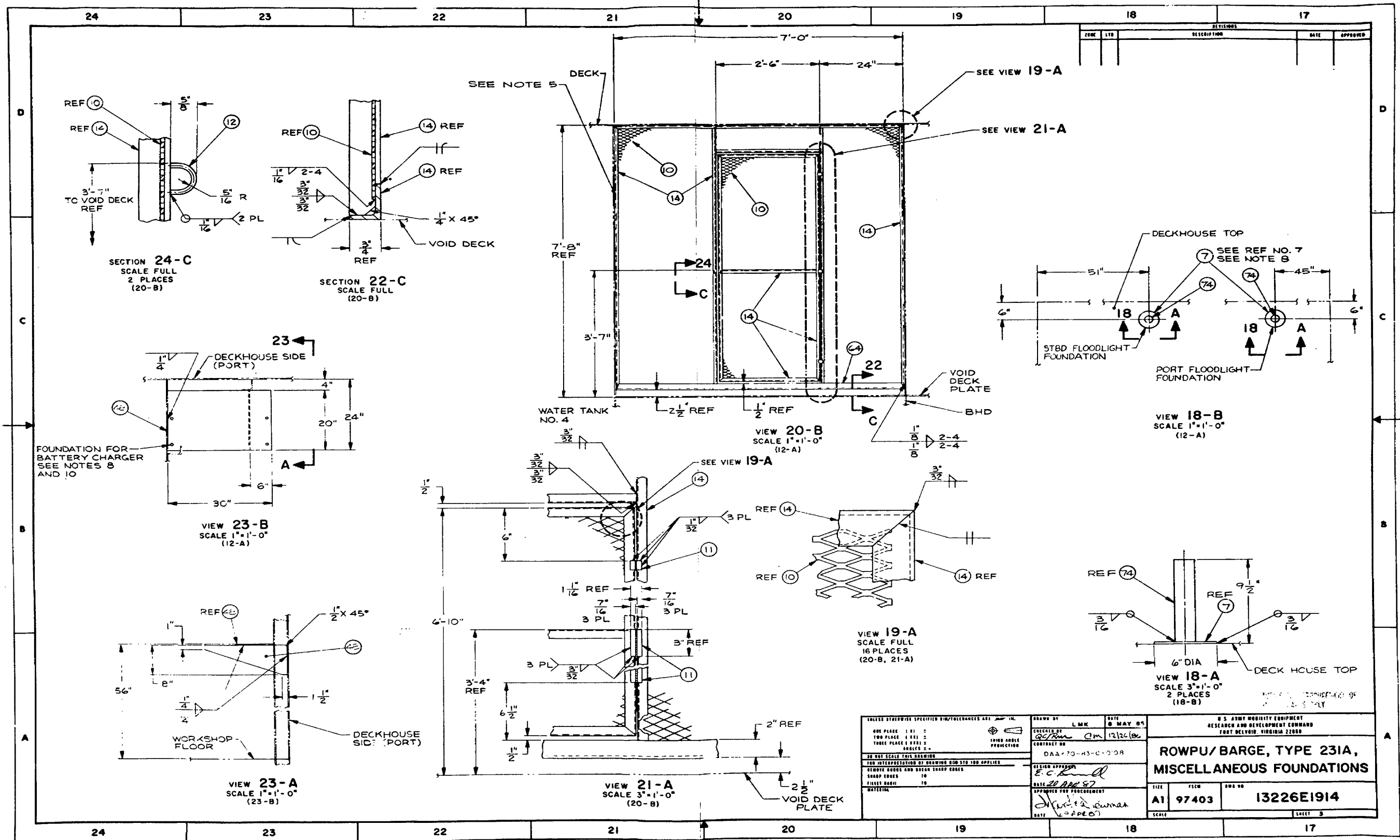


Figure FO-33 (Sheet 2 of 12)
FP-317/(FP-318 Blank)



UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE AS SHOWN		DRAWN BY	DATE	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
ONE PLACE (1.0)	±	LMK	8 MAY 67	
TWO PLACE (1.0)	±	gcf/m	12/21/68	
THREE PLACE (1.0)	±			
CONTRACT NO.		DAA-70-43-C-2708		
DO NOT SCALE THIS DRAWING				
FOR INTERPRETATION OF DRAWING AND STD 100 APPLIES				
REMOVE HOOKS AND BREAK SHARP EDGES				
SHARP EDGES TO				
FILLET RADIUS TO				
MATERIAL				
DESIGN APPROVED		E. C. [Signature]		
DATE		20 Apr 67		
APPROVED FOR PROCUREMENT		[Signature]		
DATE		[Signature]		
TITLE		ROWPU/BARGE, TYPE 231A, MISCELLANEOUS FOUNDATIONS		
SCALE	FIG. NO.	JOB NO.		
A1	97403	13226E1914		
				SHEET 3

Figure FO-33 (Sheet 3 of 12)
FP-319/(FP-320 Blank)

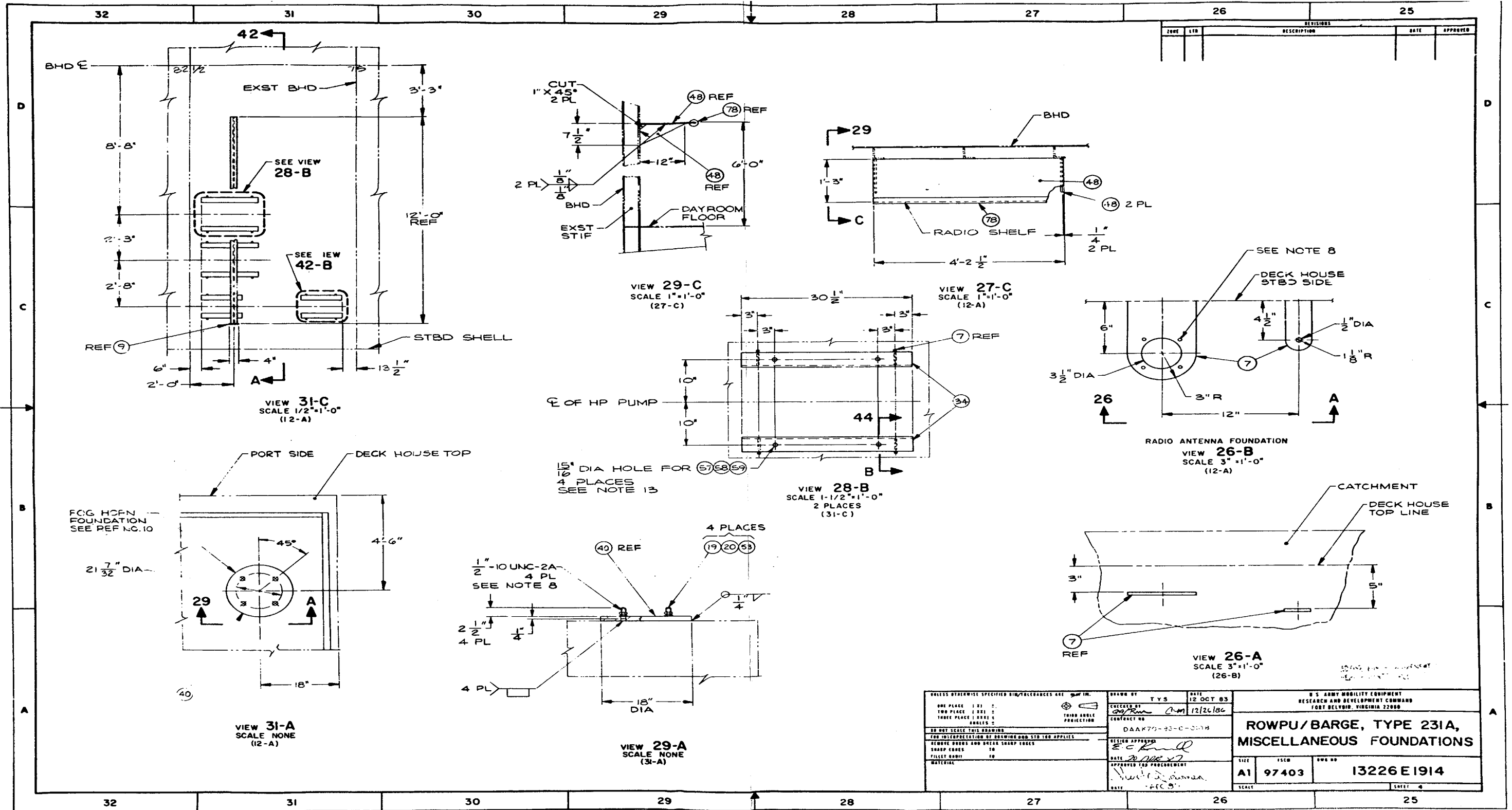


Figure FO-33 (Sheet 4 of 12)
FP-321/(FP-322 Blank)

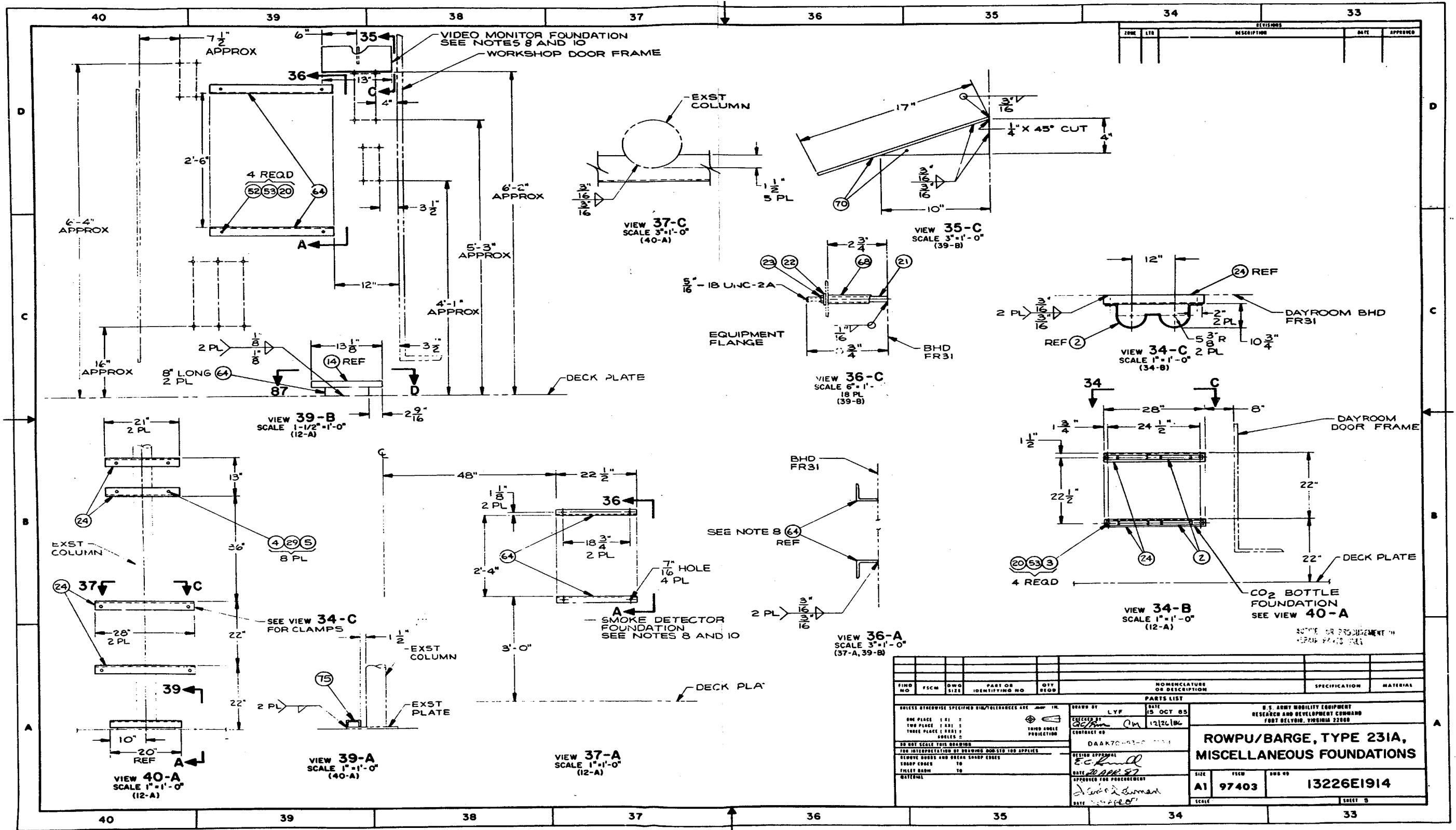
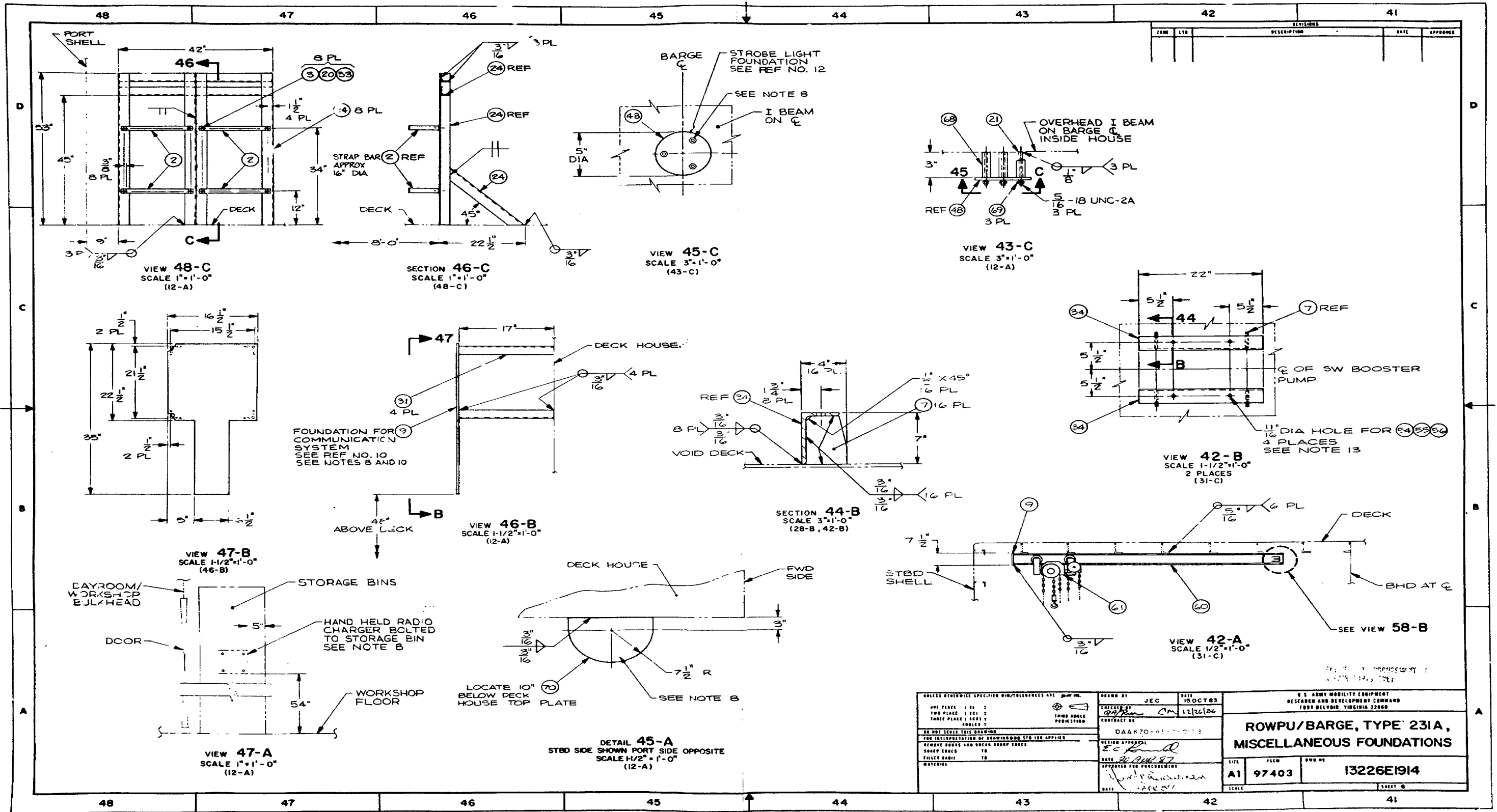


Figure FO-33 (Sheet 5 of 12)
FP-323/(FP-324Blank)



REVISIONS		DATE	APPROVED
NO.	DESCRIPTION		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DRAWN BY: JEC	DATE: 15 OCT 83
ONE PLACE (10)	TWO PLACE (100)	CHECKED BY: JEC	DATE: 12/22/84
THREE PLACE (1000)	FOUR PLACE (10000)	CONTRACT NO: DAAR70-41-1-0001	
DO NOT SCALE THIS DRAWING	FOR REPLICATION BY TRAINING AND TEST APPLIES	DESIGN APPROVAL: <i>[Signature]</i>	
REMOVE SHARP EDGES AND ROUNDE SHARP EDGES	TO	DATE: 20 APR 87	
FULLY ROUNDED	TO	APPROVED FOR PROCUREMENT: <i>[Signature]</i>	
WATERPROOF		DATE: 2 APR 87	
U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060		ROWPU/BARGE, TYPE 231A, MISCELLANEOUS FOUNDATIONS	
SIZE: A1	ITEM: 97403	QTY: 1	NO. IN SET: 13226E1914
SCALE: 1/2" = 1'-0"		SHEET 6	

Figure FO-33 (Sheet 6 of 12)
FP-325/(FP-326 Blank)

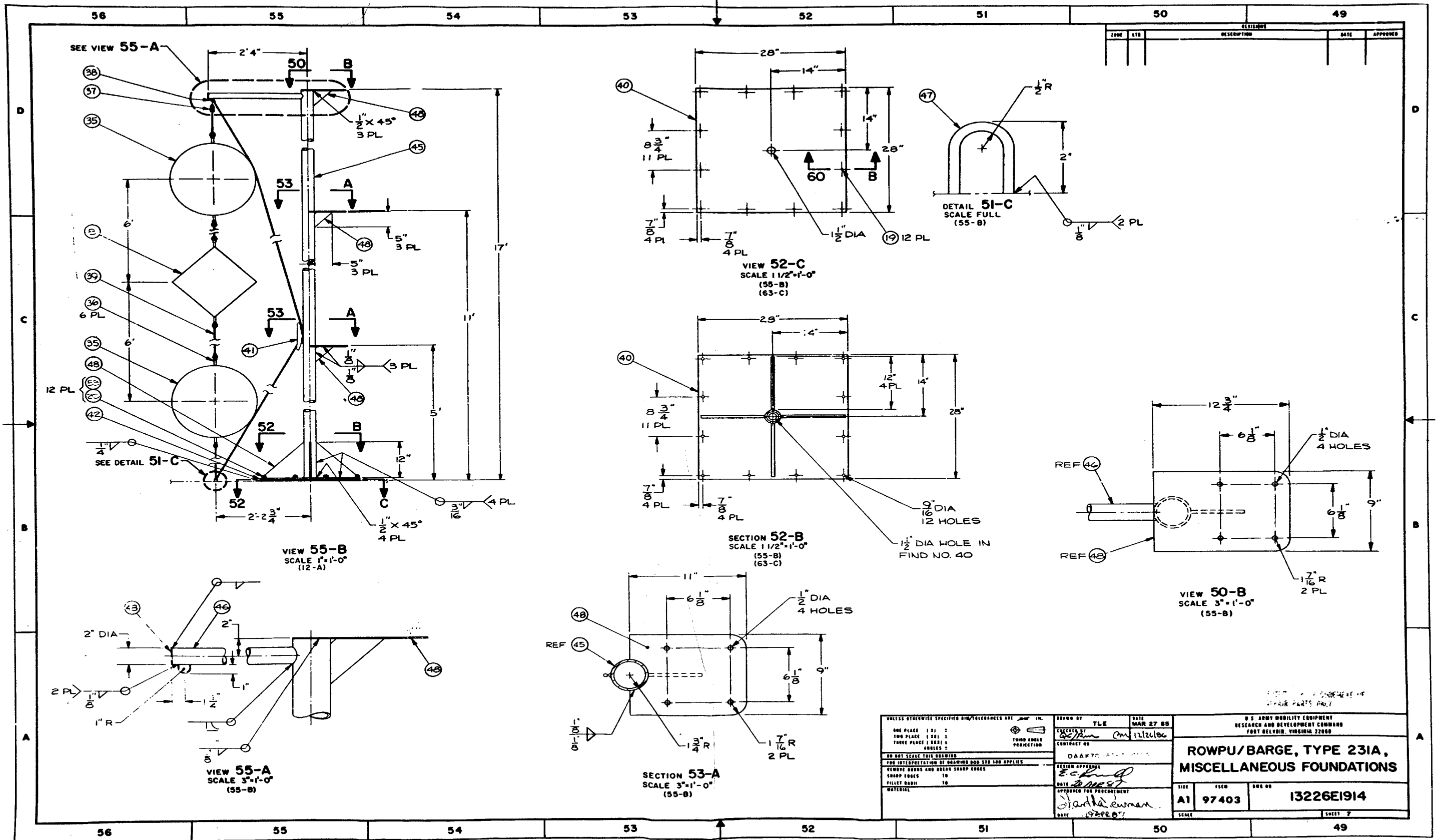
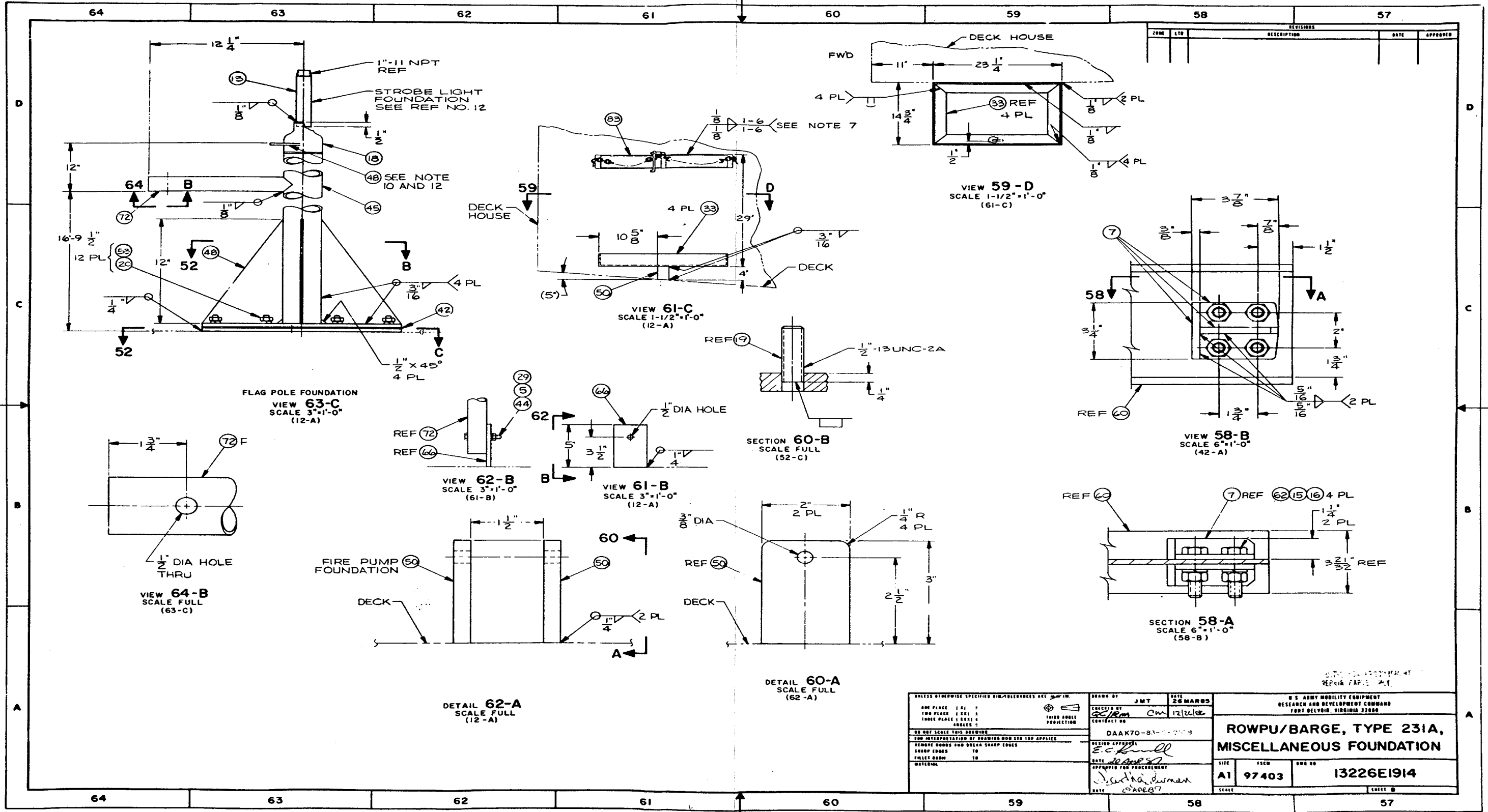


Figure FO-33 (Sheet 7 of 12)
FP-327/(FP-328 Blank)



REV	NO	DESCRIPTION	DATE	APPROVED

DATE OF APPROVAL
1976 Feb 12 P.M.

UNLESS OTHERWISE SPECIFIED DIM. TOLERANCES ARE: ONE PLACE (± .1) TWO PLACE (± .02) THREE PLACE (± .001) ANGLE ±	THIRD ANGLE PROJECTION	DRAWN BY JMT DATE 26 MAR 65	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
DO NOT SCALE THIS DRAWING FOR INTERPOLATION OF DIMENSIONS OR TO APPLY REMOVE ROUNDS AND BREAK SHARP EDGES SHARP EDGES TO FILLET RADIUS TO	CONTRACT NO.	CHECKED BY S. J. Rasmussen DATE 30 Apr 67	DAAK70-83-100-0173
MATERIAL:	APPROVED FOR PURCHASEMENT S. J. Rasmussen DATE 13 APR 67	DESIGN APPROVAL E. C. G. [Signature]	ROWPU/BARGE, TYPE 231A, MISCELLANEOUS FOUNDATION
			SIZE: A1 FORM NO: 97403 DRAWING NO: 13226E1914
			SCALE: 1:1 SHEET: 8

Figure FO-33 (Sheet 8 of 12)
FP-329/(FP-330 Blank)

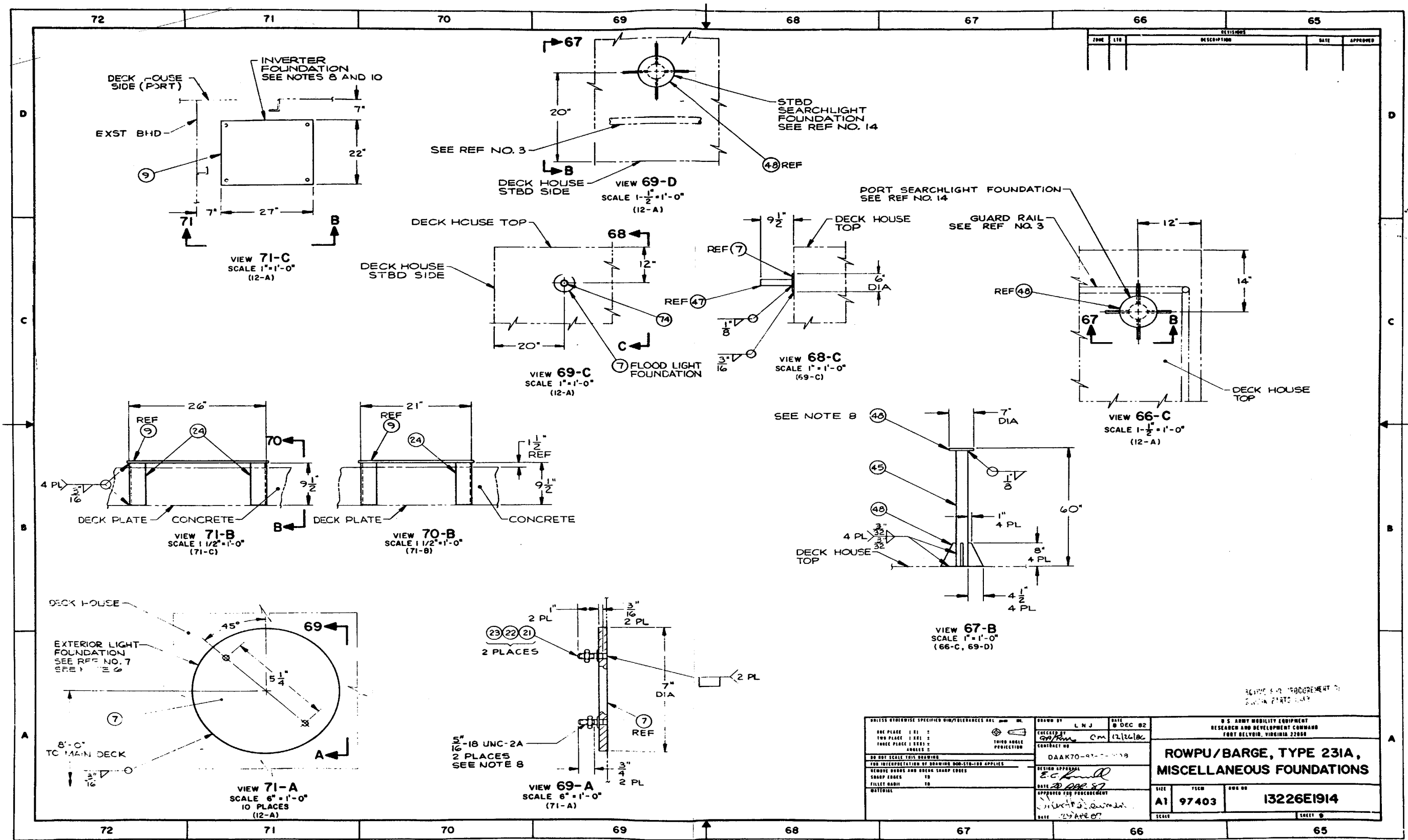


Figure FO-33 (Sheet 9 of 12)
 FP-331/(FP-332 Blank)

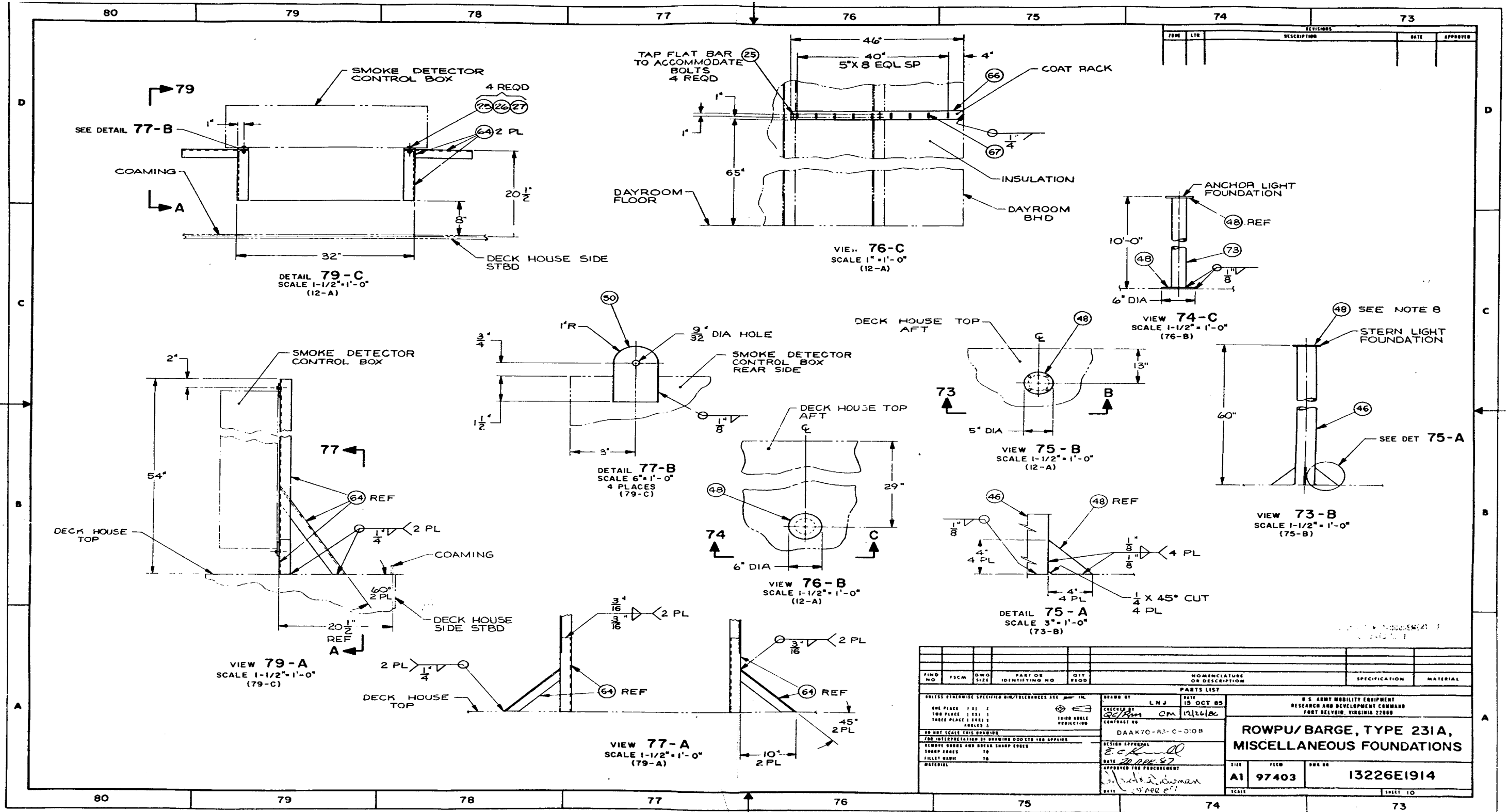


Figure FO-33 (Sheet 10 of 12)
FP-333/(FP-334 Blank)

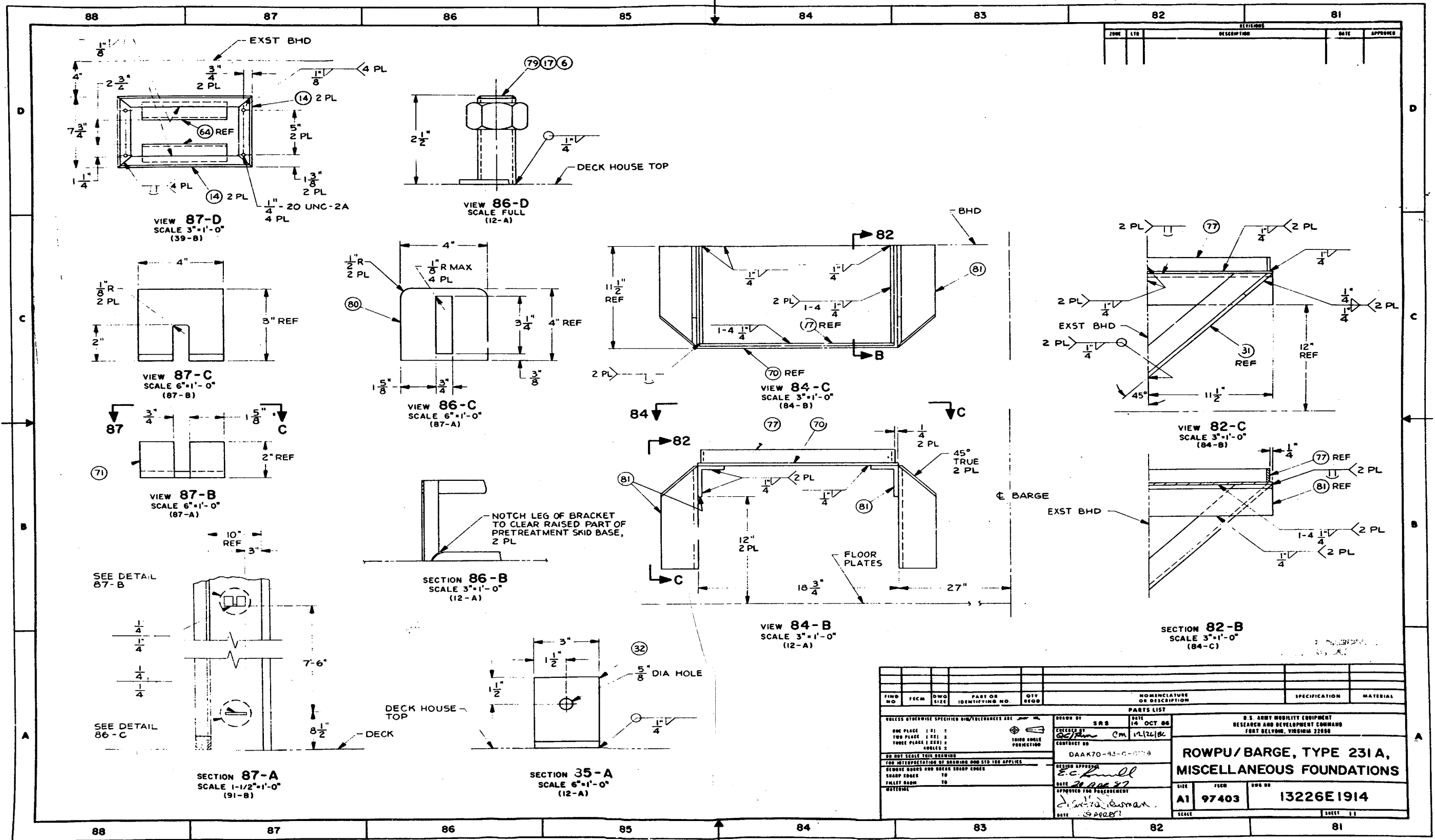


Figure FO-33 (Sheet 11 of 12)
 FP-335/(FP-336 Blank)

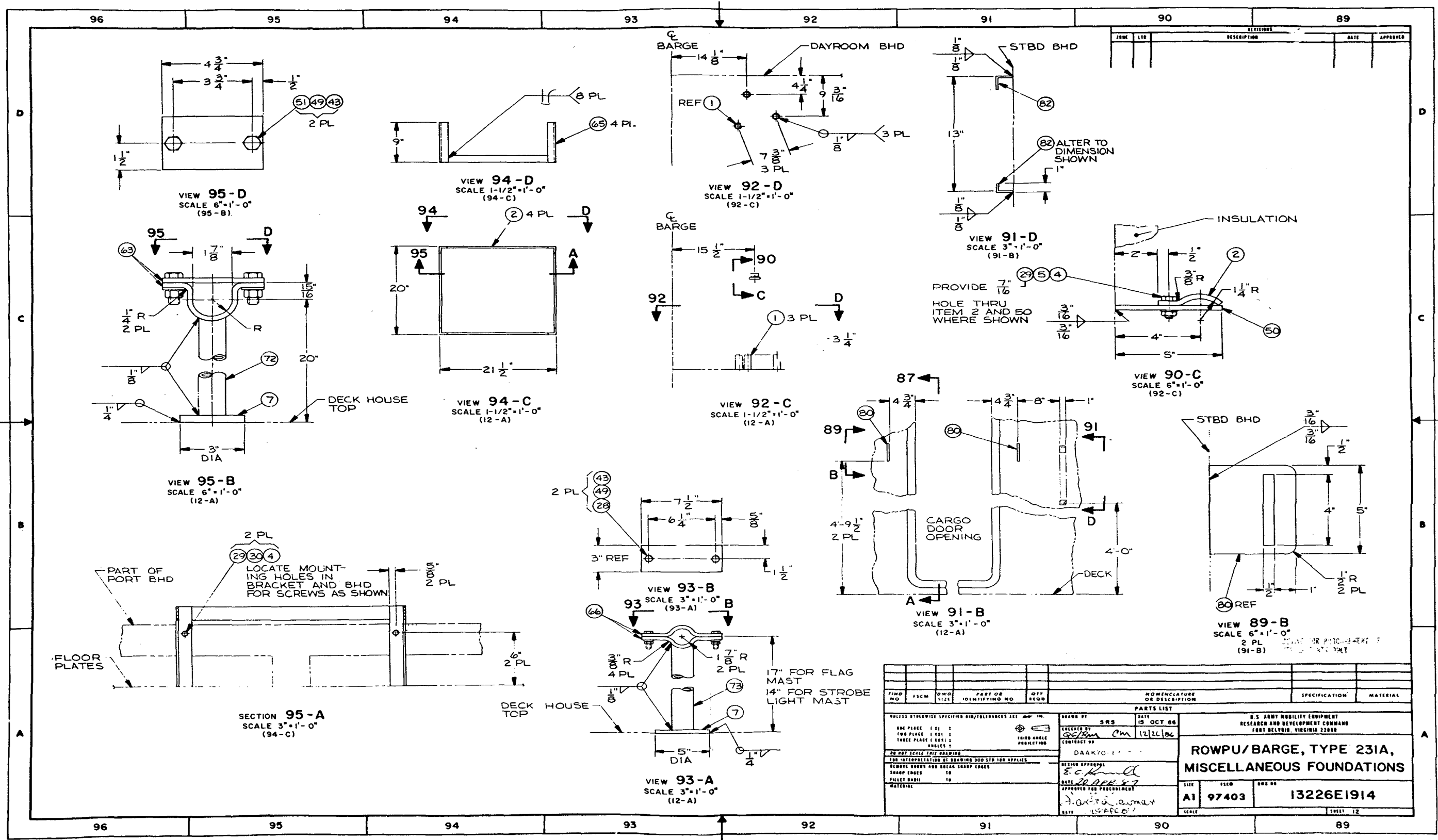


Figure FO-33 (Sheet 12 of 12)
 FP-337/(FP-338 Blank)

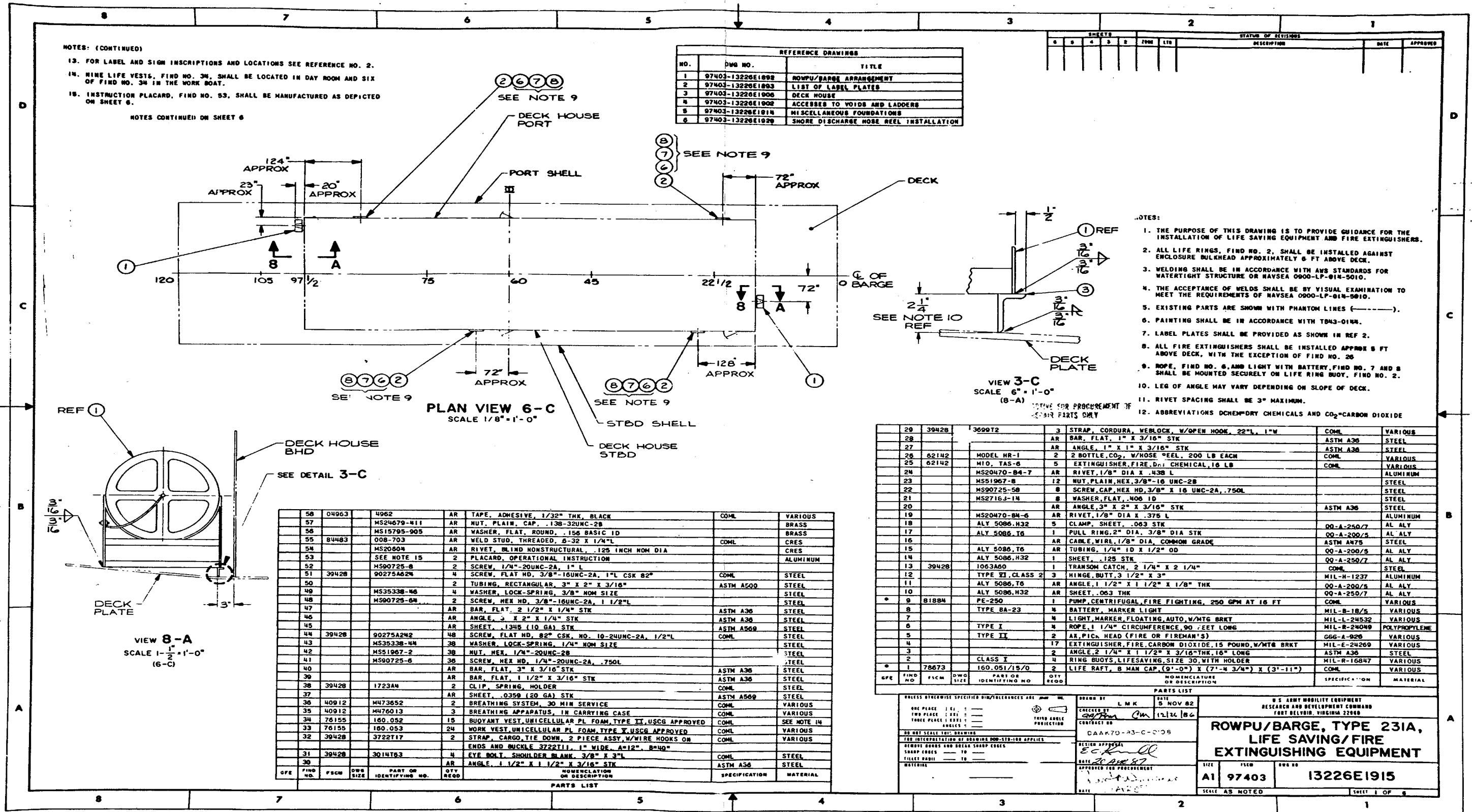
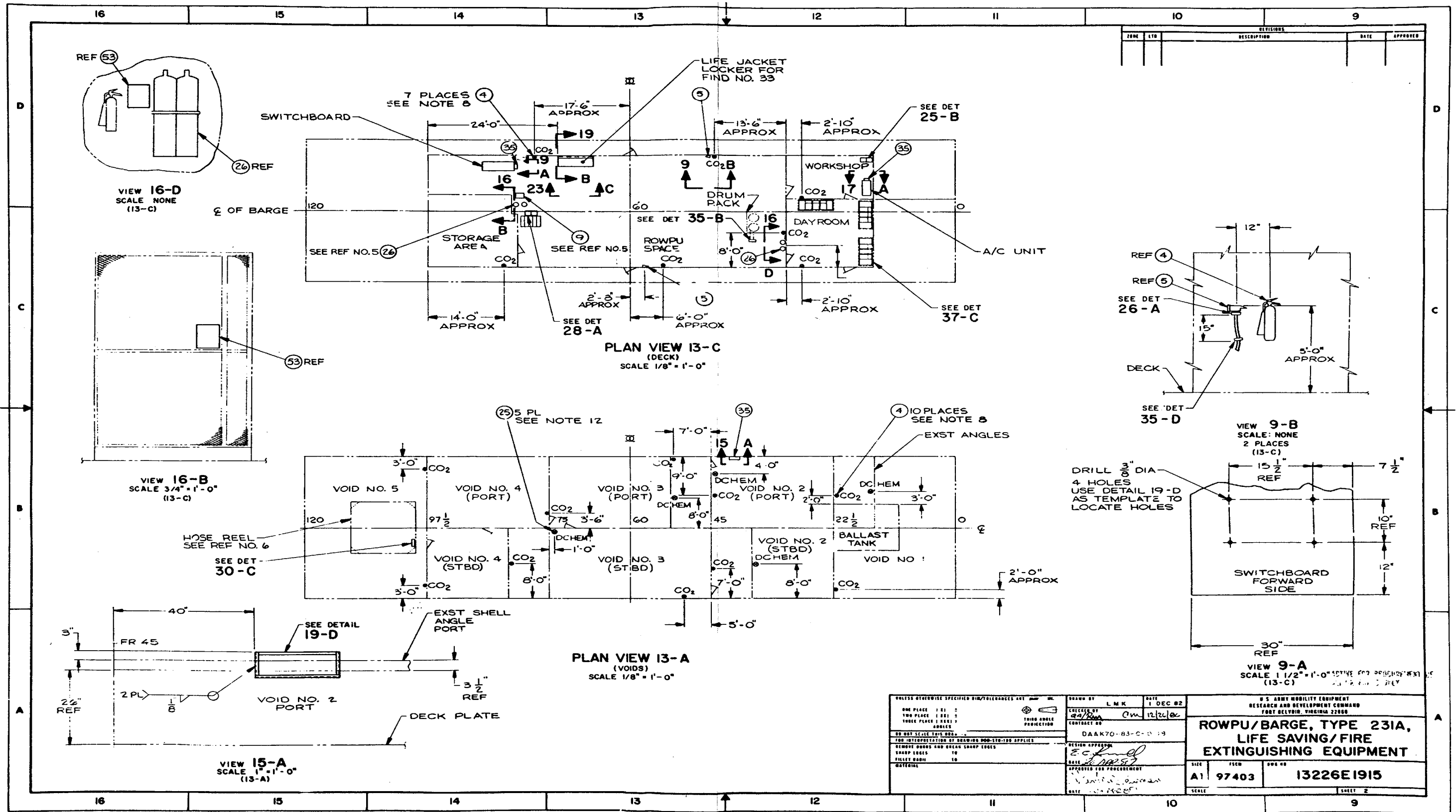


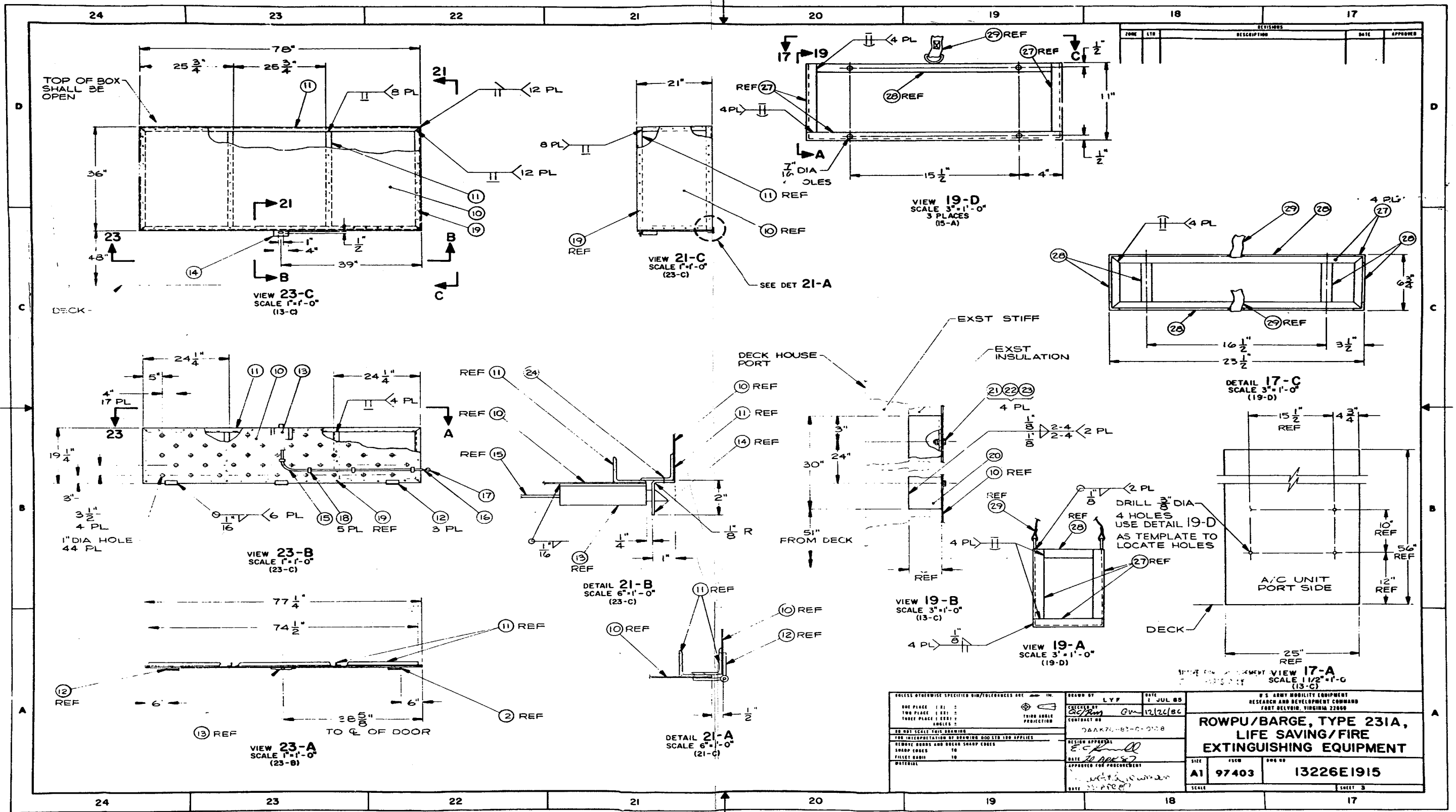
Figure FO-34 (Sheet 1 of 6)
FP-339/(FP-340 Blank)



REVISIONS				
NO.	DATE	DESCRIPTION	BY	APP'D

UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE AS SHOWN		DRAWN BY	L.M.K.	DATE	1 DEC 82
ONE PLACE 1:21	TWO PLACE 1:20	CHECKED BY	om/rle		
THREE PLACE 1:20	FOUR PLACE 1:20	CONTRACT NO.	DAAK70-83-C-019		
DO NOT SCALE DIMENSIONS					
FOR INTERPRETATION OF DRAWING MOD-STD-100 APPLIES					
REMOVE BURRS AND CHECK SHARP EDGES					
SHARP EDGES TO					
Fillet Radii					
MATERIAL					
		DESIGN APPROVED			
		DATE			
		DATE			
U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVUE, VIRGINIA 22060					
ROWPU/BARGE, TYPE 231A, LIFE SAVING/FIRE EXTINGUISHING EQUIPMENT					
SIZE	PSCH	JOB NO.			
A1	97403	13226E1915			
SCALE				SHEET 2	

Figure FO-34 (Sheet 2 of 6)
FP-341/(FP-342 Blank)



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DRAWN BY L Y F		DATE 1 JUL 65	
ONE PLACE (1/2)	THIRD ANGLE PREDICATION	CALCULATED BY G M	DATE 24 APR 67	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060	
TWO PLACE (1/4)		CONTRACT NO. DAAR76-63-C-0108	DESIGN APPROVAL E C	ROWPU/BARGE, TYPE 231A, LIFE SAVING/FIRE EXTINGUISHING EQUIPMENT	
THREE PLACE (1/16)		APPROVED FOR PROCUREMENT	DATE 25 APR 67		
DO NOT SCALE THIS DRAWING			SHEET A1		FIG NO 97403
FOR INTERPRETATION BY DRAWING DESIGNS USE APPLIES			DRAW NO 13226E1915		SHEET 3
SHARP EDGES TO					
FILLET RADIUS TO					
MATERIAL					

Figure FO-34 (Sheet 3 of 6)
FP-343/(FP-344 Blank)

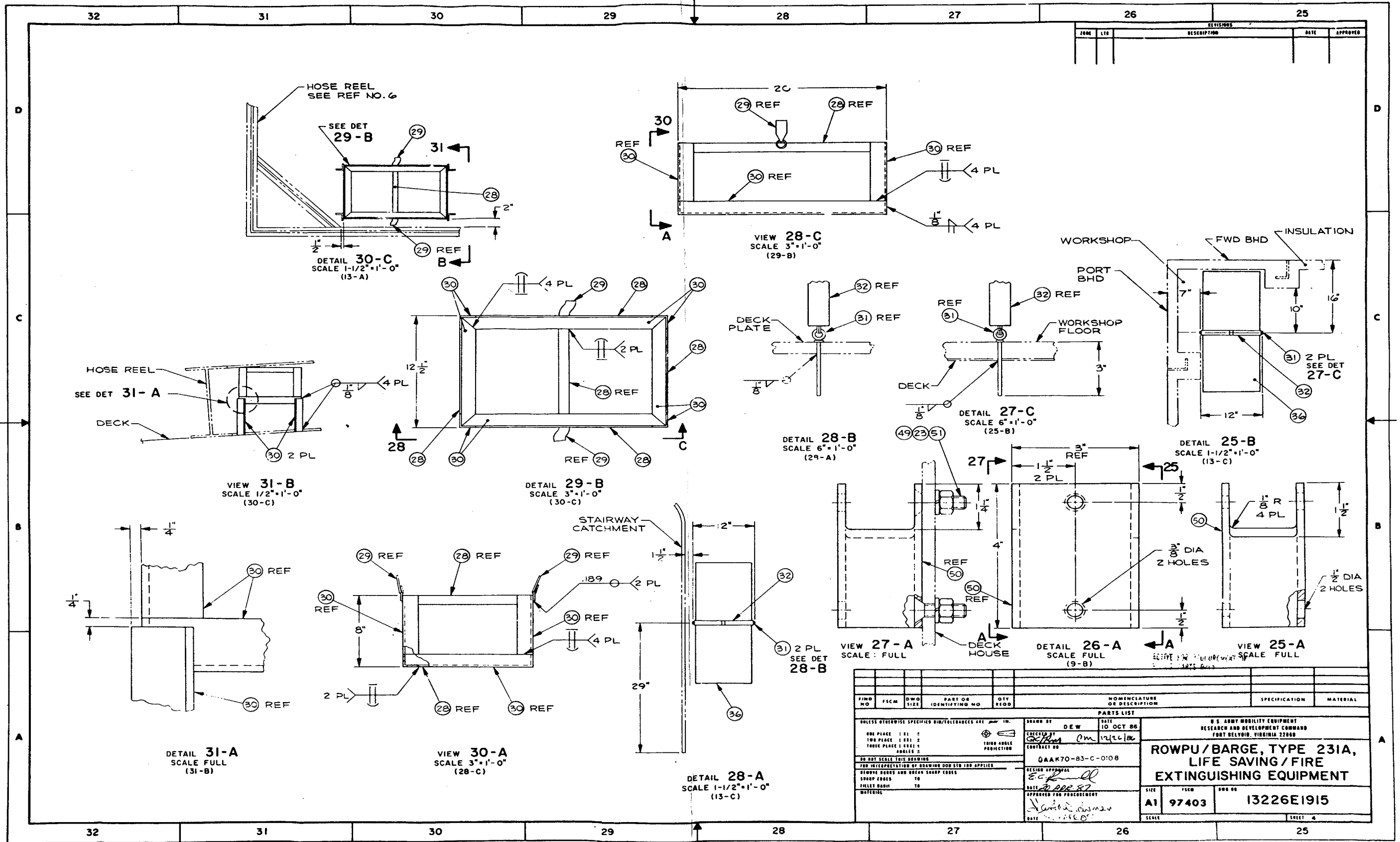


Figure FO-34 (Sheet 4 of 6)
FP-345/(FP-346 Blank)

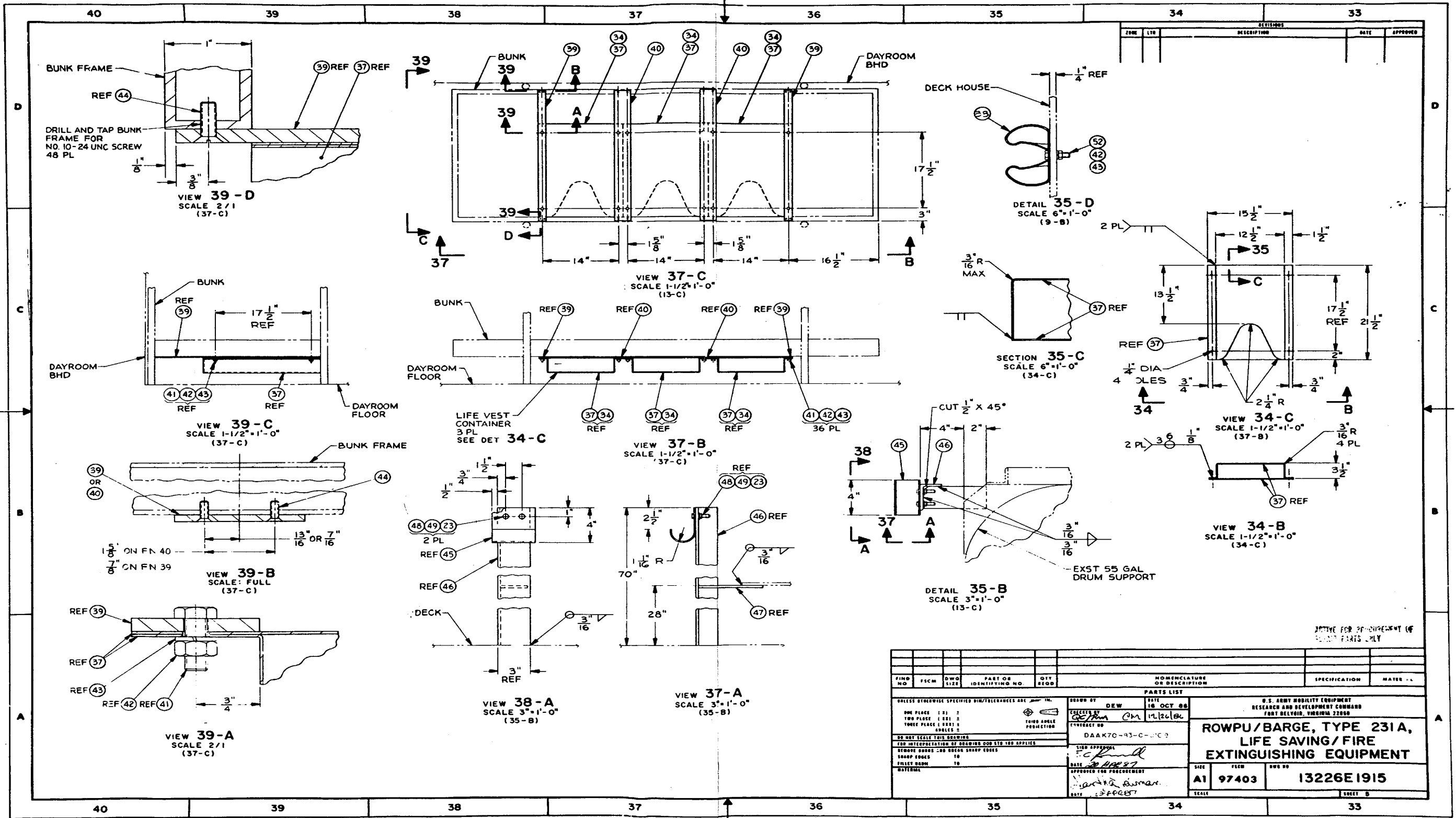


Figure FO-34 (Sheet 5 of 6)
FP-347/(FP-348 Blank)

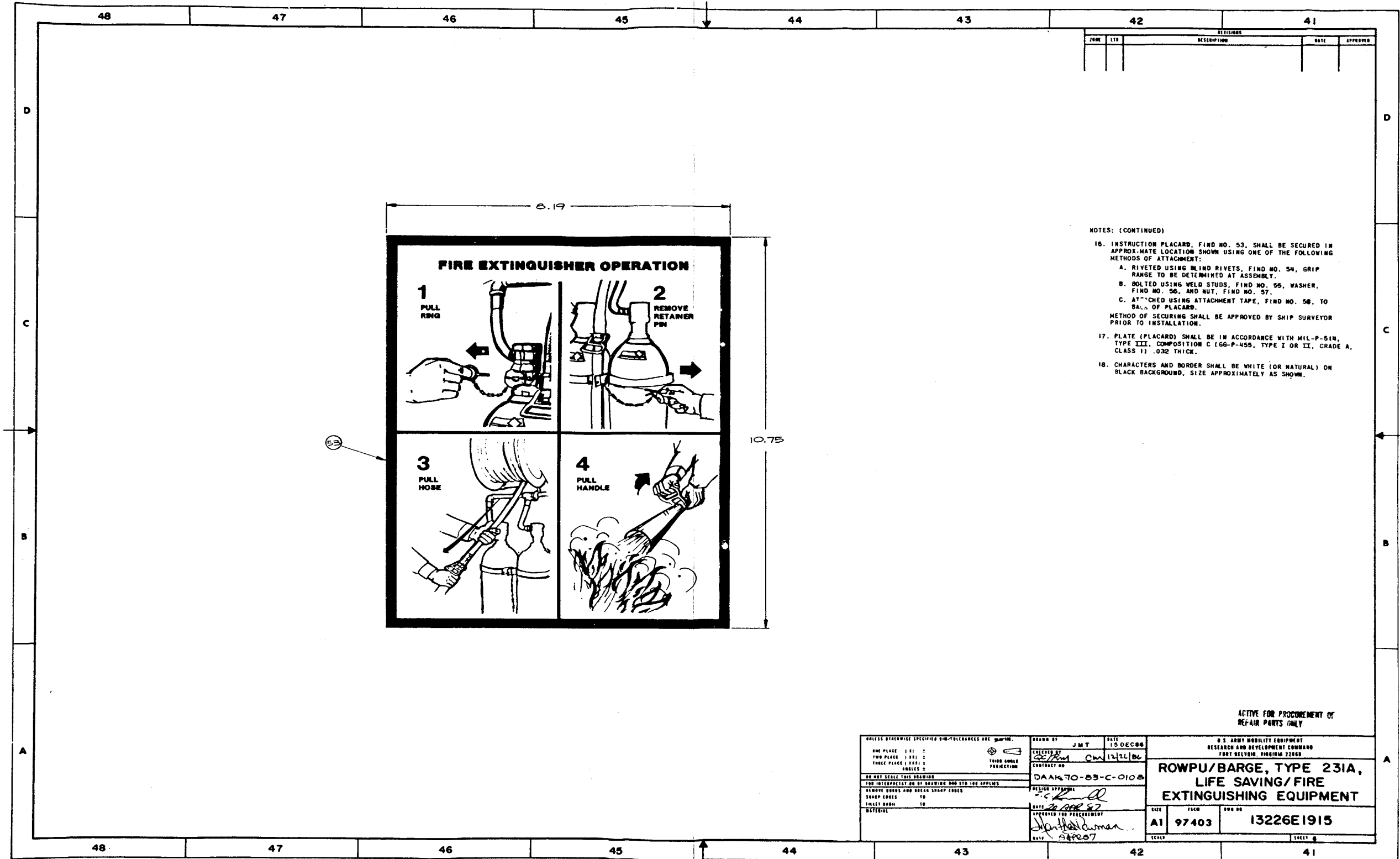


Figure FO-34 (Sheet 6 of 6)
FP-349/(FP-350 Blank)

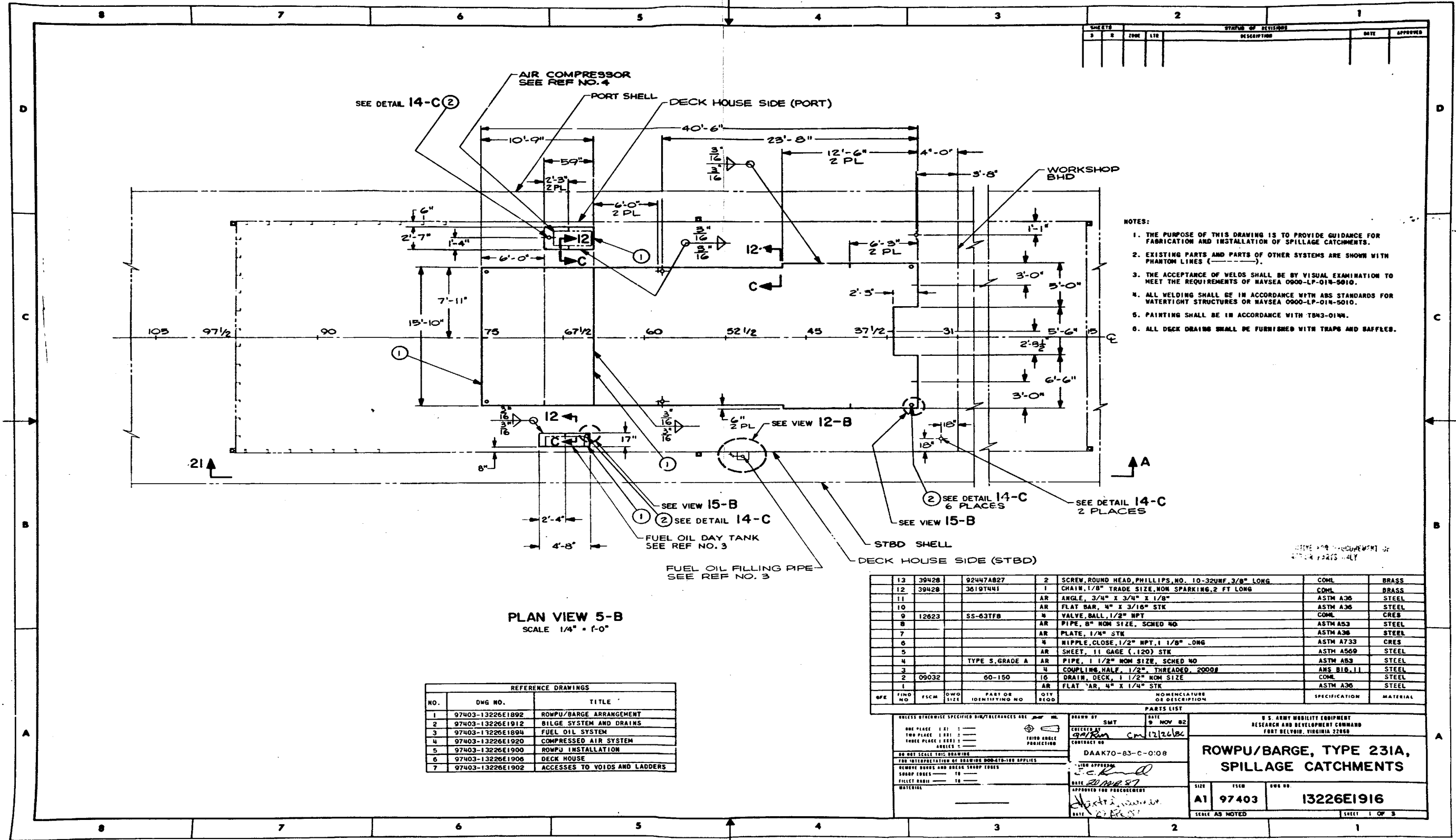


Figure FO-35 (Sheet 1 of 3)
FP-351/(FP-352 Blank)

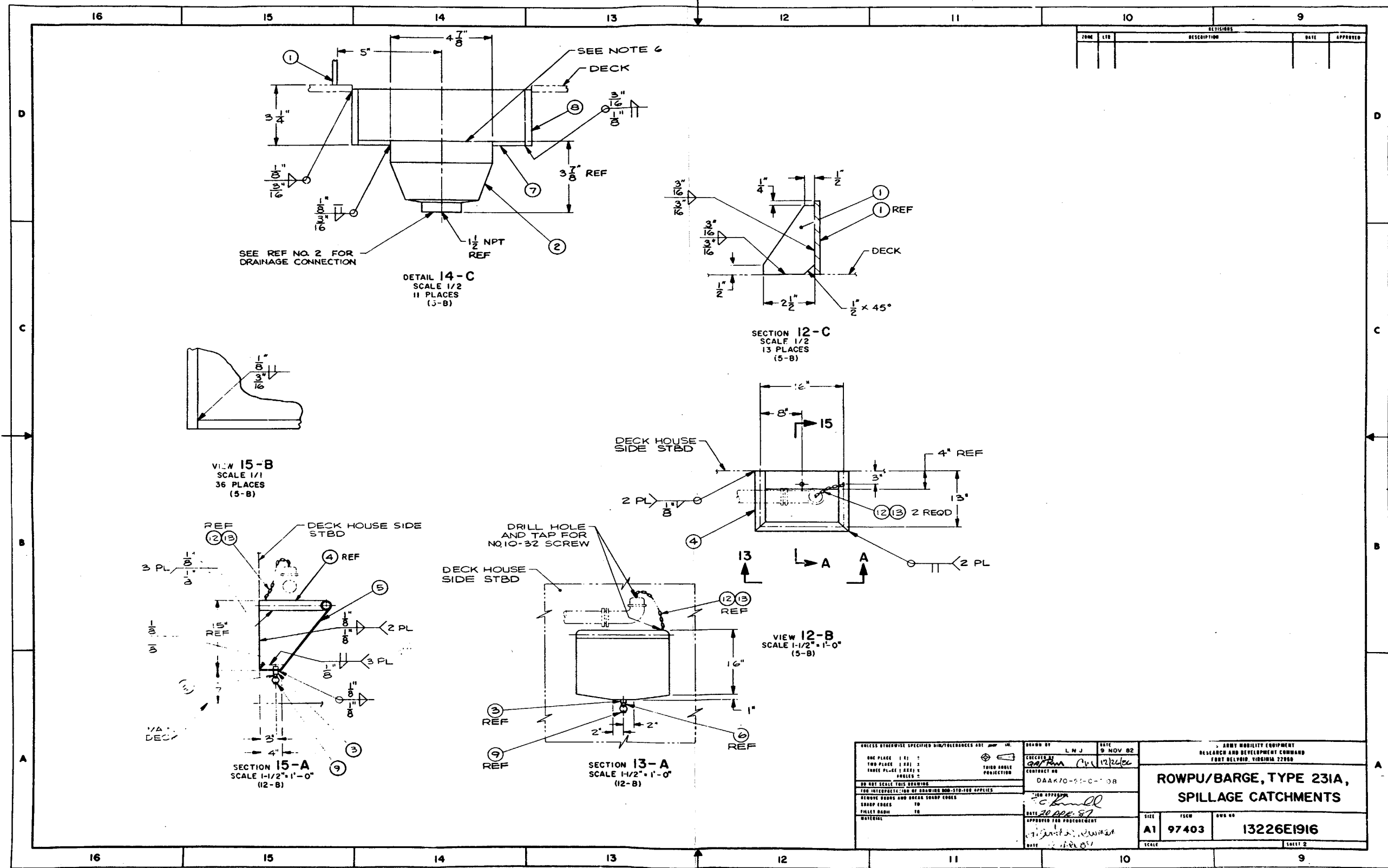
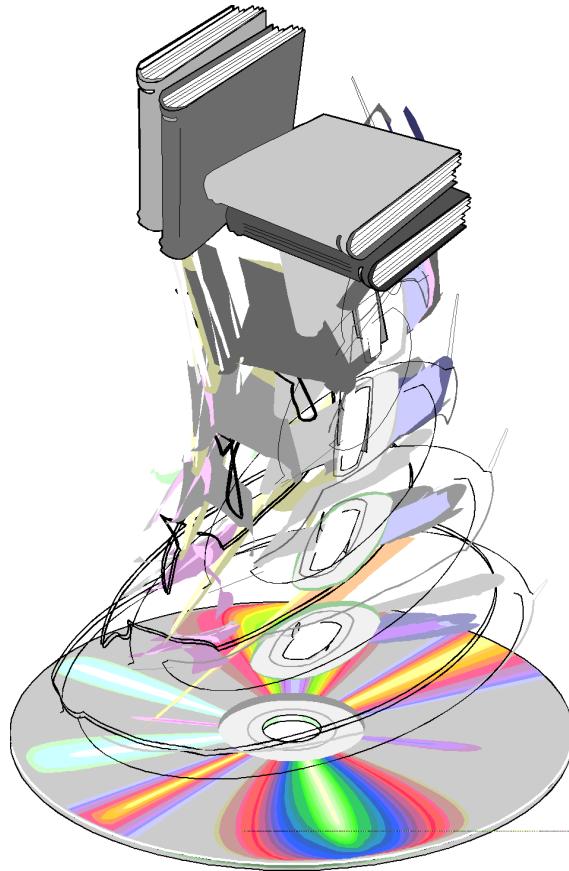


Figure FO-35 (Sheet 2 of 3)
FP-353/(FP-354 Blank)

PAGE FP-355

This page was not available from the proponent or the Publication Distribution Center at the time of the CD release. Please refer to your paper or microfiche copy as appropriate.

NOT DIGITIZED



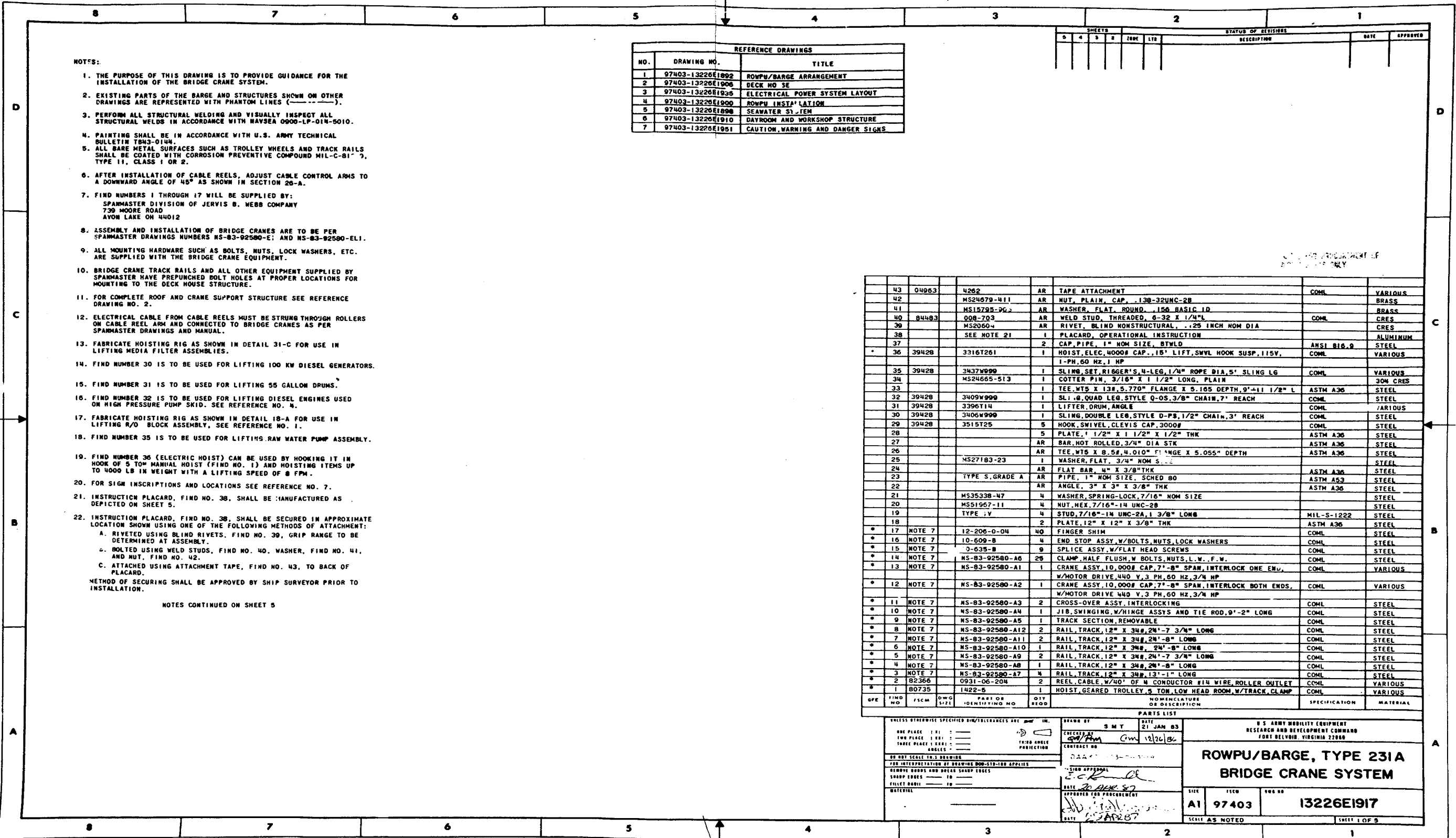


Figure FO-36 (Sheet 1 of 5)
FP-357/(FP-358 Blank)

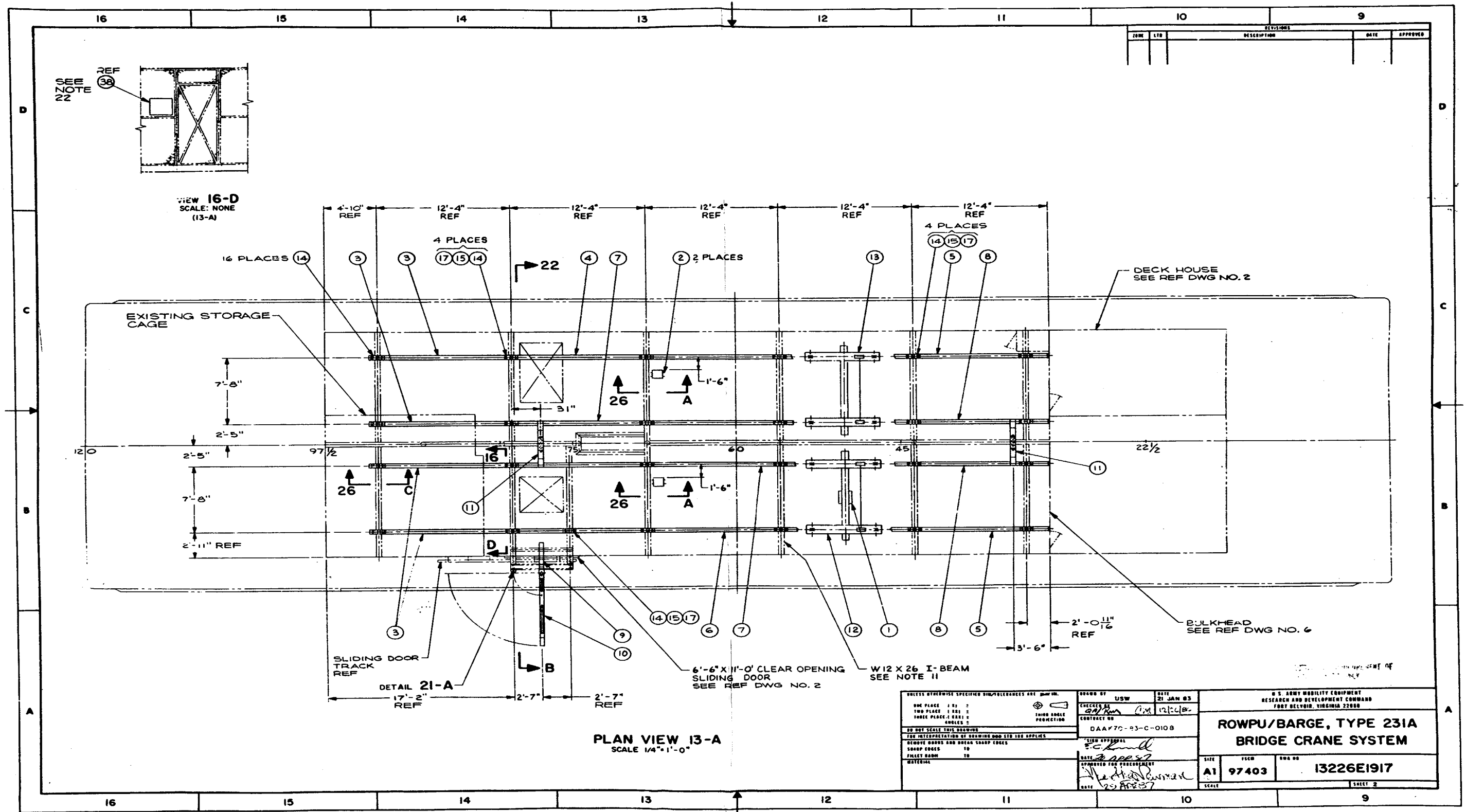


Figure FO-36 (Sheet 2 of 5)
FP-359/(FP-360 Blank)

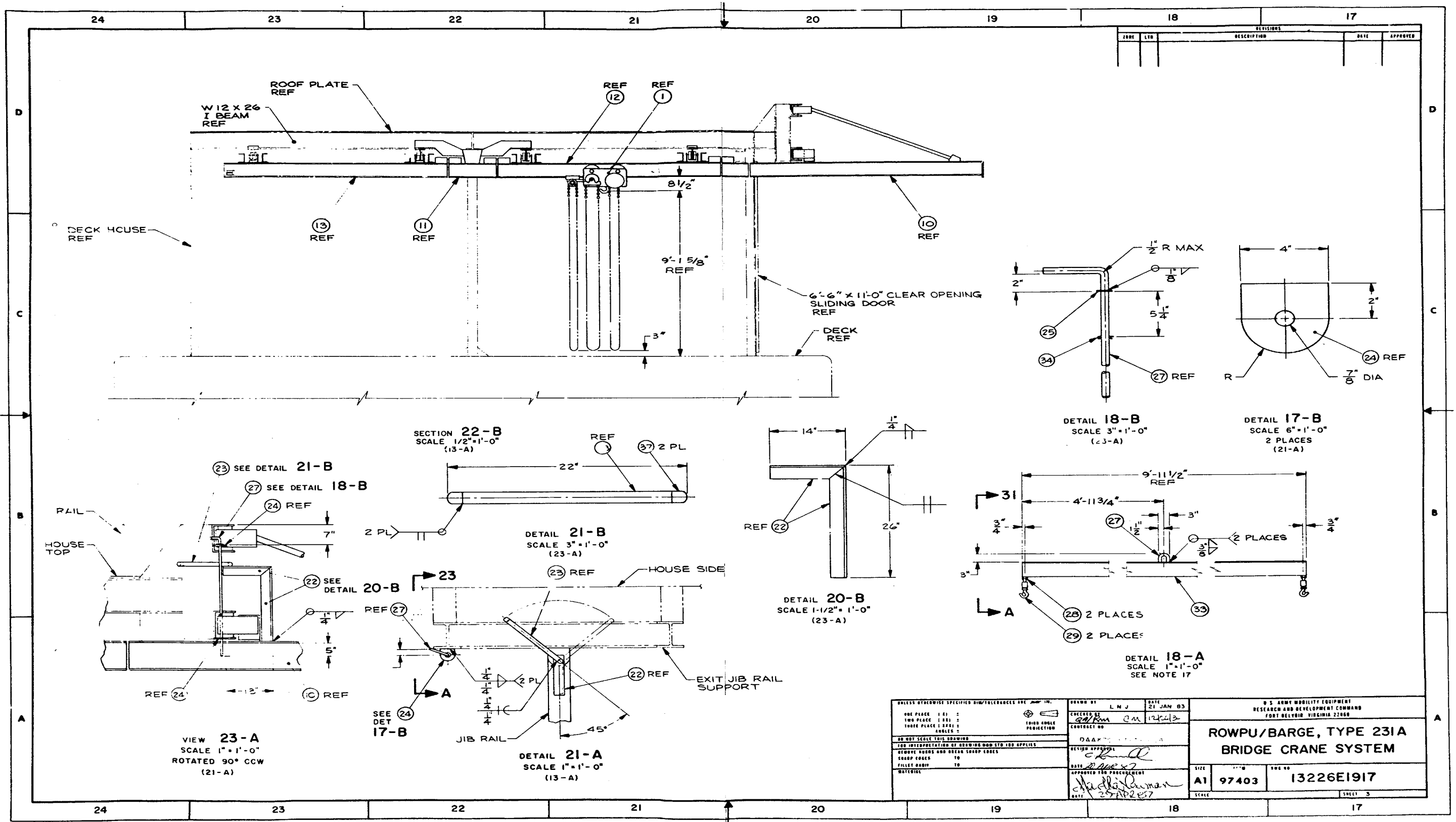


Figure FO-36 (Sheet 3 of 5)
FP-361/(FP-362 Blank)

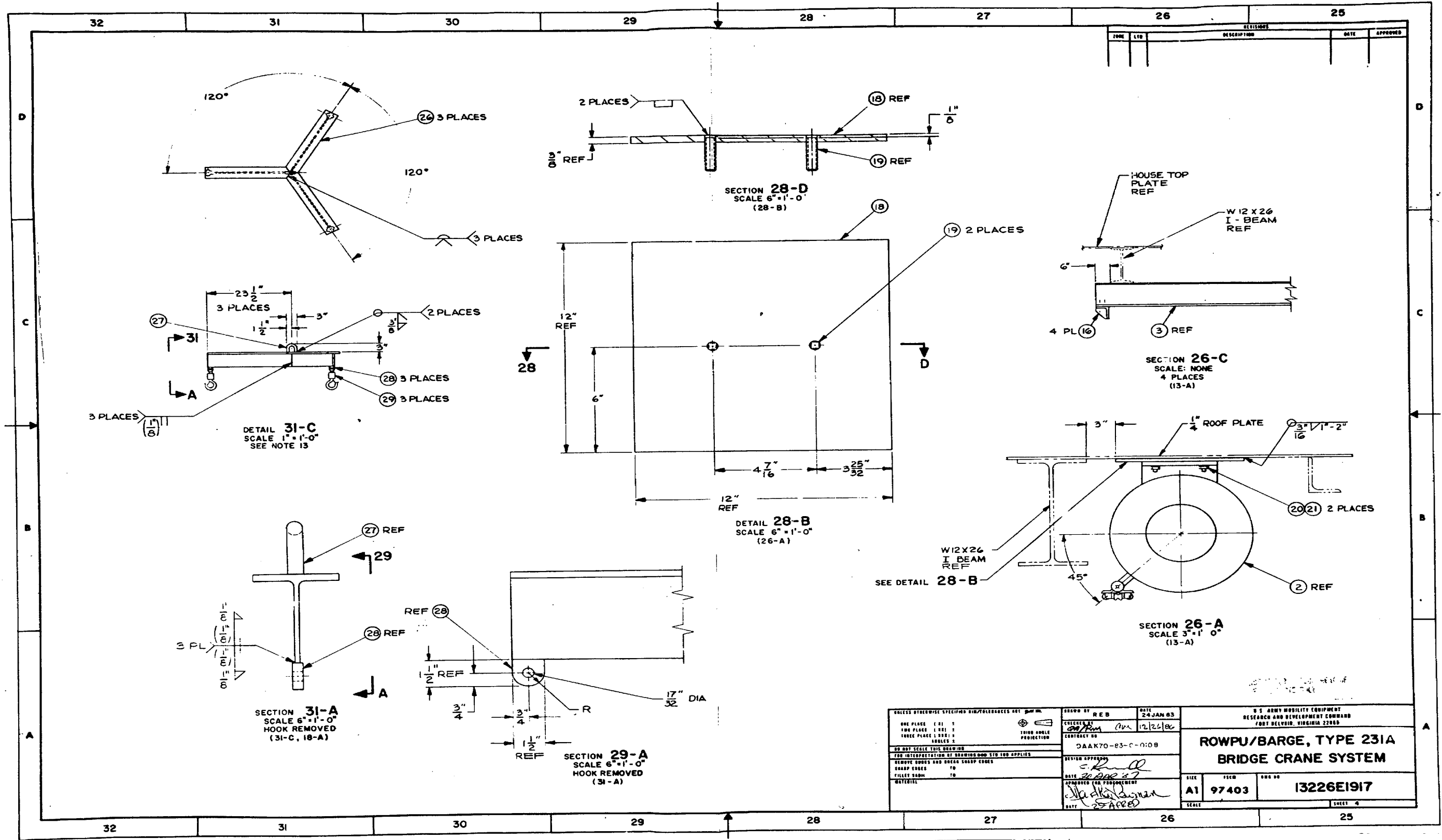
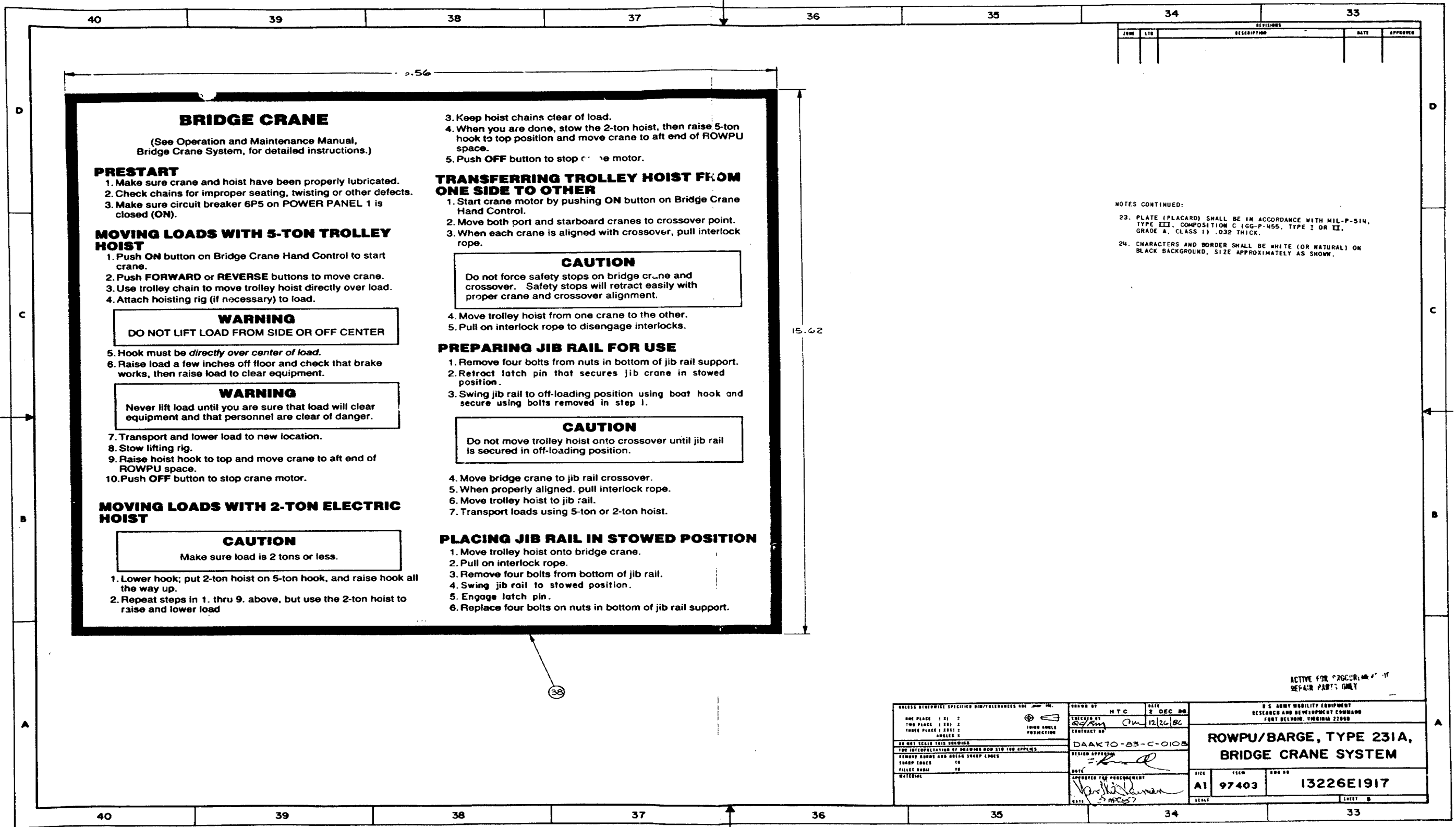


Figure FO-36 (Sheet 4 of 5)
FP-363/(FP-364 Blank)



BRIDGE CRANE

(See Operation and Maintenance Manual, Bridge Crane System, for detailed instructions.)

PRESTART

1. Make sure crane and hoist have been properly lubricated.
2. Check chains for improper seating, twisting or other defects.
3. Make sure circuit breaker 6P5 on POWER PANEL 1 is closed (ON).

MOVING LOADS WITH 5-TON TROLLEY HOIST

1. Push ON button on Bridge Crane Hand Control to start crane.
2. Push FORWARD or REVERSE buttons to move crane.
3. Use trolley chain to move trolley hoist directly over load.
4. Attach hoisting rig (if necessary) to hoist.

WARNING
DO NOT LIFT LOAD FROM SIDE OR OFF CENTER

5. Hook must be *directly over center of load*.
6. Raise load a few inches off floor and check that brake works, then raise load to clear equipment.

WARNING
Never lift load until you are sure that load will clear equipment and that personnel are clear of danger.

7. Transport and lower load to new location.
8. Stow lifting rig.
9. Raise hoist hook to top and move crane to aft end of ROWPU space.
10. Push OFF button to stop crane motor.

MOVING LOADS WITH 2-TON ELECTRIC HOIST

CAUTION
Make sure load is 2 tons or less.

1. Lower hook; put 2-ton hoist on 5-ton hook, and raise hook all the way up.
2. Repeat steps in 1. thru 9. above, but use the 2-ton hoist to raise and lower load

3. Keep hoist chains clear of load.
4. When you are done, stow the 2-ton hoist, then raise 5-ton hook to top position and move crane to aft end of ROWPU space.
5. Push OFF button to stop crane motor.

TRANSFERRING TROLLEY HOIST FROM ONE SIDE TO OTHER

1. Start crane motor by pushing ON button on Bridge Crane Hand Control.
2. Move both port and starboard cranes to crossover point.
3. When each crane is aligned with crossover, pull interlock rope.

CAUTION
Do not force safety stops on bridge crane and crossover. Safety stops will retract easily with proper crane and crossover alignment.

4. Move trolley hoist from one crane to the other.
5. Pull on interlock rope to disengage interlocks.

PREPARING JIB RAIL FOR USE

1. Remove four bolts from nuts in bottom of jib rail support.
2. Retract latch pin that secures jib crane in stowed position.
3. Swing jib rail to off-loading position using boat hook and secure using bolts removed in step 1.

CAUTION
Do not move trolley hoist onto crossover until jib rail is secured in off-loading position.

4. Move bridge crane to jib rail crossover.
5. When properly aligned, pull interlock rope.
6. Move trolley hoist to jib rail.
7. Transport loads using 5-ton or 2-ton hoist.

PLACING JIB RAIL IN STOWED POSITION

1. Move trolley hoist onto bridge crane.
2. Pull on interlock rope.
3. Remove four bolts from bottom of jib rail.
4. Swing jib rail to stowed position.
5. Engage latch pin.
6. Replace four bolts on nuts in bottom of jib rail support.

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

NOTES CONTINUED:
23. PLATE (PLACARD) SHALL BE IN ACCORDANCE WITH MIL-P-514, TYPE III, COMPOSITION C (GG-P-455, TYPE I OR II, GRADE A, CLASS 1) .032 THICK.
24. CHARACTERS AND BORDER SHALL BE WHITE (OR NATURAL) ON BLACK BACKGROUND. SIZE APPROXIMATELY AS SHOWN.

ACTIVE FOR SECUR. NO. 47
REPAIR PARTS ONLY

UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE: ONE PLACE 1/8" ± .015 TWO PLACE 1/32" ± .005 THREE PLACE 1/64" ± .002 ANGLES ± .005	DRAWN BY: H.T.C. CHECKED BY: S.P.M. / C.M. 12/26/82 CONTRACT NO: DAAK70-83-C-0105 DESIGN APPROVAL: [Signature] DATE: 5 APR 83	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
DO NOT SCALE THIS DRAWING FOR INTERPOLATION OF DIMENSIONS AND DIM. TOL. APPLIES REMOVE HATCH AND HIDE TRAMP LINES TRAMP LINES: 10 FILLET RADIUS: 10 MATERIAL:	APPROVED FOR PROCUREMENT: [Signature] DATE: 5 APR 83	ROWPU/BARGE, TYPE 231A, BRIDGE CRANE SYSTEM
	SIZE: A1 TCH: 97403	DDG NO: 13226E1917
	SCALE:	SHEET 5

Figure FO-36 (Sheet 5 of 5)
FP-365/(FP-366 Blank)

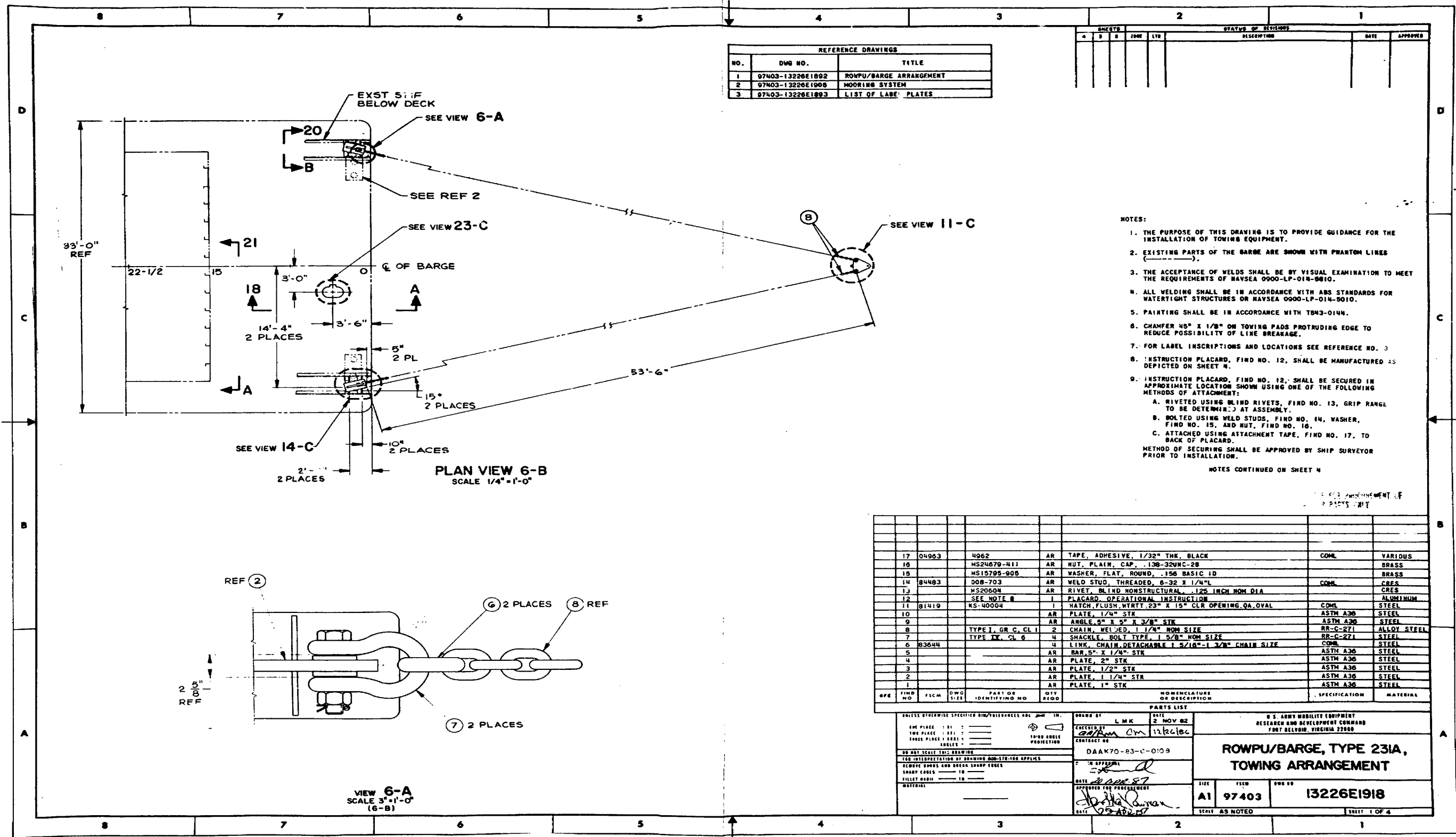


Figure FO-37 (Sheet 1 of 4)
FP-367/(FP-368 Blank)

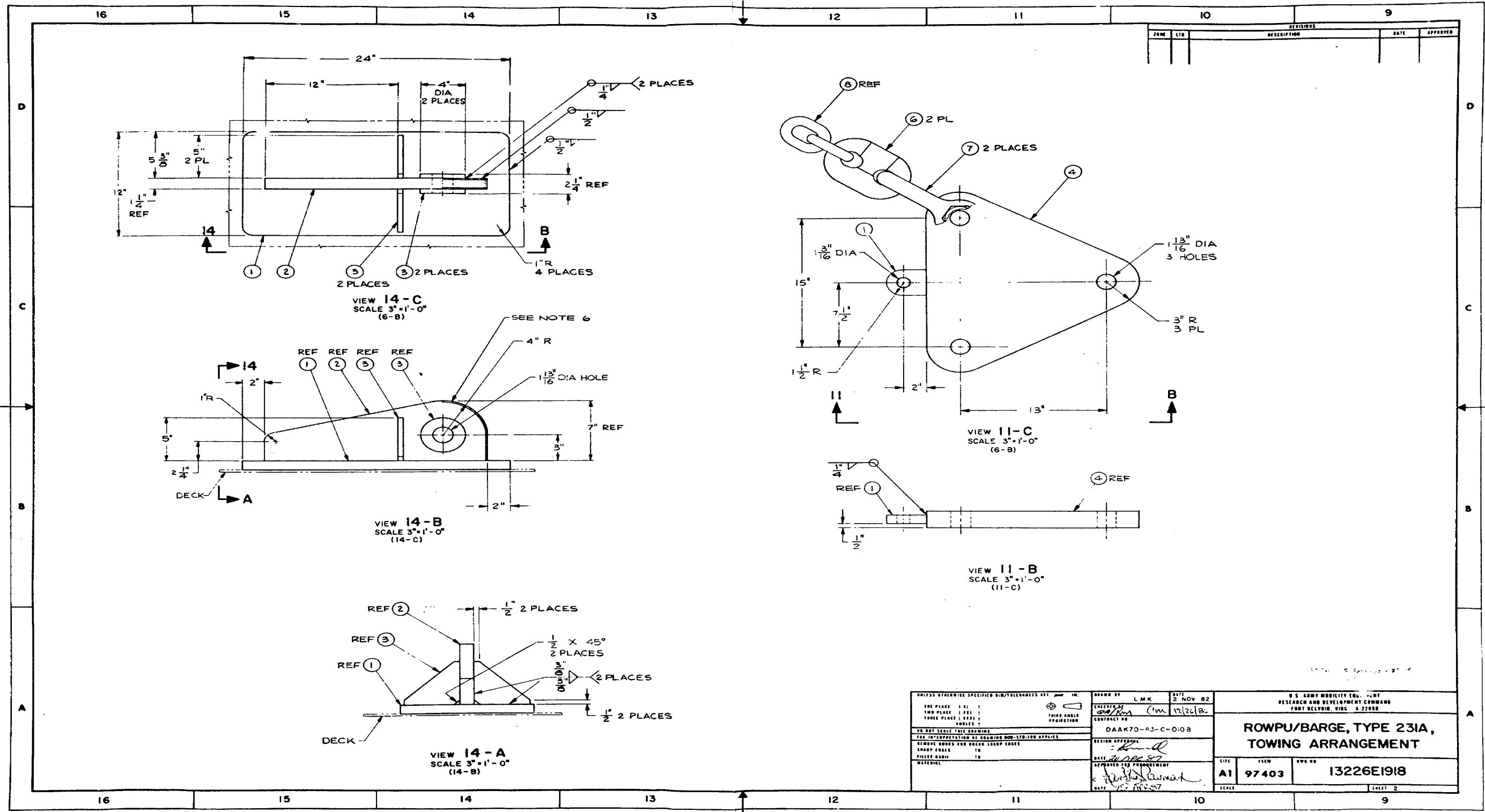


Figure FO-37 (Sheet 2 of 4)
FP-369/(FP-370 Blank)

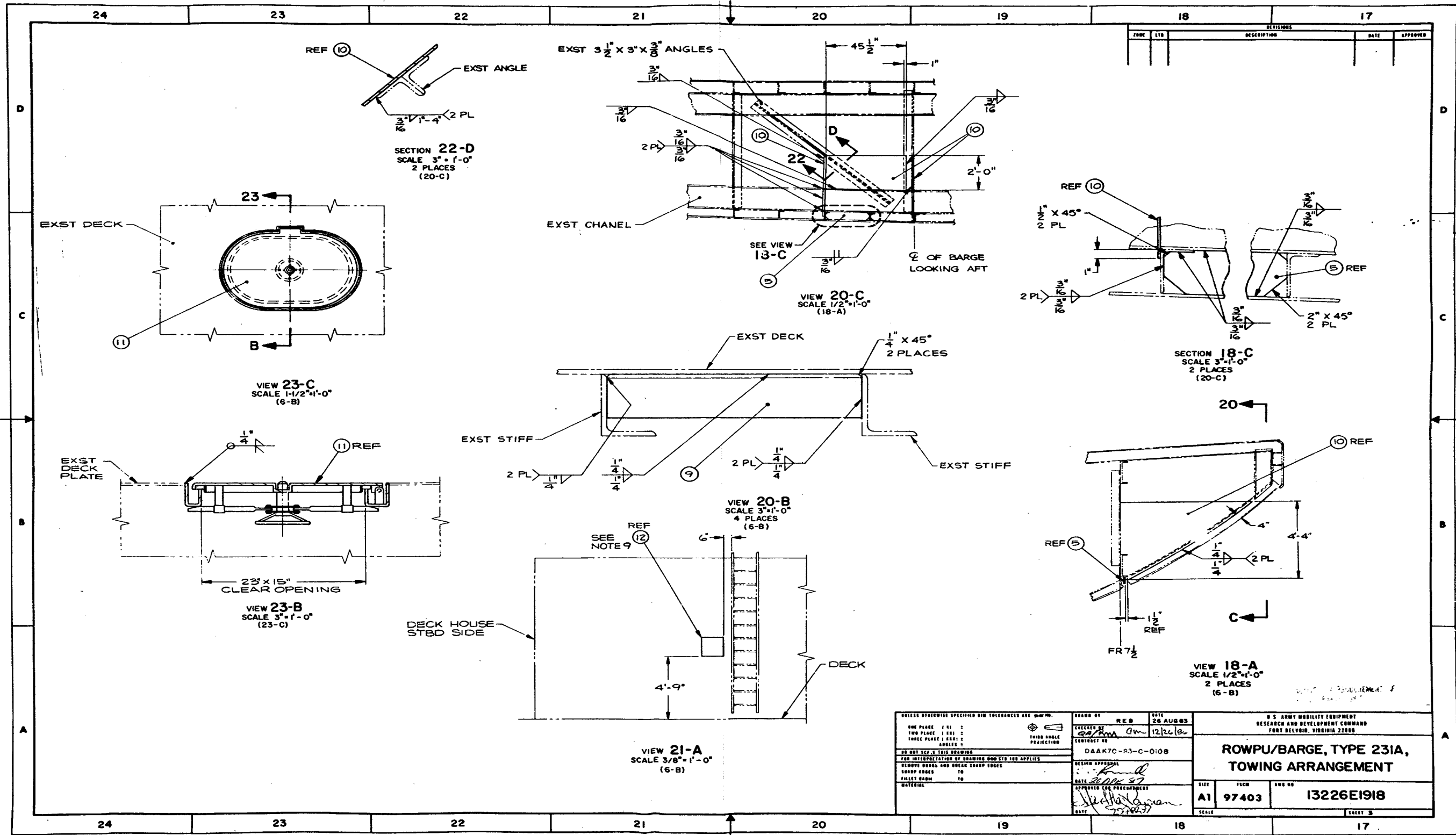
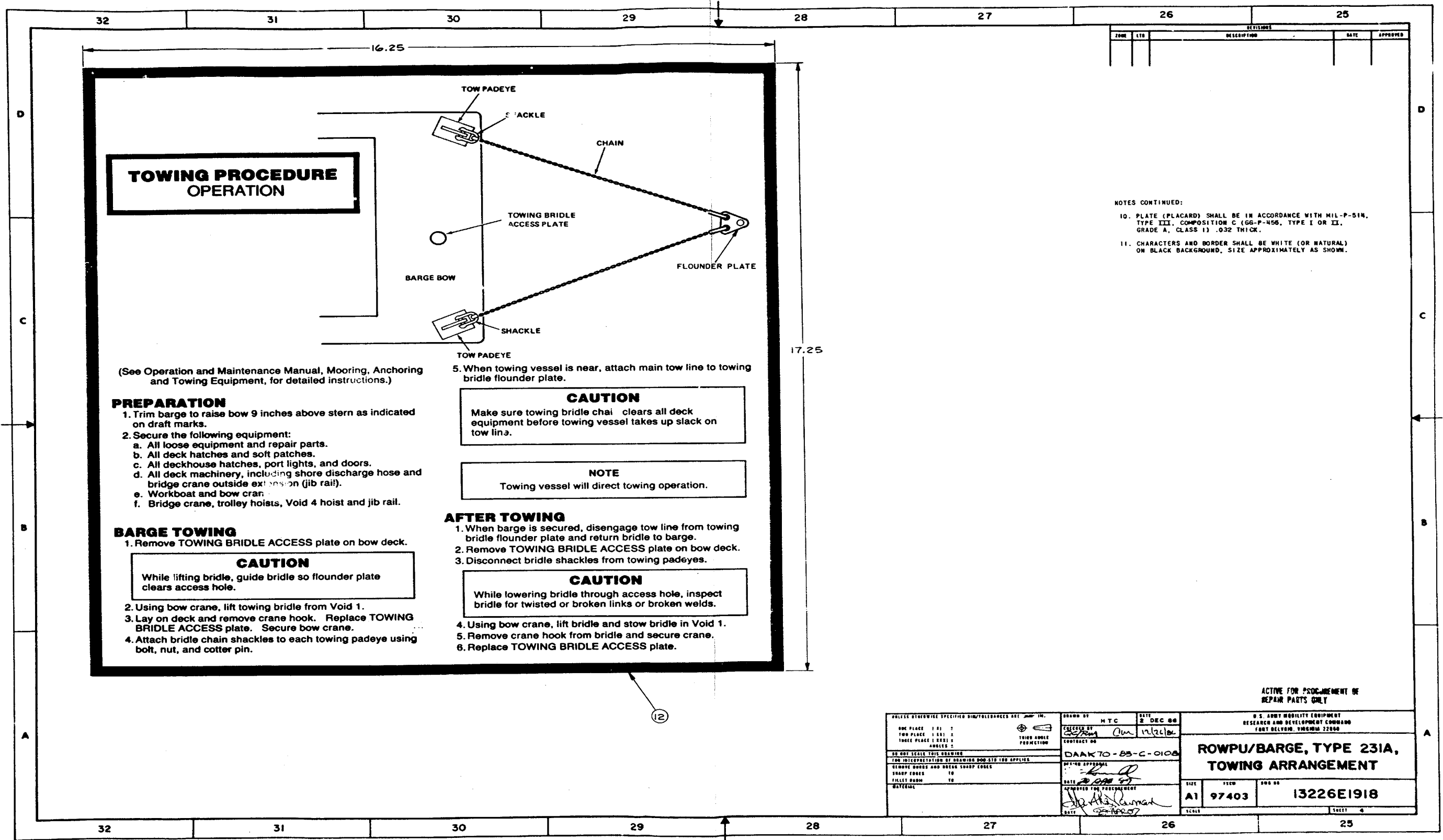


Figure FO-37 (Sheet 3 of 4)
FP-371/(FP-372 Blank)



TOWING PROCEDURE OPERATION

(See Operation and Maintenance Manual, Mooring, Anchoring and Towing Equipment, for detailed instructions.)

PREPARATION

1. Trim barge to raise bow 9 inches above stern as indicated on draft marks.
2. Secure the following equipment:
 - a. All loose equipment and repair parts.
 - b. All deck hatches and soft patches.
 - c. All deckhouse hatches, port lights, and doors.
 - d. All deck machinery, including shore discharge hose and bridge crane outside extension (jib rail).
 - e. Workboat and bow crane.
 - f. Bridge crane, trolley hoists, Void 4 hoist and jib rail.

BARGE TOWING

1. Remove TOWING BRIDLE ACCESS plate on bow deck.

CAUTION
While lifting bridle, guide bridle so flounder plate clears access hole.

2. Using bow crane, lift towing bridle from Void 1.
3. Lay on deck and remove crane hook. Replace TOWING BRIDLE ACCESS plate. Secure bow crane.
4. Attach bridle chain shackles to each towing padeye using bolt, nut, and cotter pin.

5. When towing vessel is near, attach main tow line to towing bridle flounder plate.

CAUTION
Make sure towing bridle chain clears all deck equipment before towing vessel takes up slack on tow line.

NOTE
Towing vessel will direct towing operation.

AFTER TOWING

1. When barge is secured, disengage tow line from towing bridle flounder plate and return bridle to barge.
2. Remove TOWING BRIDLE ACCESS plate on bow deck.
3. Disconnect bridle shackles from towing padeyes.

CAUTION
While lowering bridle through access hole, inspect bridle for twisted or broken links or broken welds.

4. Using bow crane, lift bridle and stow bridle in Void 1.
5. Remove crane hook from bridle and secure crane.
6. Replace TOWING BRIDLE ACCESS plate.

ZONE		REVISED		DATE	APPROVED

NOTES CONTINUED:

10. PLATE (PLACARD) SHALL BE IN ACCORDANCE WITH MIL-P-514, TYPE III, COMPOSITION C (GG-P-456, TYPE I OR II, GRADE A, CLASS 1) .032 THICK.
11. CHARACTERS AND BORDER SHALL BE WHITE (OR NATURAL) ON BLACK BACKGROUND, SIZE APPROXIMATELY AS SHOWN.

ACTIVE FOR PROCUREMENT OF REPAIR PARTS ONLY

UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE IN INCHES.	DRAWN BY HTC	DATE 2 DEC 66	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060	
ONE PLACE 1 01 ± TWO PLACE 1 001 ± THREE PLACE 1 0001 ± ANGLES ±	CHECKED BY CSC/PM Om	INSTRUMENT NO.	ROWPU/BARGE, TYPE 231A, TOWING ARRANGEMENT	
DO NOT SCALE THIS DRAWING FOR INTERPRETATION BY DRAWING OURS DO NOT APPLY REMOVE BURRS AND BREAK SHARP EDGES SHARP EDGES TO FILLET RADIUS TO MATERIAL	CONTRACT NO. DAAK70-63-C-0108	DATE 2 DEC 66		
APPROVED FOR PROCUREMENT			FIGURE NO.	FIGURE NO.
DATE 2 DEC 66			FIGURE NO.	FIGURE NO. 13226E1918
SCALE			SHEET 4	

Figure FO-37 (Sheet 4 of 4)
FP-373/(FP-374 Blank)

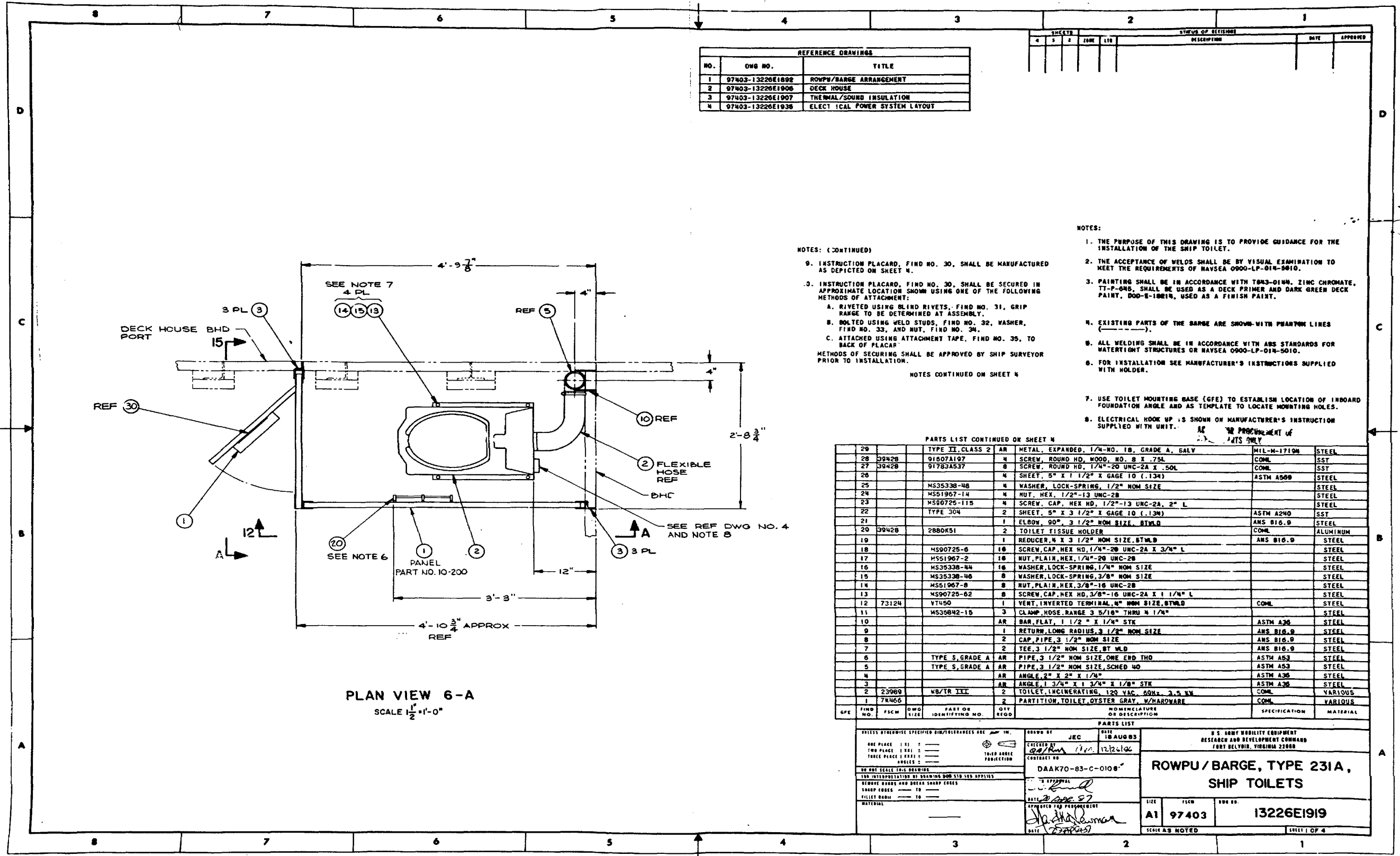


Figure FO-38 (Sheet 1 of 4)
FP-375/(FP-376 Blank)

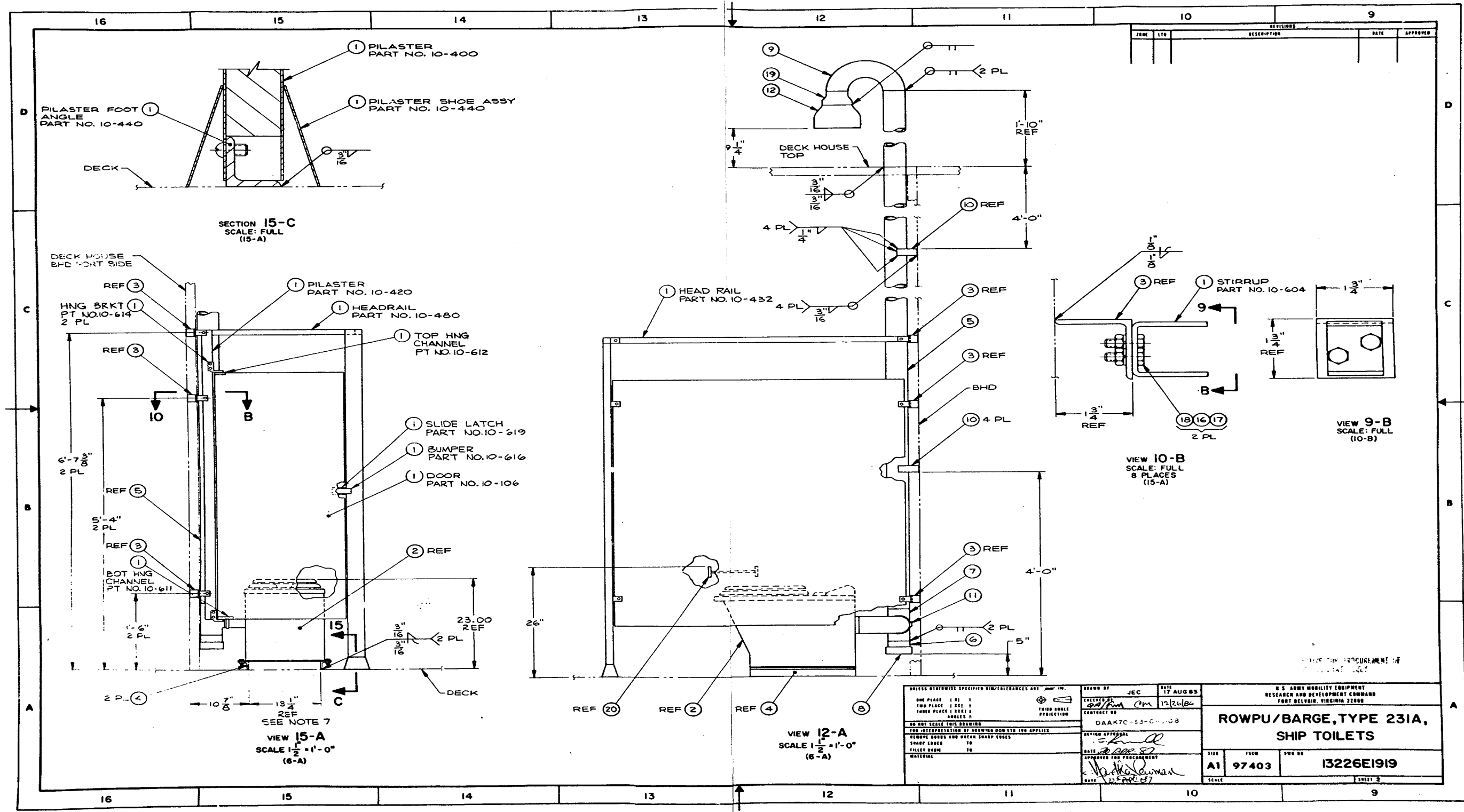


Figure FO-38 (Sheet 2 of 4)
FP-377/(FP-378 Blank)

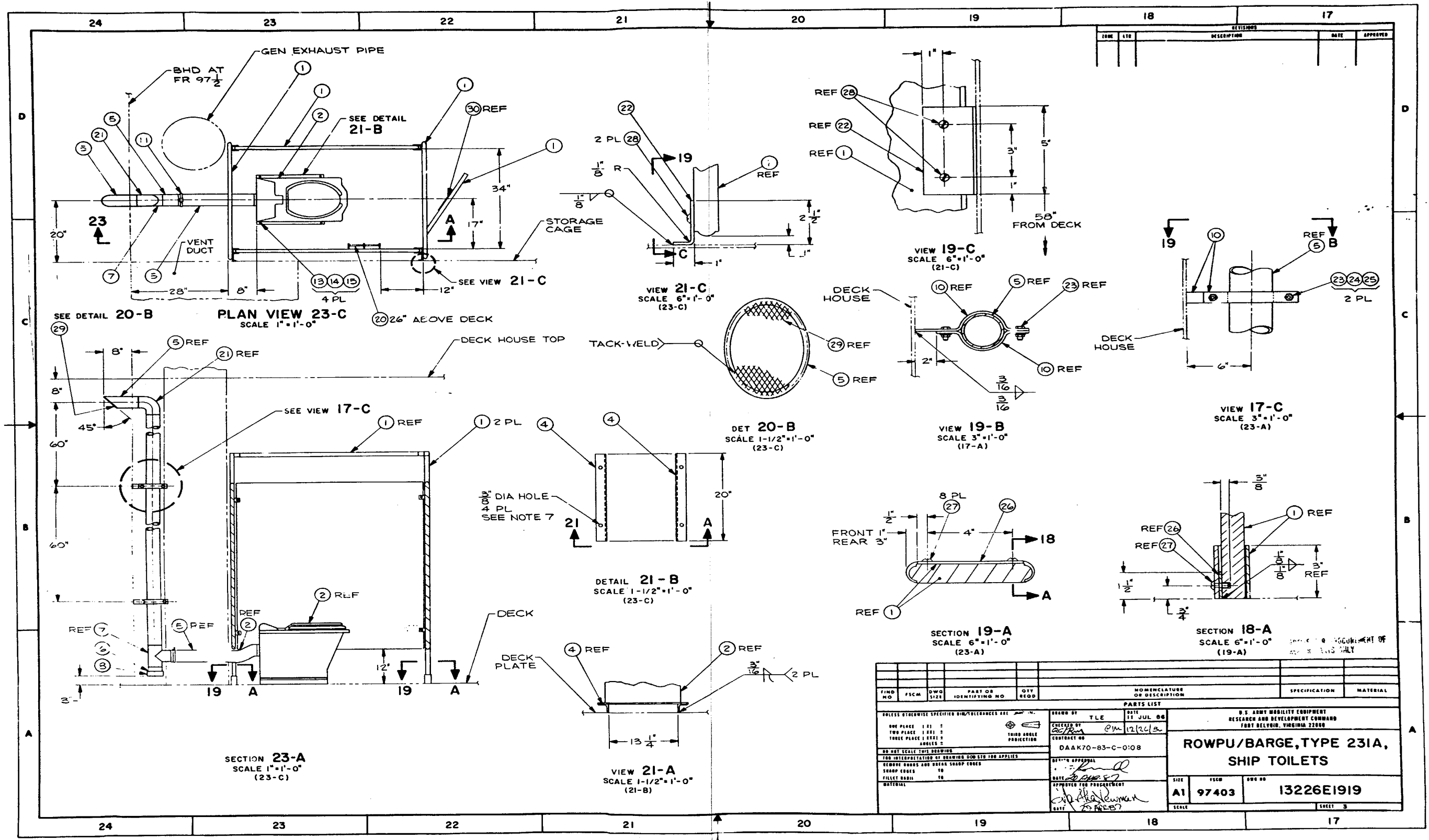


Figure FO-38 (Sheet 3 of 4)
 FP-379/(FP-380 Blank)

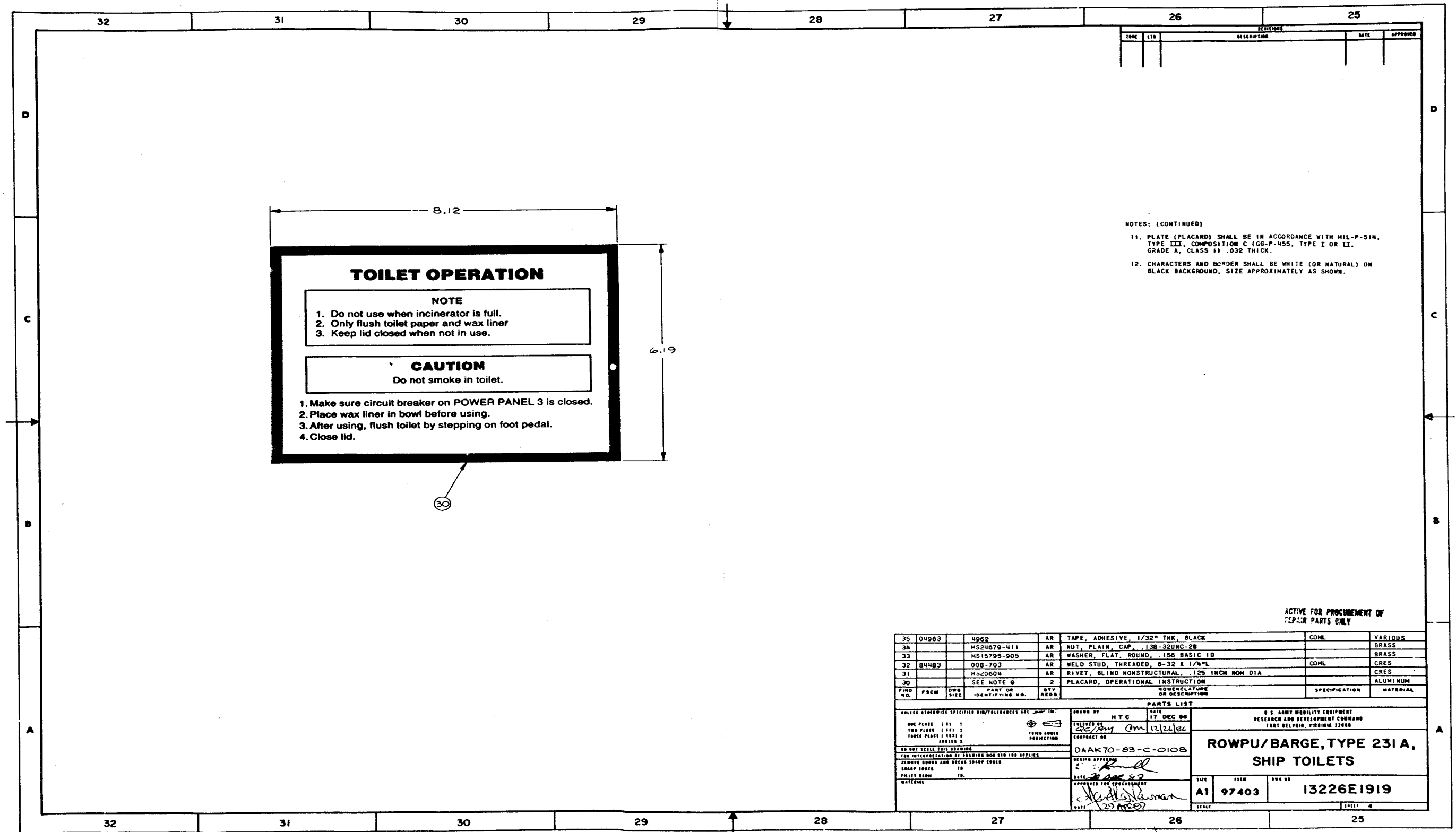
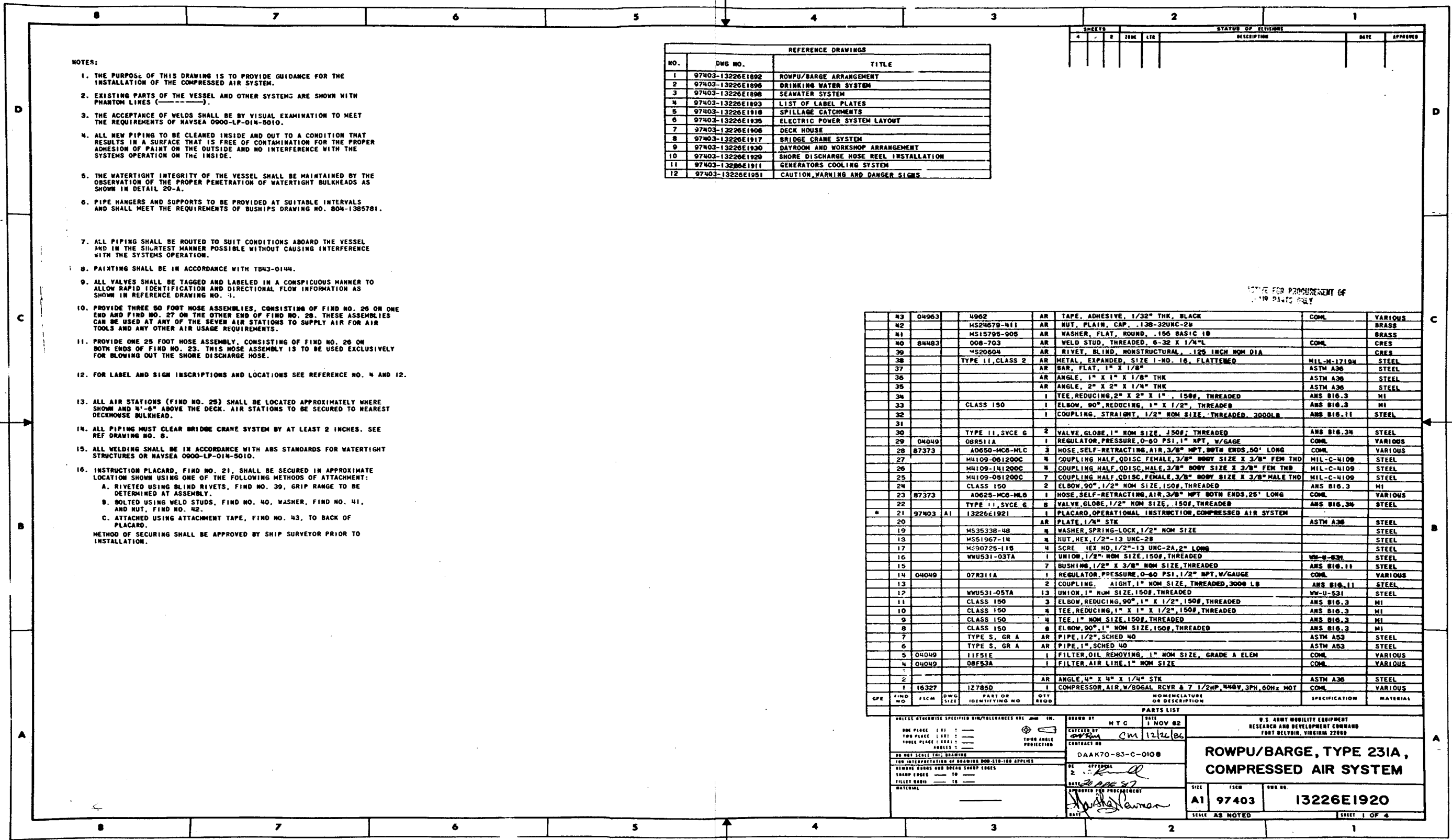


Figure FO-38 (Sheet 4 of 4)
FP-381/(FP-382 Blank)



NOTES:

1. THE PURPOSE OF THIS DRAWING IS TO PROVIDE GUIDANCE FOR THE INSTALLATION OF THE COMPRESSED AIR SYSTEM.
2. EXISTING PARTS OF THE VESSEL AND OTHER SYSTEMS ARE SHOWN WITH PHANTOM LINES (-----).
3. THE ACCEPTANCE OF WELDS SHALL BE BY VISUAL EXAMINATION TO MEET THE REQUIREMENTS OF NAVSEA 0900-LP-014-5010.
4. ALL NEW PIPING TO BE CLEANED INSIDE AND OUT TO A CONDITION THAT RESULTS IN A SURFACE THAT IS FREE OF CONTAMINATION FOR THE PROPER ADHESION OF PAINT ON THE OUTSIDE AND NO INTERFERENCE WITH THE SYSTEMS OPERATION ON THE INSIDE.
5. THE WATERTIGHT INTEGRITY OF THE VESSEL SHALL BE MAINTAINED BY THE OBSERVATION OF THE PROPER PENETRATION OF WATERTIGHT BULKHEADS AS SHOWN IN DETAIL 20-A.
6. PIPE HANGERS AND SUPPORTS TO BE PROVIDED AT SUITABLE INTERVALS AND SHALL MEET THE REQUIREMENTS OF BUSHIPS DRAWING NO. 804-1385781.
7. ALL PIPING SHALL BE ROUTED TO SUIT CONDITIONS ABOARD THE VESSEL AND IN THE SHORTEST MANNER POSSIBLE WITHOUT CAUSING INTERFERENCE WITH THE SYSTEMS OPERATION.
8. PAINTING SHALL BE IN ACCORDANCE WITH TB43-0144.
9. ALL VALVES SHALL BE TAGGED AND LABELED IN A CONSPICUOUS MANNER TO ALLOW RAPID IDENTIFICATION AND DIRECTIONAL FLOW INFORMATION AS SHOWN IN REFERENCE DRAWING NO. 1.
10. PROVIDE THREE 50 FOOT HOSE ASSEMBLIES, CONSISTING OF FIND NO. 26 ON ONE END AND FIND NO. 27 ON THE OTHER END OF FIND NO. 28. THESE ASSEMBLIES CAN BE USED AT ANY OF THE SEVEN AIR STATIONS TO SUPPLY AIR FOR AIR TOOLS AND ANY OTHER AIR USAGE REQUIREMENTS.
11. PROVIDE ONE 25 FOOT HOSE ASSEMBLY, CONSISTING OF FIND NO. 26 ON BOTH ENDS OF FIND NO. 23. THIS HOSE ASSEMBLY IS TO BE USED EXCLUSIVELY FOR BLOWING OUT THE SHORE DISCHARGE NOSE.
12. FOR LABEL AND SIGN INSCRIPTIONS AND LOCATIONS SEE REFERENCE NO. 4 AND 12.
13. ALL AIR STATIONS (FIND NO. 25) SHALL BE LOCATED APPROXIMATELY WHERE SHOWN AND 4'-6" ABOVE THE DECK. AIR STATIONS TO BE SECURED TO NEAREST DECKHOUSE BULKHEAD.
14. ALL PIPING MUST CLEAR BRIDGE CRANE SYSTEM BY AT LEAST 2 INCHES. SEE REF DRAWING NO. 8.
15. ALL WELDING SHALL BE IN ACCORDANCE WITH ABS STANDARDS FOR WATERTIGHT STRUCTURES OR NAVSEA 0900-LP-014-5010.
16. INSTRUCTION PLACARD, FIND NO. 21, SHALL BE SECURED IN APPROXIMATE LOCATION SHOWN USING ONE OF THE FOLLOWING METHODS OF ATTACHMENT:
 - A. RIVETED USING BLIND RIVETS, FIND NO. 39, GRIP RANGE TO BE DETERMINED AT ASSEMBLY.
 - B. BOLTED USING WELD STUDS, FIND NO. 40, WASHER, FIND NO. 41, AND NUT, FIND NO. 42.
 - C. ATTACHED USING ATTACHMENT TAPE, FIND NO. 43, TO BACK OF PLACARD.
 METHOD OF SECURING SHALL BE APPROVED BY SHIP SURVEYOR PRIOR TO INSTALLATION.

REFERENCE DRAWINGS		
NO.	DWG NO.	TITLE
1	97403-13226E1892	ROWPU/BARGE ARRANGEMENT
2	97403-13226E1896	DRINKING WATER SYSTEM
3	97403-13226E1898	SEAWATER SYSTEM
4	97403-13226E1893	LIST OF LABEL PLATES
5	97403-13226E1918	SPILLAGE CATCHMENTS
6	97403-13226E1835	ELECTRIC POWER SYSTEM LAYOUT
7	97403-13226E1808	DECK HOUSE
8	97403-13226E1817	BRIDGE CRANE SYSTEM
9	97403-13226E1830	DAYROOM AND WORKSHOP ARRANGEMENT
10	97403-13226E1929	SHORE DISCHARGE HOSE REEL INSTALLATION
11	97403-13226E1911	GENERATORS COOLING SYSTEM
12	97403-13226E1951	CAUTION, WARNING AND DANGER SIGNS

NO.	QTY	DESCRIPTION	UNIT	REMARKS
43	04963	4962	AR	TAPE, ADHESIVE, 1/32" THK, BLACK
42		MS24679-N11	AR	NUT, PLAIN, CAP, .138-32UNC-2W
41		MS15795-908	AR	WASHER, FLAT, ROUND, .155 BASIC 10
40	84483	008-703	AR	WELD STUD, THREADED, 6-32 X 1/4" L
39		MS20504	AR	RIVET, BLIND, NONSTRUCTURAL, .125 INCH NOM DIA
38		TYPE 11, CLASS 2	AR	METAL, EXPANDED, SIZE 1-NO. 18, FLATTENED
37			AR	BAR, FLAT, 1" X 1/8"
36			AR	ANGLE, 1" X 1" X 1/8" THK
35			AR	ANGLE, 2" X 2" X 1/4" THK
34			I	TEE, REDUCING, 2" X 2" X 1" . 150#, THREADED
33		CLASS 150	I	ELBOW, 90°, REDUCING, 1" X 1/2", 150#, THREADED
32			I	COUPLING, STRAIGHT, 1/2" NOM SIZE, THREADED, 3000 LB
31				
30		TYPE 11, SYCE 6	2	VALVE, GLOBE, 1" NOM SIZE, 150#, THREADED
29	04049	08R511A	I	REGULATOR, PRESSURE, 0-60 PSI, 1" NPT, W/GAUGE
28	87373	A0650-MC6-MLC	3	HOSE, SELF-RETRACTING, AIR, 3/8" NPT, BOTH ENDS, 50' LONG
27		MH109-061200C	8	COUPLING HALF, QDISC FEMALE, 3/8" BODY SIZE X 3/8" FEM THD
26		MH109-1M1200C	8	COUPLING HALF, QDISC MALE, 3/8" BODY SIZE X 3/8" FEM THD
25		MH109-081200C	7	COUPLING HALF, QDISC FEMALE, 3/8" BODY SIZE X 3/8" MALE THD
24		CLASS 150	2	ELBOW, 90°, 1/2" NOM SIZE, 150#, THREADED
23	87373	A0625-MC6-ML6	I	HOSE, SELF-RETRACTING, AIR, 3/8" NPT BOTH ENDS, 25' LONG
22		TYPE 11, SYCE 6	8	VALVE, GLOBE, 1/2" NOM SIZE, 150#, THREADED
21	97403	A1 13226E1921	I	PLACARD, OPERATIONAL INSTRUCTION, COMPRESSED AIR SYSTEM
20			AR	PLATE, 1/4" STK
19		MS35338-48	4	WASHER, SPRING-LOCK, 1/2" NOM SIZE
18		MS1967-14	4	NUT, HEX, 1/2"-13 UNC-2B
17		MS90725-118	4	SCRE 1EX HD, 1/2"-13 UNC-2A, 2" LONG
16		WU531-03TA	1	UNION, 1/2" NOM SIZE, 150#, THREADED
15			7	BUSHING, 1/2" X 3/8" NOM SIZE, THREADED
14	04049	07R311A	I	REGULATOR, PRESSURE, 0-60 PSI, 1/2" NPT, W/GAUGE
13			2	COUPLING, AIGHT, 1" NOM SIZE, THREADED, 3000 LB
12		WU531-05TA	13	UNION, 1" NOM SIZE, 150#, THREADED
11		CLASS 150	3	ELBOW, REDUCING, 90°, 1" X 1/2", 150#, THREADED
10		CLASS 150	4	TEE, REDUCING, 1" X 1" X 1/2", 150#, THREADED
9		CLASS 150	4	TEE, 1" NOM SIZE, 150#, THREADED
8		CLASS 150	8	ELBOW, 90°, 1" NOM SIZE, 150#, THREADED
7		TYPE S, GR A	AR	PIPE, 1/2", SCHED 40
6		TYPE S, GR A	AR	PIPE, 1", SCHED 40
5	04049	11F51E	I	FILTER, OIL REMOVING, 1" NOM SIZE, GRADE A ELEM
4	04049	08F53A	I	FILTER, AIR LINE, 1" NOM SIZE
3			AR	ANGLE, 4" X 4" X 1/4" STK
2		127850	I	COMPRESSOR, AIR, W/BOGAL RCVR & 7 1/2HP, 440V, 3PH, 60HZ MOT

CHECKED DIMENSIONS SPECIFIED DIM/TOLERANCES SEE DIM. IN.		DRAWN BY: HTC DATE: 1 NOV 82	
DIM PLACE 1 01 : DIM PLACE 1 02 : DIM PLACE 1 03 : DIM PLACE 1 04 :		EXECUTED BY: CMW DATE: 12/26/84 CONTRACT NO: DAAK70-83-C-0108	
DR NOT SCALE THIS DRAWING FOR INTERPRETATION OF DIMENSIONS DIM-STD-100 APPLIES		U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060	
REMOVE BORES AND BREAK SHARP EDGES SHARP EDGES TO FILLET BORES TO		ROWPU/BARGE, TYPE 231A, COMPRESSED AIR SYSTEM	
MATERIAL:		SIZE: 150# DIM NO.: A1 97403 13226E1920	
SCALE: AS NOTED		SHEET 1 OF 4	

Figure FO-39 (Sheet 1 of 4)
FP-383/(FP-384 Blank)

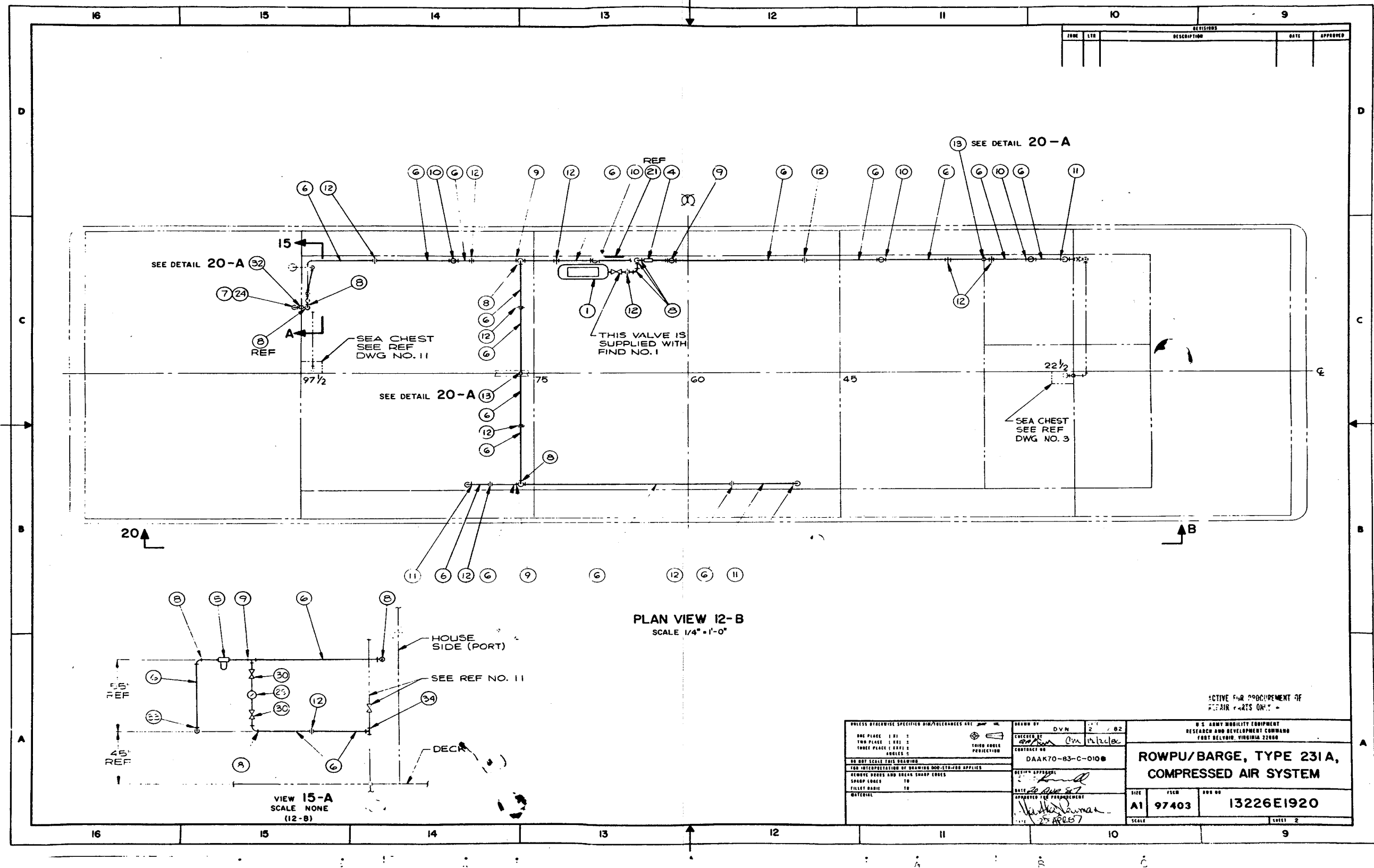


Figure FO-39 (Sheet 2 of 4)
FP-385/(FP-386 Blank)

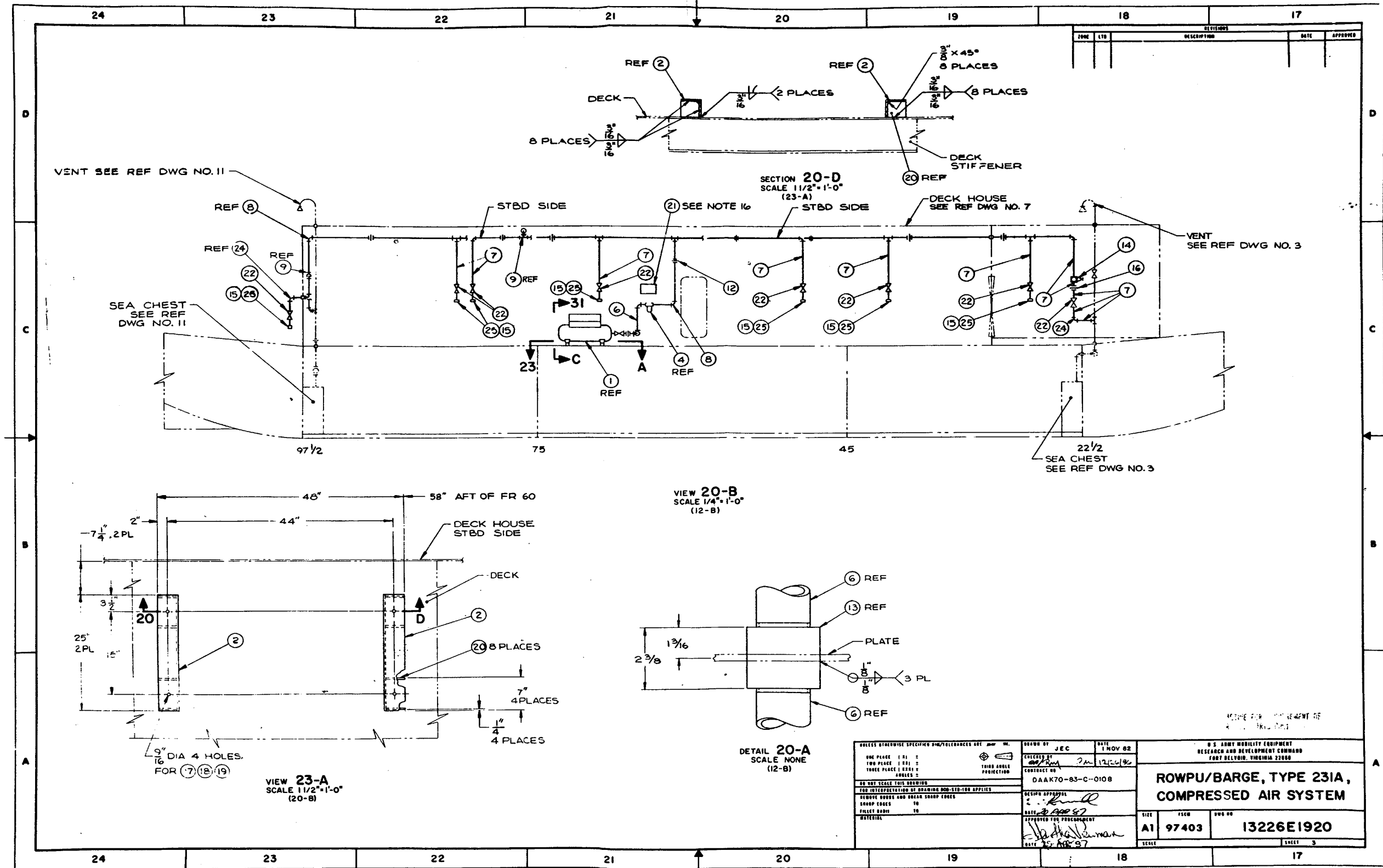


Figure FO-39 (Sheet 3 of 4)
FP-387/(FP-388 Blank)

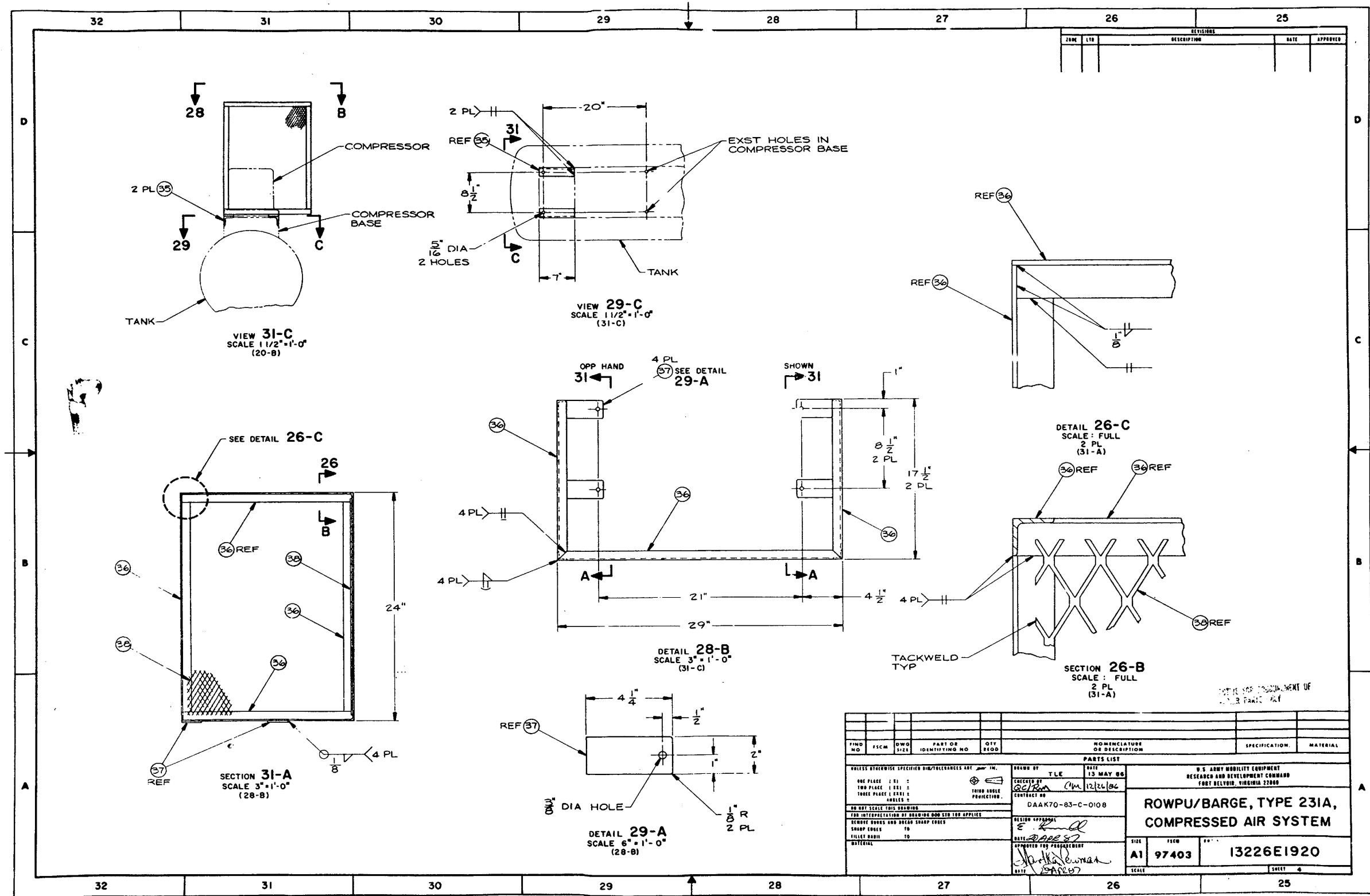
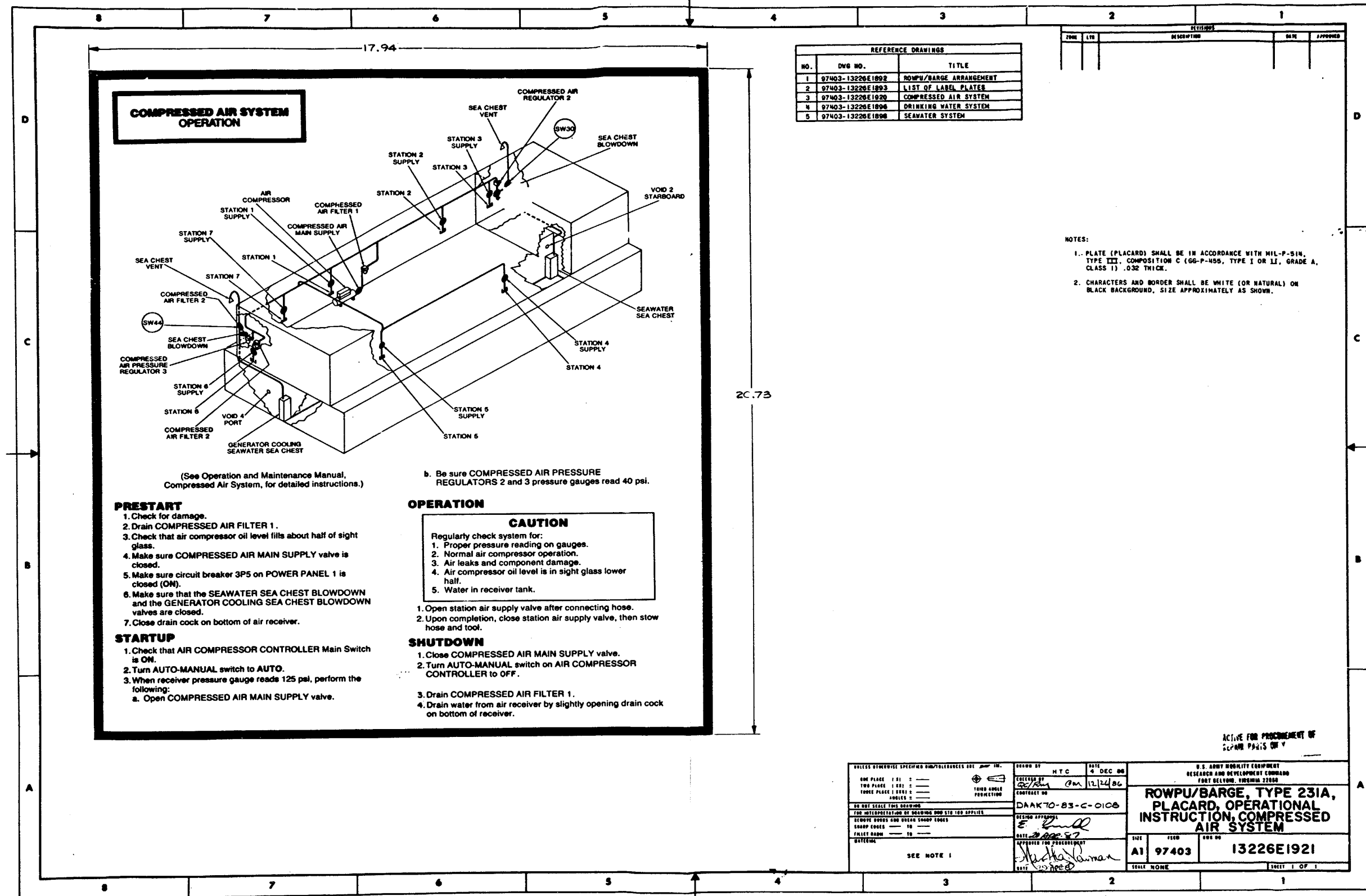


FIG NO	FSCM	DWG	SIZE	PART OR IDENTIFYING NO	QTY	RECD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL
PARTS LIST									
DRAWN BY: TLE DATE: 13 MAY 88									
CHECKED BY: GCR/BA (M) 12/26/86									
CONTRACT NO: DAAK70-83-C-0108									
DESIGN APPROVAL: [Signature]									
APPROVED FOR PROCUREMENT: [Signature]									
DATE: 12/26/86									
U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060									
ROWPU/BARGE, TYPE 231A, COMPRESSED AIR SYSTEM									
SIZE: A1	FIG: 97403	13226E1920							
SHEET 4									

Figure FO-39 (Sheet 4 of 4)
FP-389/(FP-390 Blank)



REFERENCE DRAWINGS		
NO.	DWG NO.	TITLE
1	97403-13226E1002	ROWPU/BARGE ARRANGEMENT
2	97403-13226E1003	LIST OF LABEL PLATES
3	97403-13226E1020	COMPRESSED AIR SYSTEM
4	97403-13226E1006	DRINKING WATER SYSTEM
5	97403-13226E1008	SEAWATER SYSTEM

REVISIONS				
NO.	DATE	DESCRIPTION	BY	APPROVED

- NOTES:
- PLATE (PLACARD) SHALL BE IN ACCORDANCE WITH MIL-P-51N, TYPE III, COMPOSITION C (GG-P-455, TYPE I OR II, GRADE A, CLASS 1) .032 THICK.
 - CHARACTERS AND BORDER SHALL BE WHITE (OR NATURAL) ON BLACK BACKGROUND, SIZE APPROXIMATELY AS SHOWN.

(See Operation and Maintenance Manual, Compressed Air System, for detailed instructions.)

PRESTART

- Check for damage.
- Drain COMPRESSED AIR FILTER 1.
- Check that air compressor oil level fills about half of sight glass.
- Make sure COMPRESSED AIR MAIN SUPPLY valve is closed.
- Make sure circuit breaker 3P5 on POWER PANEL 1 is closed (ON).
- Make sure that the SEAWATER SEA CHEST BLOWDOWN and the GENERATOR COOLING SEA CHEST BLOWDOWN valves are closed.
- Close drain cock on bottom of air receiver.

STARTUP

- Check that AIR COMPRESSOR CONTROLLER Main Switch is ON.
- Turn AUTO-MANUAL switch to AUTO.
- When receiver pressure gauge reads 125 psi, perform the following:
 - Open COMPRESSED AIR MAIN SUPPLY valve.

- Be sure COMPRESSED AIR PRESSURE REGULATORS 2 and 3 pressure gauges read 40 psi.

OPERATION

CAUTION

Regularly check system for:

- Proper pressure reading on gauges.
- Normal air compressor operation.
- Air leaks and component damage.
- Air compressor oil level is in sight glass lower half.
- Water in receiver tank.

SHUTDOWN

- Close COMPRESSED AIR MAIN SUPPLY valve.
- Turn AUTO-MANUAL switch on AIR COMPRESSOR CONTROLLER to OFF.
- Drain COMPRESSED AIR FILTER 1.
- Drain water from air receiver by slightly opening drain cock on bottom of receiver.

ACTIVE FOR PROCUREMENT OF SEPARATE PARTS ON Y

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ONE PLACE 1/8" ± TWO PLACE 1/32" ± THREE PLACE 1/64" ± ANGLES ± .5°		DRAWN BY: HTC CHECKED BY: [Signature] CONTRACT NO: DAAK70-83-C-0108 DESIGN APPROVAL: [Signature] DATE: 2005-07 APPROVED FOR PROCUREMENT: [Signature] DATE: 2005-07	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELLEVILLE, ILLINOIS 62205 ROWPU/BARGE, TYPE 231A, PLACARD, OPERATIONAL INSTRUCTION, COMPRESSED AIR SYSTEM
SEE NOTE 1		SIZE: A1 QUANTITY: 1 SCALE: NONE	FIG NO: 13226E1921 SHEET: 1 OF 1

Figure FO-40
FP-391/(FP-392 Blank)

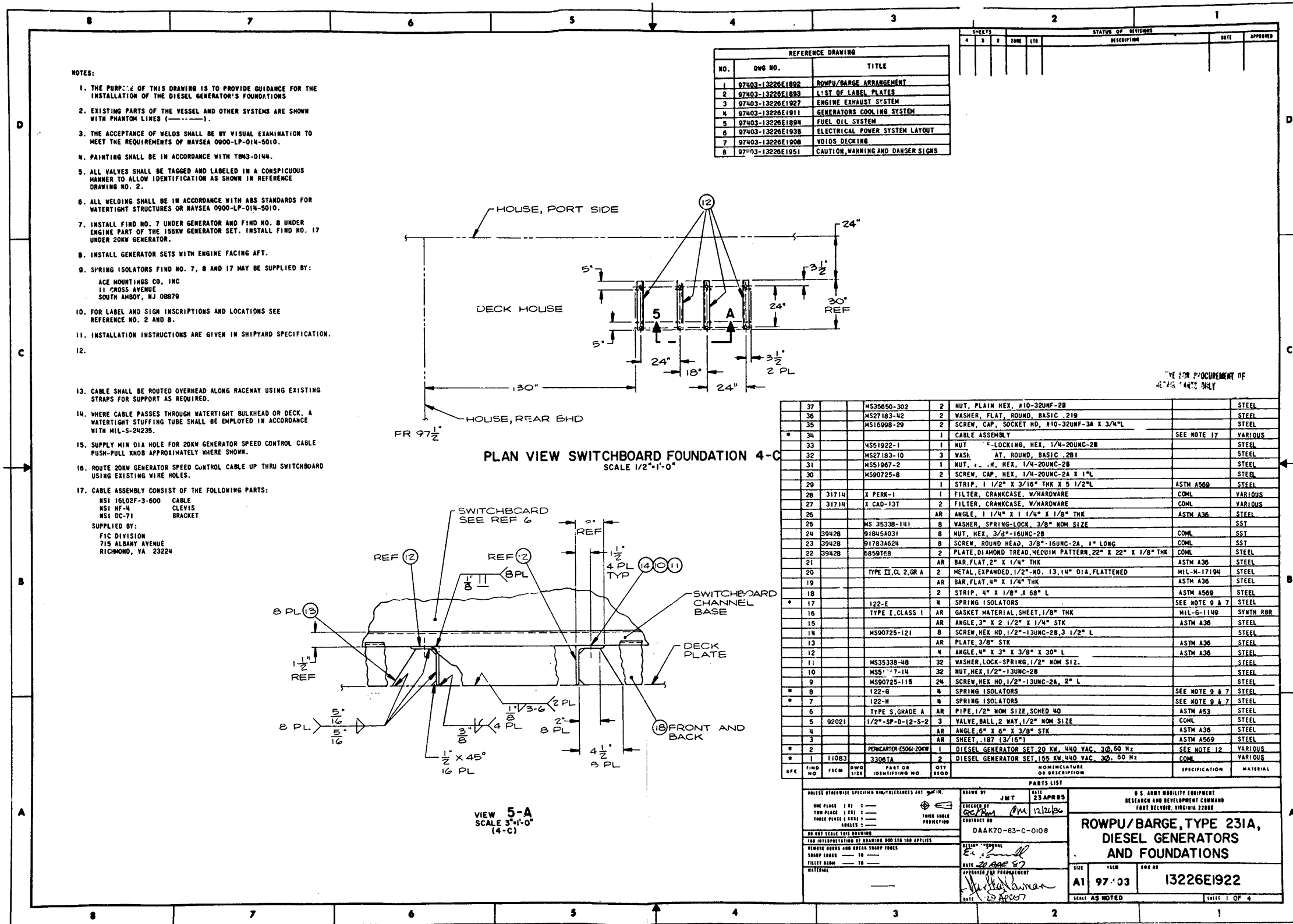


Figure FO-41 (Sheet 1 of 4)
FP-393/(FP-394 Blank)

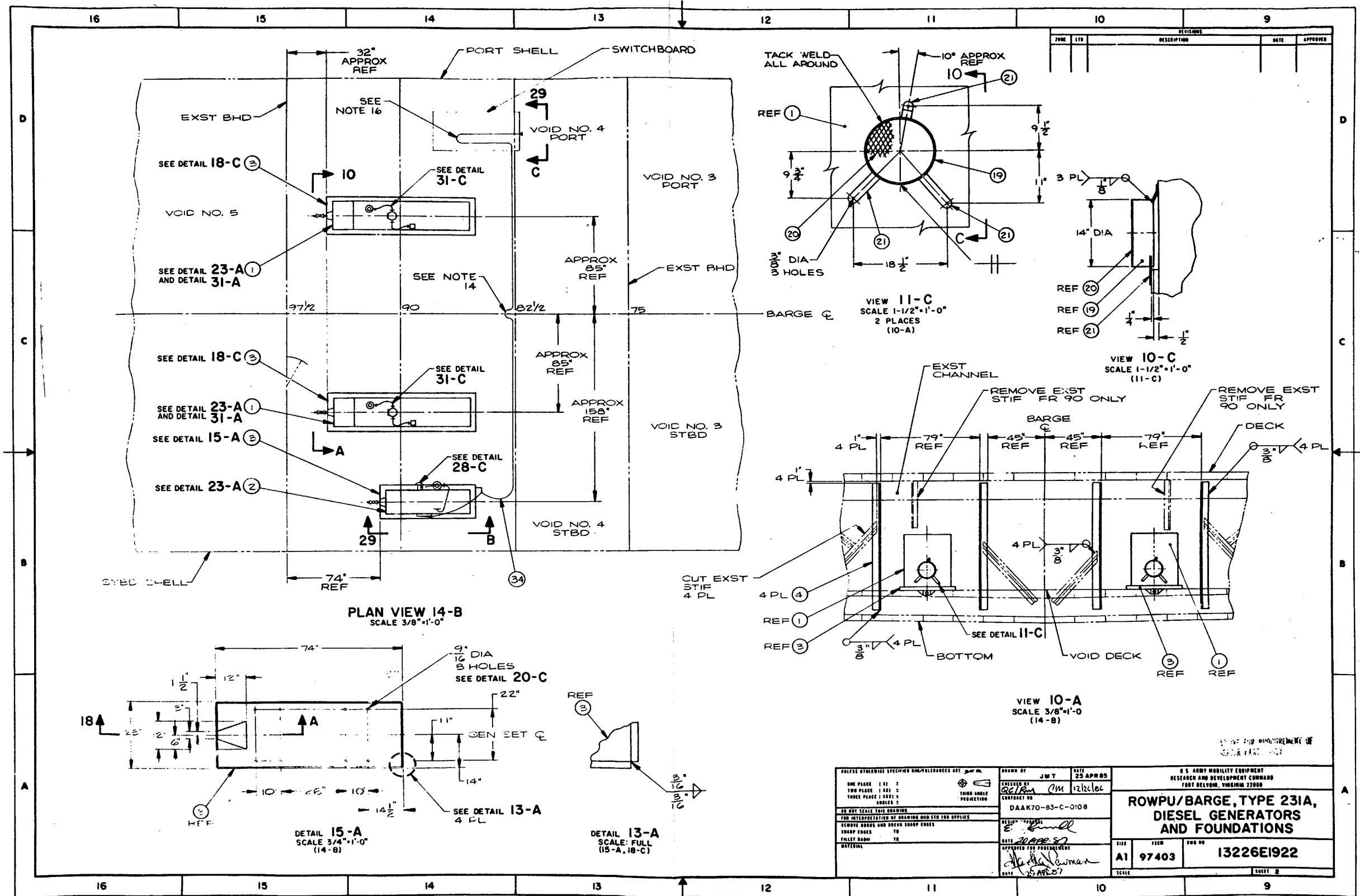


Figure FO-41 (Sheet 2 of 4)
 FP-395/(FP-396 Blank)

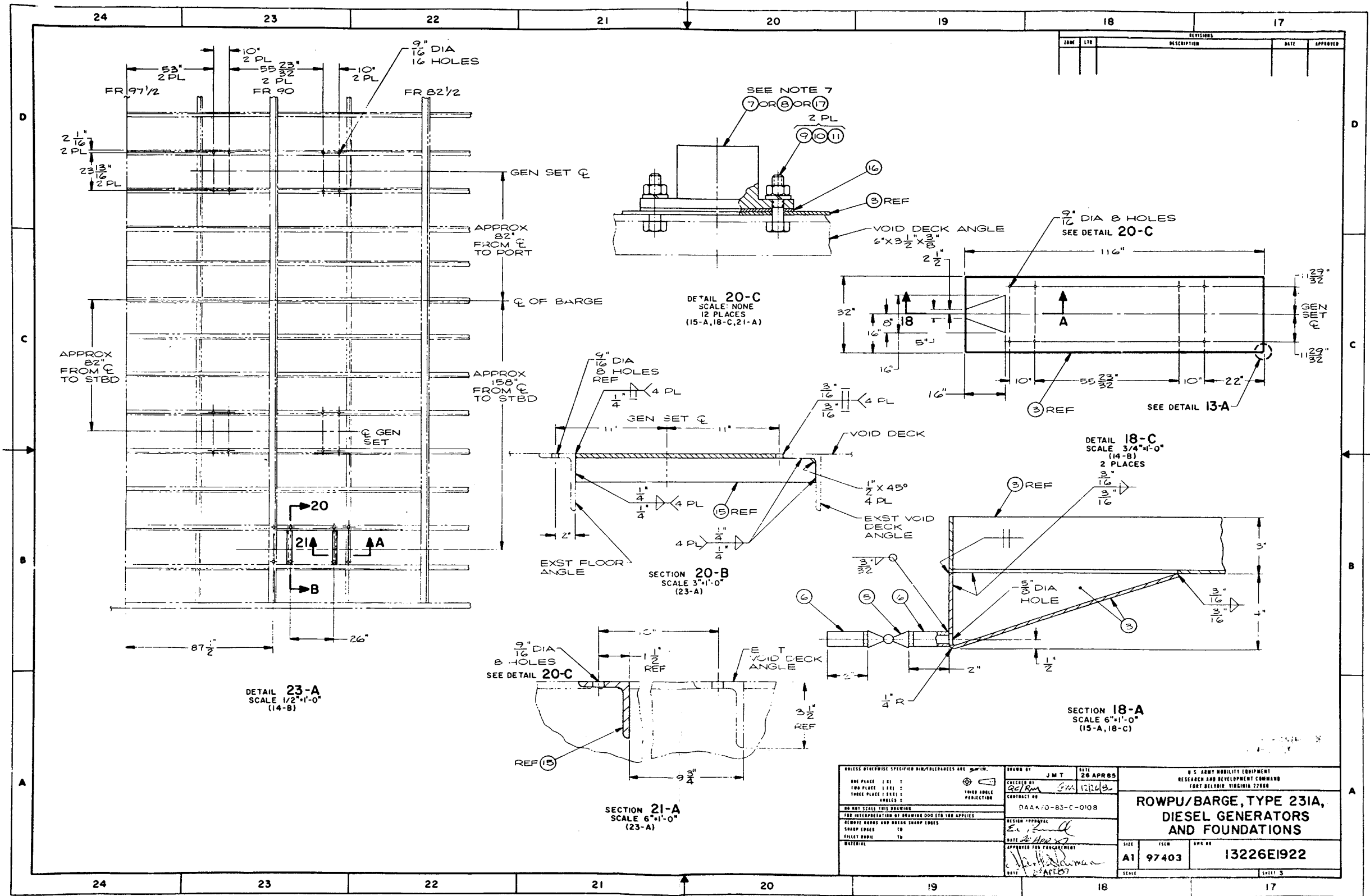


Figure FO-41 (Sheet 3 of 4)
FP-397/(FP-398 Blank)

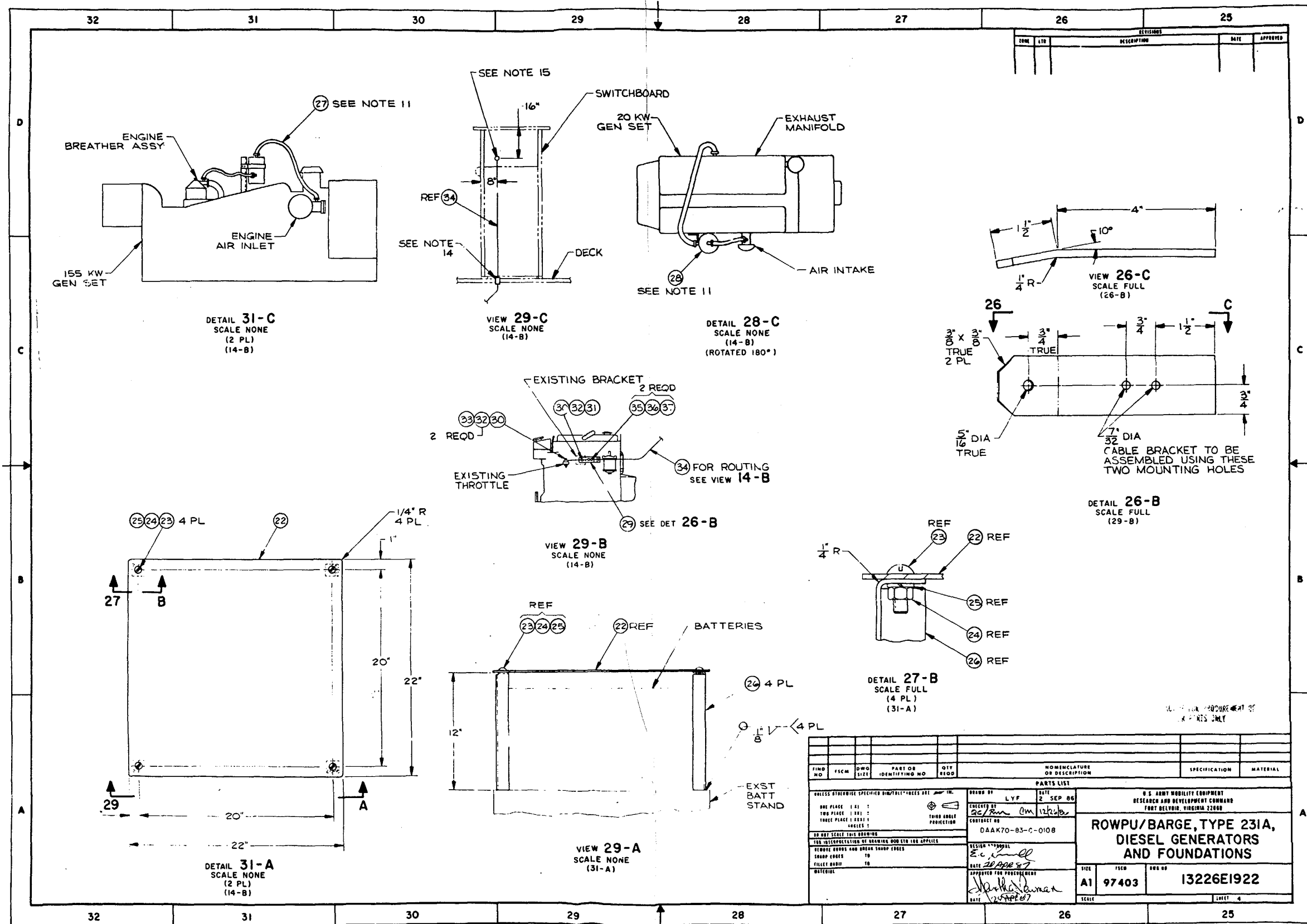


Figure FO-41 (Sheet 4 of 4)
FP-399/(FP-400 Blank)

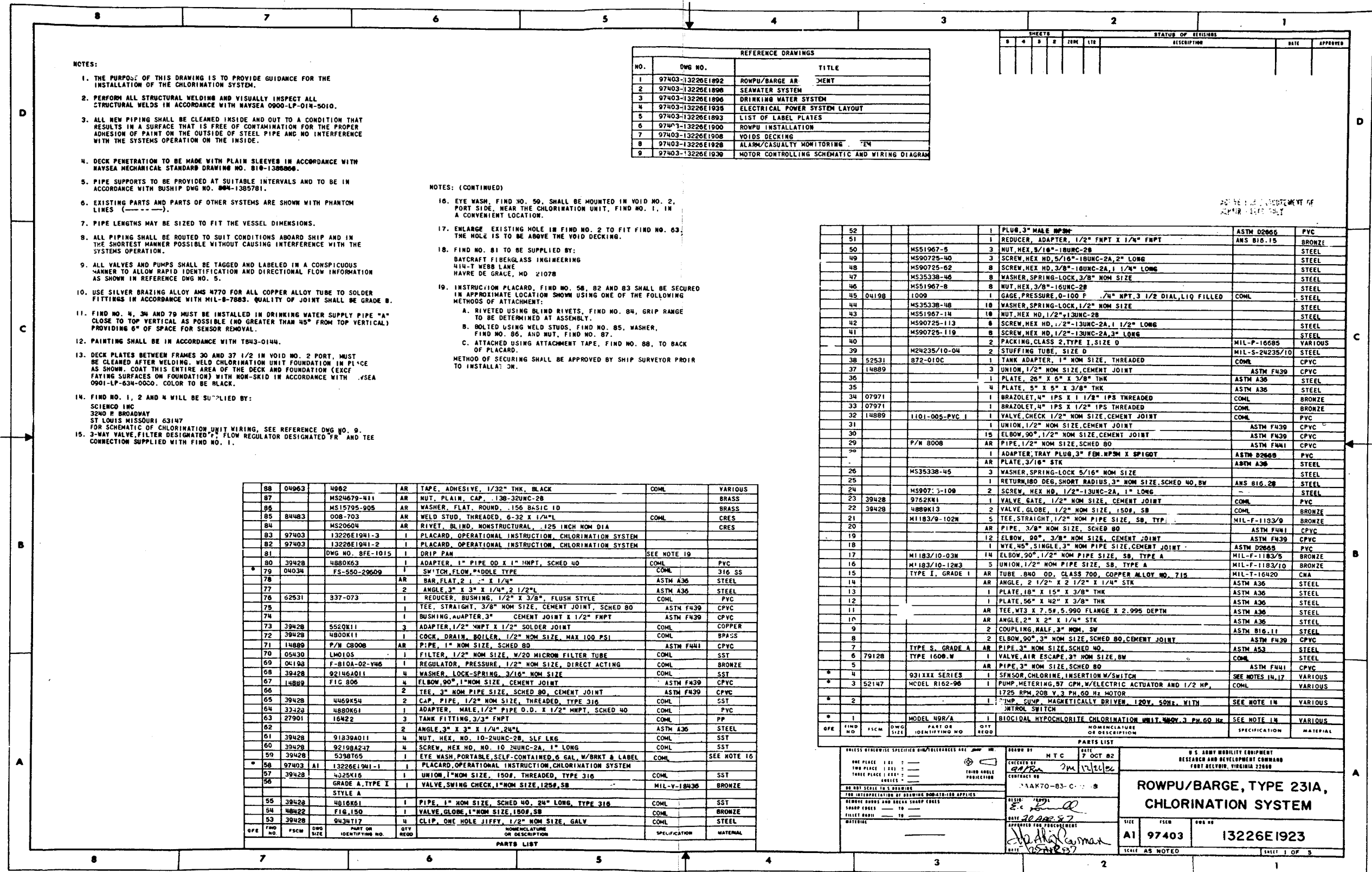


Figure FO-42 (Sheet 1 of 5)
FP-401/(FP-402 Blank)

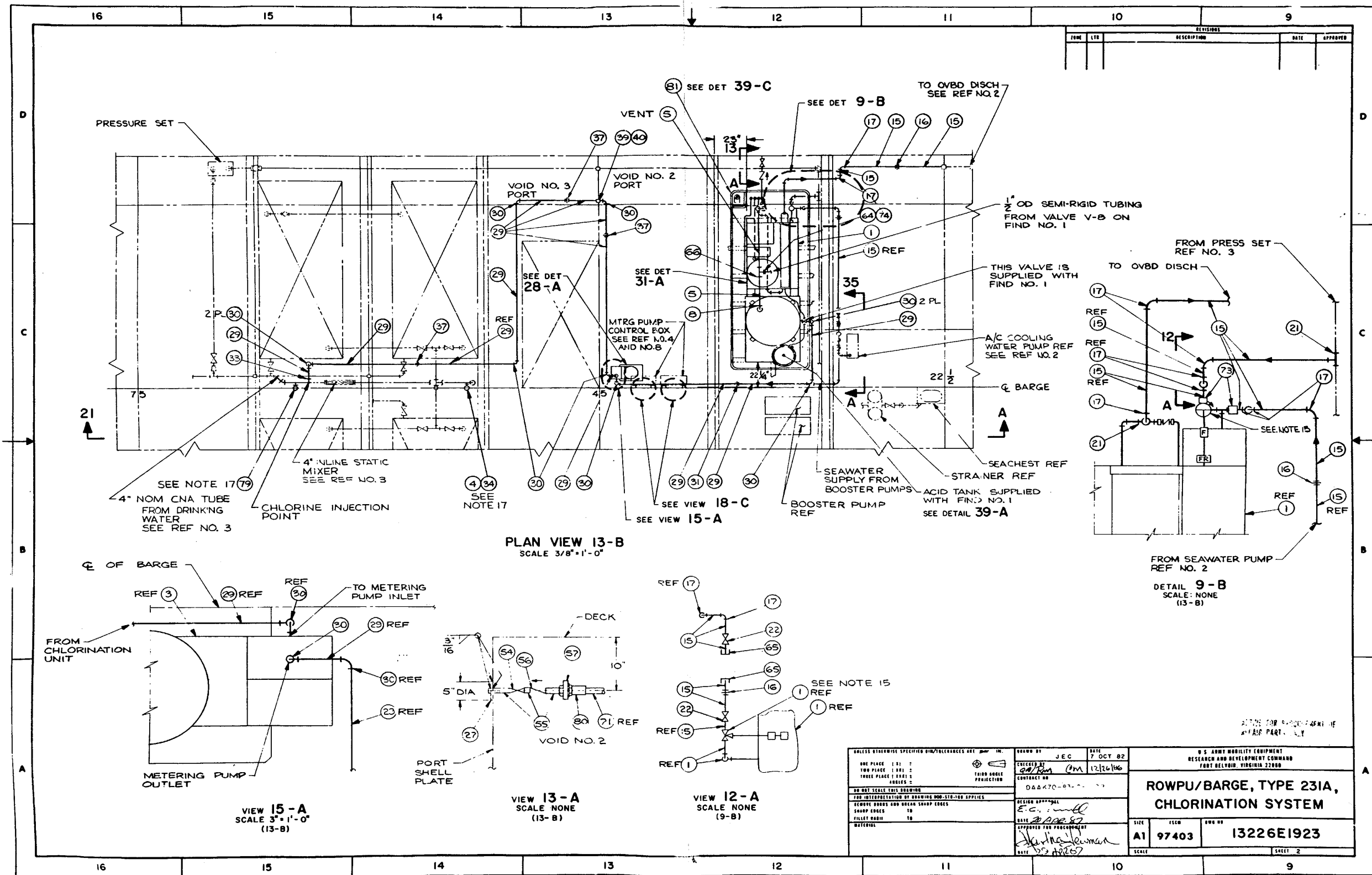


Figure FO-42 (Sheet 2 of 5)
FP-403/(FP-404 Blank)

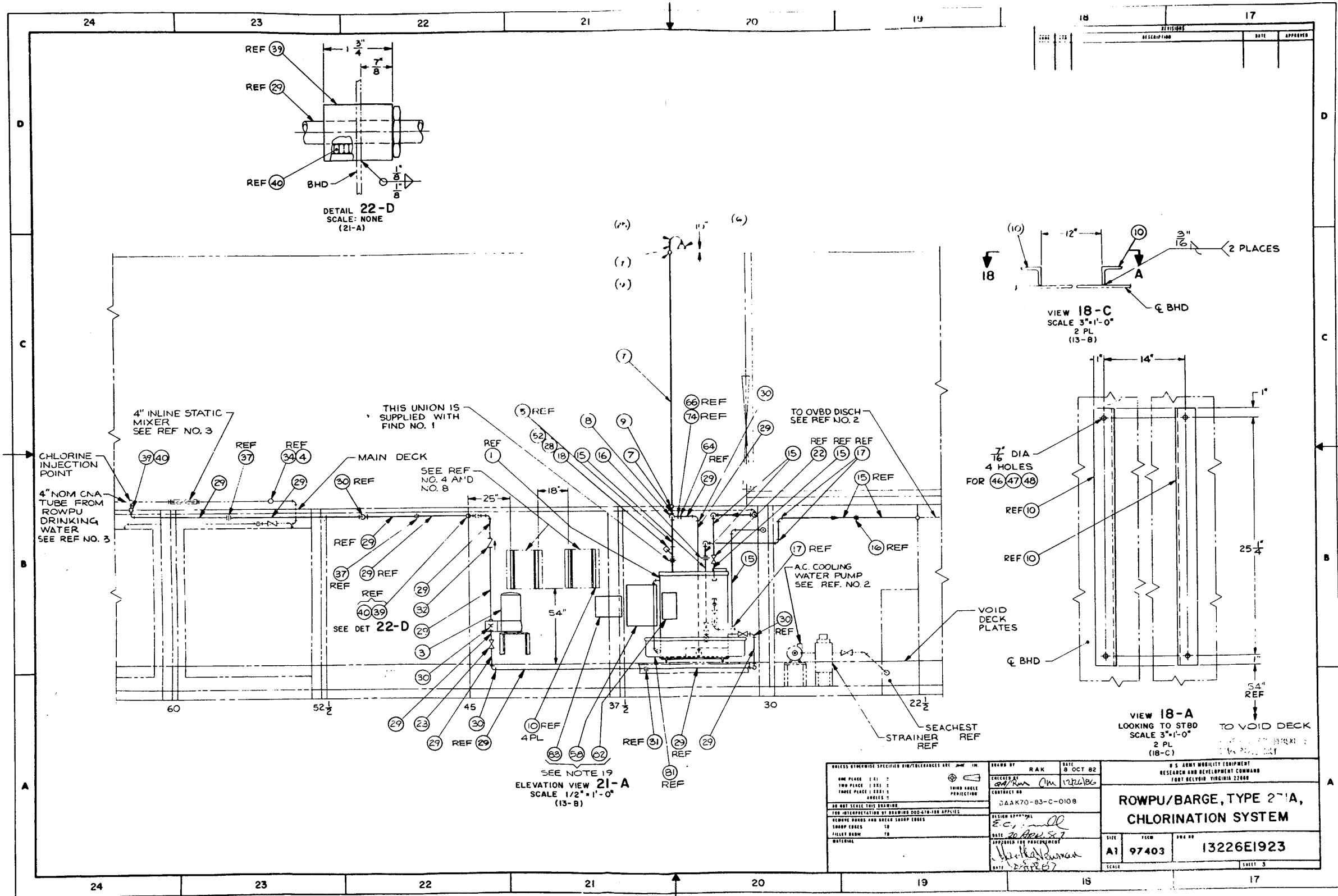


Figure FO-42 (Sheet 3 of 5)
FP-405/(FP-406 Blank)

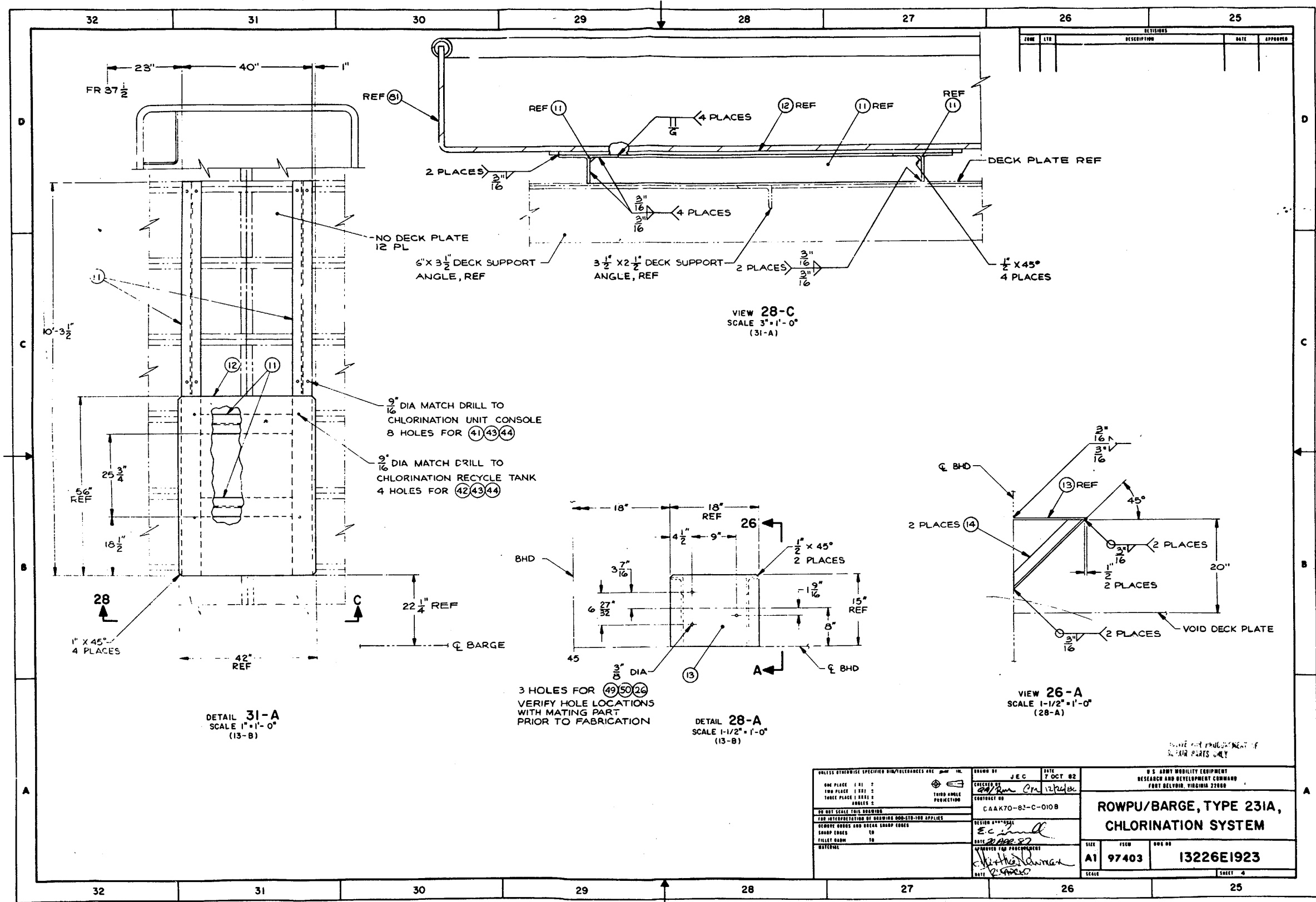
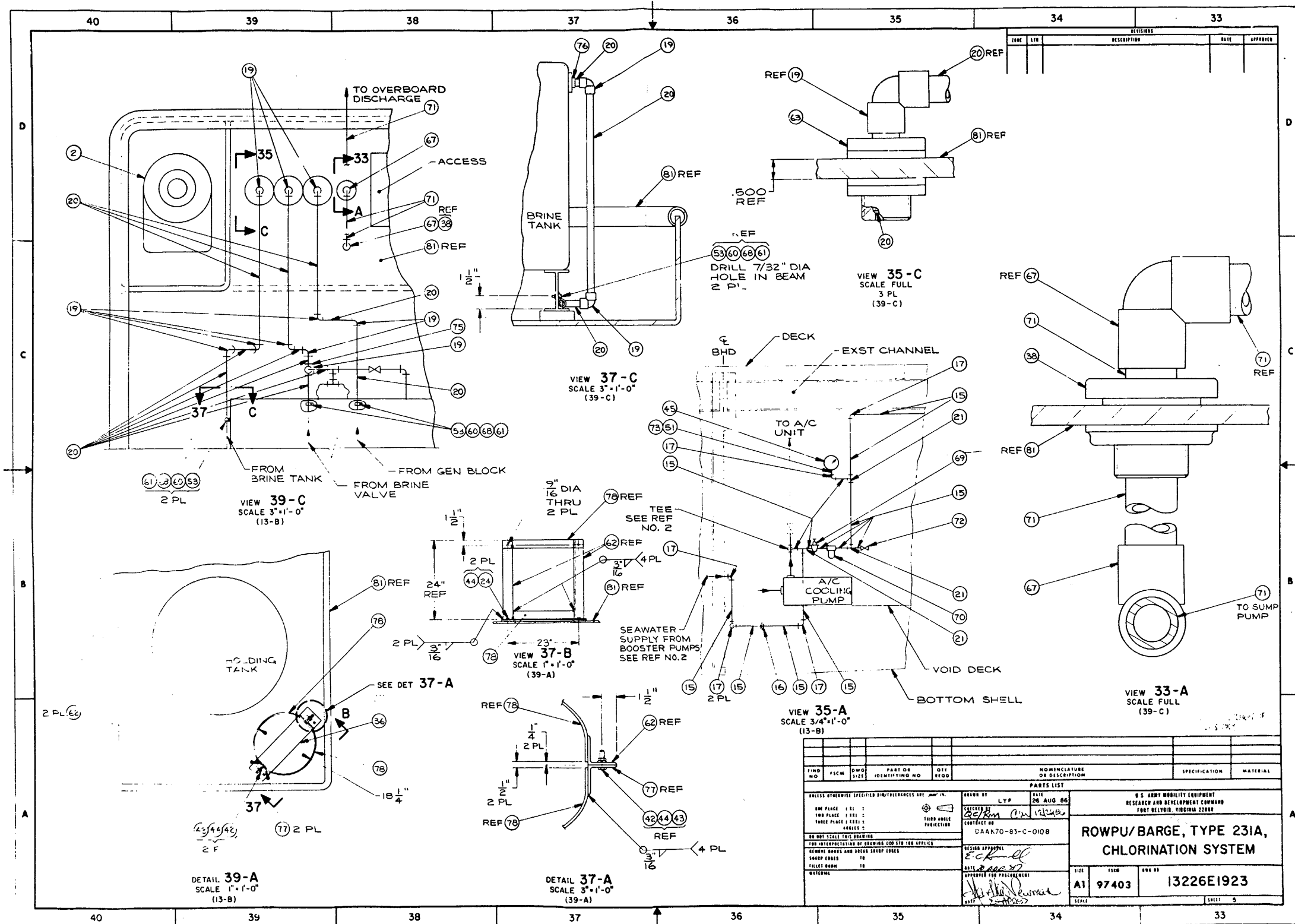


Figure FO-42 (Sheet 4 of 5)
FP-407/(FP-408 Blank)



FIND NO.	DESCR.	QUANTITY	MATERIAL

DESIGN APPROVED BY: <i>[Signature]</i>		DATE: 26 AUG 66
CHECKED BY: <i>[Signature]</i>		DATE: 26 AUG 66
DESIGNED BY: <i>[Signature]</i>		DATE: 26 AUG 66
NOMENCLATURE OR DESCRIPTION: ROWPU/BARGE, TYPE 231A, CHLORINATION SYSTEM		
SIZE:	SCALE:	SHEET:
A1	97403	13226E1923

Figure FO-42 (Sheet 5 of 5)
FP-409/(FP-410 Blank)

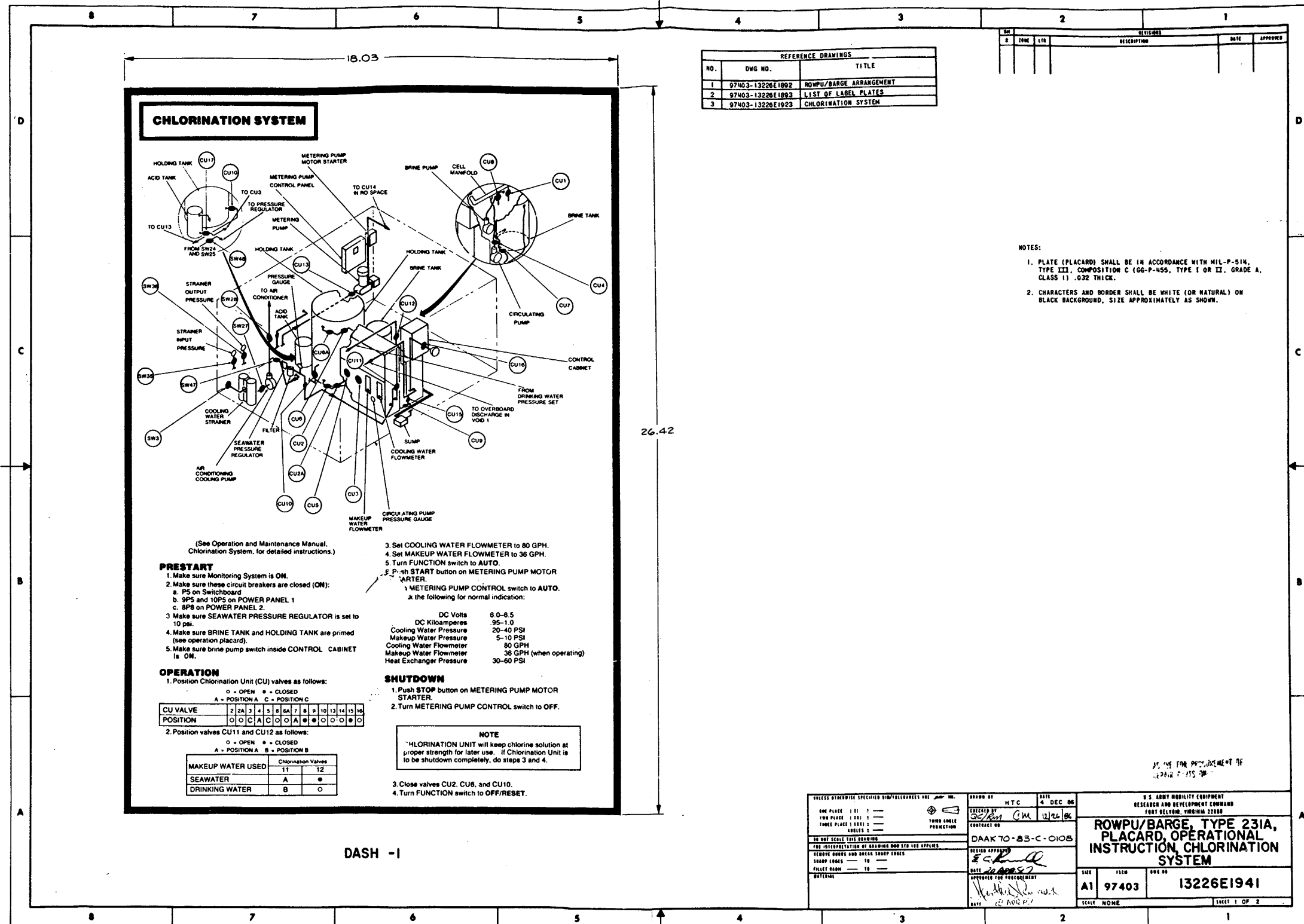


Figure FO-43 (Sheet 1 of 2)
FP-411/(FP-412 Blank)

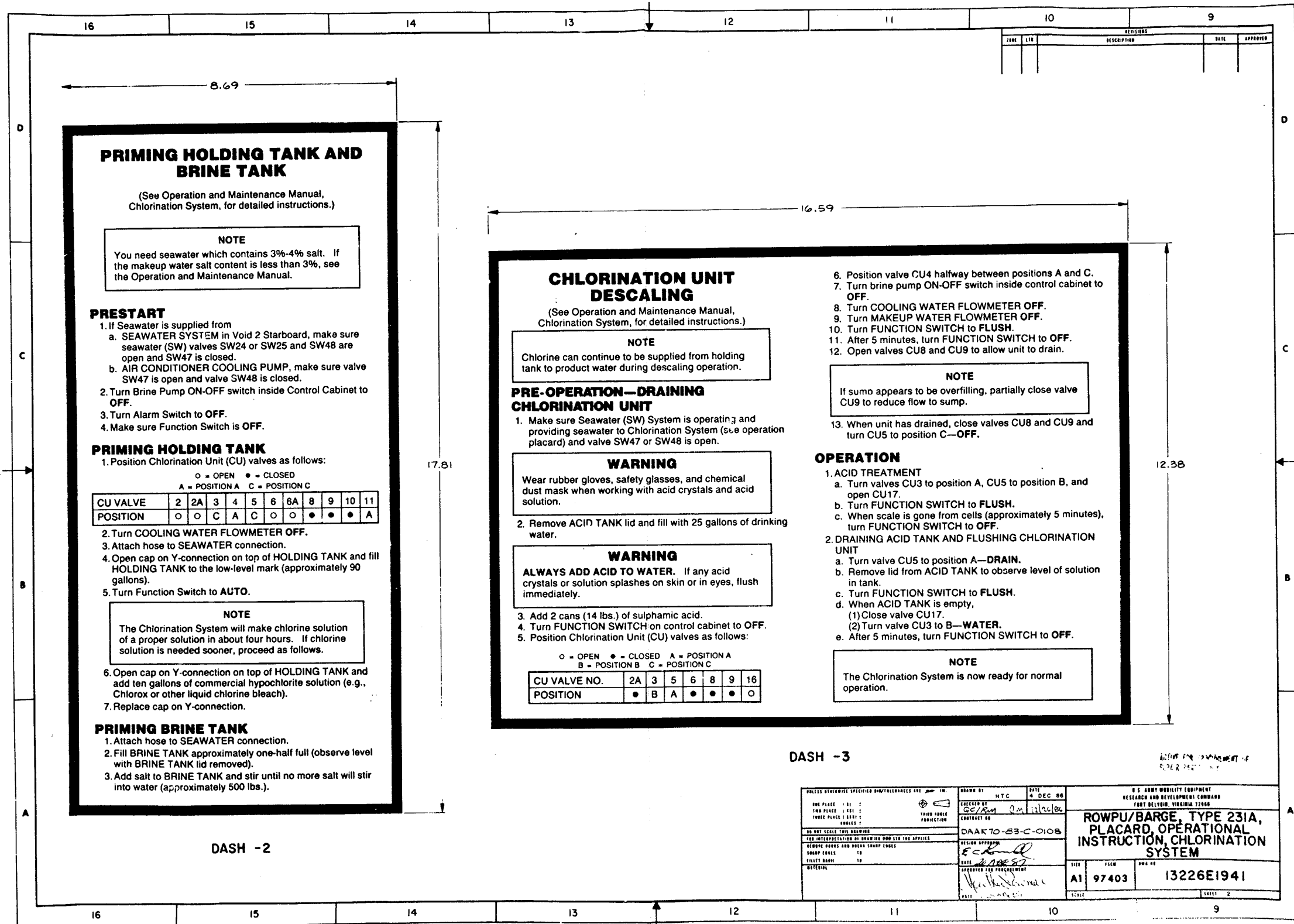


Figure FO-43 (Sheet 2 of 2)
FP-413/(FP-414 Blank)

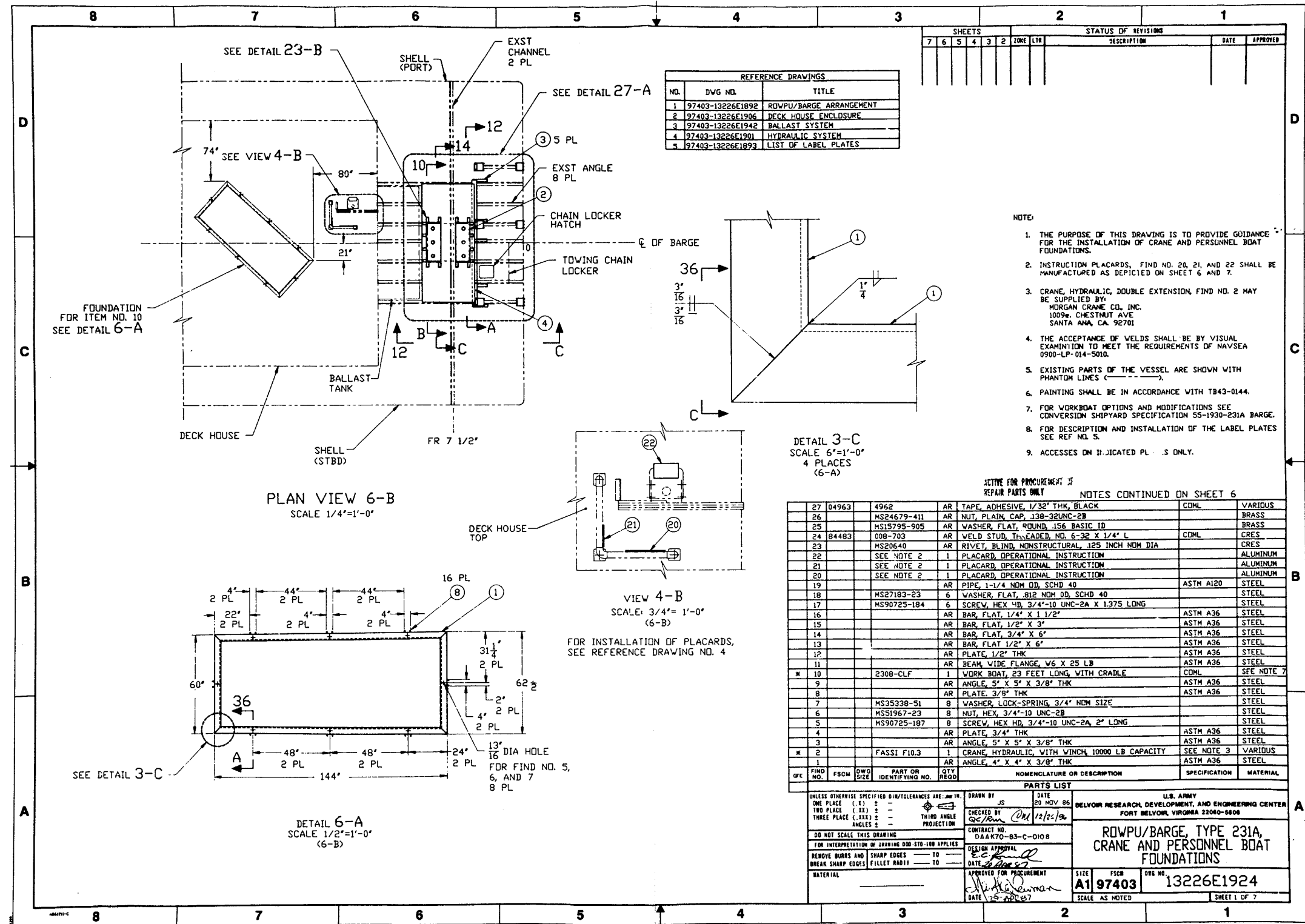


Figure FO-44 (Sheet 1 of 7)
 FP-415/(FP-416 Blank)

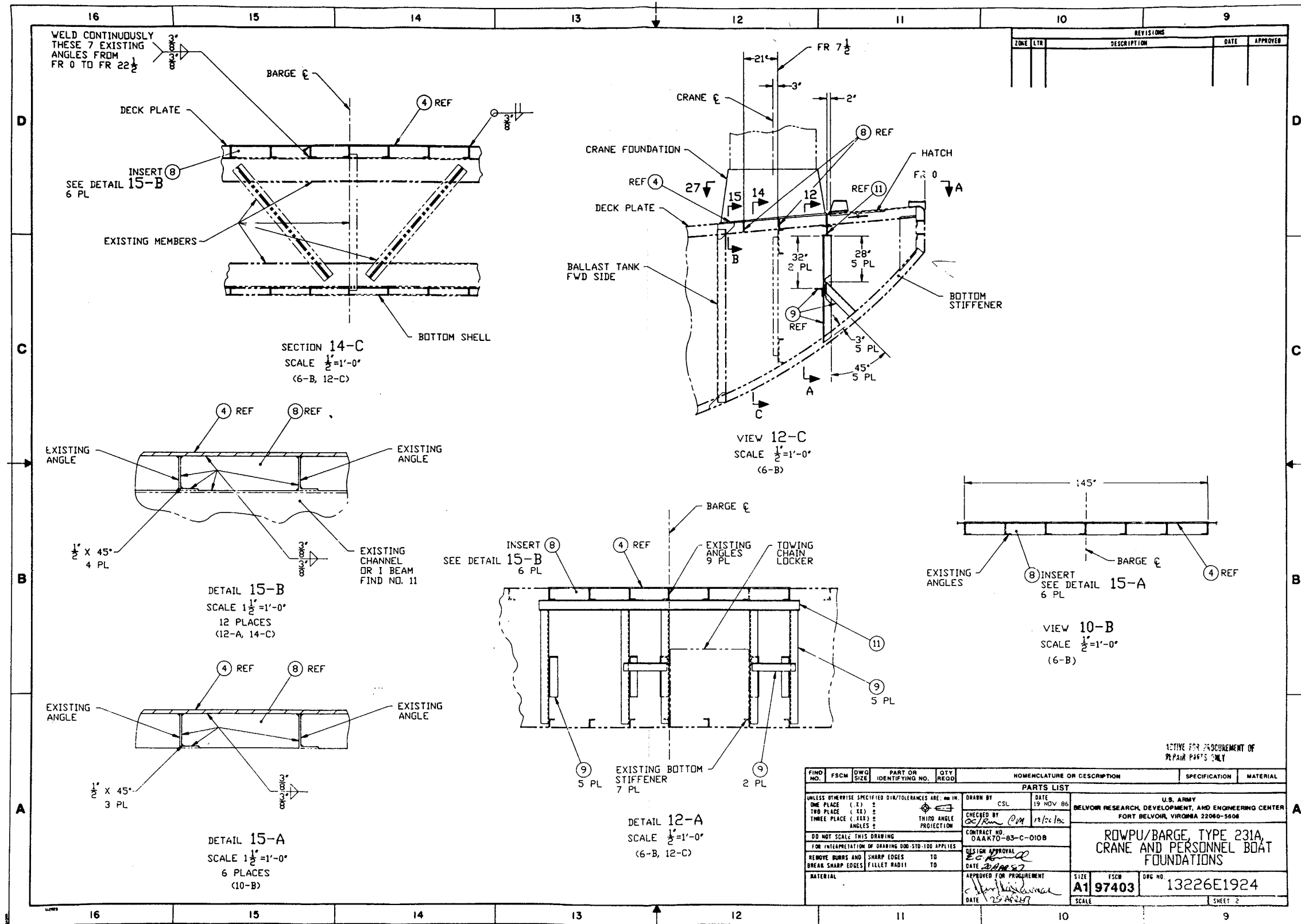


Figure FO-44 (Sheet 2 of 7)
FP-417/(FP-418 Blank)

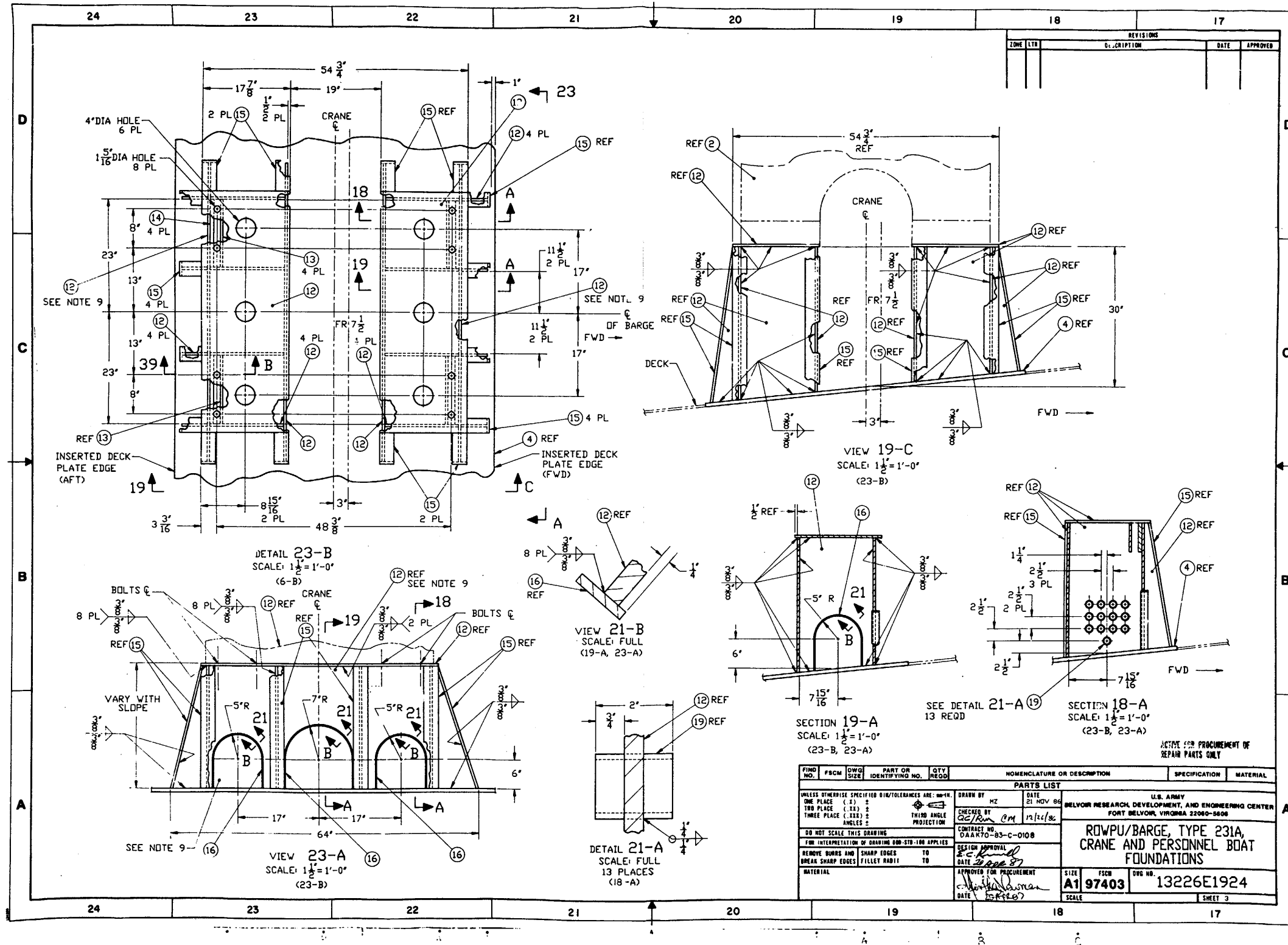
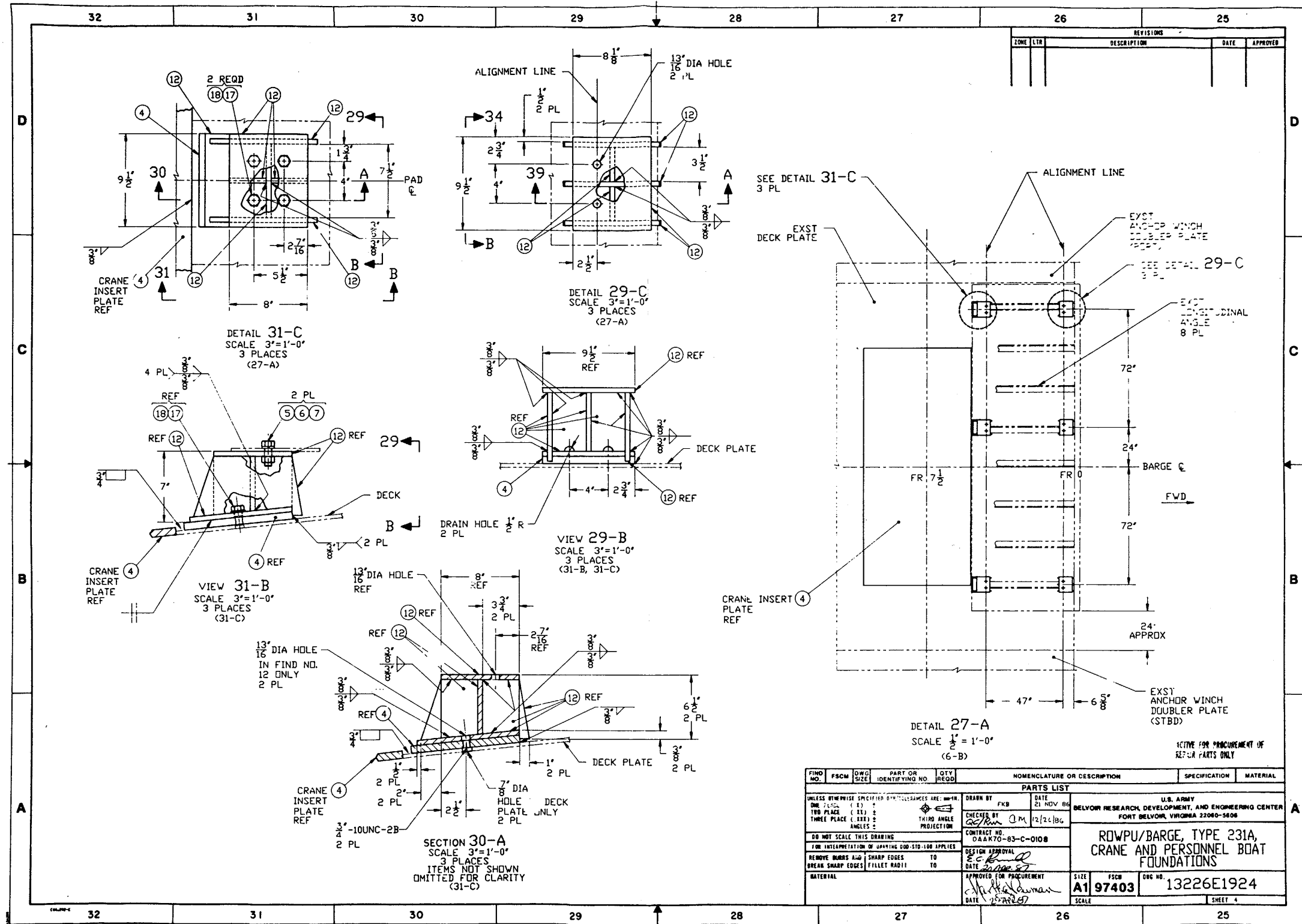


Figure FO-44 (Sheet 3 of 7)
FP-419/(FP-420 Blank)



REVISIONS			
ZONE	LTN	DESCRIPTION	DATE

FIND NO.	FSCM	QWC	SIZE	PART OR IDENTIFYING NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL
PARTS LIST								
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE: DIM IN: DRN BY: FKB DATE: 21 NOV 86						U.S. ARMY		
ONE PLACE () ; TWO PLACE (.) ; THREE PLACE (.) ; ANGLES : THIRD ANGLE PROJECTION						BELVON RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER FORT BELVON, VIRGINIA 22060-5606		
DO NOT SCALE THIS DRAWING						CONTRACT NO. DAAK70-83-C-0108		
FOR INTERPRETATION OF QUANTITY GO TO STD-100 APPLIES						ROWPU/BARGE, TYPE 231A, CRANE AND PERSONNEL BOAT FOUNDATIONS		
REMOVE BURRS AND SHARP EDGES TO DESIGN APPROVAL DATE: 20/11/87						APPROVED FOR PROCUREMENT DATE: 25/11/87		
BREAK SHARP EDGES FILLET RADIUS TO						SIZE: A1 FSCM: 97403 DWG NO.: 13226E1924		
MATERIAL						SCALE: SHEET 4		

Figure FO-44 (Sheet 4 of 7)
FP-421/(FP-422 Blank)

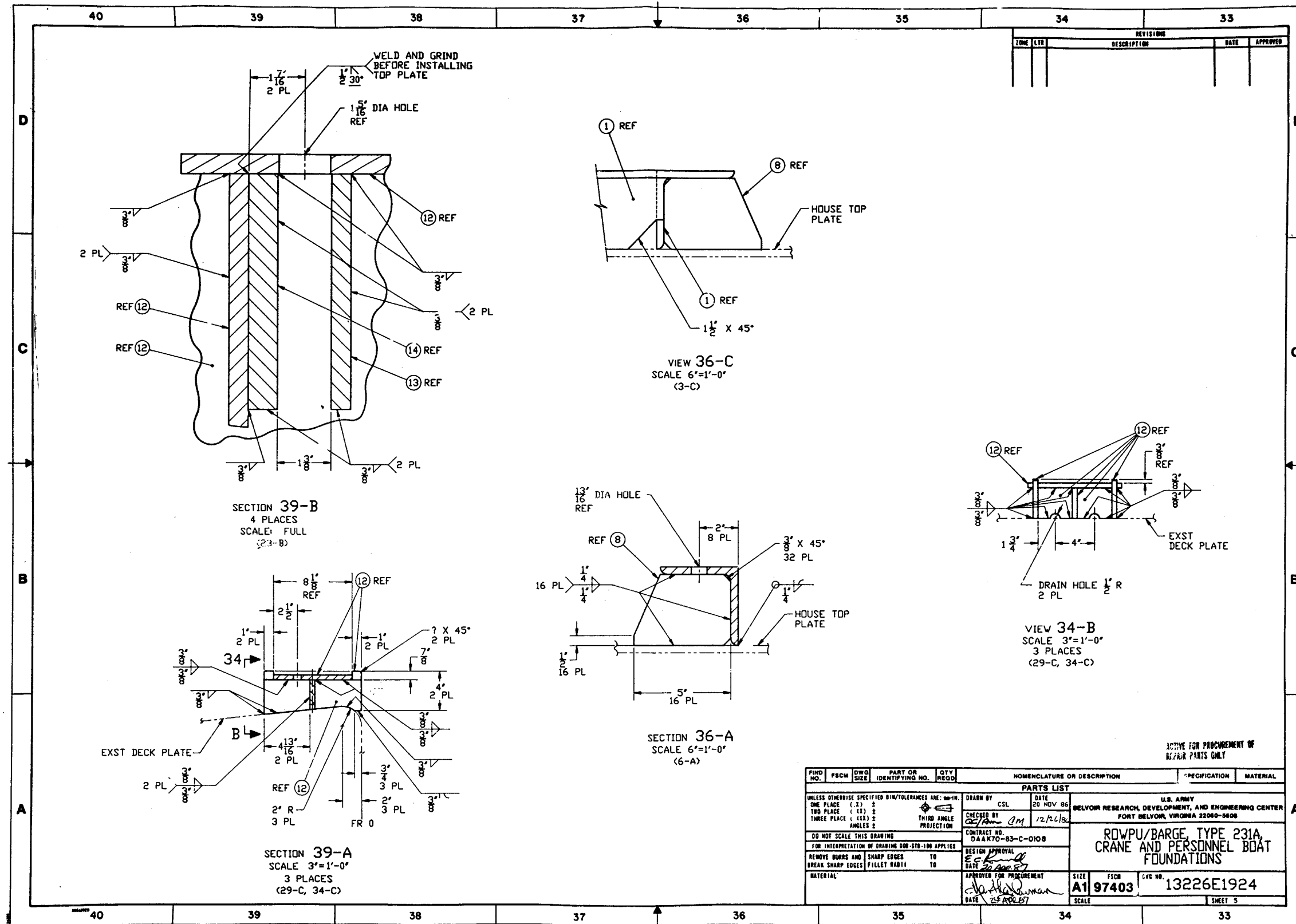


Figure FO-44 (Sheet 5 of 7)
FP-423/(FP-424 Blank)

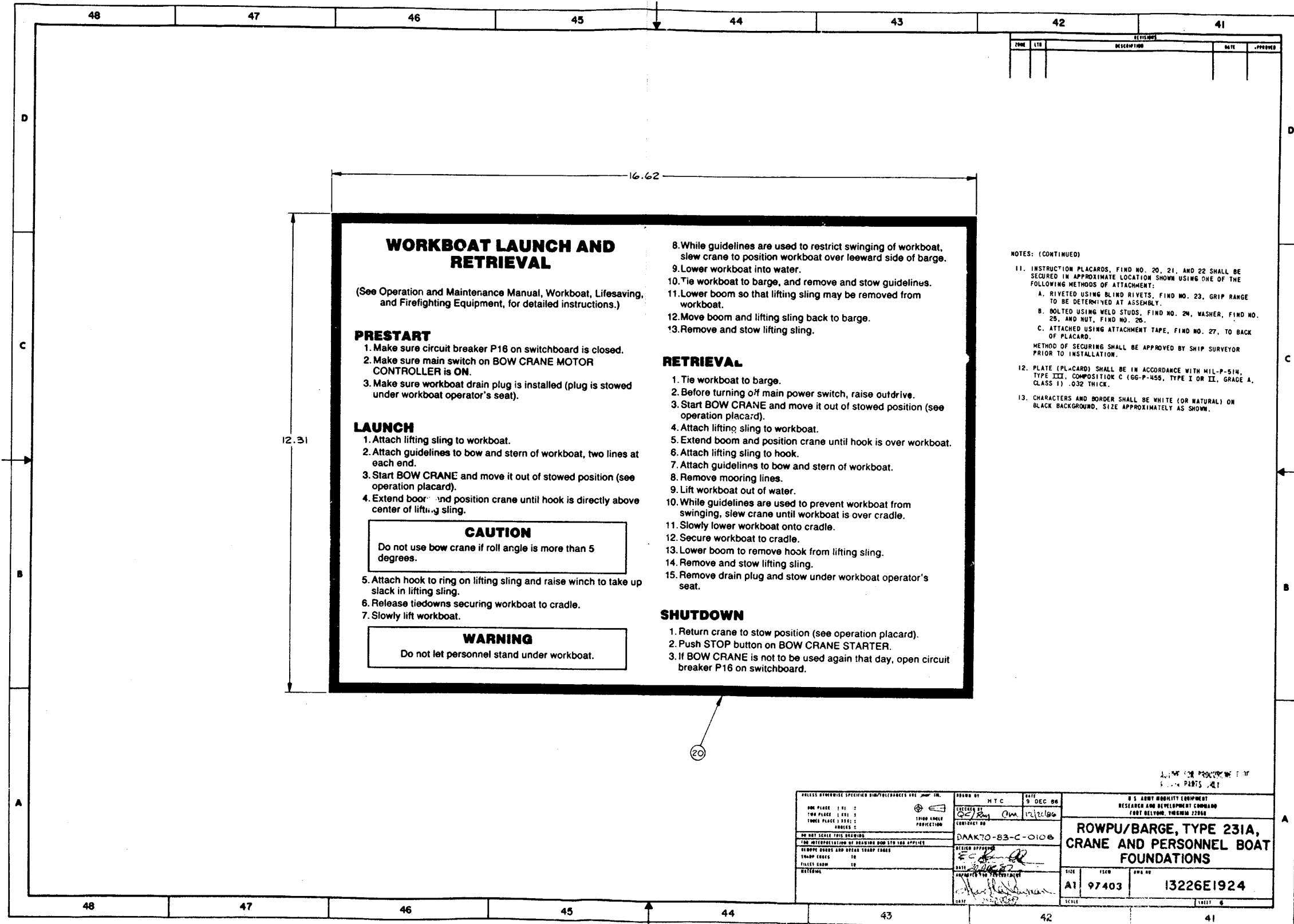


Figure FO-44 (Sheet 6 of 7)
FP-425/(FP-426 Blank)

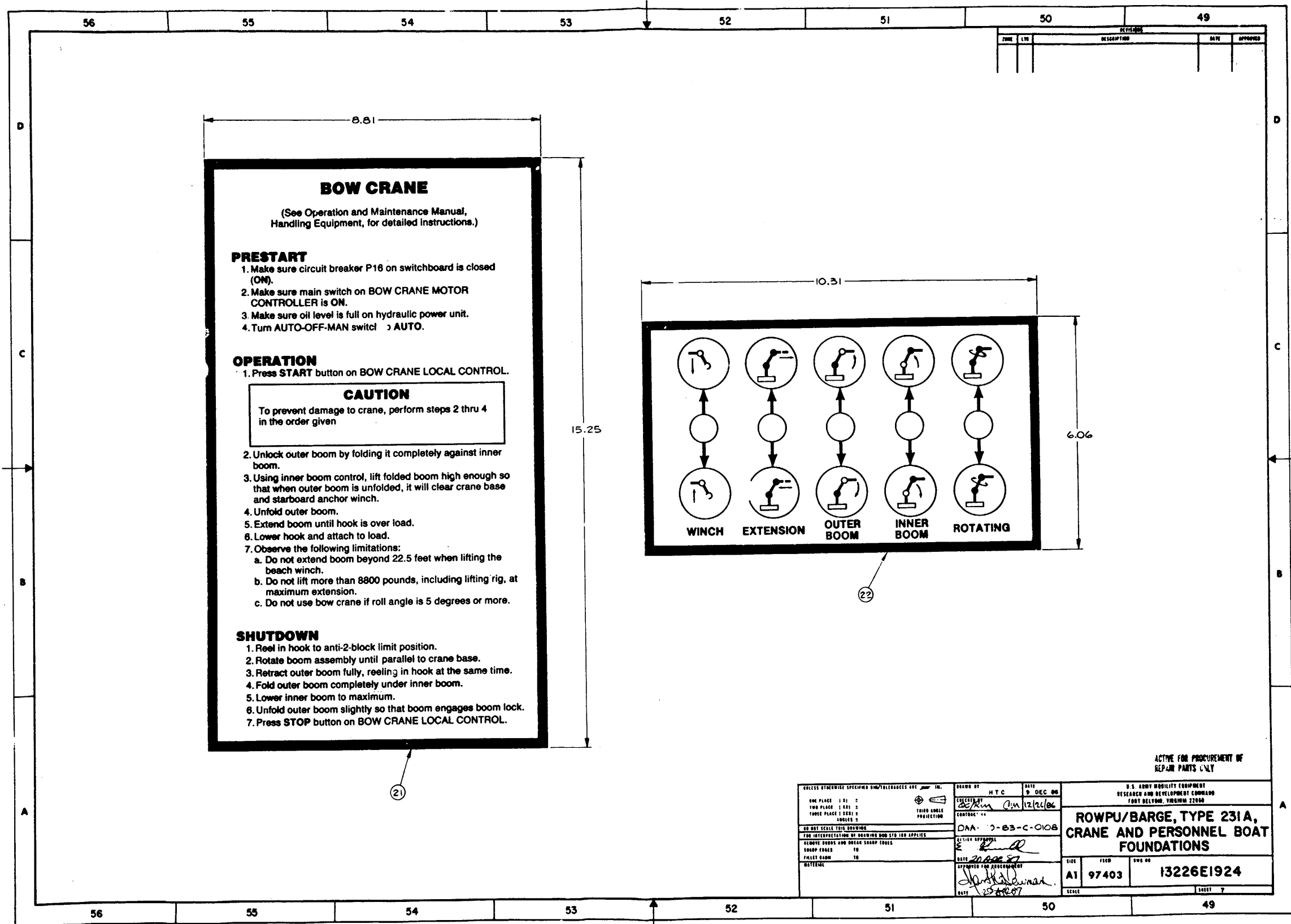


Figure FO-44 (Sheet 7 of 7)
FP-427/(FP-428 Blank)

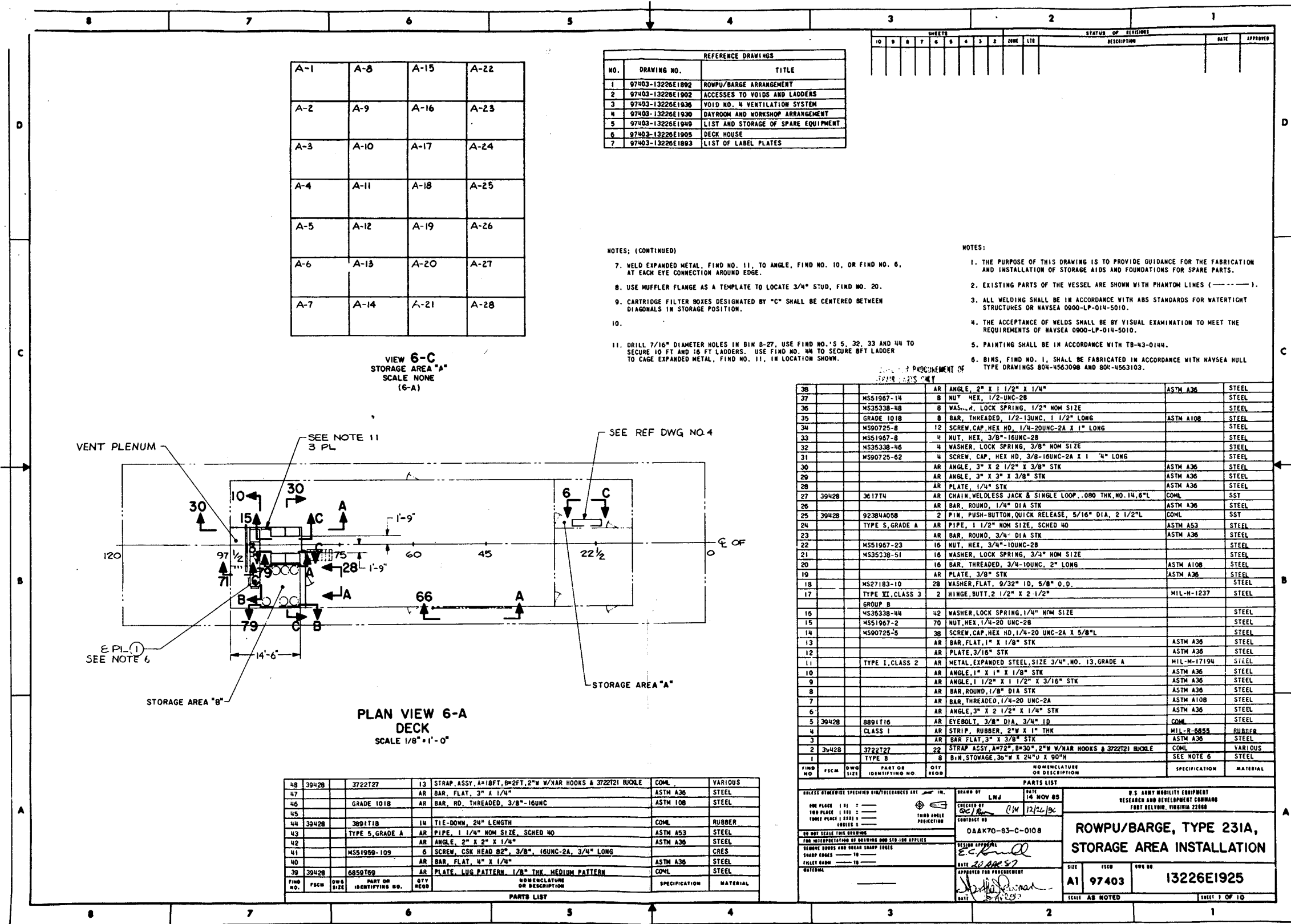


Figure FO-45 (Sheet 1 of 10)
FP-429/(FP-430 Blank)

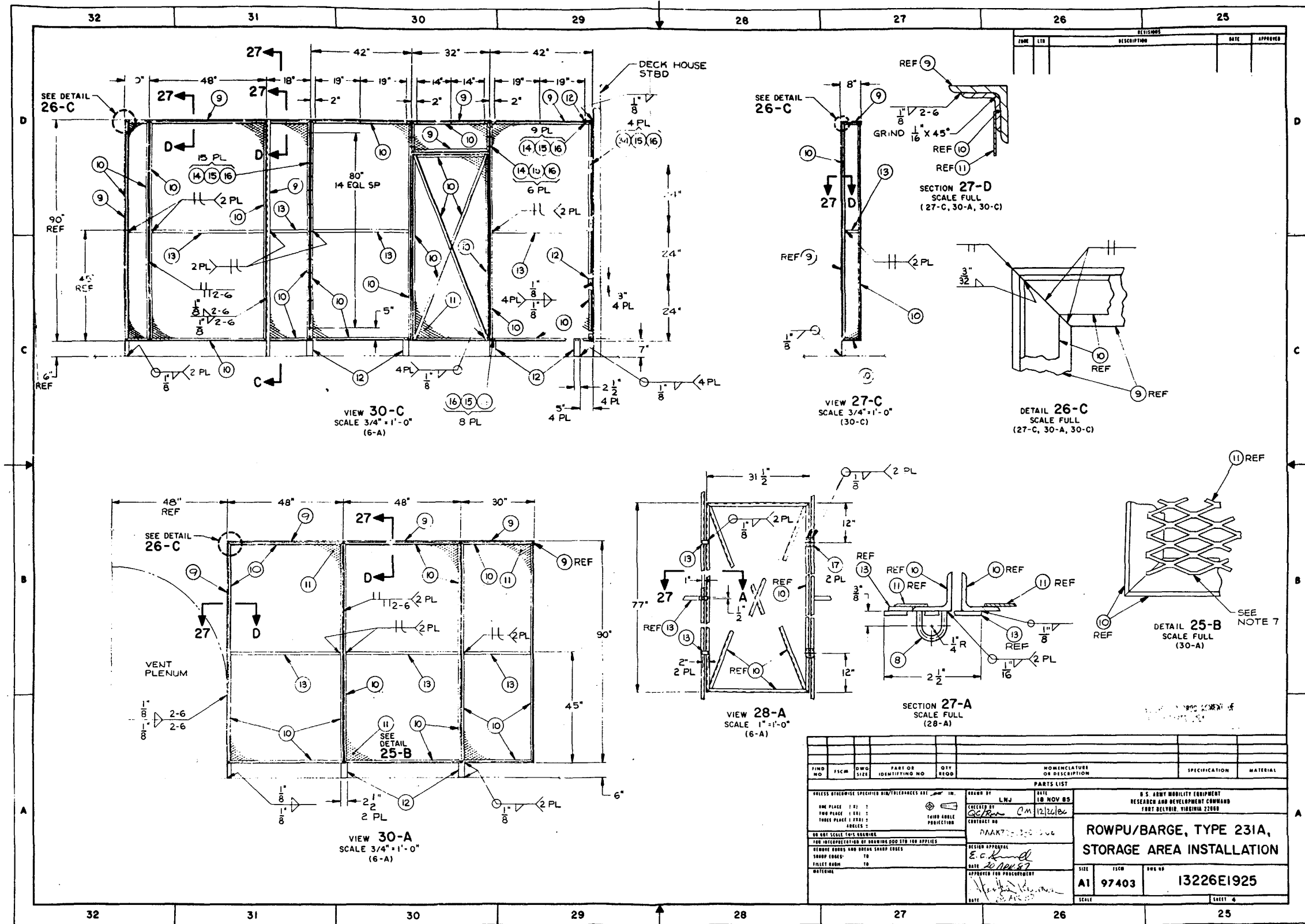


Figure FO-45 (Sheet 4 of 10)
FP-435/(FP-436 Blank)

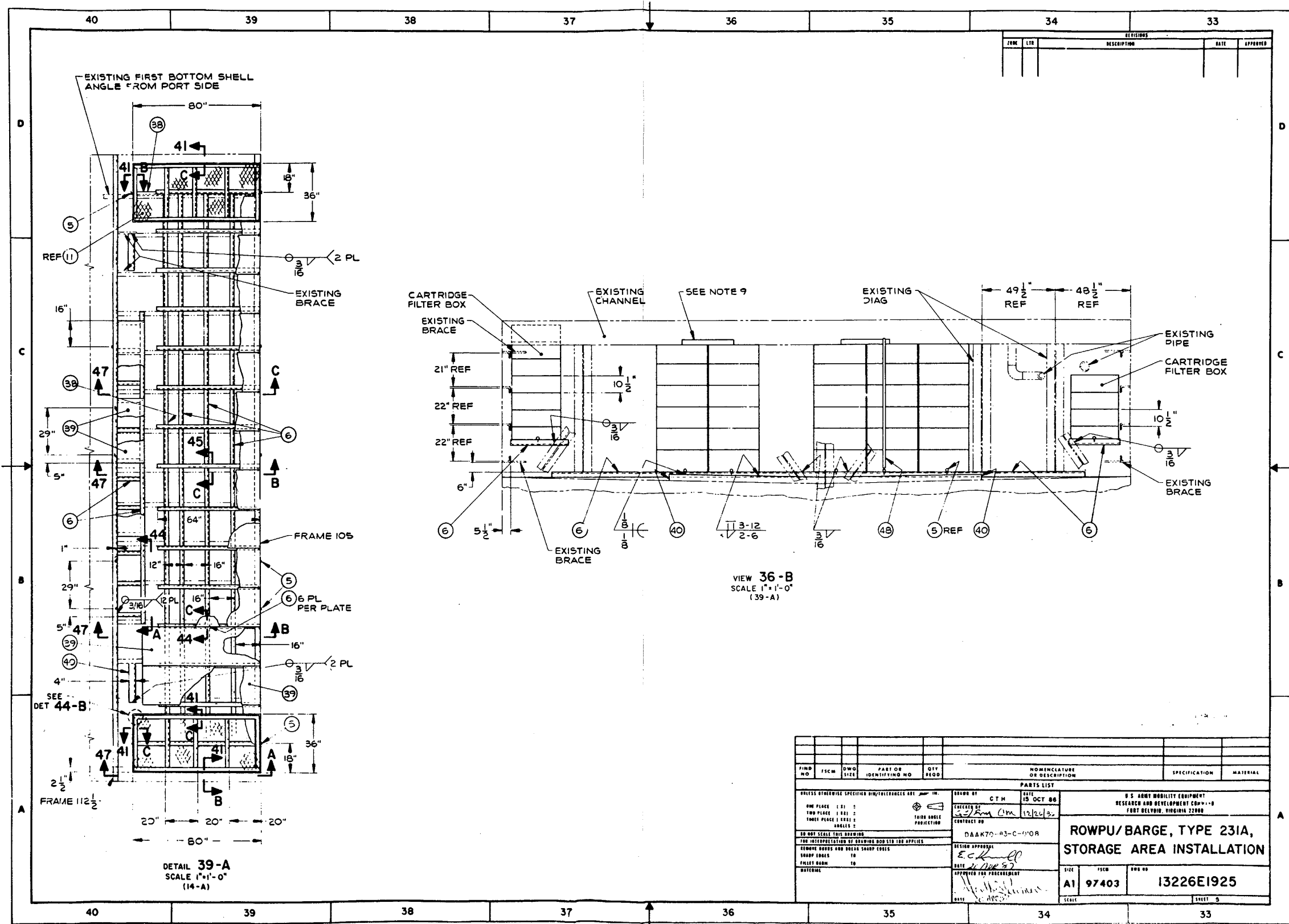


Figure FO-45 (Sheet 5 of 10)
FP-437/(FP-438 Blank)

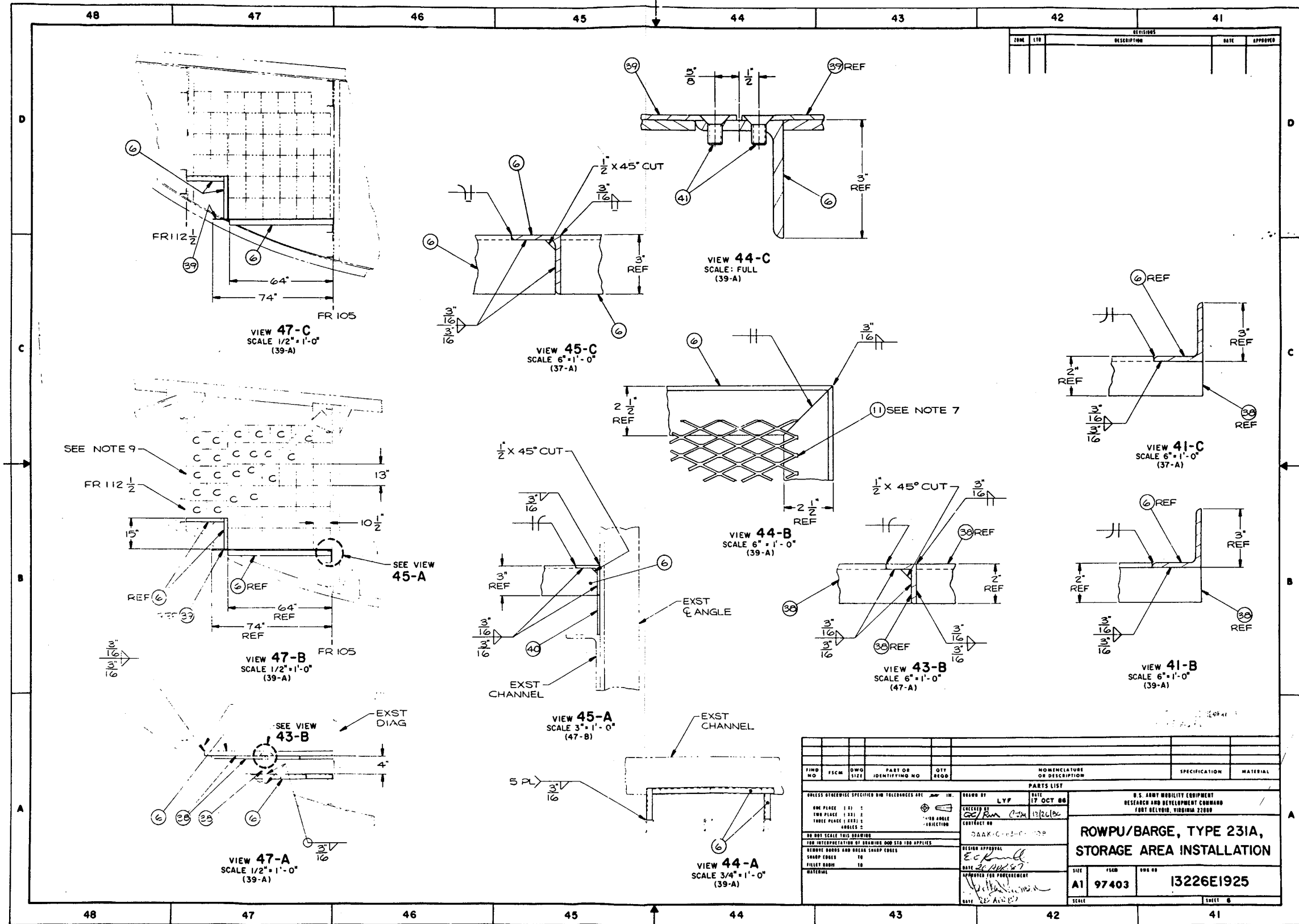


Figure FO-45 (Sheet 6 of 10)
 FP-439/(FP-440 Blank)

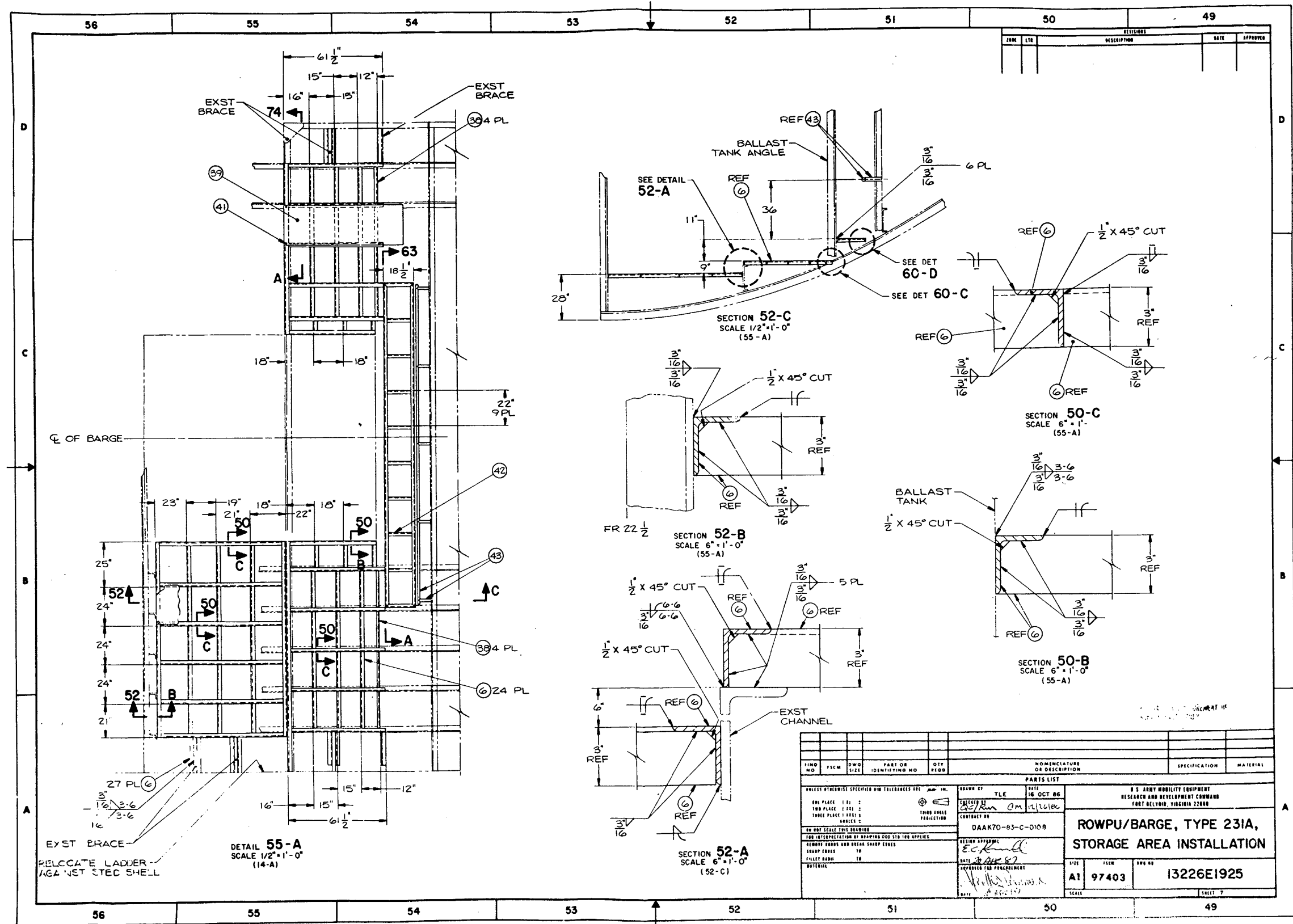


Figure FO-45 (Sheet 7 of 10)
FP-441/(FP-442 Blank)

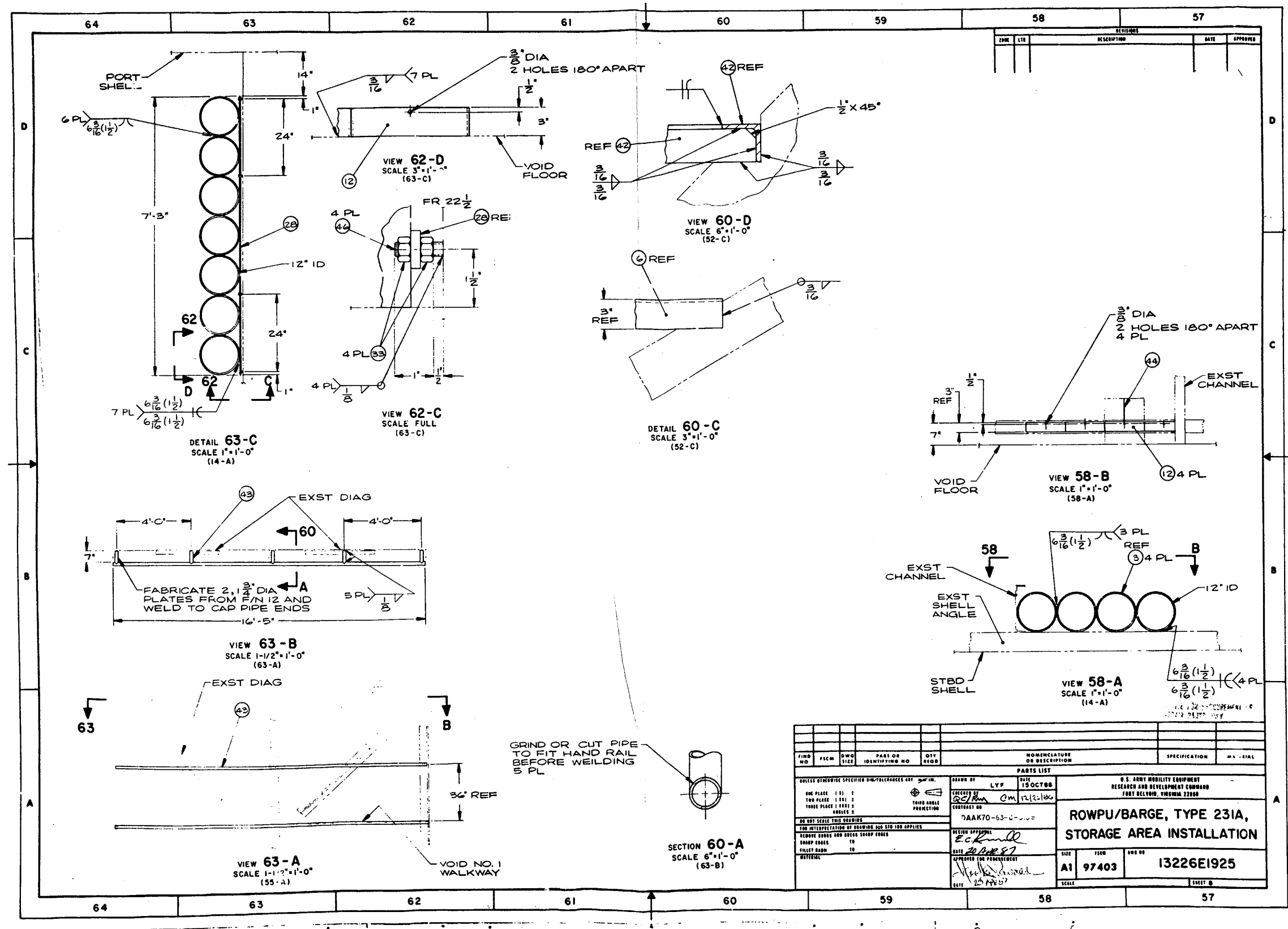


Figure FO-45 (Sheet 8 of 10)
FP-443/(FP-444 Blank)

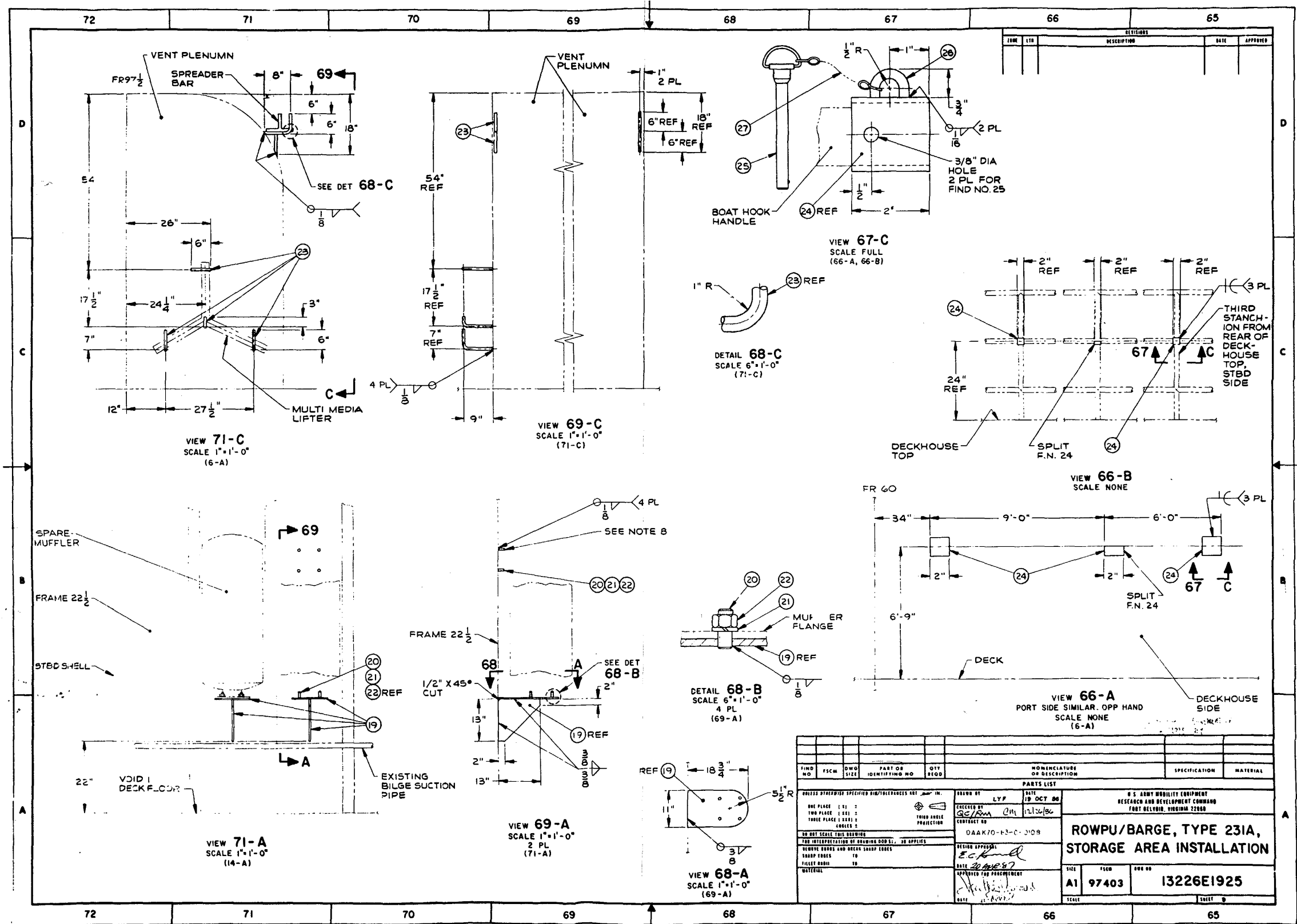
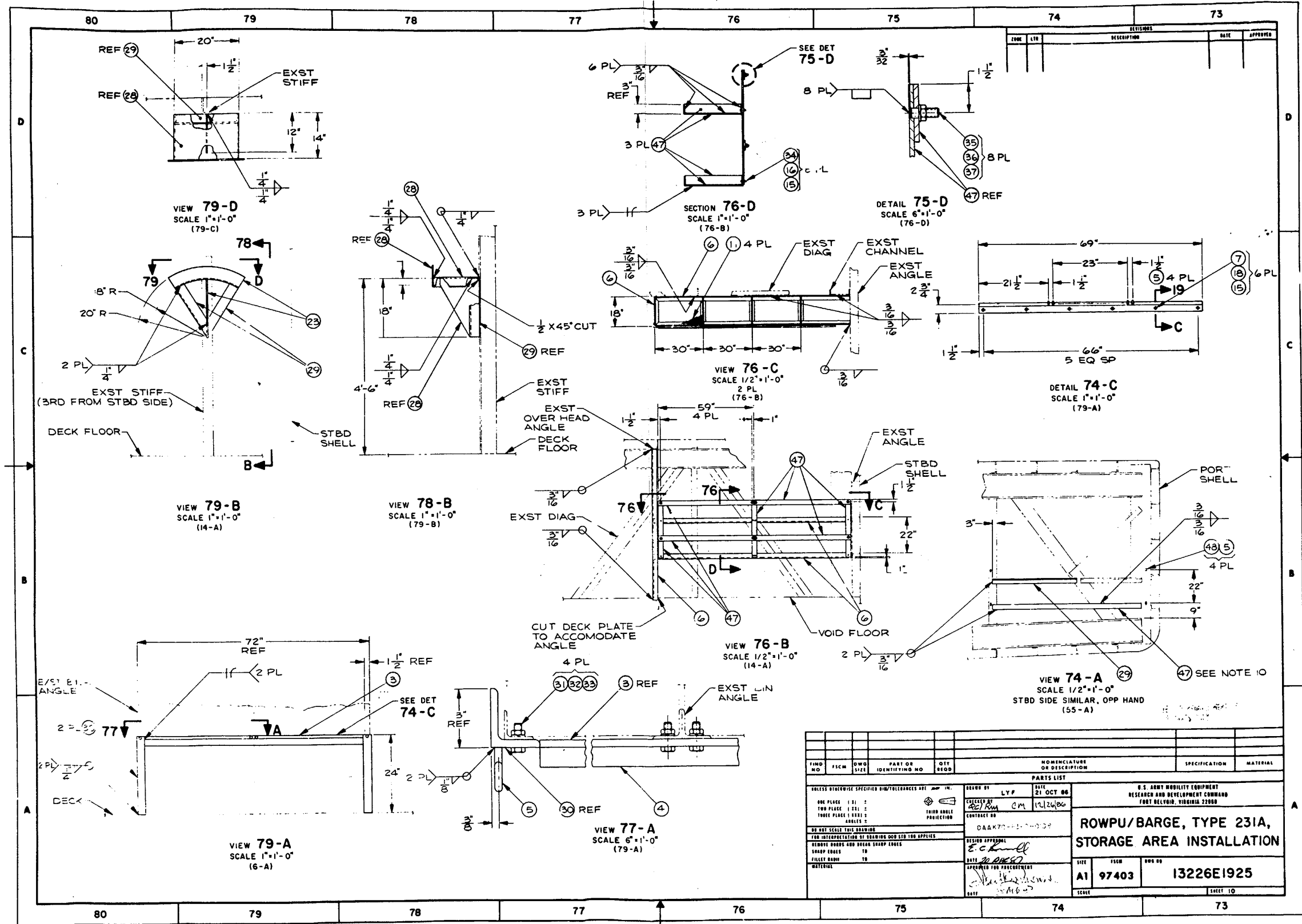


Figure FO-45 (Sheet 9 of 10)
FP-445/(FP-446 Blank)



QTY	DESCRIPTION	DATE	APPROVED

FIND NO.	FSCM	QTY	PART OR IDENTIFYING NO.	QTY REQD.	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ONE PLACE (1 PL) : TWO PLACE (2 PL) : THREE PLACE (3 PL) : ANGLES :	DESIGNED BY: LYP CHECKED BY: RRM CM CONTRACT NO.: DAAK70-1-1-0000 DATE: 20 DEC 67 MATERIAL:	DATE: 21 OCT 66 U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060 ROWPU/BARGE, TYPE 231A, STORAGE AREA INSTALLATION SIZE: A1 FSCM: 97403 SPECIFICATION: 13226E1925 SHEET: 10
--	---	---

Figure FO-45 (Sheet 10 of 10)
FP-447/(FP-448 Blank)

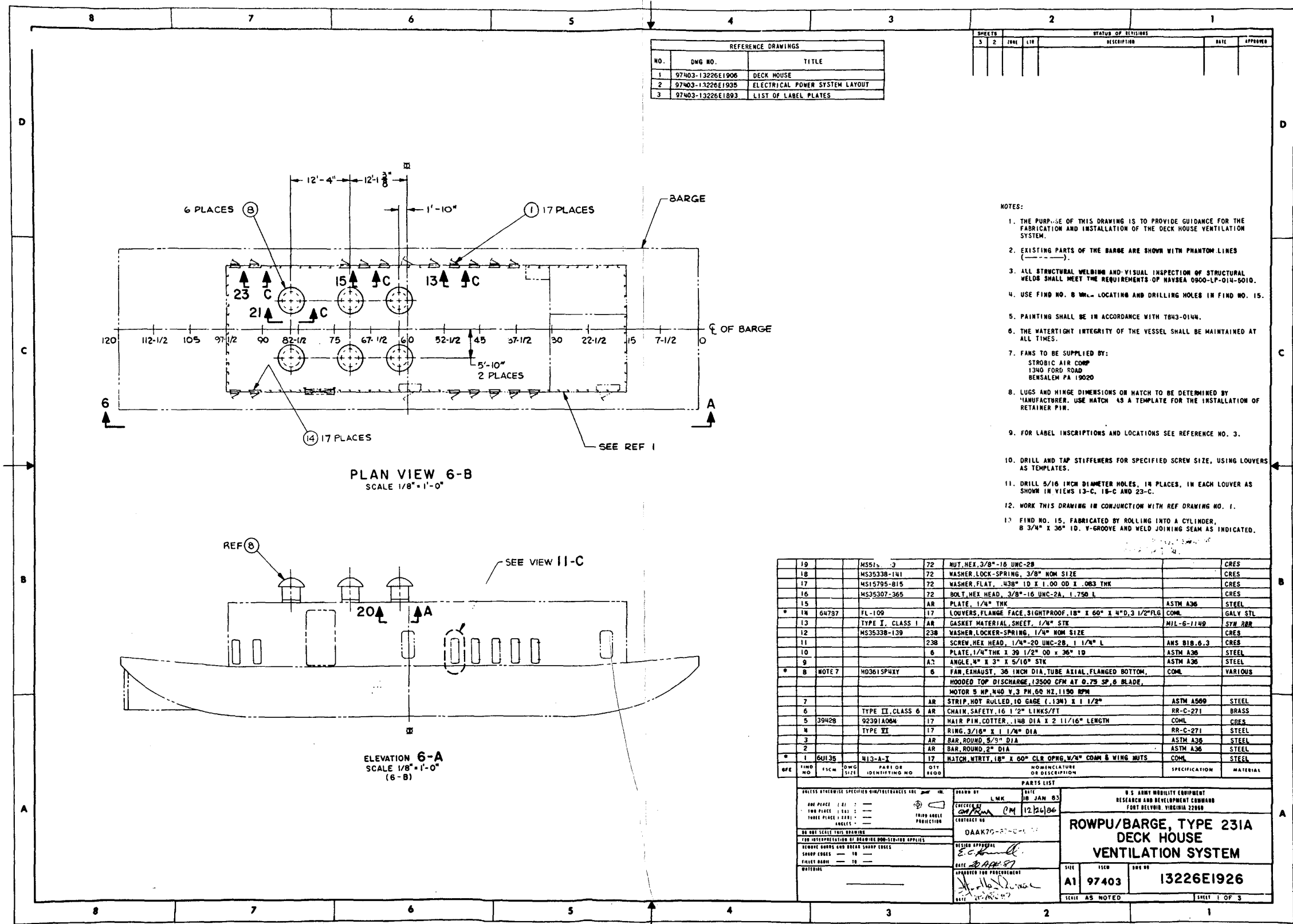


Figure FO-46 (Sheet 1 of 3)
FP-449/(FP-450 Blank)

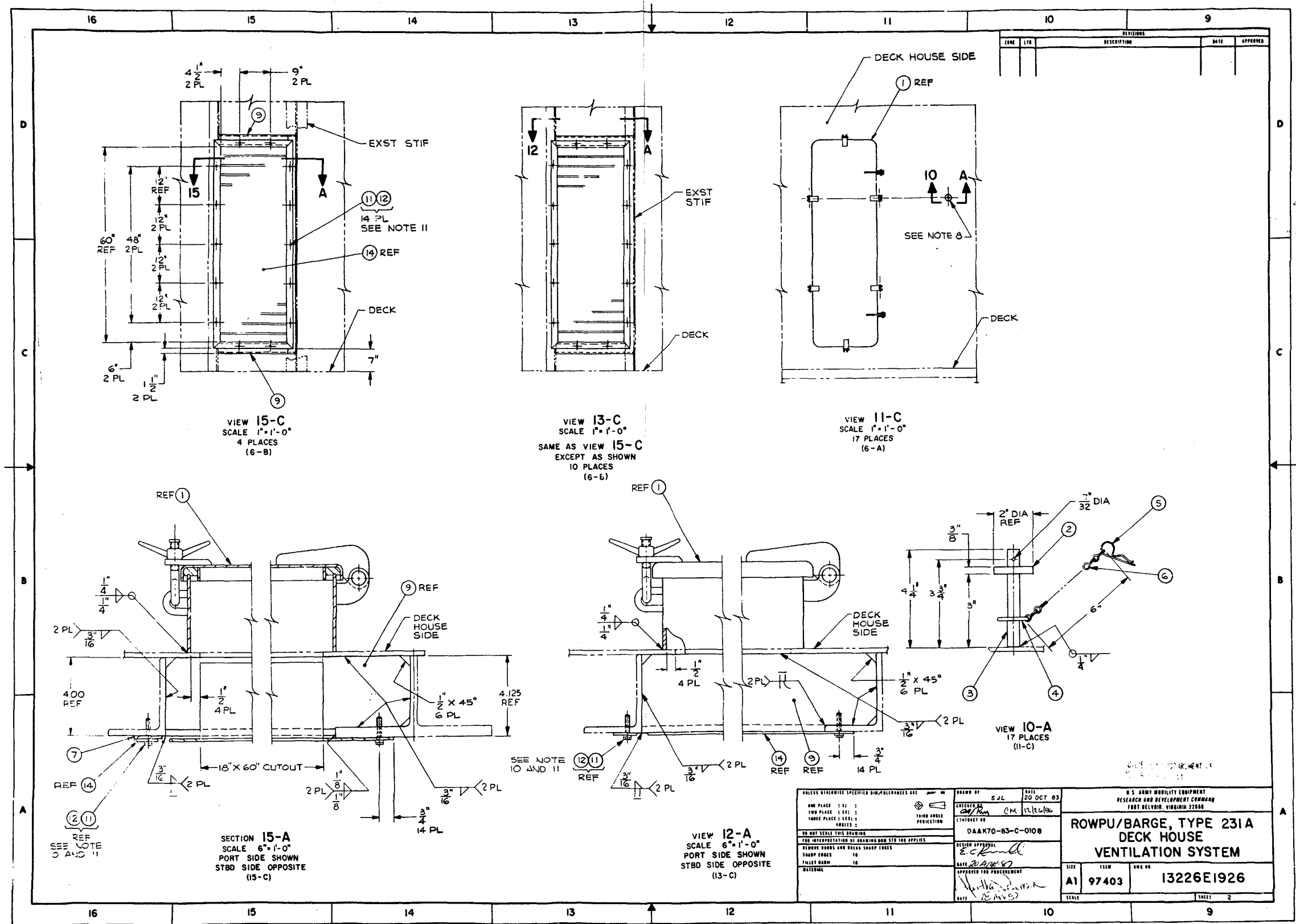


Figure FO-46 (Sheet 2 of 3)
FP-451/(FP-452 Blank)

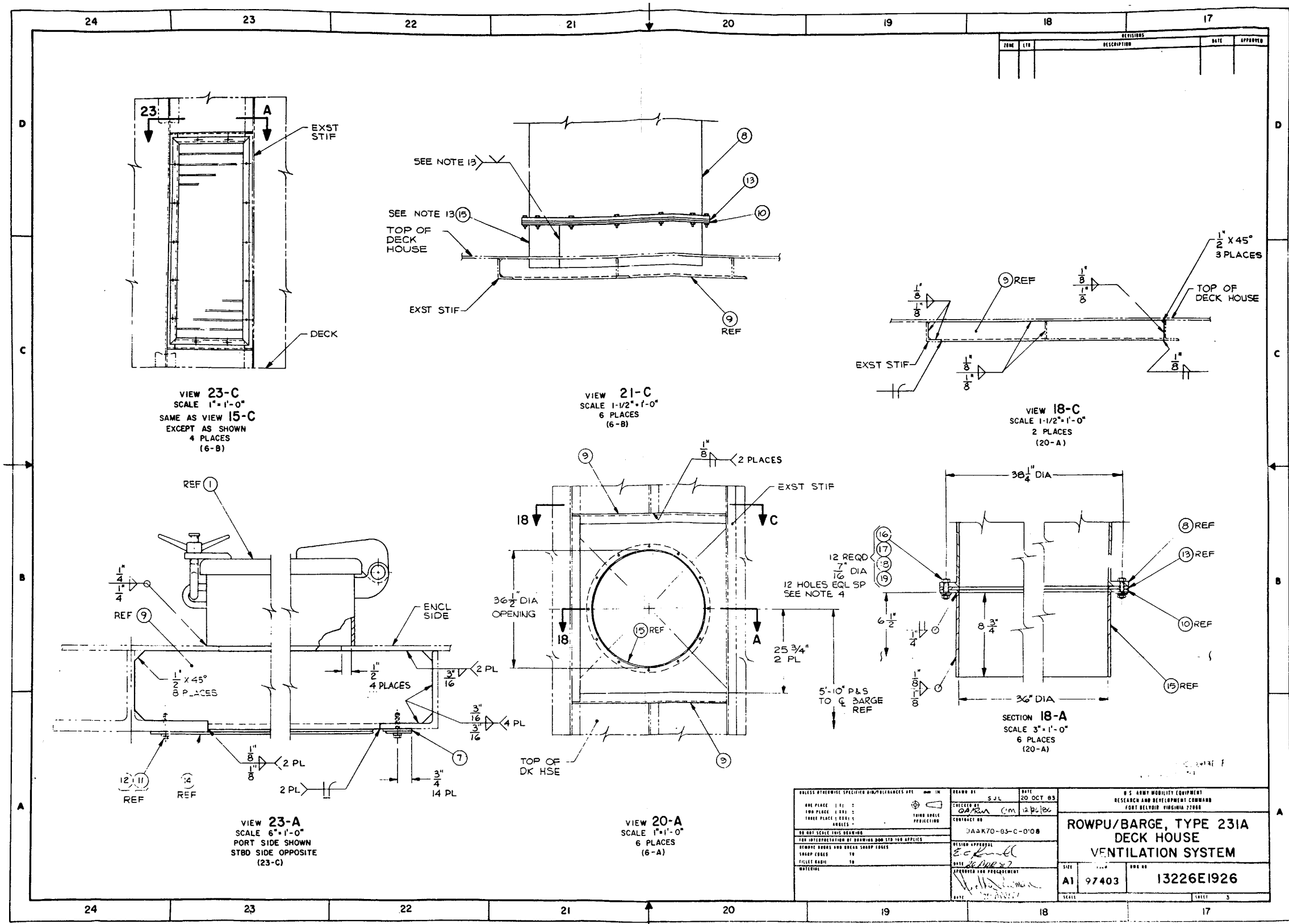


Figure FO-46 (Sheet 3 of 3)
FP-453/(FP-454 Blank)

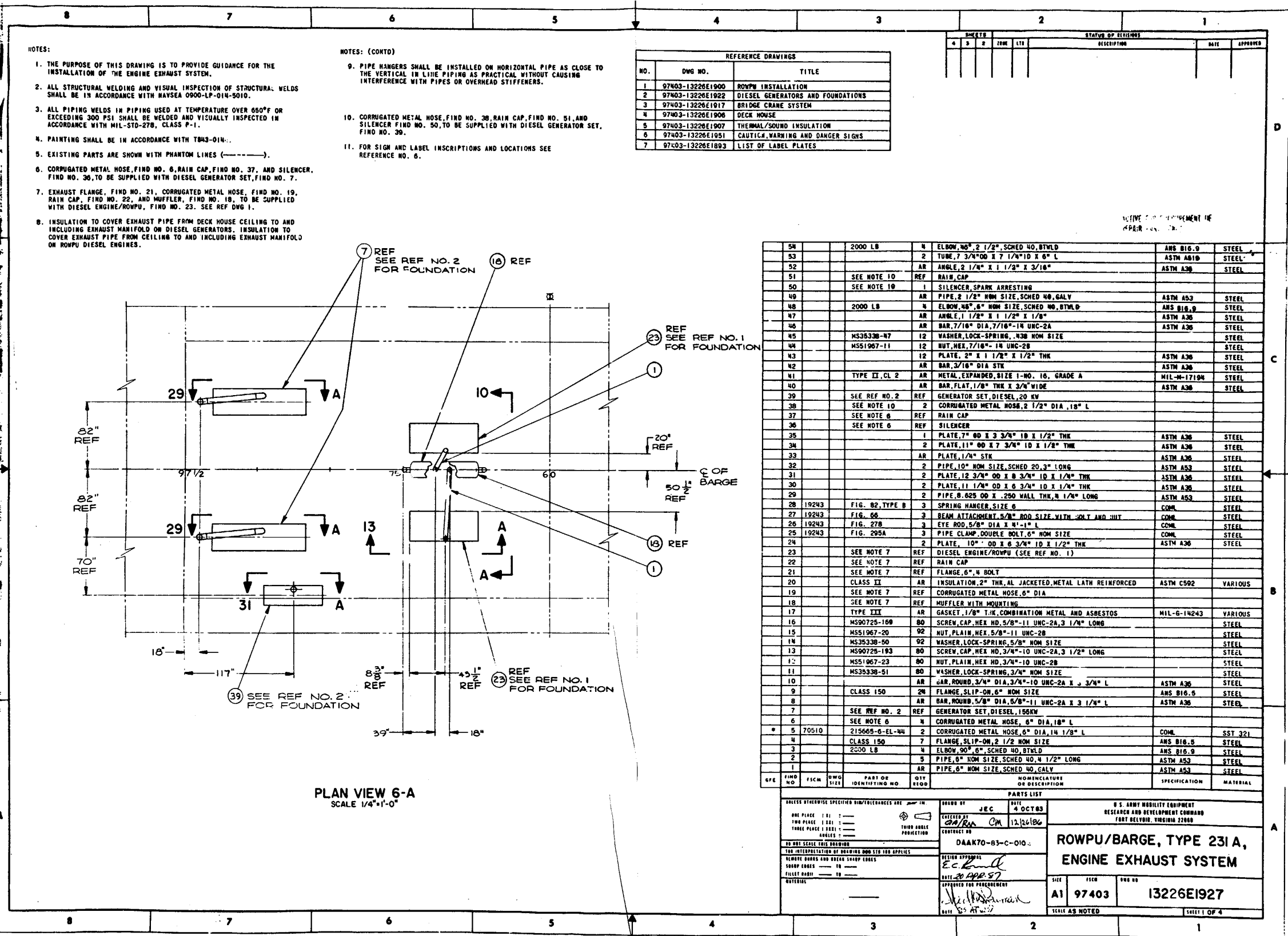


Figure FO-47 (Sheet 1 of 4)
FP-455/(FP-456 Blank)

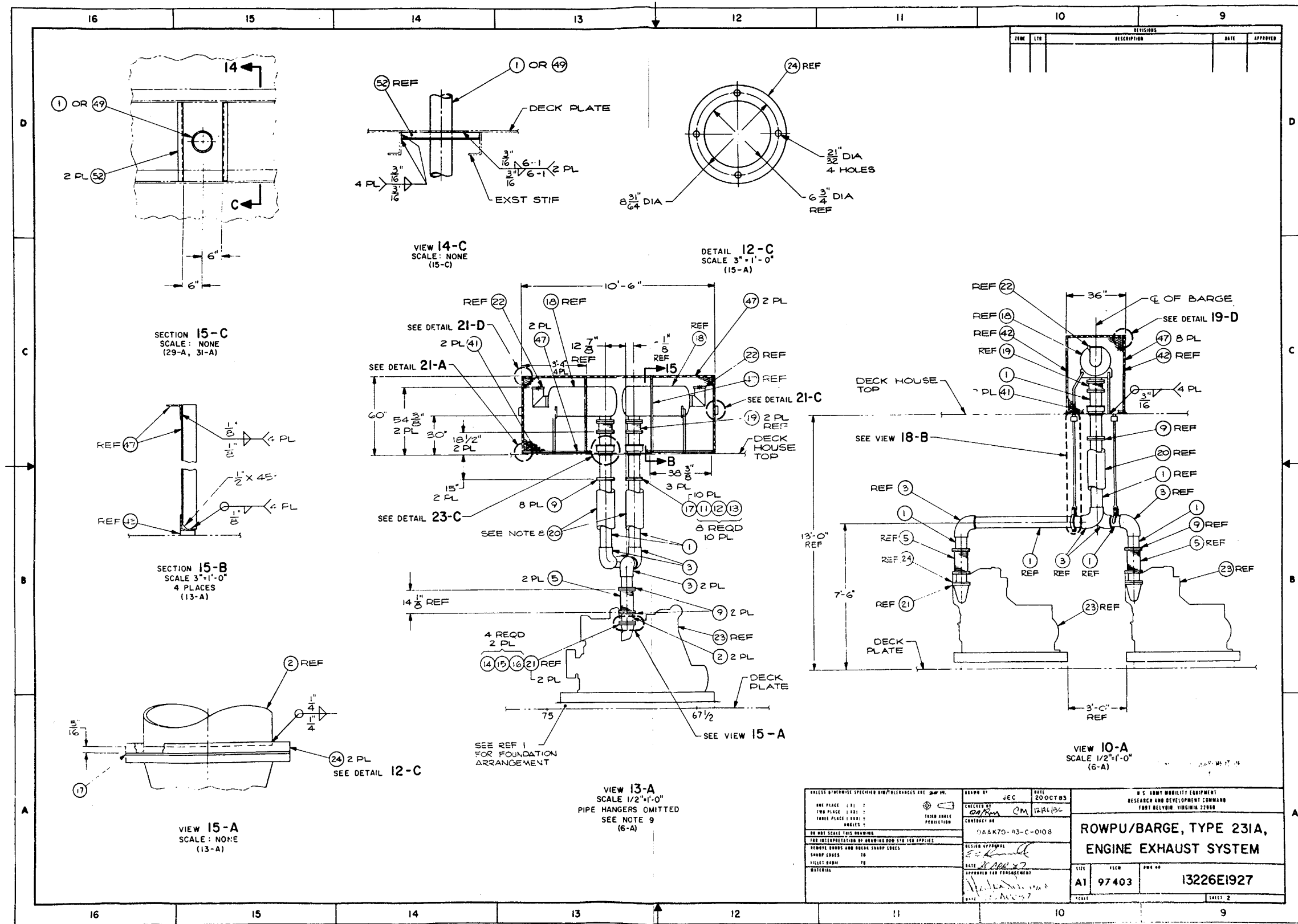


Figure FO-47 (Sheet 2 of 4)
FP-457/(FP-458 Blank)

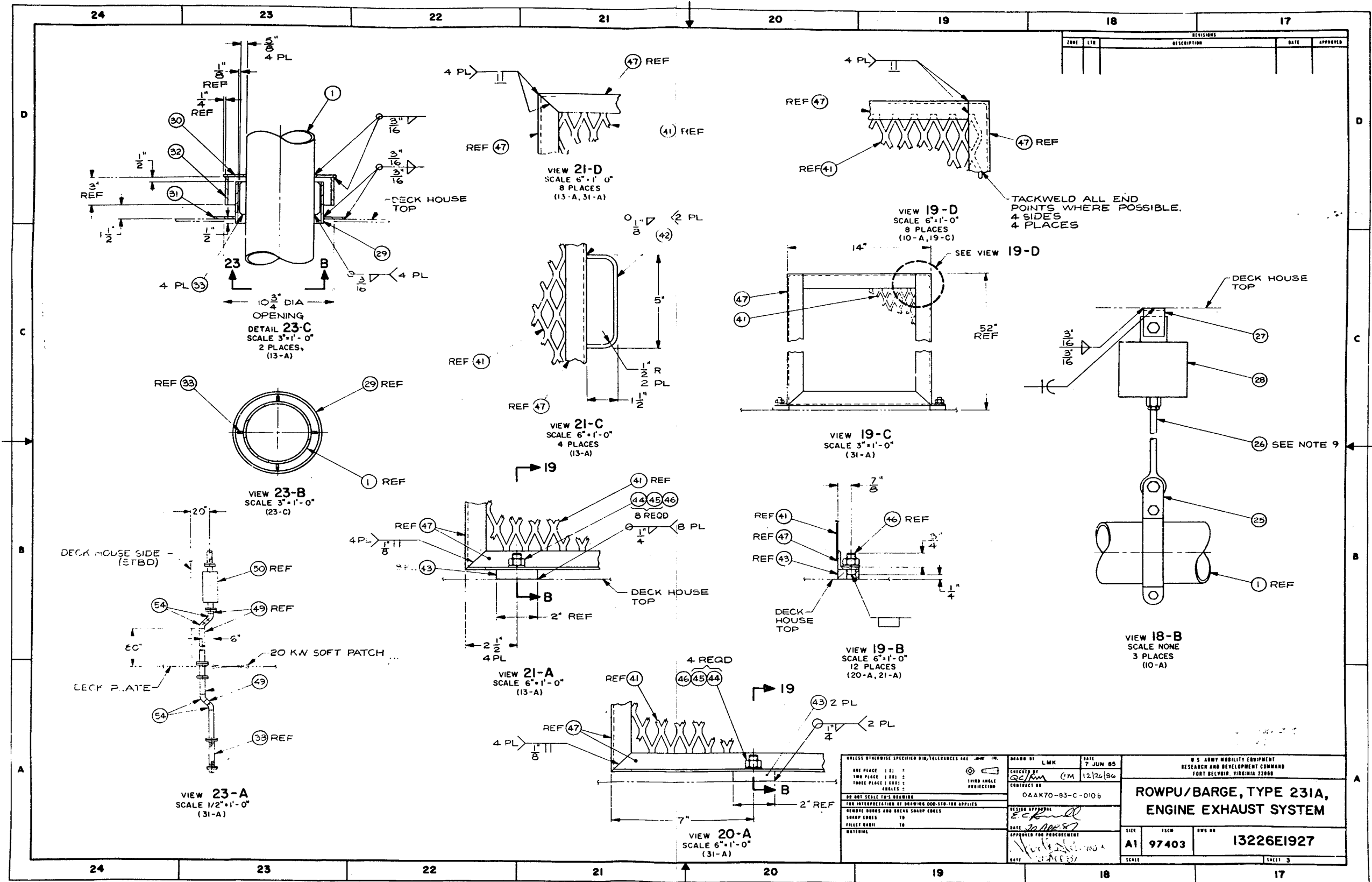


Figure FO-47 (Sheet 3 of 4)
FP-459/(FP-460 Blank)

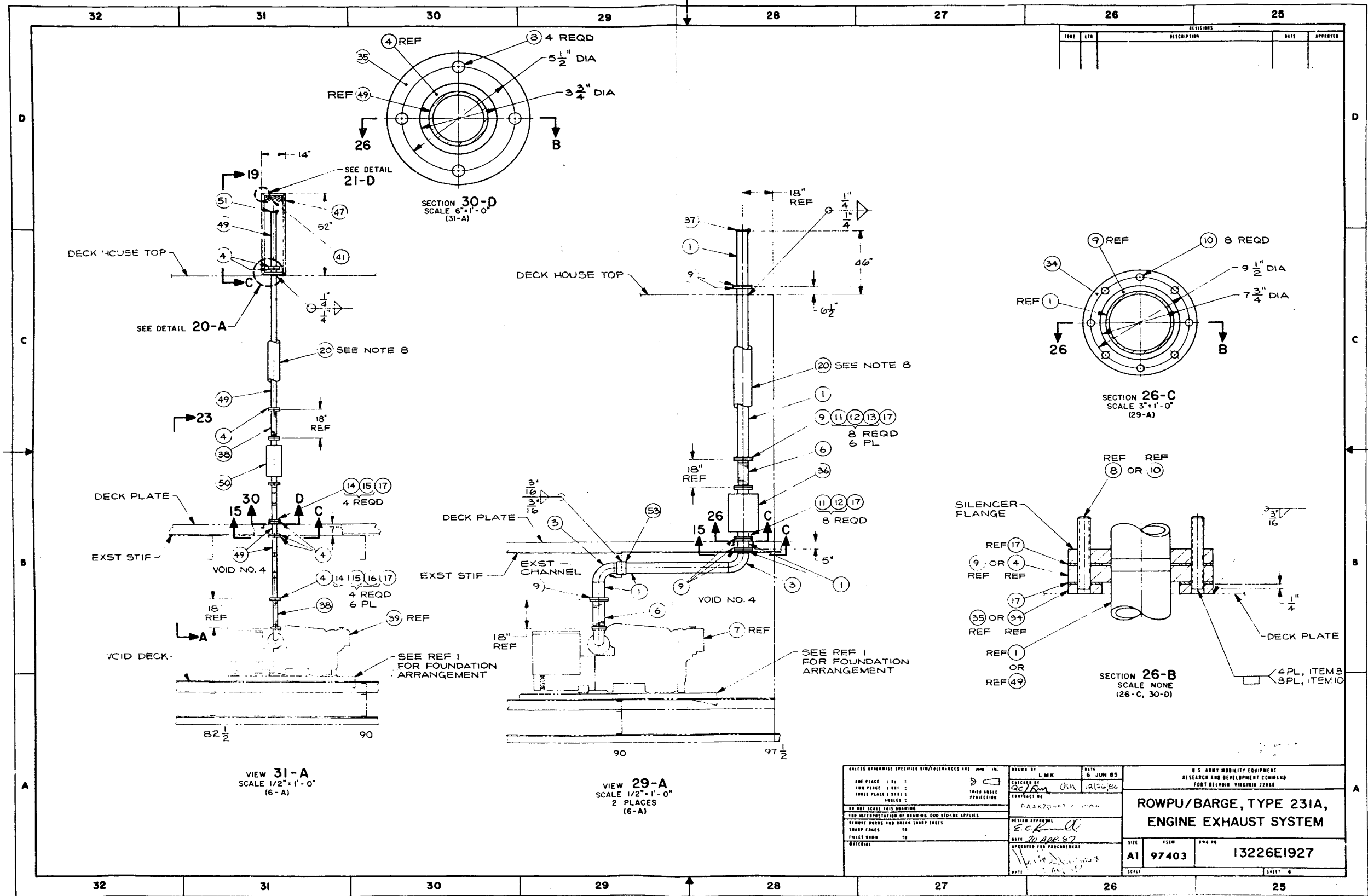


Figure FO-47 (Sheet 4 of 4)
FP-461/(FP-462 Blank)

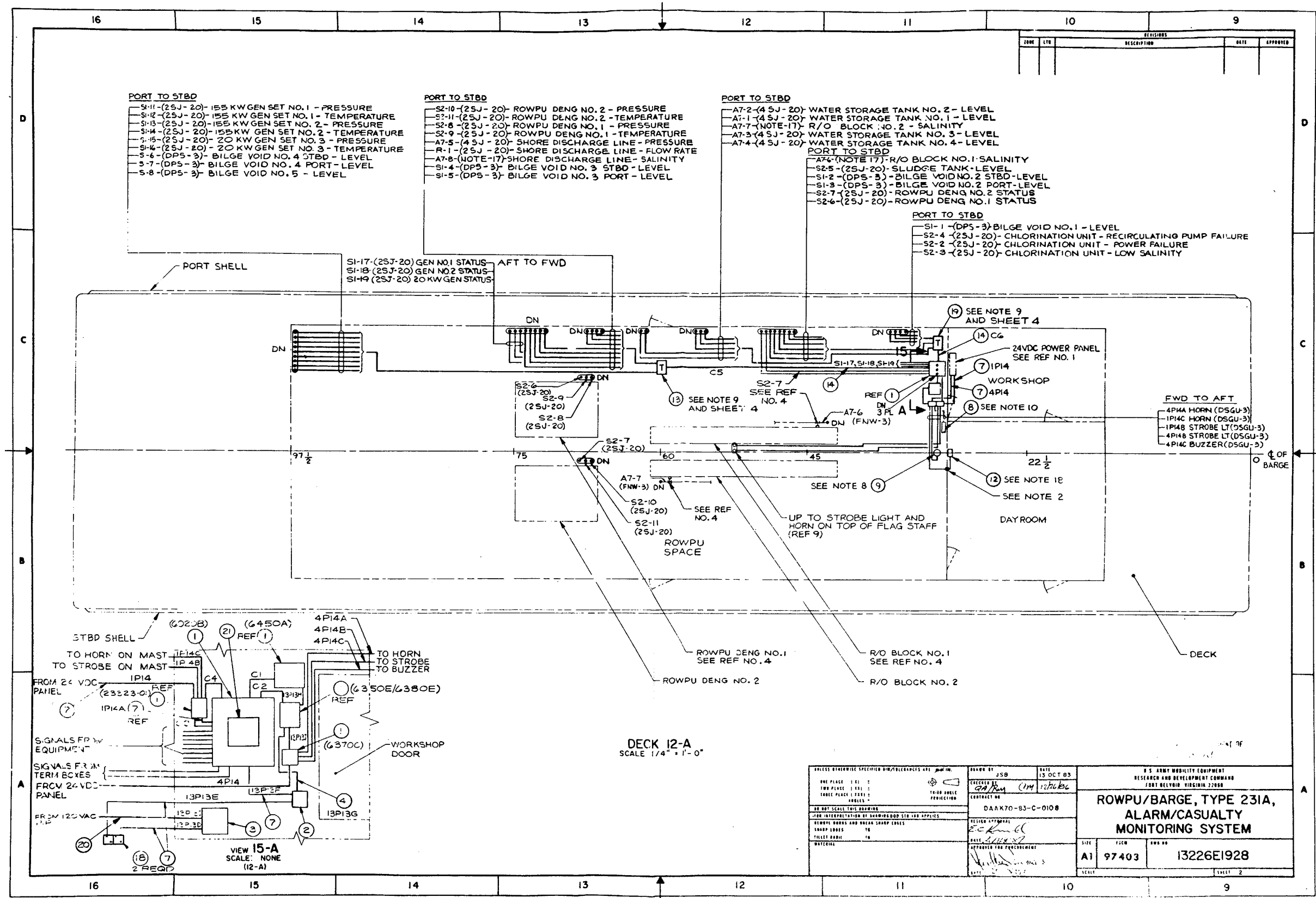


Figure FO-48 (Sheet 2 of 7)
FP-465/(FP-466 Blank)

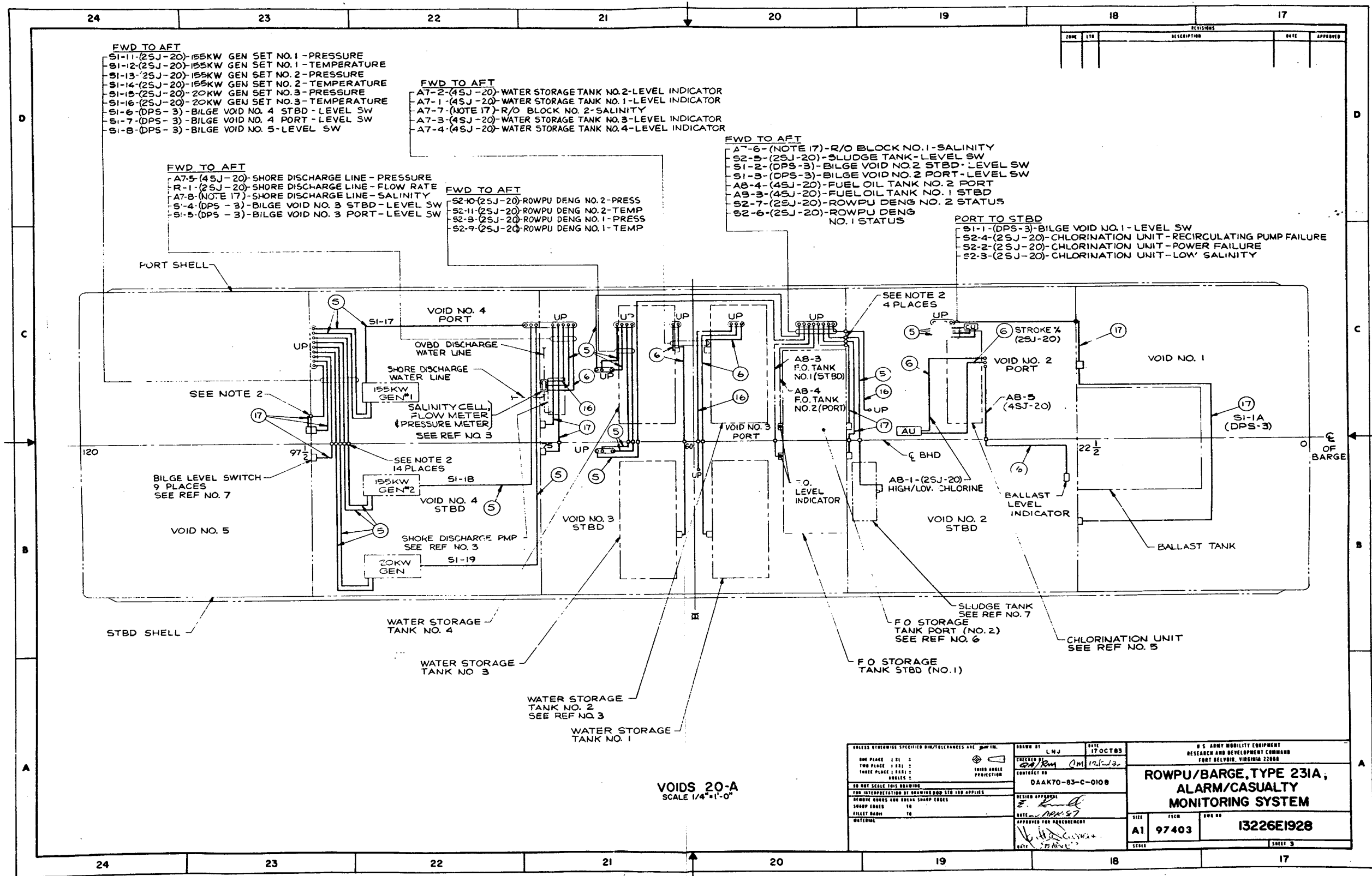
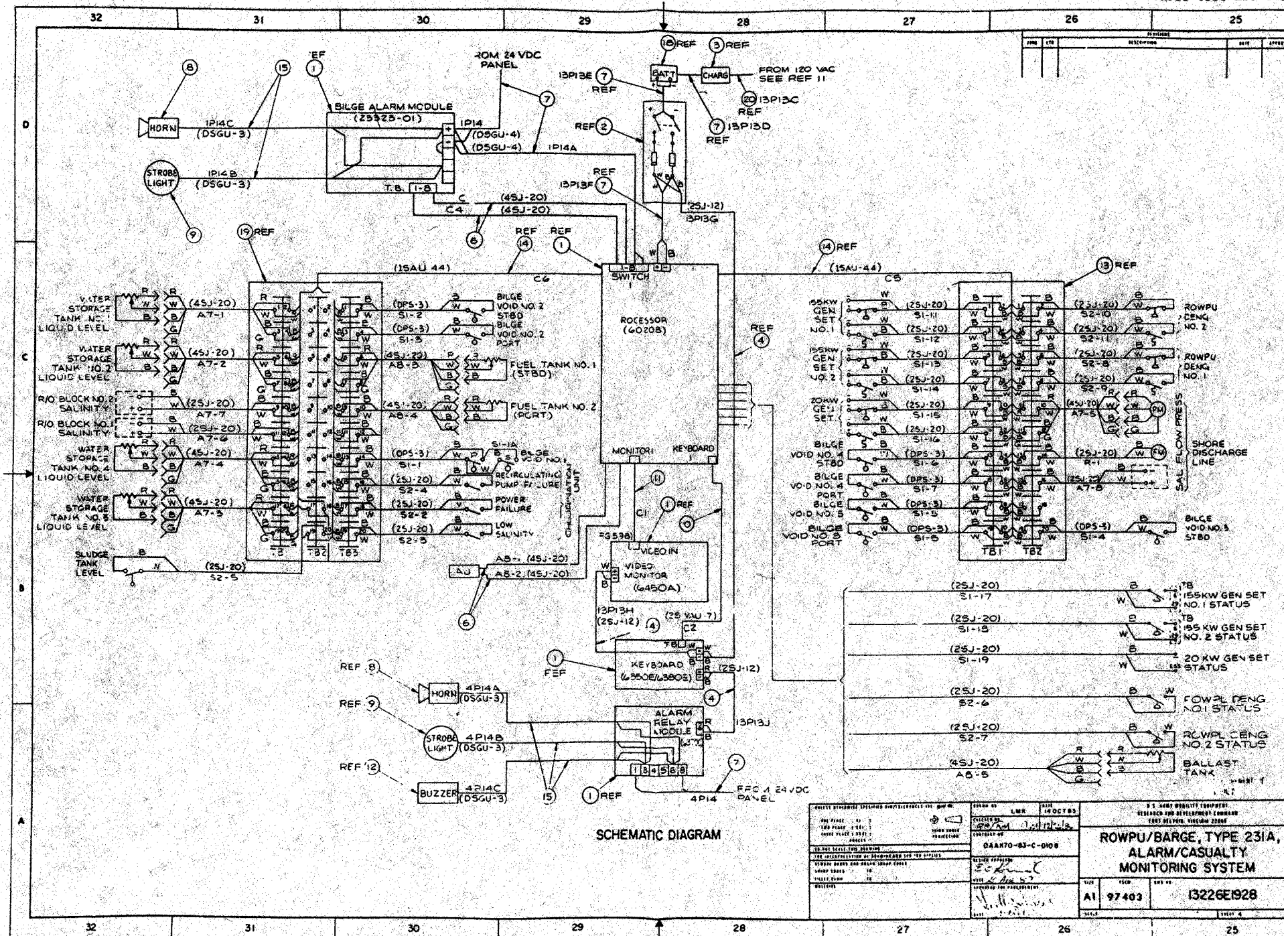


Figure FO-48 (Sheet 3 of 7)
FP-467/(FP-468 Blank)

FORM	NO	DESCRIPTION	DATE	APPROV



SCHMATIC DIAGRAM

PREPARED BY: LMR DATE: 14 OCT 83 CHECKED BY: [Signature] DATE: [Date] DRAWN BY: [Signature] DATE: [Date]	PROJECT NO: DAAN70-83-C-010-0 TITLE: ROWPU/BARGE, TYPE 231A, ALARM/CASUALTY MONITORING SYSTEM SHEET NO: 97403 TOTAL SHEETS: 13226E928
---	--

Figure FO-48 (Sheet 4
FP-469/FP-470 Blank)

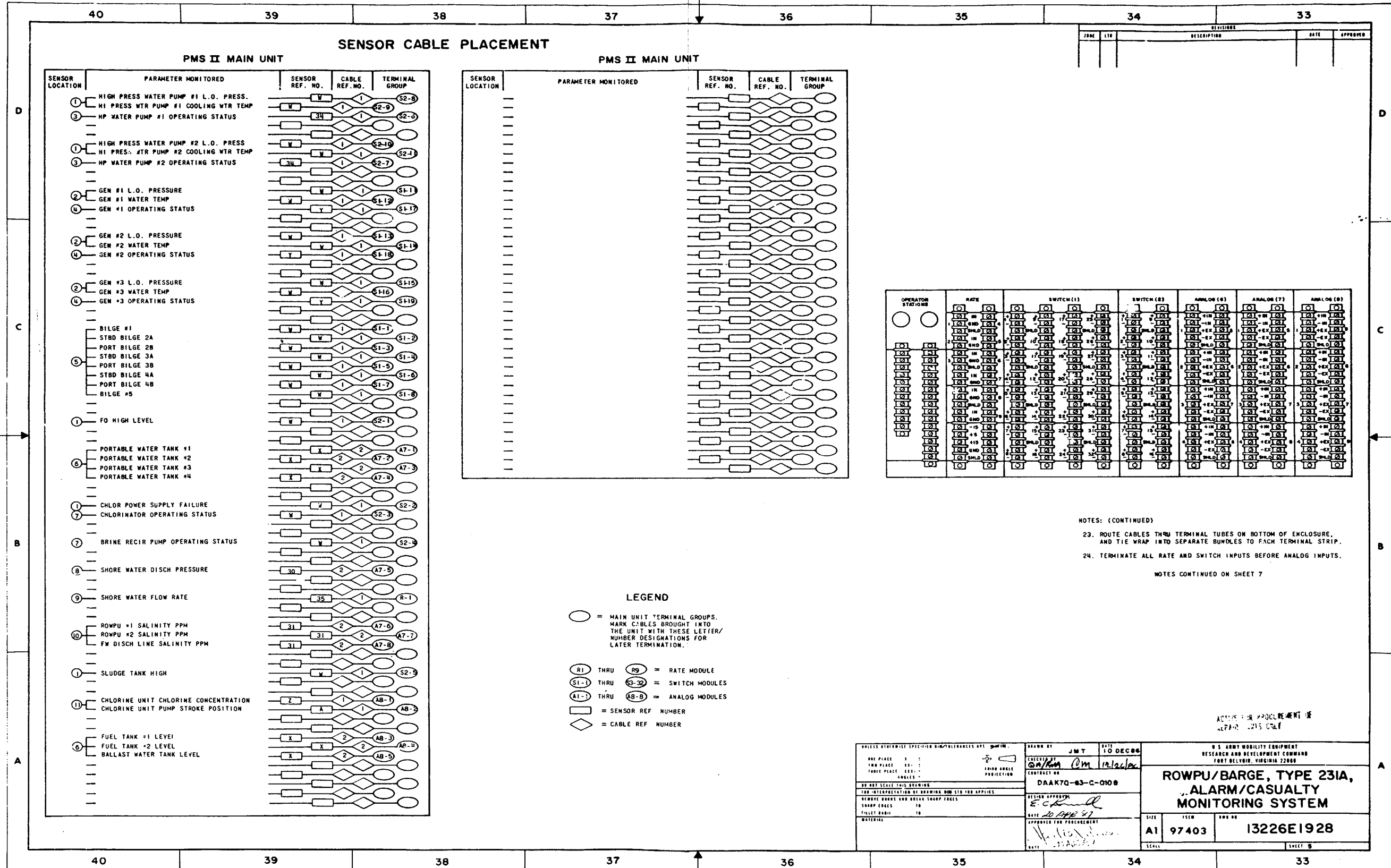


Figure FO-48 (Sheet 5 of 7)
FP-471/(FP-472 Blank)

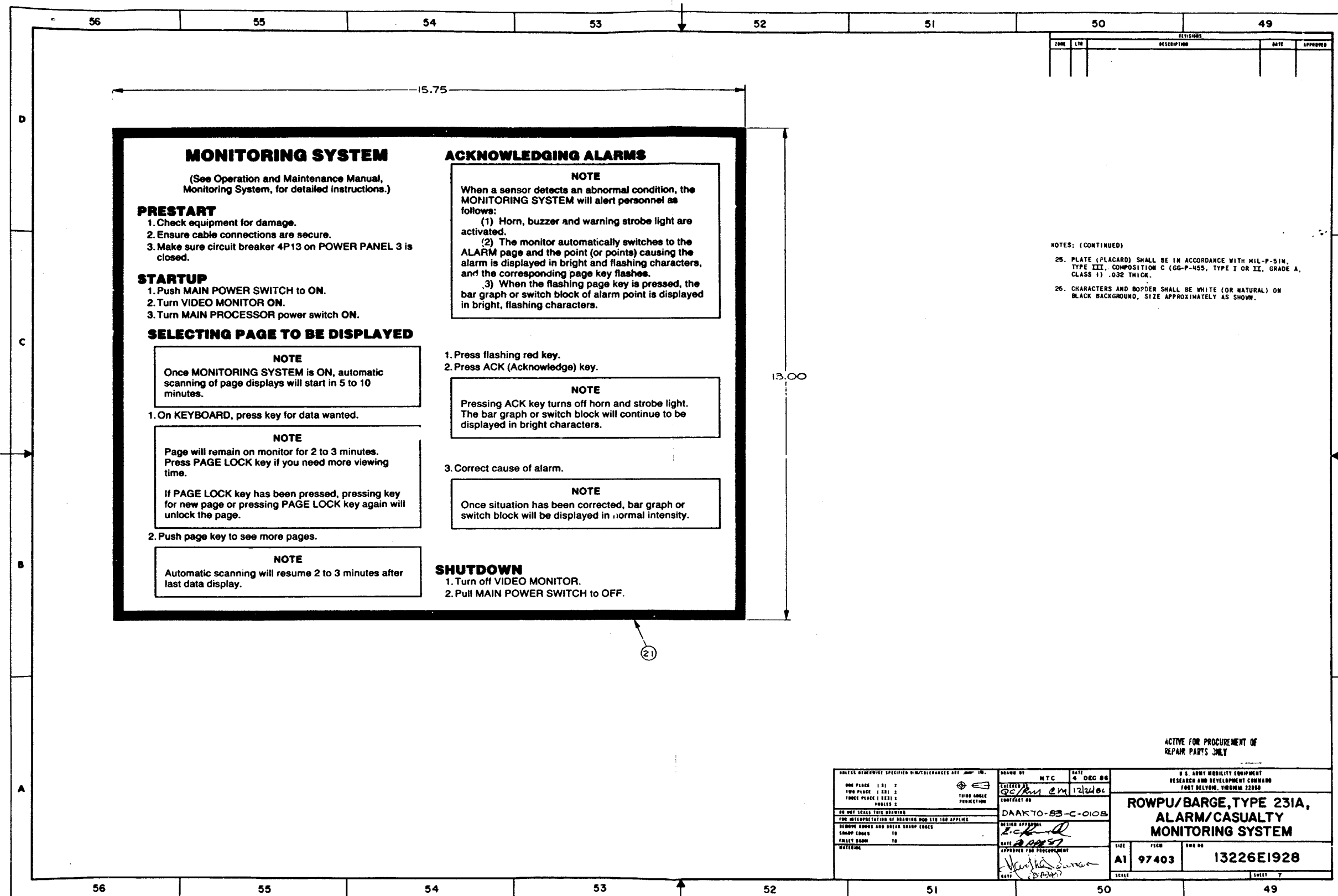


Figure FO-48 (Sheet 7 of 7)
 FP-475/(FP-476 Blank)

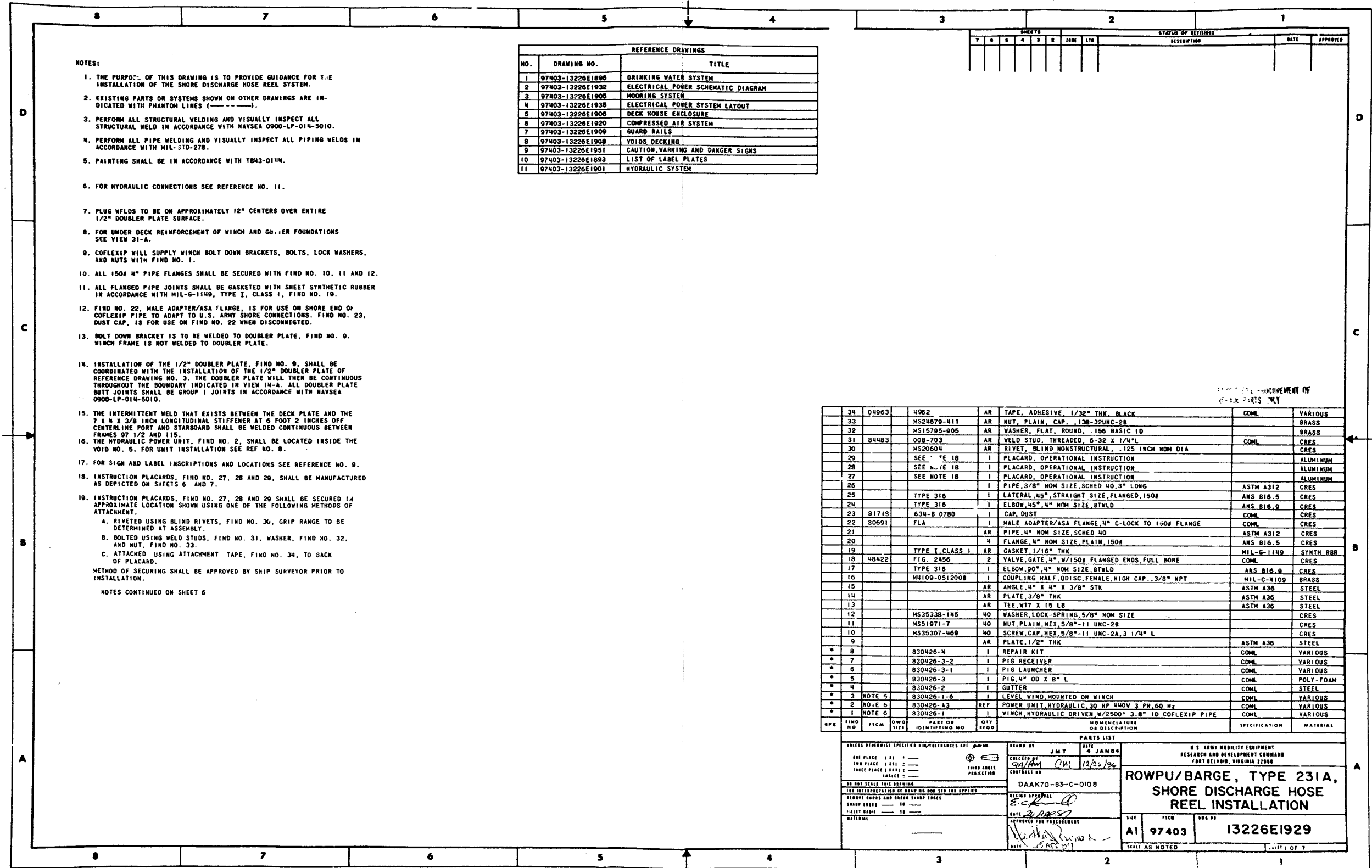


Figure FO-49 (Sheet 1 of 7)
FP-477/(FP-478 Blank)

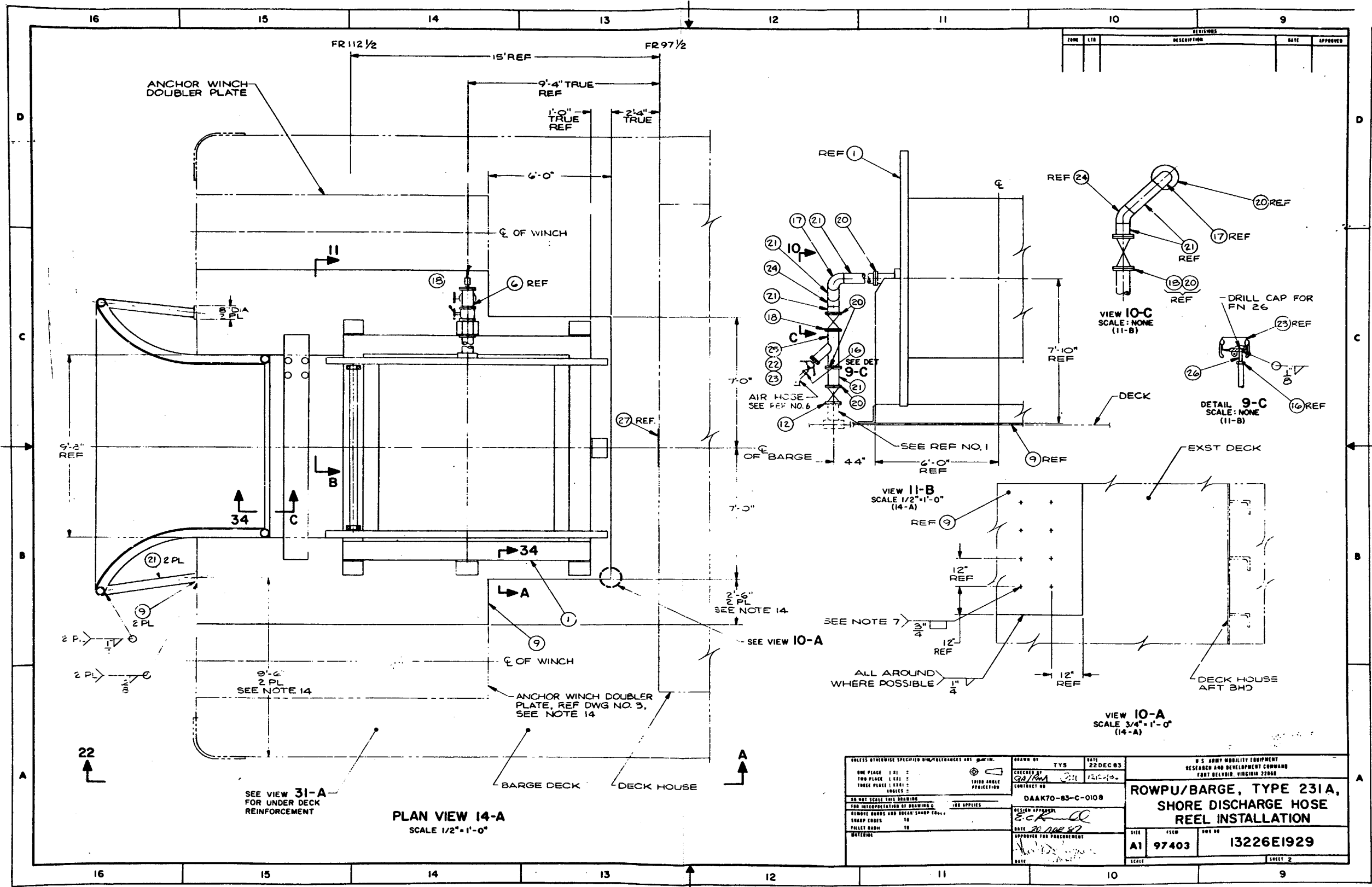
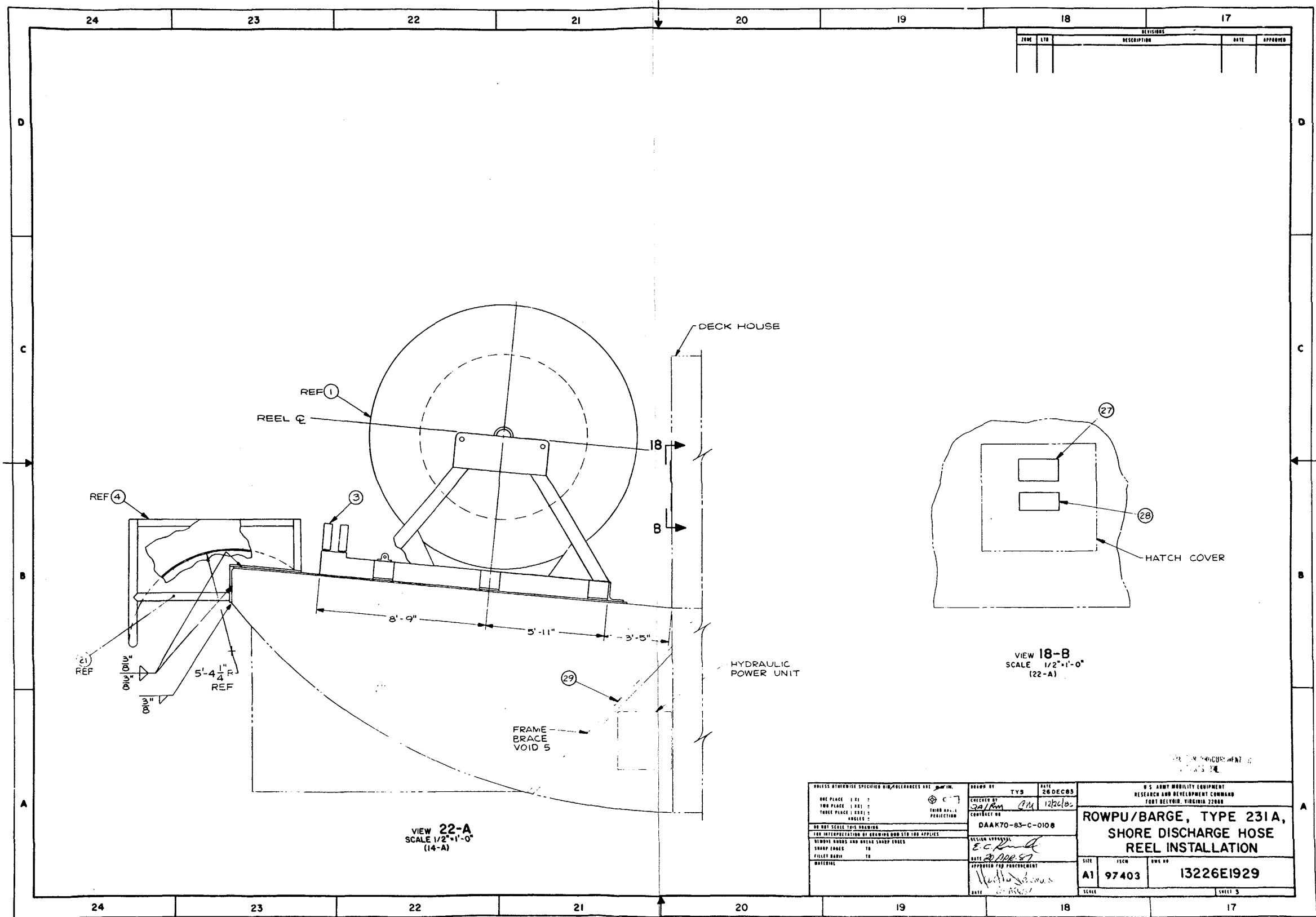


Figure FO-49 (Sheet 2 of 7)
FP-479/(FP-480 Blank)



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DESIGNED BY TYS	DATE 26 DEC 83	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
ONE PLACE (1 01) TWO PLACE (1 02) THREE PLACE (1 03) FOUR PLACE (1 04)	CREATED BY DJA/AM	DATE 12/26/83	
NO NET SCALE THIS DRAWING FOR INTERPRETATION OF DIMENSIONS AND STD 100 APPLIES	CONTRACT NO. DAAK70-83-C-0108	SCALE	SIZE A1
SHARP EDGES TO BE SHOWN SMOOTH EDGES TO BE SHOWN HOLEY MARKS TO BE SHOWN	DATE 20 DEC 87	SCALE 1/2"=1'-0"	QTY 13226E1929
MATERIAL	APPROVED FOR PRODUCTION DATE	SCALE	SHEET 3

Figure FO-49 (Sheet 3 of 7)
FP-481/(FP-482 Blank)

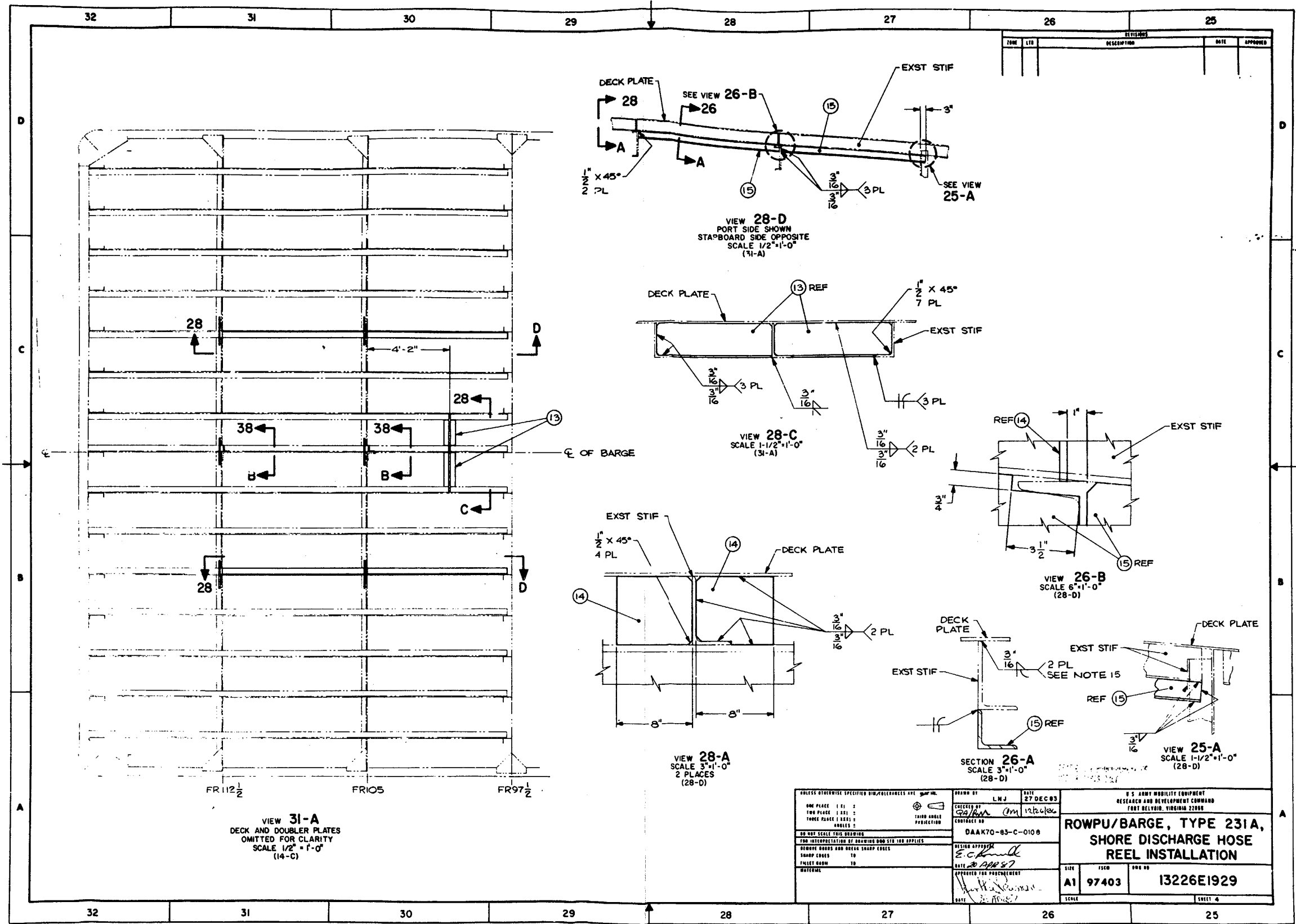


Figure FO-49 (Sheet 4 of 7)
FP-483/(FP-484 Blank)

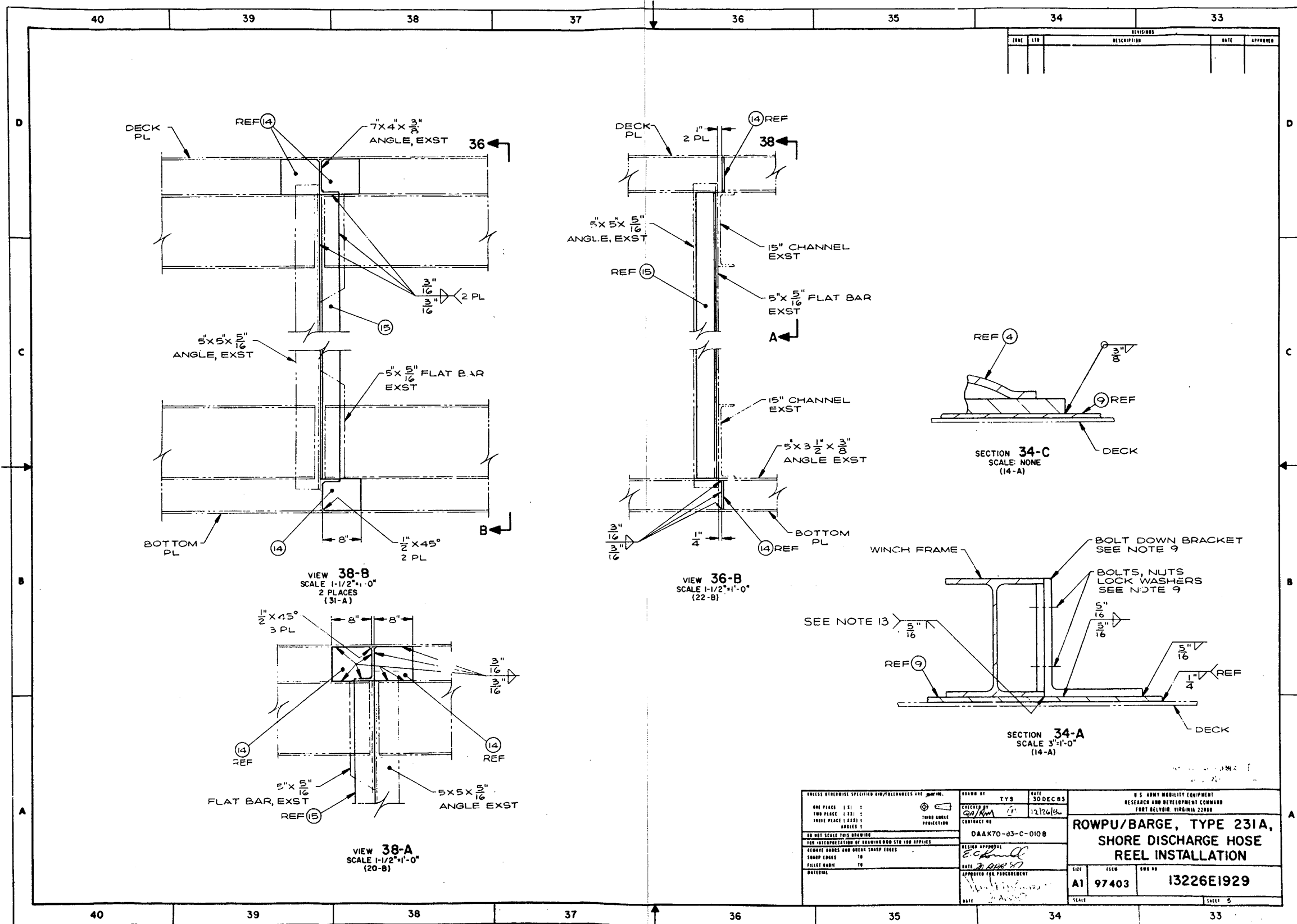


Figure FO-49 (Sheet 5 of 7)
FP-485/(FP-486 Blank)

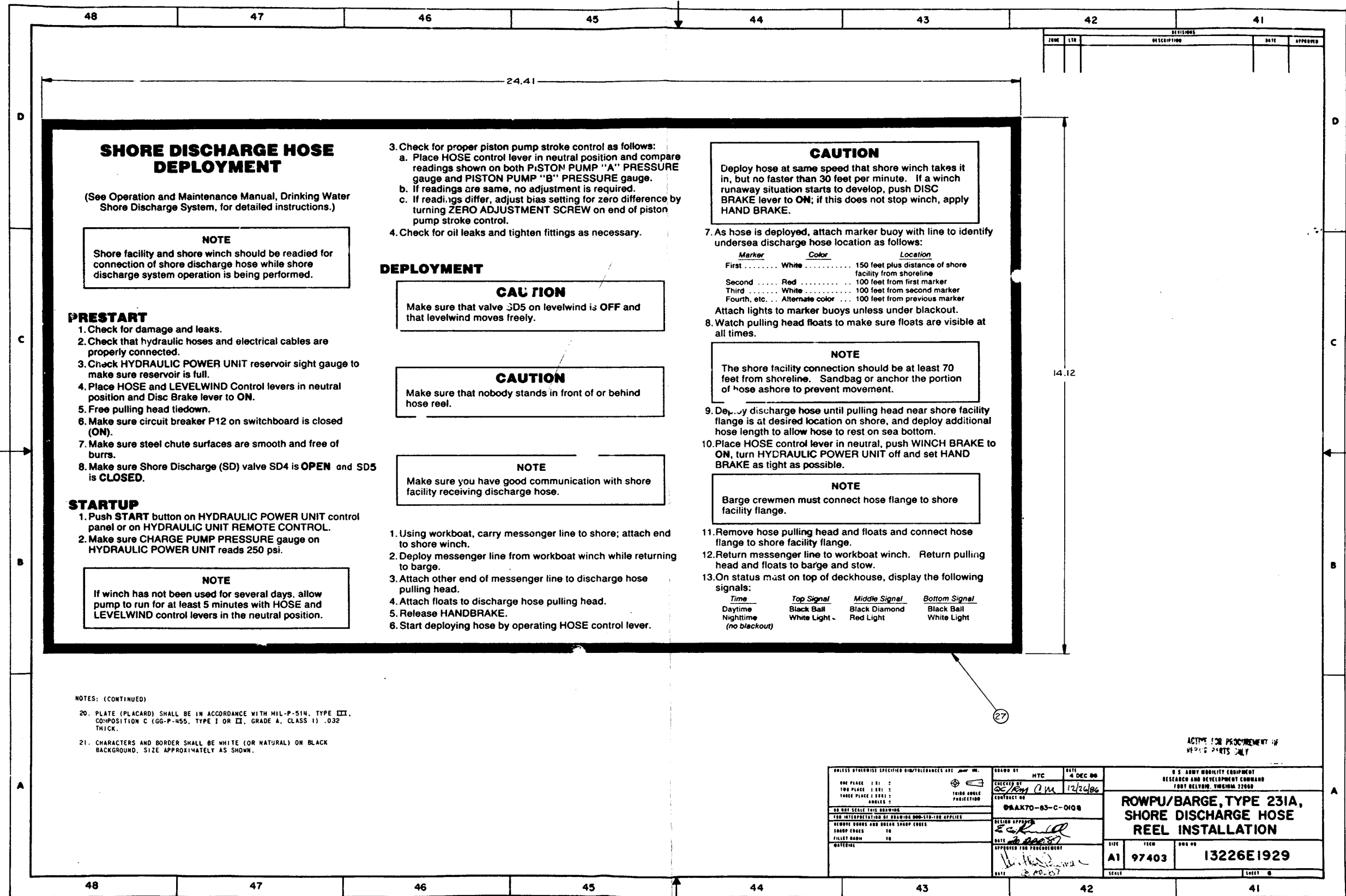


Figure FO-49 (Sheet 6 of 7)
FP-487/(FP-488 Blank)

56 55 54 53 52 51 50 49

SHORE DISCHARGE HOSE RETRIEVAL

(See Operation and Maintenance Manual, Drinking Water Shore Discharge System, for detailed instructions.)

NOTE
Make radio contact with shore facility to coordinate shore discharge hose retrieval.

PRESTART

1. Check for damage and leaks.
2. Check that hydraulic hoses and electrical cables are properly connected.
3. Check hydraulic power unit reservoir sight gauge to make sure reservoir is full.
4. Place HOSE and LEVELWIND control levers in neutral position and DISC BRAKE lever to ON.
5. Make sure circuit breaker P12 on switchboard is closed (ON).
6. Make sure steel chute surfaces are smooth and free of burrs.
7. Make sure Shore Discharge (SD) valves SD4 and SD5 are OPEN.
8. Make sure air compressor is operating and air receiver is charged.

DISCHARGE HOSE BLOWOUT

1. On barge, make sure Shore Discharge (SD) valves SD1 and SD2 are closed.

NOTE
Barge crewmen must connect PIG RECEIVER to shore end of hose.

2. On shore,
 - a. Close valve at shore.
 - b. Disconnect hose flange from shore facility flange.
 - c. Connect PIG RECEIVER to hose flange.
3. On barge,
 - a. Open PIG LAUNCHER CAP on winch, insert pig and install cap.
 - b. Connect 25-foot air hose to COMPRESSED AIR STATION 6 and PIG LAUNCHER CAP air connection.
 - c. Open valve SD2.
 - d. When PIG RECEIVER on shore is ready to receive pig, open COMPRESSED AIR STATION 6 SUPPLY valve.
 - e. When pig arrives in the PIG RECEIVER on shore, close COMPRESSED AIR STATION 6 SUPPLY valve and valve SD2.
4. Open PIG RECEIVER and remove pig.
5. Disconnect PIG RECEIVER from discharge hose and install hose pulling head. Be sure pulling head is watertight. Return pig and PIG RECEIVER to barge.

WINCH STARTUP

1. Push START button on HYDRAULIC POWER UNIT control panel or on HYDRAULIC UNIT REMOTE CONTROL.
2. Make sure CHARGE PUMP PRESSURE gauge on HYDRAULIC POWER UNIT reads 250 psi.
3. Check that winch reel HANDBRAKE located on starboard side is set.

NOTE
If winch has not been used for several days, allow pumps to run for at least 5 minutes with HOSE and LEVELWIND control levers in the neutral position.

4. Check for oil leaks and tighten fittings as necessary.

DISCHARGE HOSE RETRIEVAL

1. Attach floats to discharge hose pulling head.

CAUTION
Make sure nobody stands in front of or behind hose reel.

NOTE
While retrieving hose, wash off hose and remove marker buoys.

2. Start retrieving hose by operating HOSE control lever.

CAUTION
As each layer of hose comes to the reel flange, make sure the transition to the next layer is smooth. If necessary, operate LEVELWIND control lever to gently form the first coil of the next layer.

3. When the hose is completely retrieved, remove floats and tie down pulling head to barge.

SHUTDOWN

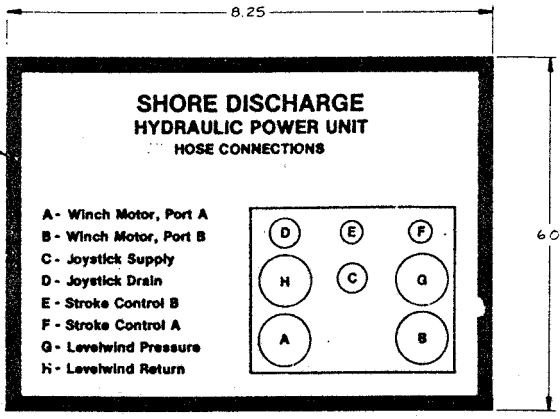
1. Push STOP button on HYDRAULIC POWER UNIT or on HYDRAULIC UNIT REMOTE CONTROL.
2. Set winch HANDBRAKE.

11.84

24.47

22

29



TITLE: SHORE DISCHARGE HOSE RETRIEVAL ONE PLACE 1 OF 1 TWO PLACE 1 OF 1 THREE PLACE 1 OF 1 PARTS LIST: 1 PARTS LIST: 2		DRAWN BY: WTC CHECKED BY: [Signature] DATE: 4 DEC 88 PARTS LIST: 1 PARTS LIST: 2	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
BY THE REEL (FOR REPAIRS) THE REEL IS TO BE USED BY THE REEL (FOR REPAIRS) CHECK REEL AND REEL (FOR REPAIRS) SHIP EDGE: 10 PARTS LIST: 10		DRAWN TO: 23-C-0108 [Signature] DATE: 2 APR 87 APPROVED FOR: [Signature]	ROWPU/BARGE, TYPE 231A, SHORE DISCHARGE HOSE REEL INSTALLATION
MATERIAL:		PART: A1 QUANTITY: 97403	PART: 13226E1929

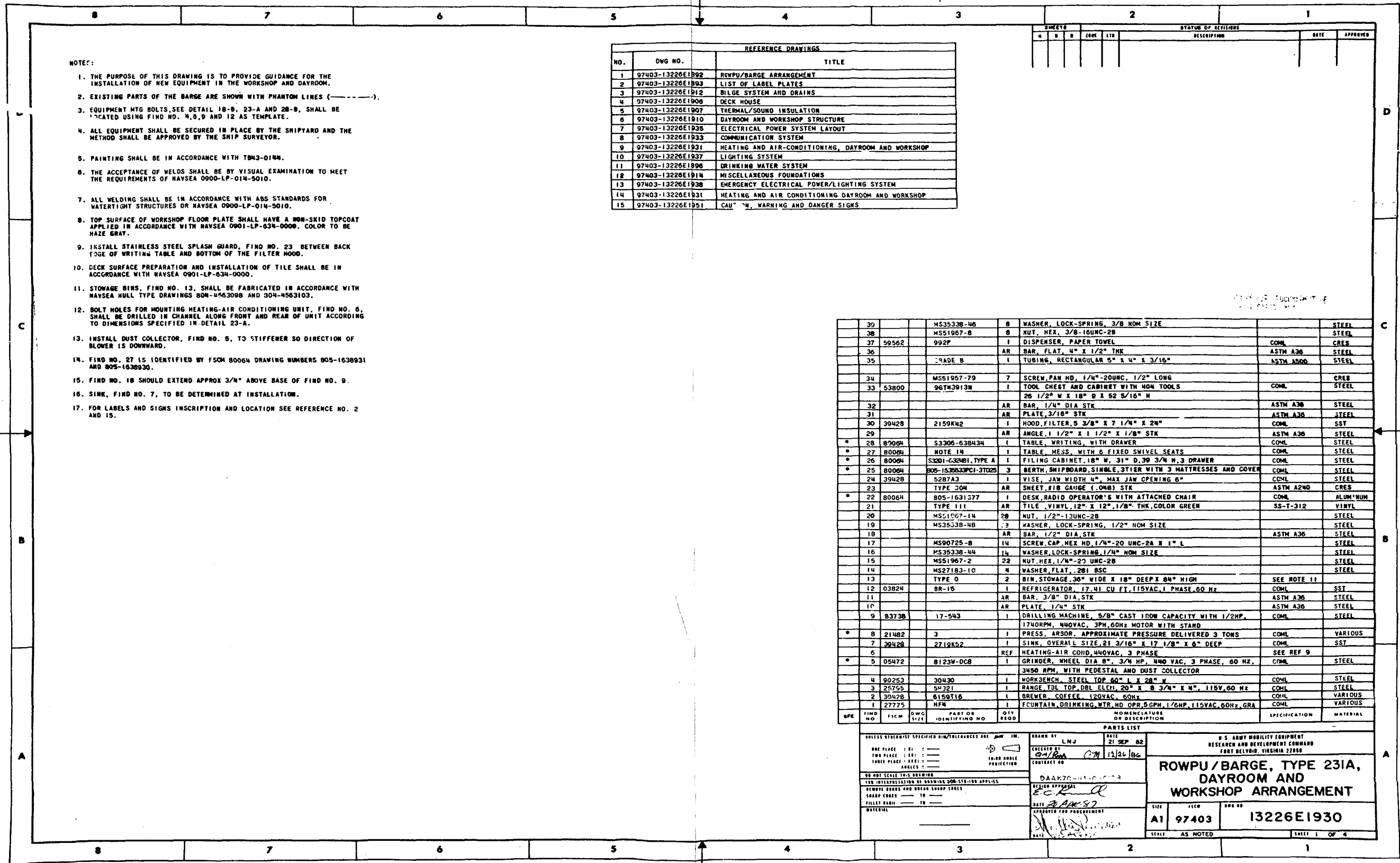


Figure FO-50 (Sheet 1 of 4)
 FP-491/(FP-492 Blank)

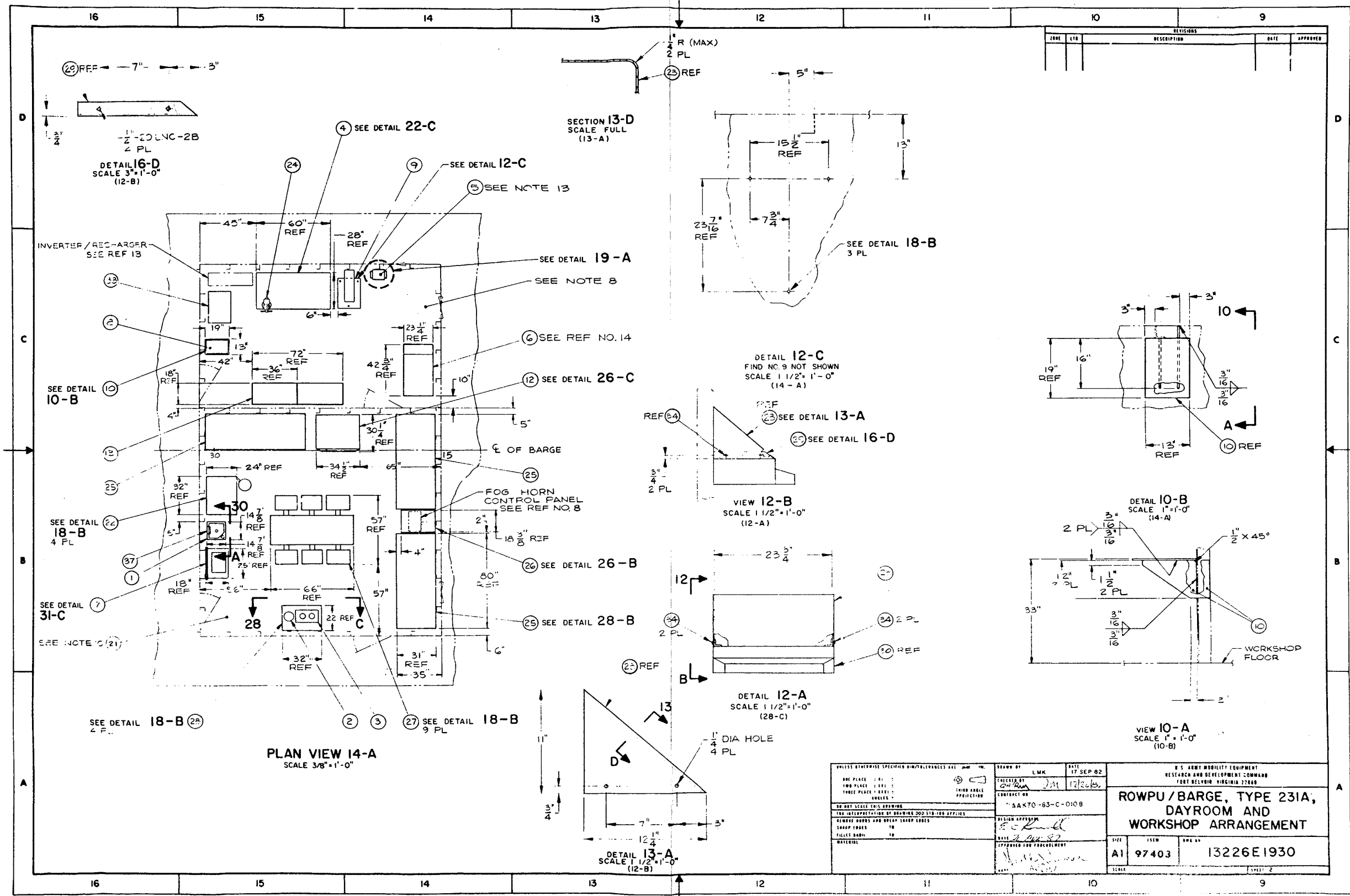


Figure FO-50 (Sheet 2 of 4)
FP-493/(FP-494 Blank)

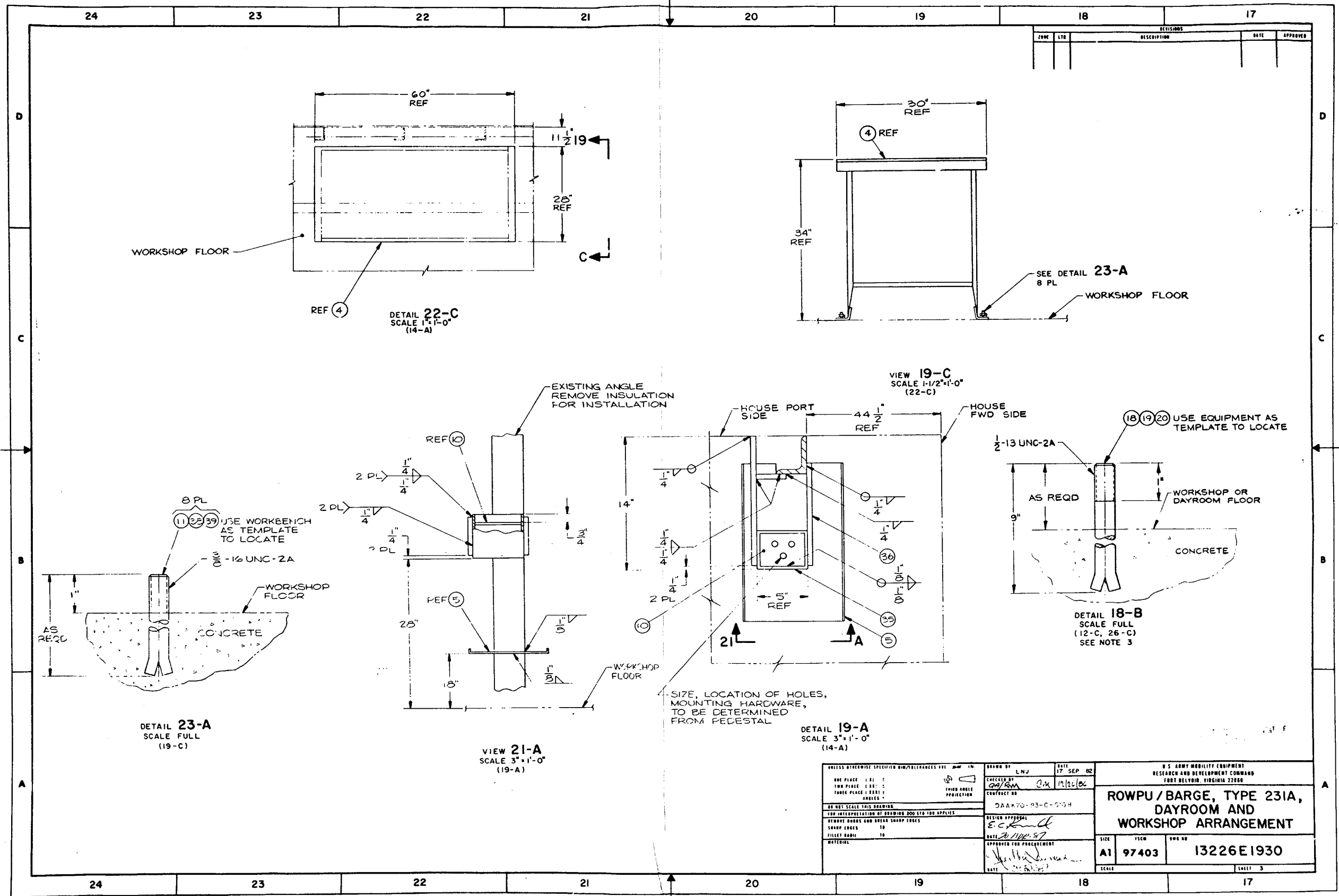


Figure FO-50 (Sheet 3 of 4)
FP-495/(FP-496 Blank)

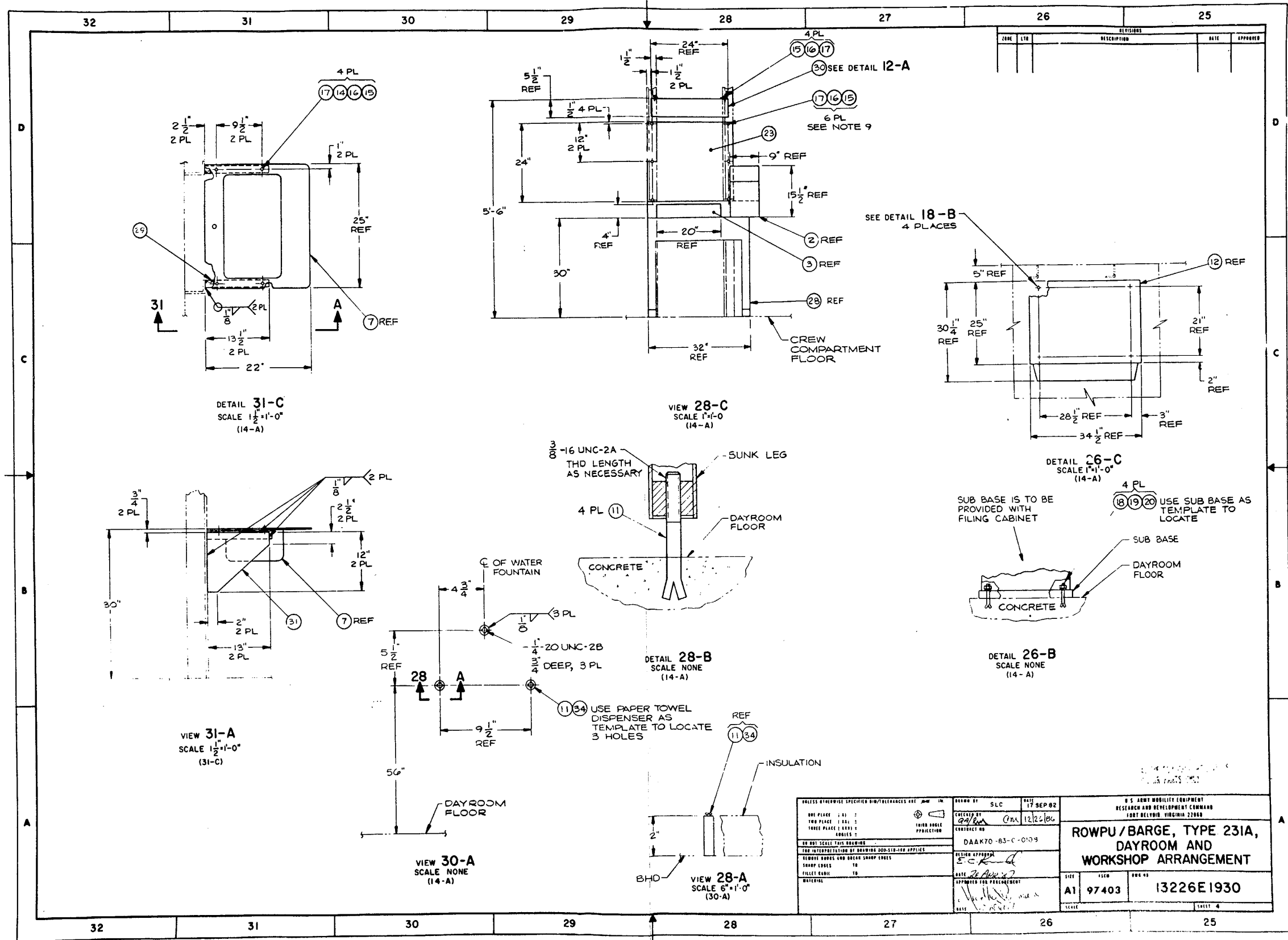


Figure FO-50 (Sheet 4 of 4)
FP-497/(FP-498 Blank)

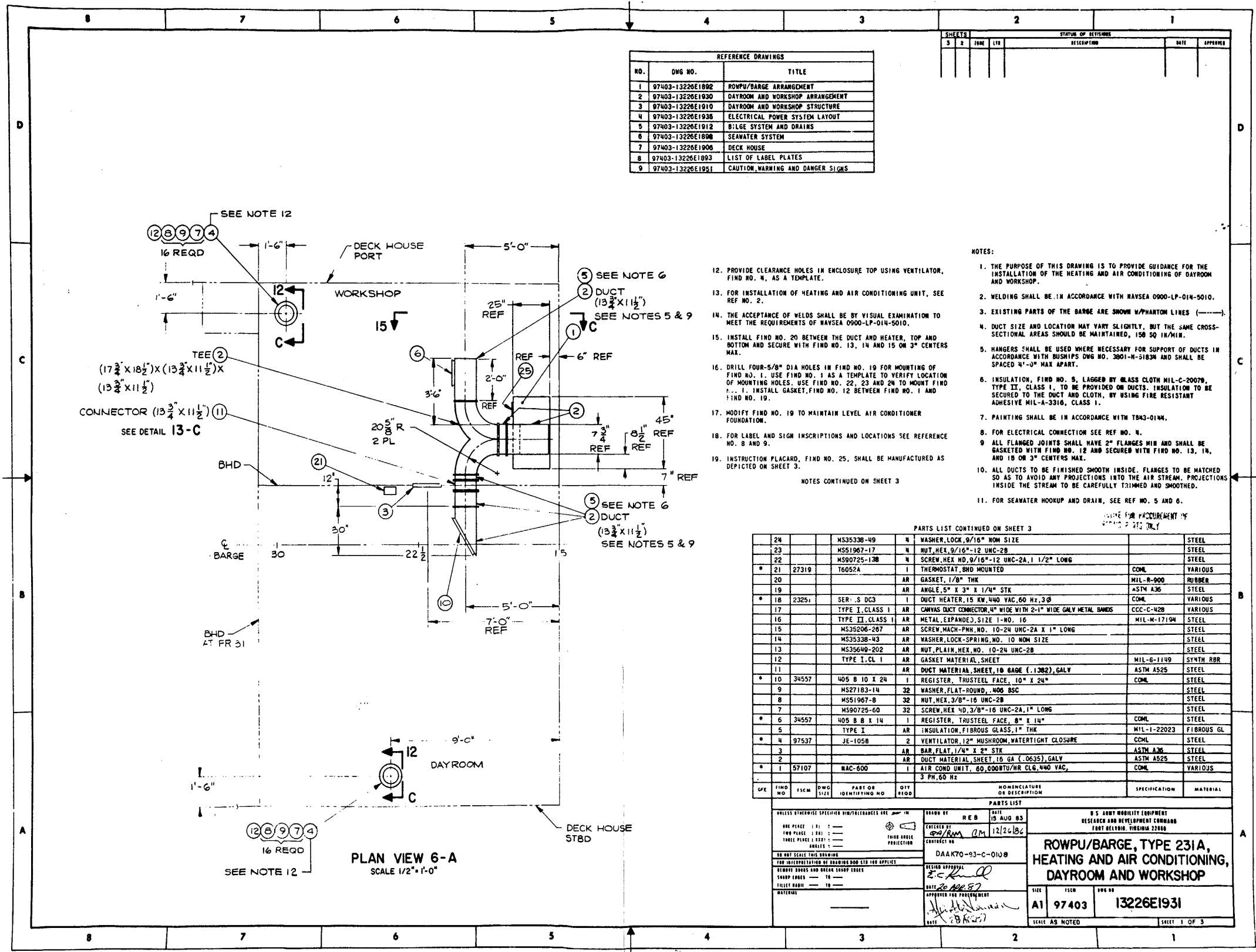


Figure FO-51 (Sheet 1 of 3)
FP-499/(FP-500 Blank)

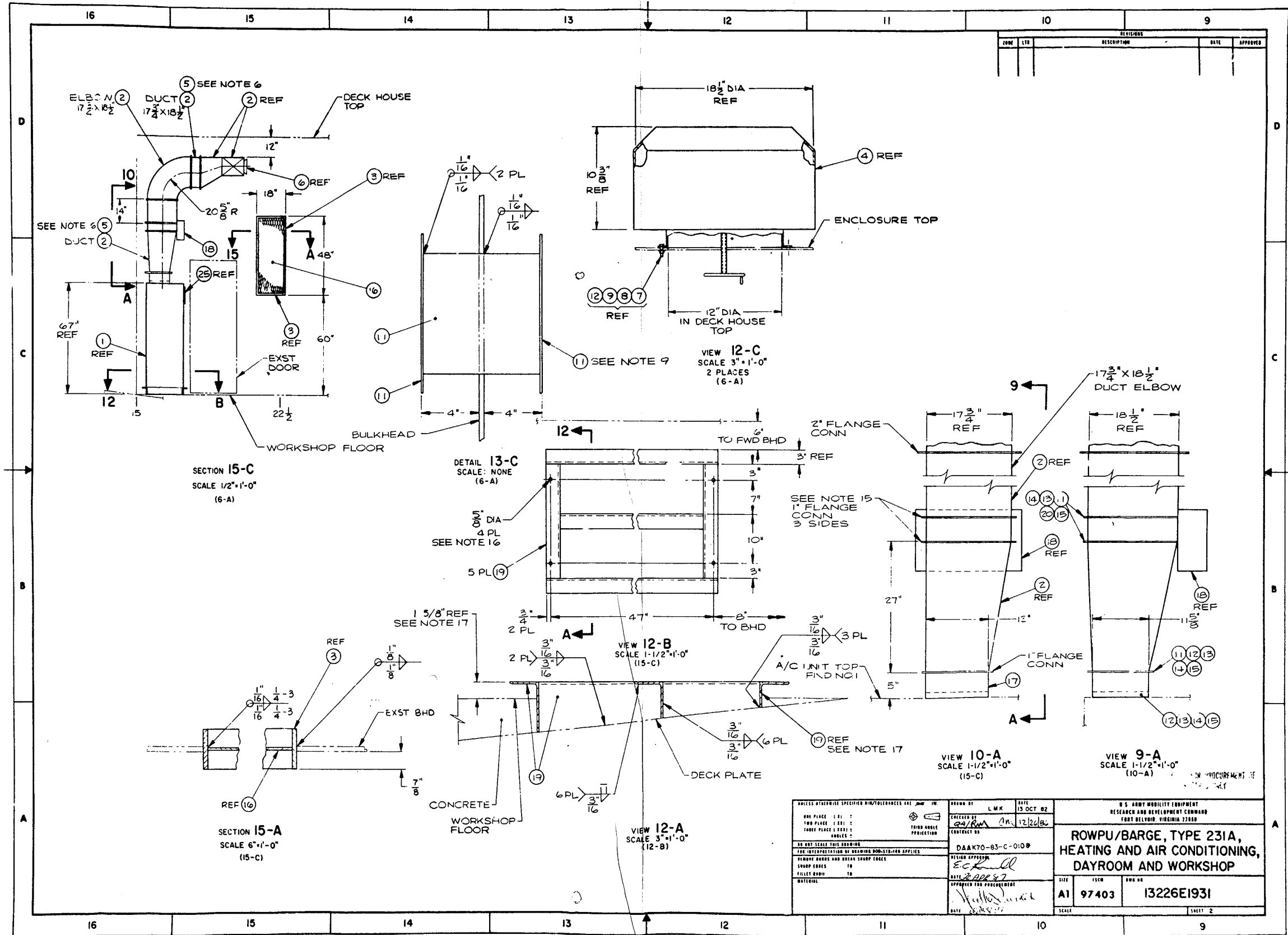
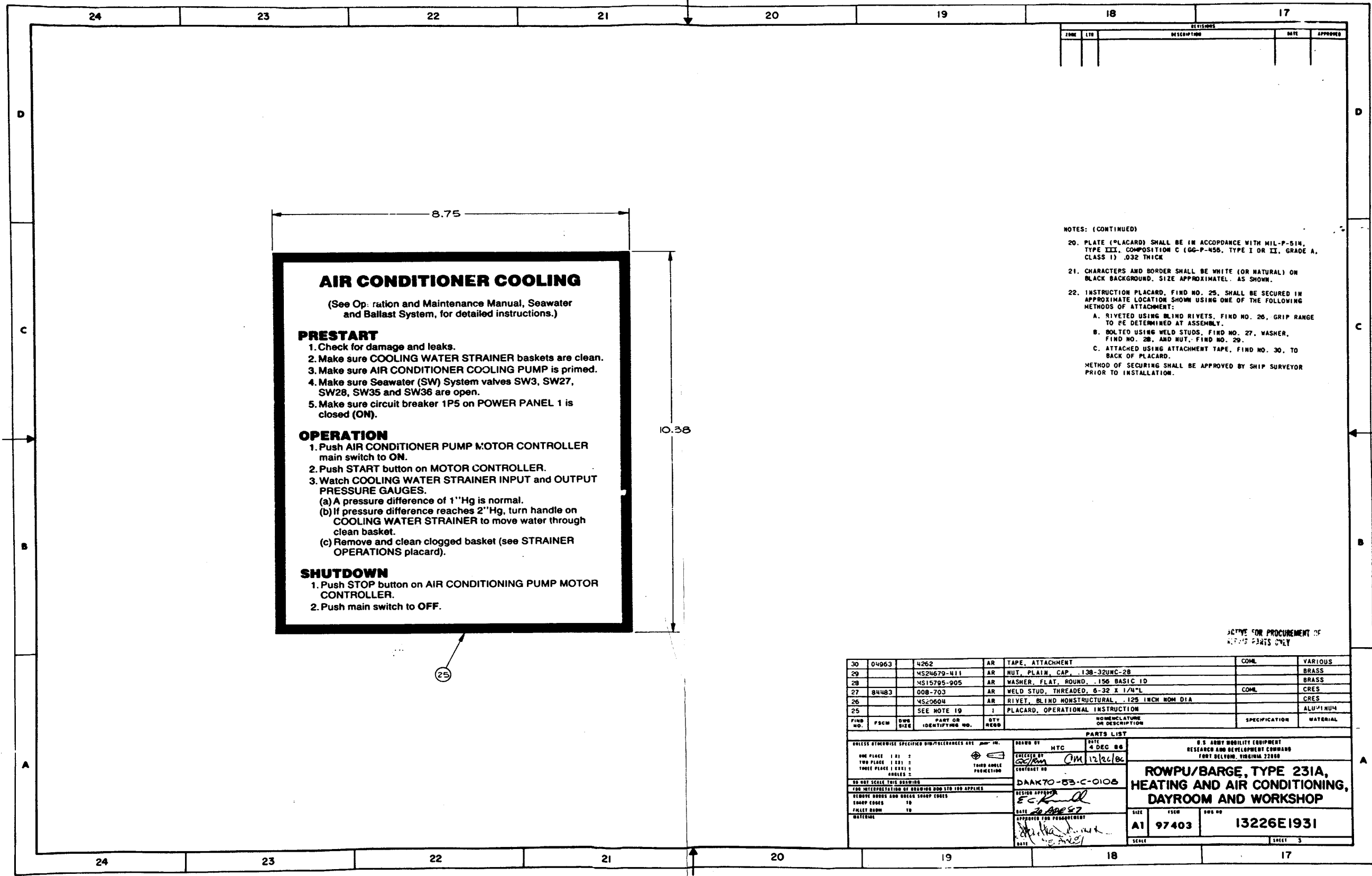


Figure FO-51 (Sheet 2 of 3)
FP-501/(FP-502 Blank)



AIR CONDITIONER COOLING

(See Operation and Maintenance Manual, Seawater and Ballast System, for detailed instructions.)

PRESTART

1. Check for damage and leaks.
2. Make sure COOLING WATER STRAINER baskets are clean.
3. Make sure AIR CONDITIONER COOLING PUMP is primed.
4. Make sure Seawater (SW) System valves SW3, SW27, SW28, SW35 and SW36 are open.
5. Make sure circuit breaker 1P5 on POWER PANEL 1 is closed (ON).

OPERATION

1. Push AIR CONDITIONER PUMP MOTOR CONTROLLER main switch to ON.
2. Push START button on MOTOR CONTROLLER.
3. Watch COOLING WATER STRAINER INPUT and OUTPUT PRESSURE GAUGES.
 - (a) A pressure difference of 1"Hg is normal.
 - (b) If pressure difference reaches 2"Hg, turn handle on COOLING WATER STRAINER to move water through clean basket.
 - (c) Remove and clean clogged basket (see STRAINER OPERATIONS placard).

SHUTDOWN

1. Push STOP button on AIR CONDITIONING PUMP MOTOR CONTROLLER.
2. Push main switch to OFF.

- NOTES: (CONTINUED)
20. PLATE (PLACARD) SHALL BE IN ACCORDANCE WITH MIL-P-514, TYPE III, COMPOSITION C (GG-P-455, TYPE I OR II, GRADE A, CLASS 1) .032 THICK
 21. CHARACTERS AND BORDER SHALL BE WHITE (OR NATURAL) ON BLACK BACKGROUND. SIZE APPROXIMATE AS SHOWN.
 22. INSTRUCTION PLACARD, FIND NO. 25, SHALL BE SECURED IN APPROXIMATE LOCATION SHOWN USING ONE OF THE FOLLOWING METHODS OF ATTACHMENT:
 - A. RIVETED USING BLIND RIVETS, FIND NO. 26, GRIP RANGE TO BE DETERMINED AT ASSEMBLY.
 - B. BOLTED USING WELD STUDS, FIND NO. 27, WASHER, FIND NO. 28, AND NUT, FIND NO. 29.
 - C. ATTACHED USING ATTACHMENT TAPE, FIND NO. 30, TO BACK OF PLACARD.
 METHOD OF SECURING SHALL BE APPROVED BY SHIP SURVEYOR PRIOR TO INSTALLATION.

ACTIVE FOR PROCUREMENT OF REPAIR PARTS ONLY

FIND NO.	PSCM	DWG SIZE	PART OR IDENTIFICATION NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL
30	04063	4262	AR TAPE, ATTACHMENT		COML	VARIOUS	
29		MS24679-411	AR NUT, PLAIN, CAP, 138-32UNC-28			BRASS	
28		MS15795-905	AR WASHER, FLAT, ROUND, .156 BASIC ID			BRASS	
27	84483	008-703	AR WELD STUD, THREADED, 6-32 X 1/4"L		COML	CRES	
26		MS20604	AR RIVET, BLIND NONSTRUCTURAL, .125 INCH NOM DIA			CRES	
25			SEE NOTE 19	1	PLACARD, OPERATIONAL INSTRUCTION		ALUMINUM

PARTS LIST		U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELTON, VIRGINIA 22860	
DESIGNED BY	HTC	DATE	4 DEC 86
COLLECTED BY	GC/AMA	DATE	12/26/86
CONTRACT NO.			
DAAK70-53-C-0108			
DESIGN APPROVED	<i>E.C. K...</i>		
DATE	20 APR 87		
APPROVED FOR PROCUREMENT	<i>[Signature]</i>		
DATE	15 APR 87		
SIZE	A1	NSN	97403
SCALE		FIG NO	13226E1931
			SHEET 3

Figure FO-51 (Sheet 3 of 3)
FP-503/(FP-504 Blank)

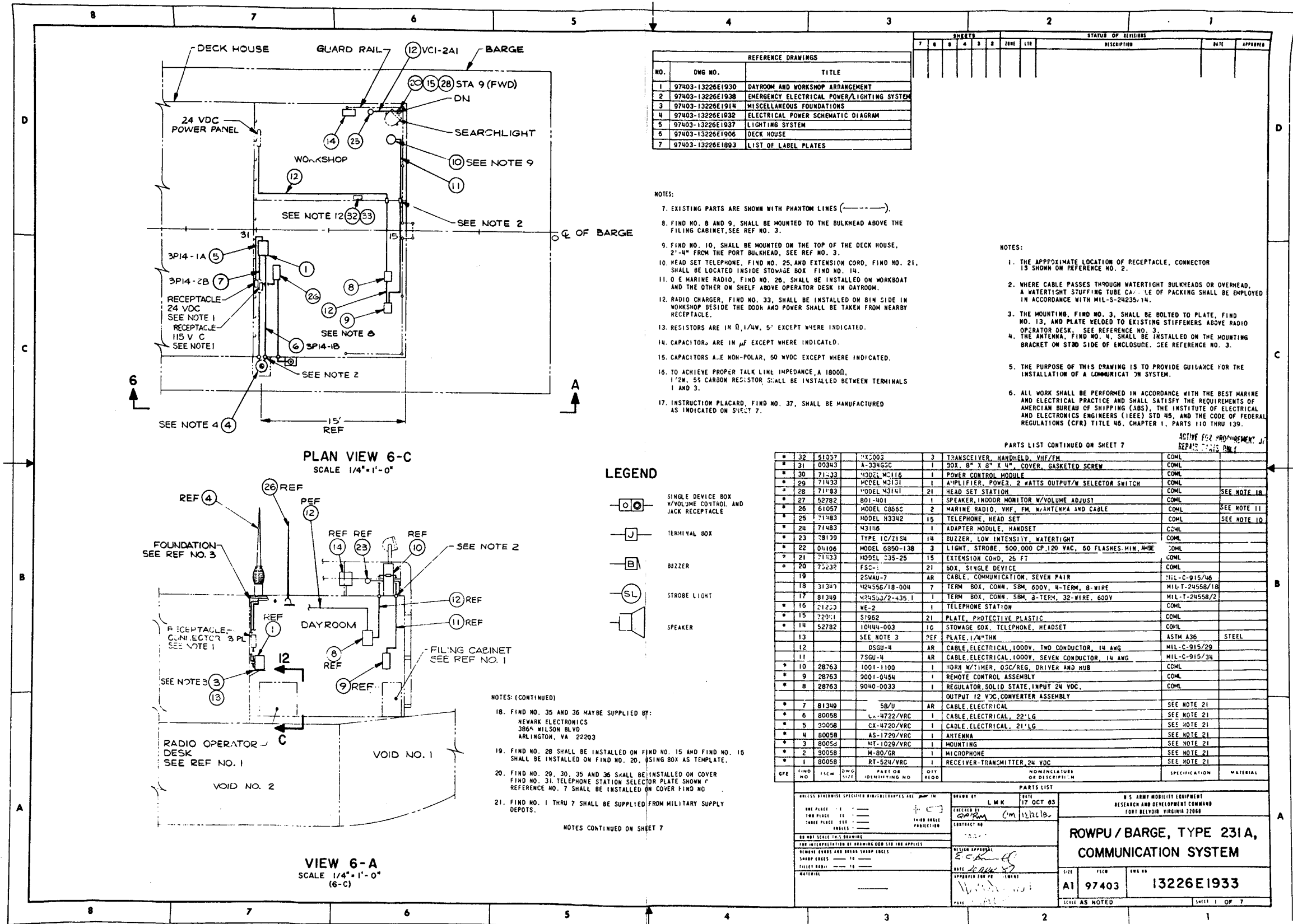


Figure FO-52 (Sheet 1 of 7)
FP-505/(FP-506 Blank)

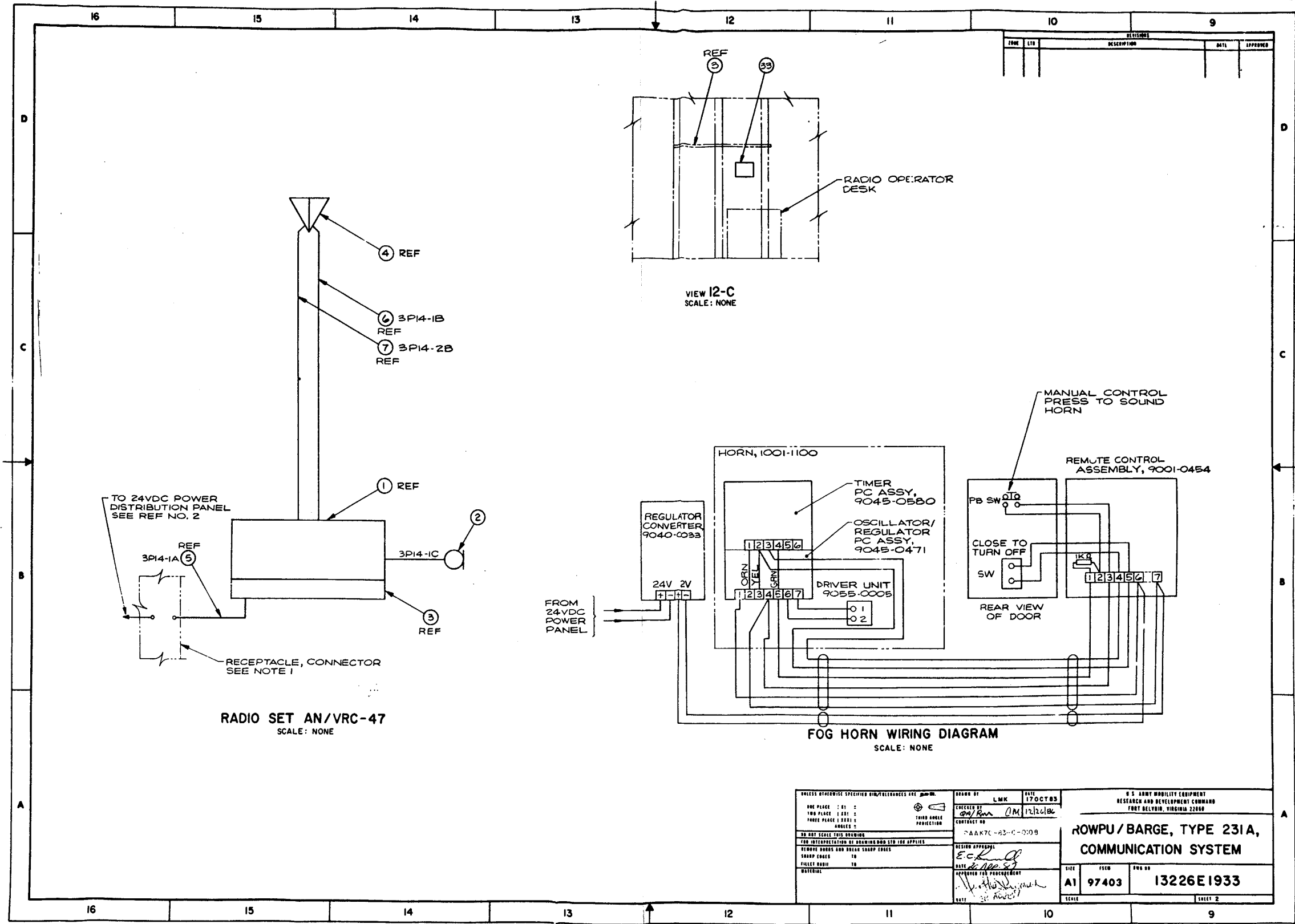


Figure FO-52 (Sheet 2 of 7)
FP-507/(FP-508 Blank)

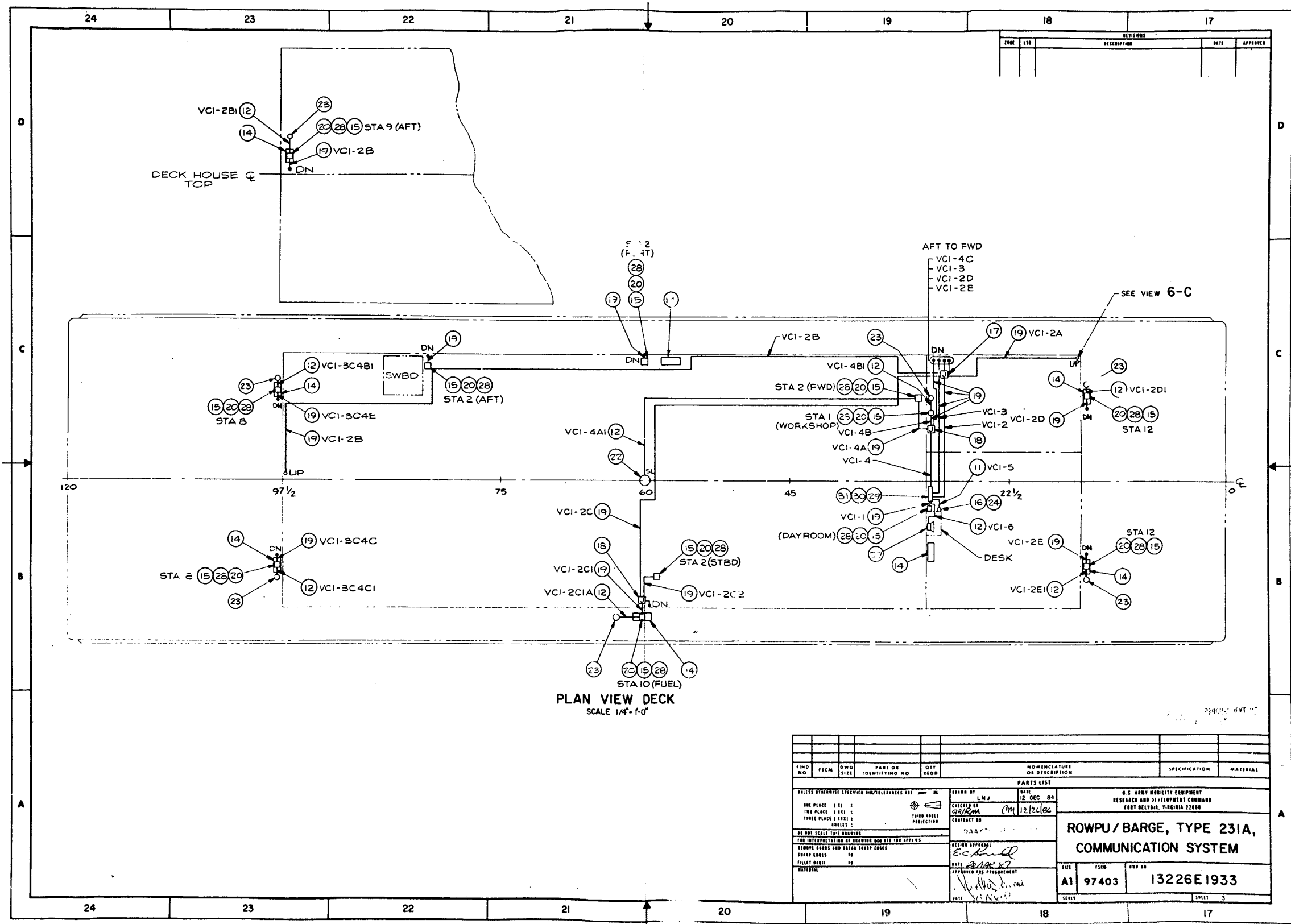


Figure FO-52 (Sheet 3 of 7)
FP-509/(FP-510 Blank)

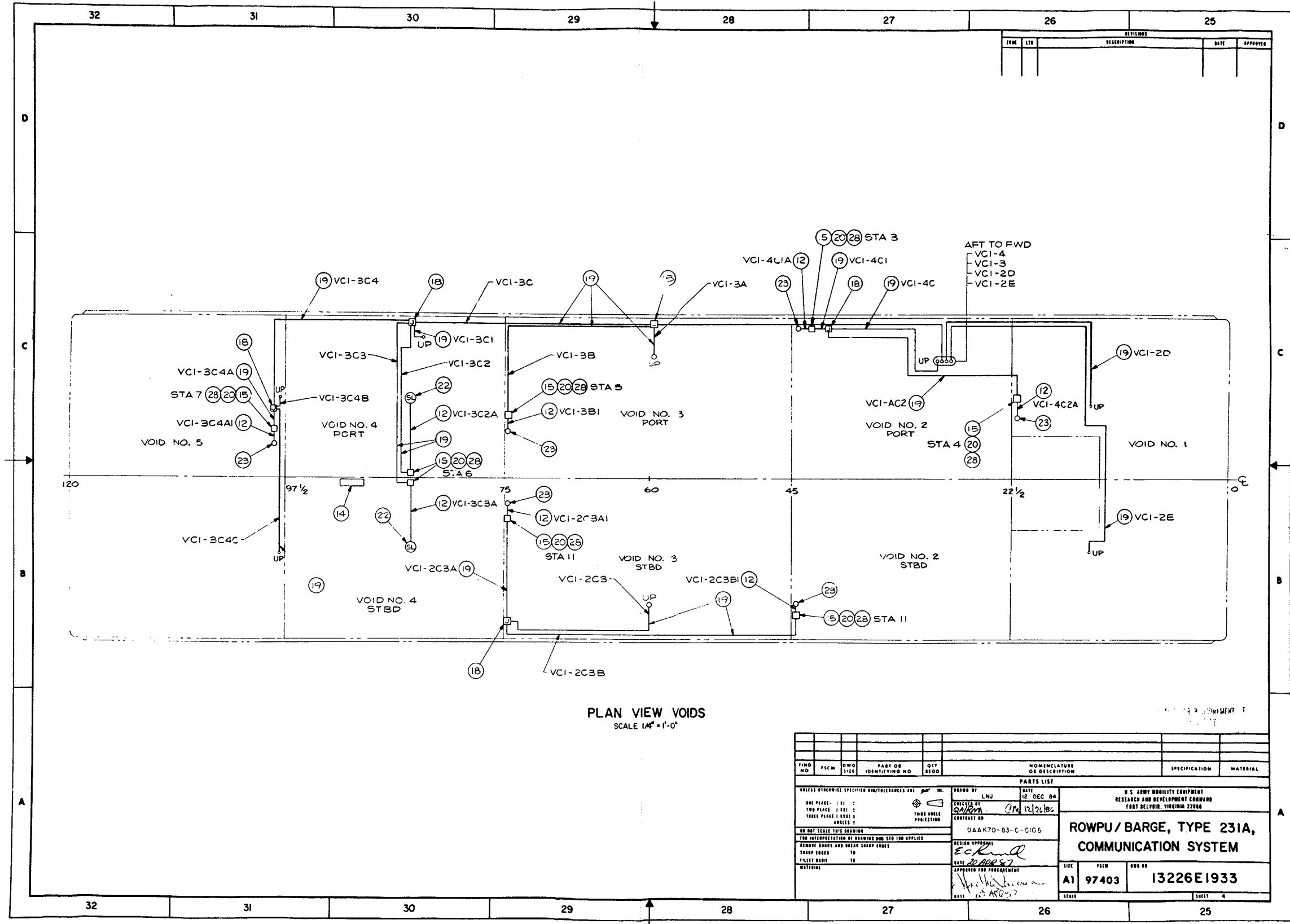


Figure FO-52 (Sheet 4 of 7)
FP-511/(FP-512 Blank)

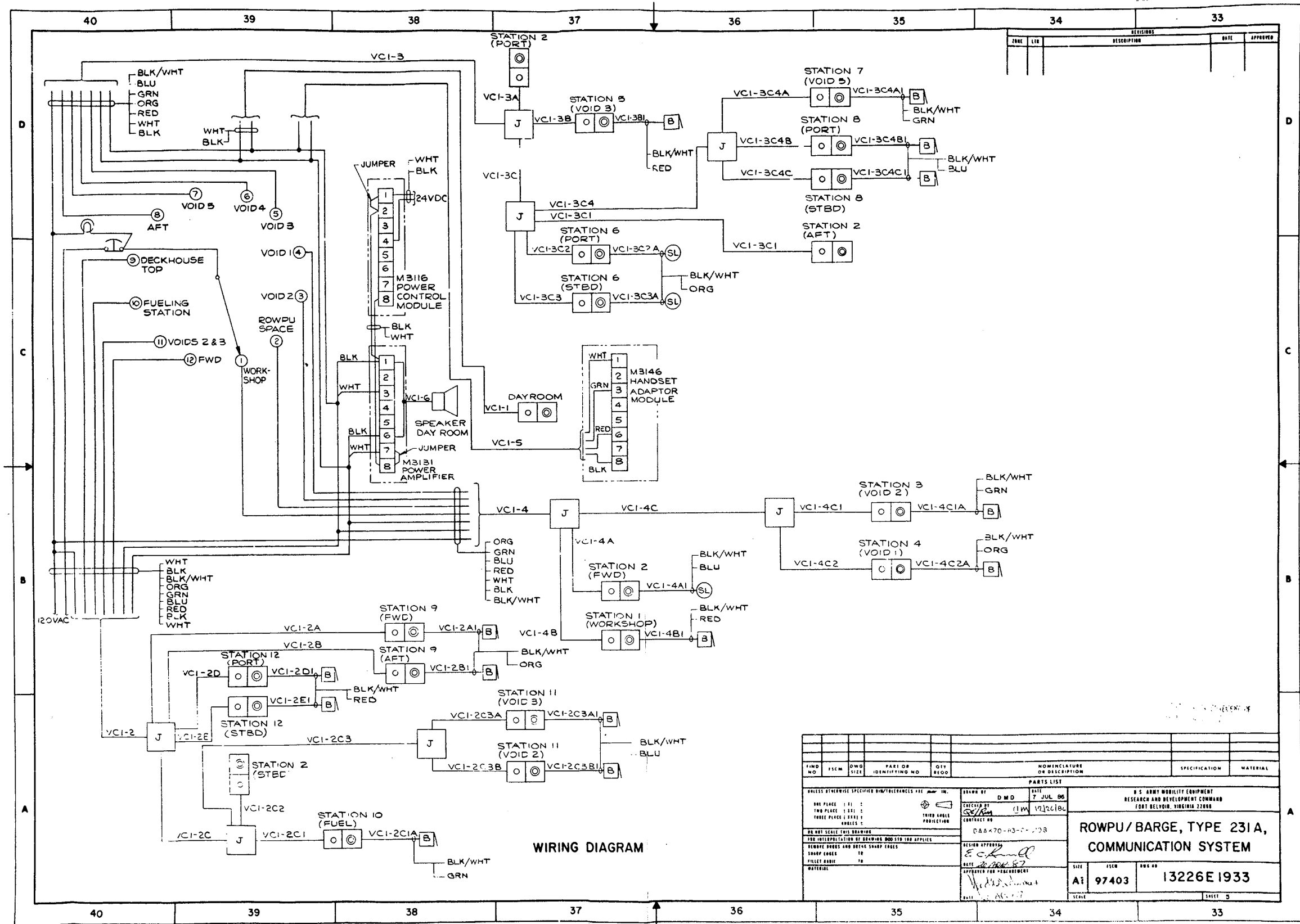
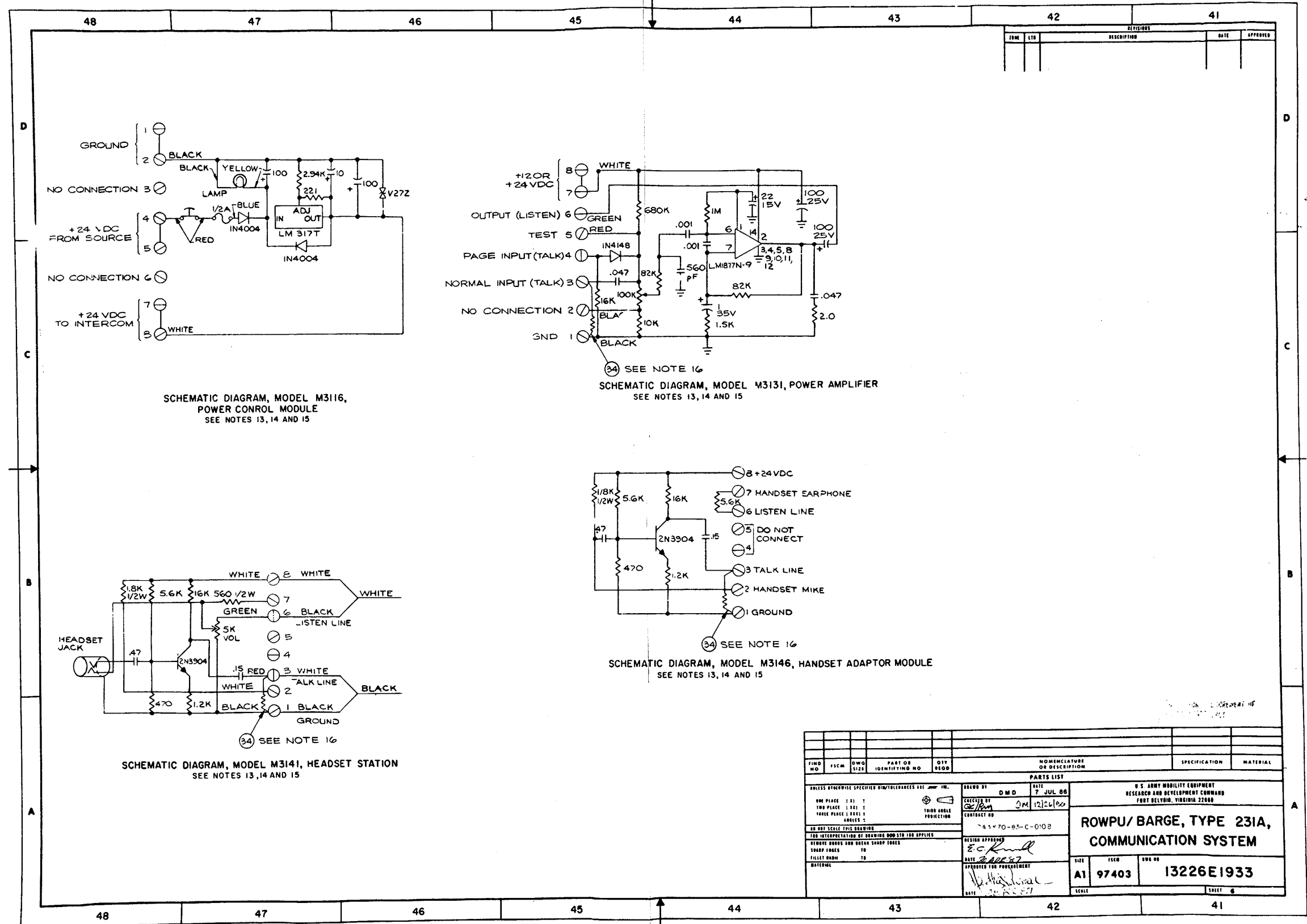


Figure FO-52 (Sheet 5 of 7)
FP-513/(FP-514 Blank)



REVISIONS				
ZONE	LTG	DESCRIPTION	DATE	APPROVED

FIG NO	ISSN	DWG SIZE	PART OR IDENTIFYING NO	QTY REQD	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL
PARTS LIST							
UNLESS OTHERWISE SPECIFIED DIM/TOLERANCES ARE \pm IN.		DESIGN BY DWD		DATE 7 JUL 88		U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060	
ONE PLACE 1:1:1	TWO PLACE 1:10:1	THREE PLACE 1:100:1	FOUR PLACE 1:1000:1	CONTRACT NO.	ROWPU/ BARGE, TYPE 231A, COMMUNICATION SYSTEM		
DO NOT SCALE THIS DRAWING				4570-85-C-0108		A1 97403 13226E1933	
FOR INTERPRETATION OF DRAWING DIMENSIONS AND APPLIES				DESIGN APPROVED		DATE 2 APR 87	
FOR SHOP DIMENSIONS AND TOLERANCES				DATE 2 APR 87		SCALE	
FOR SHOP DIMENSIONS AND TOLERANCES				DATE 2 APR 87		SHEET 6	

Figure FO-52 (Sheet 6 of 7)
FP-515/(FP-516 Blank)

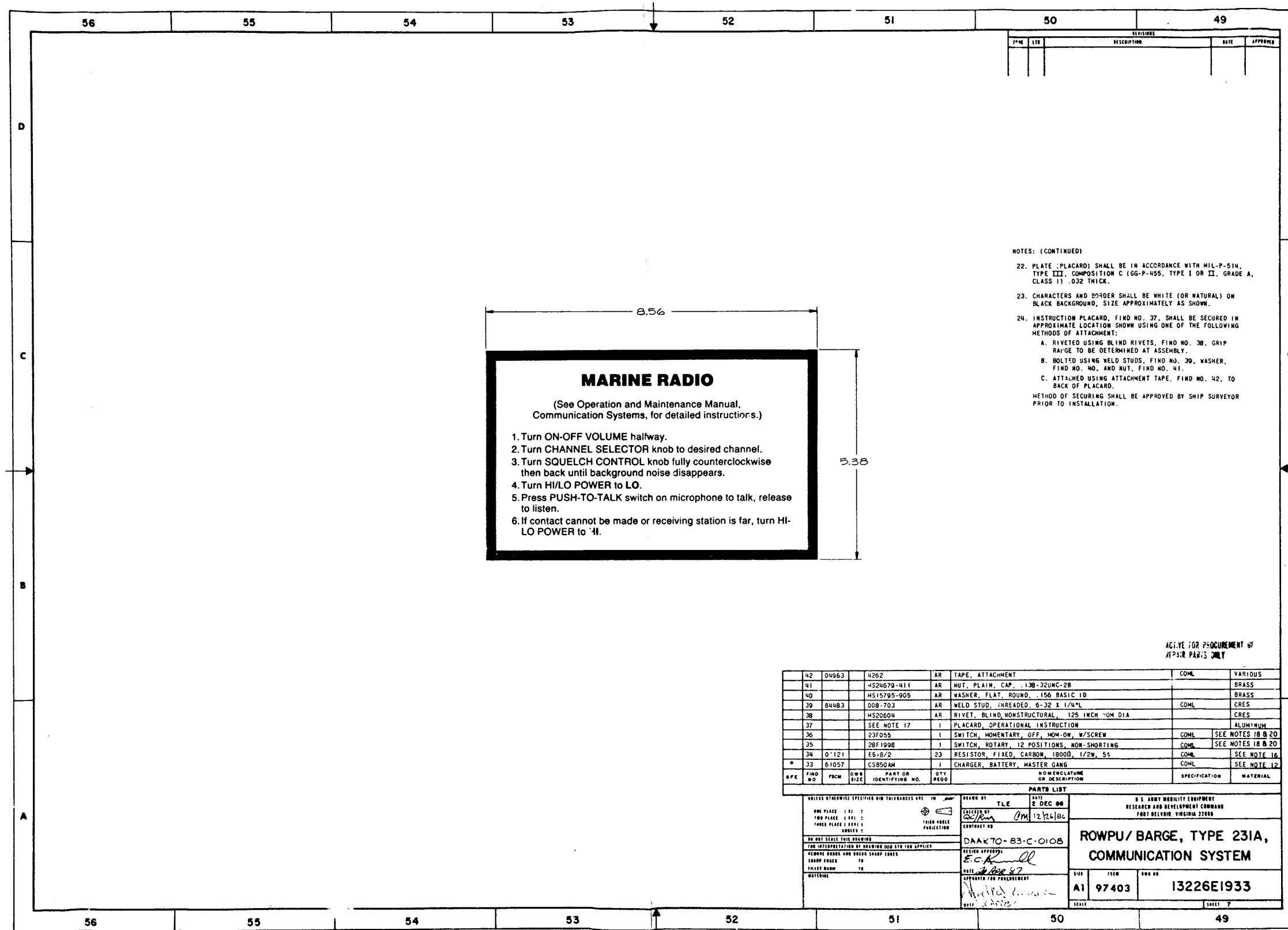


Figure FO-52 (Sheet 7 of 7)
FP-517/(FP-518 Blank)

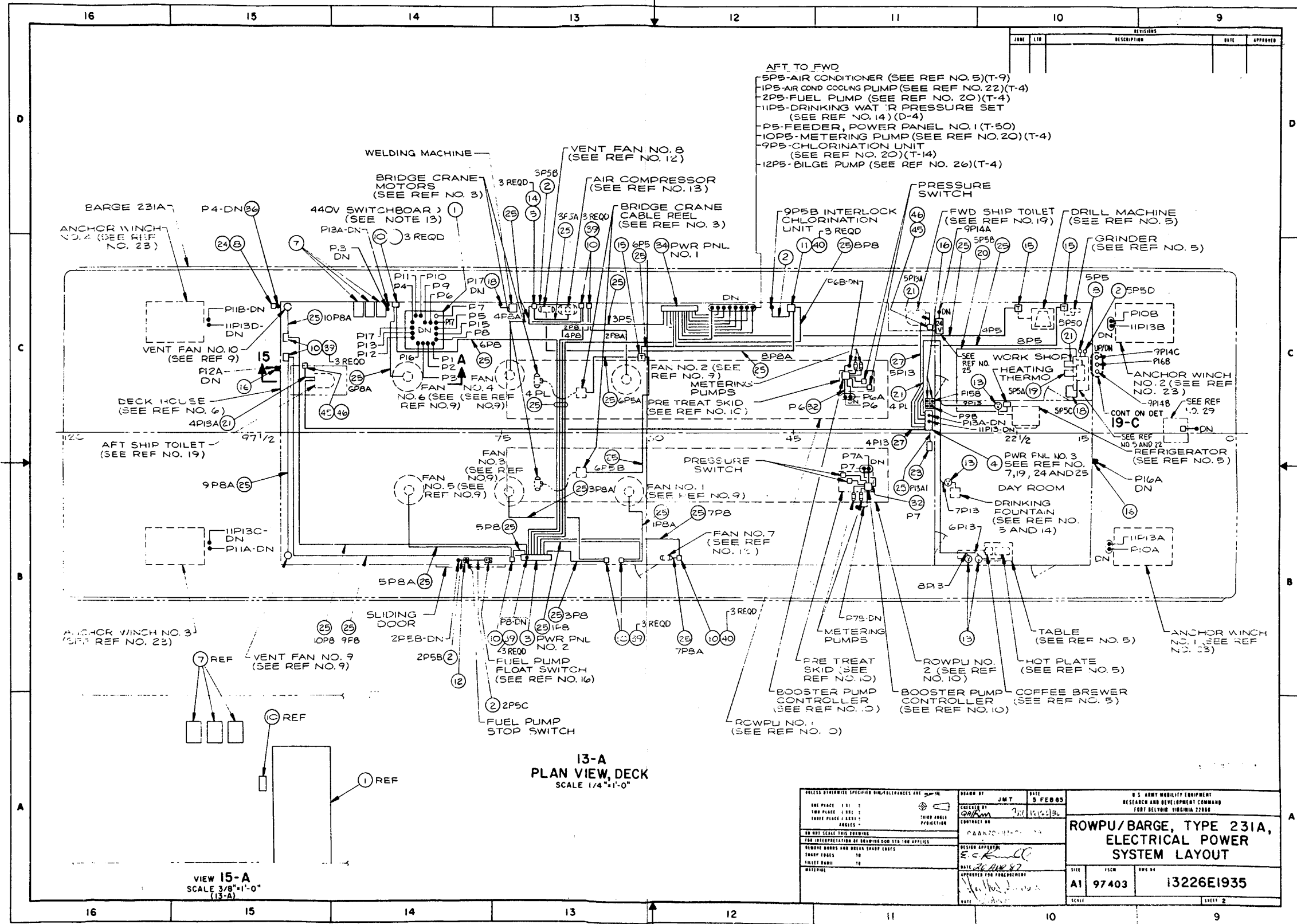


Figure FO-53 (Sheet 2 of 3)
FP-521/(FP-522 Blank)

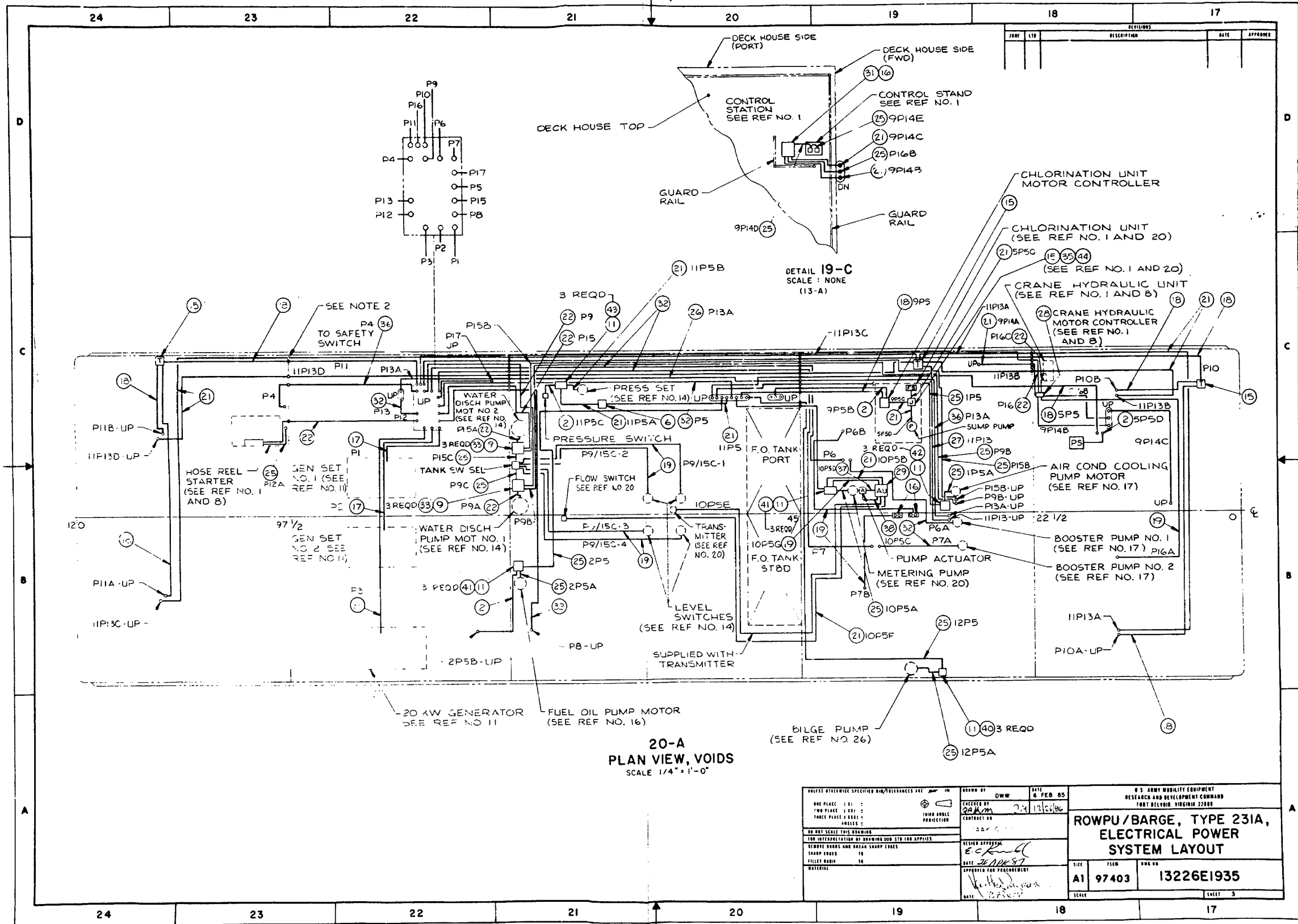


Figure FO-53 (Sheet 3 of 3)
FP-523/(FP-524 Blank)

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DESIGNED BY D.W.W.	DATE 6 FEB 85
ONE PLACE 1/16"	TWO PLACE 1/32"	CHECKED BY D.A.M.	DATE 12/20/85
THREE PLACE 1/64"	FOUR PLACE 1/128"	CONTRACT NO.	
NO NET SCALE THIS DRAWING		DESIGN APPROVAL <i>E.C. Smith</i>	
THIS INTERPRETATION BY DRAWING OFFICE IS FOR APPROVAL		DATE 24 APR 87	
WORKING DIMS AND DIMS SHOWN IN THIS DRAWING	SHARP CORNERS	APPROVED FOR PROCUREMENT <i>W. H. ...</i>	
FILLET RADIUS	IN	DATE 25 FEB 87	
MATERIAL			

U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060		
ROWPU/BARGE, TYPE 231A, ELECTRICAL POWER SYSTEM LAYOUT		
SIC	YEC	DDG NO.
A1	97403	13226E1935
SCALE		SHEET 3

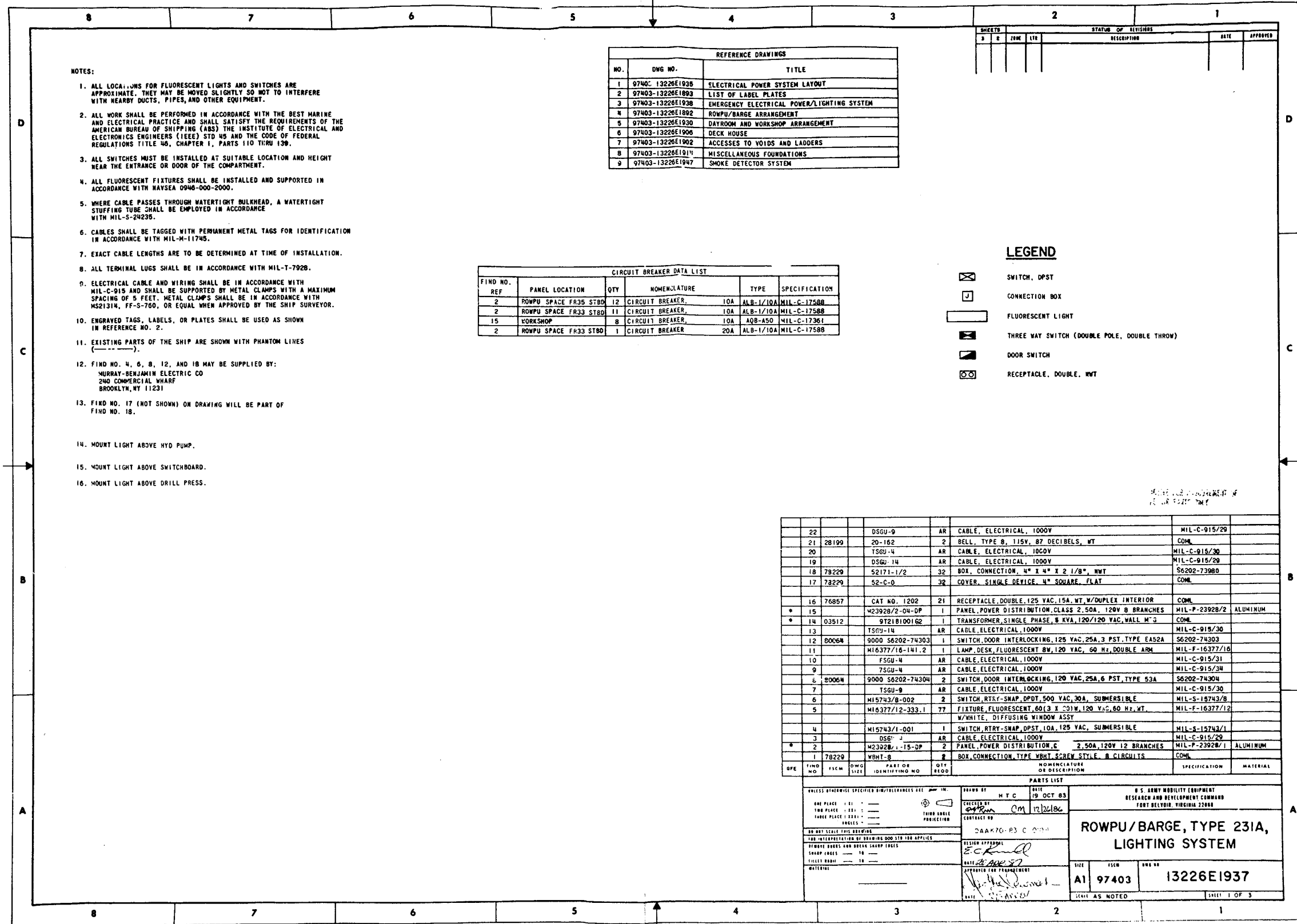


Figure FO-54 (Sheet 1 of 3)
 FP-525/(FP-526 Blank)

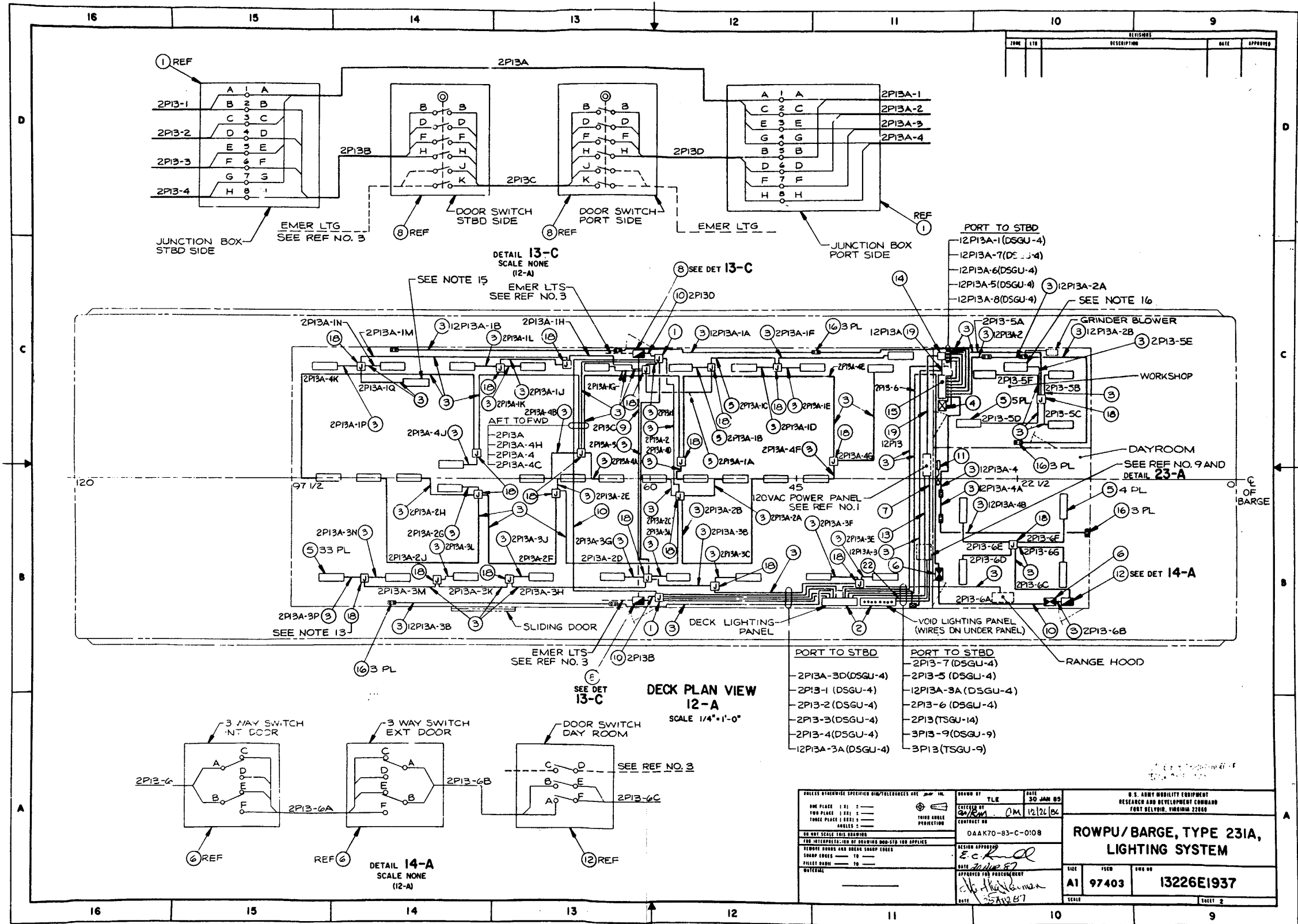


Figure FO-54(Sheet 2 of 3)
FP-527/(FP-528 Blank)

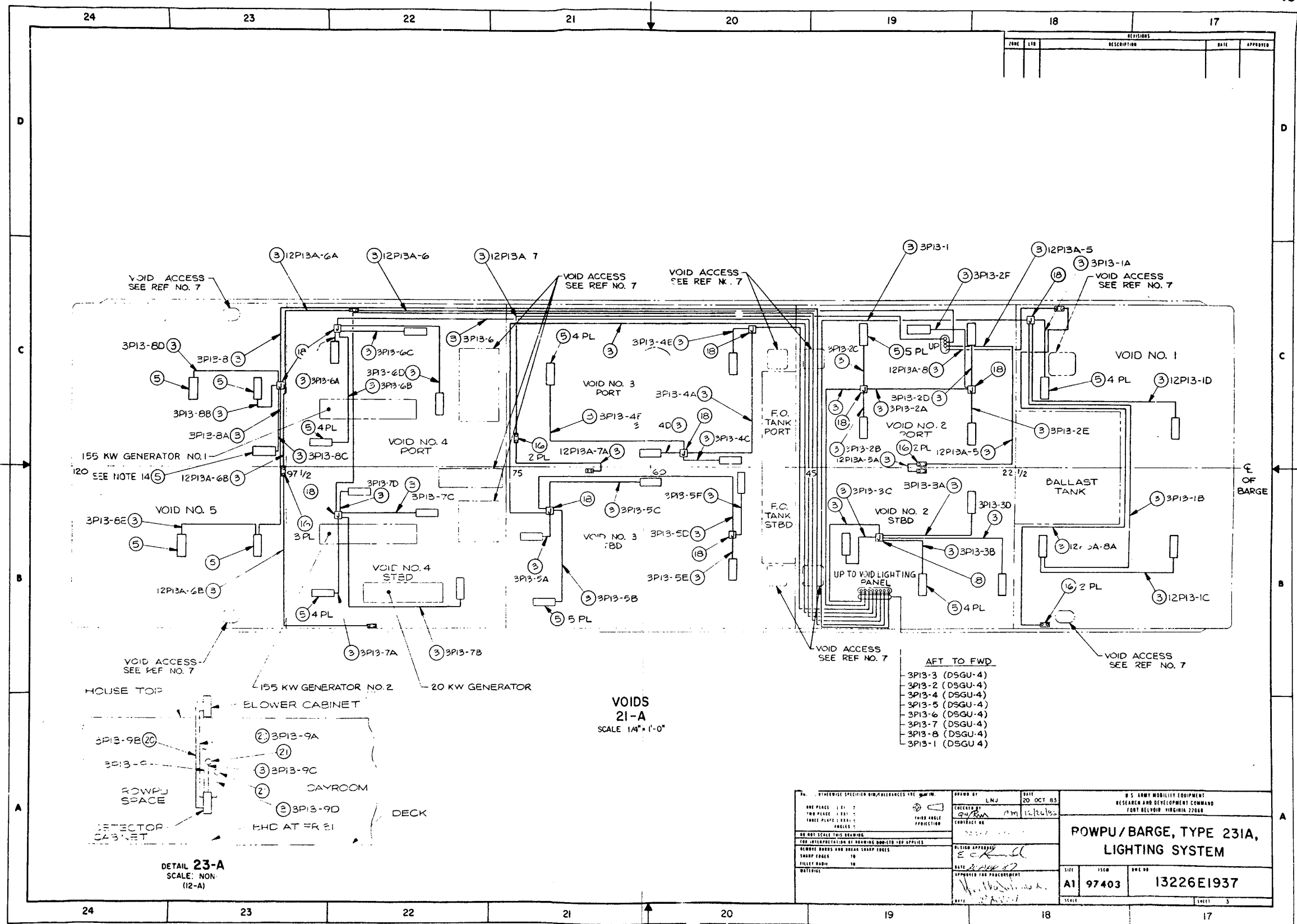


Figure FO-54 (Sheet 3 of 3)
FP-529/(FP-530 Blank)

REVISIONS		DATE	APPROVED
NO.	DESCRIPTION		

NO. OTHERWISE SPECIFIED DIMENSIONS AND FINISHES ARE SHOWN. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED. DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED. DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED. DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED.	DRAWN BY: LNJ CHECKED BY: G. J. [Signature] DATE: 20 OCT 83 TIME: 10:26 AM PROJECT NO.: 13226E1937	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
TITLE: POWPU/BARGE, TYPE 231A, LIGHTING SYSTEM		DRAWING NO.: 13226E1937
SHEET: 3 OF 3		SCALE: AS SHOWN

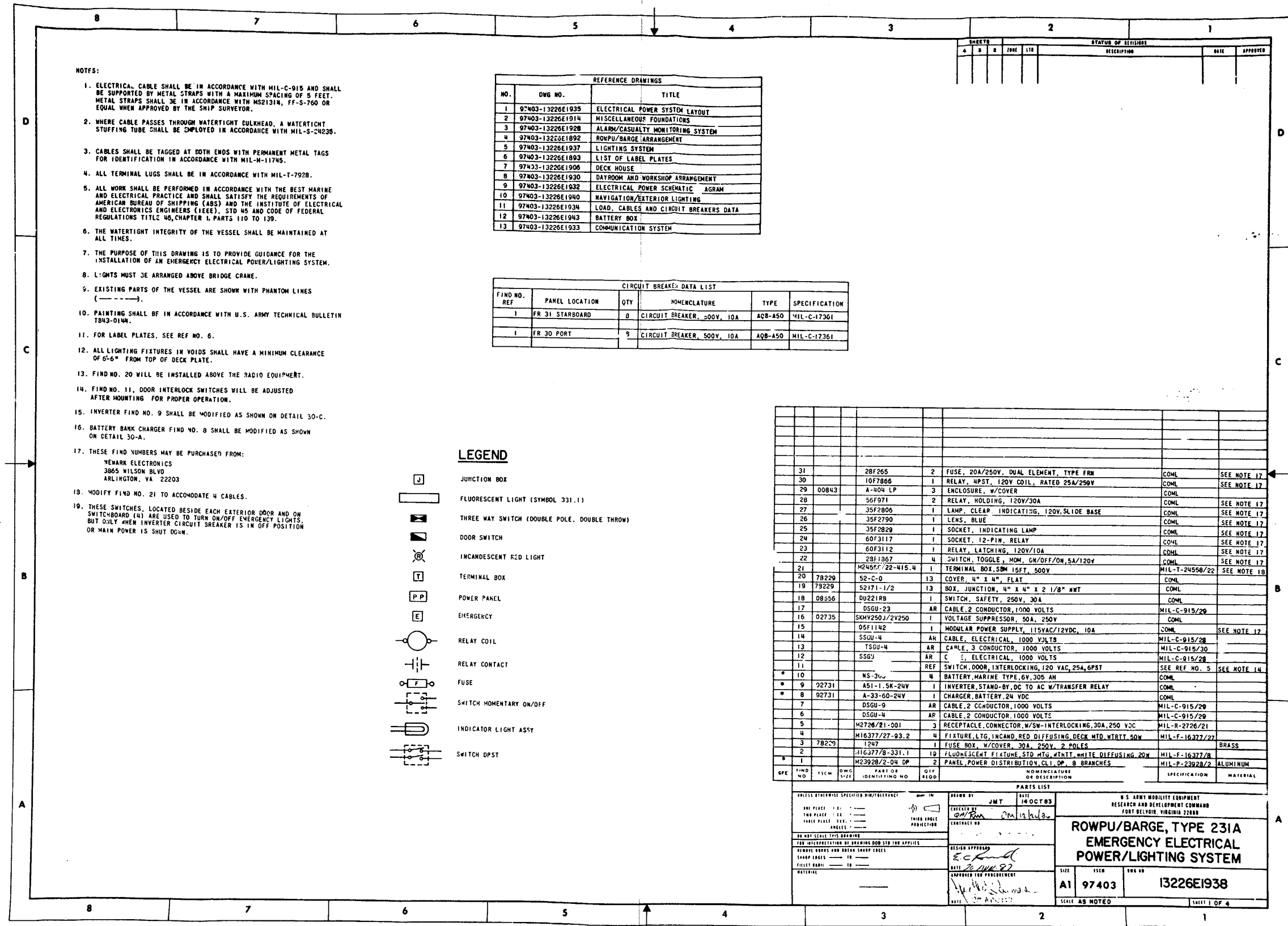


Figure FO-55 (Sheet 1 of 4)
FP-531/(FP-532 Blank)

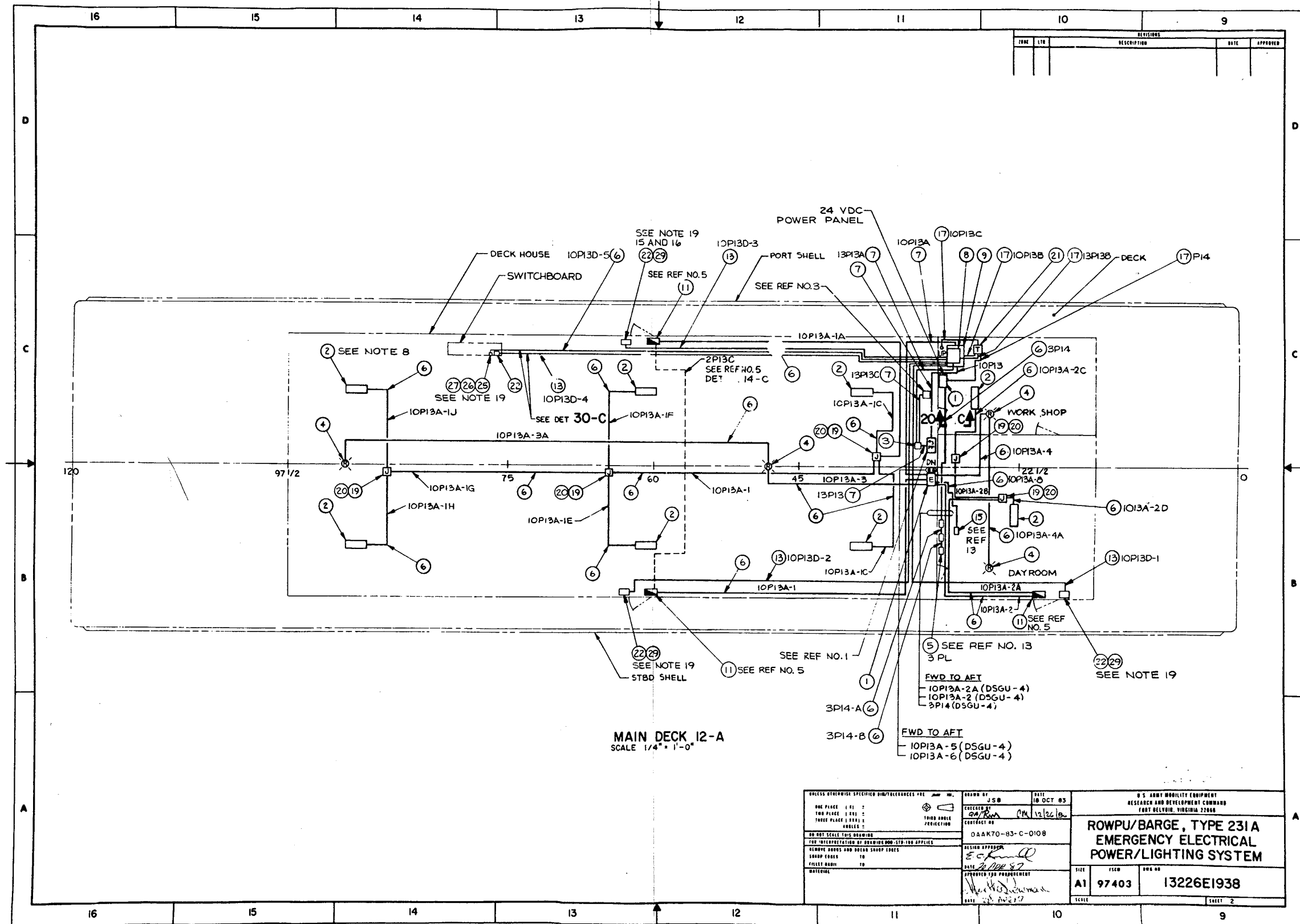


Figure FO-55 (Sheet 2 of 4)
FP-533/(FP-534 Blank)

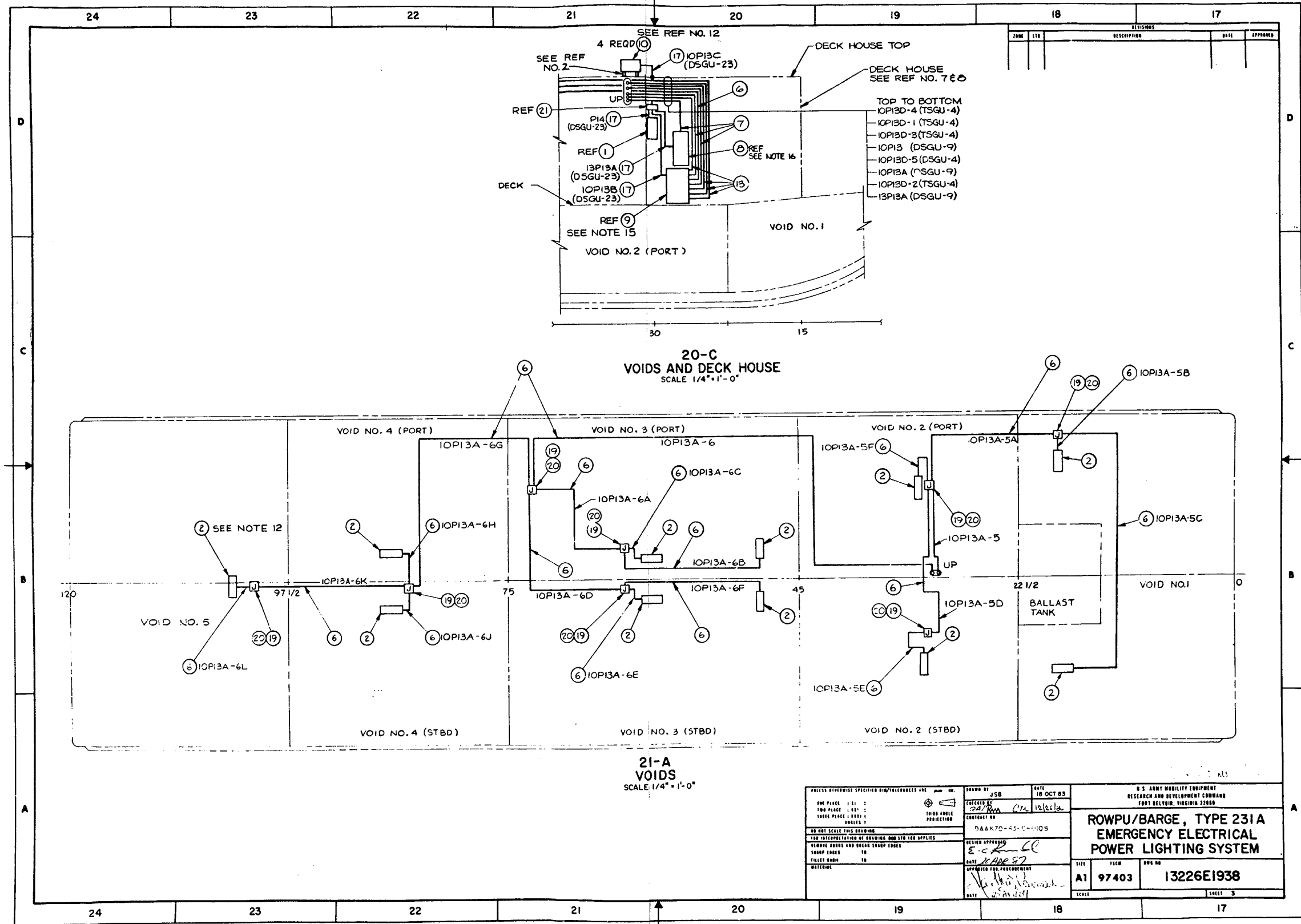
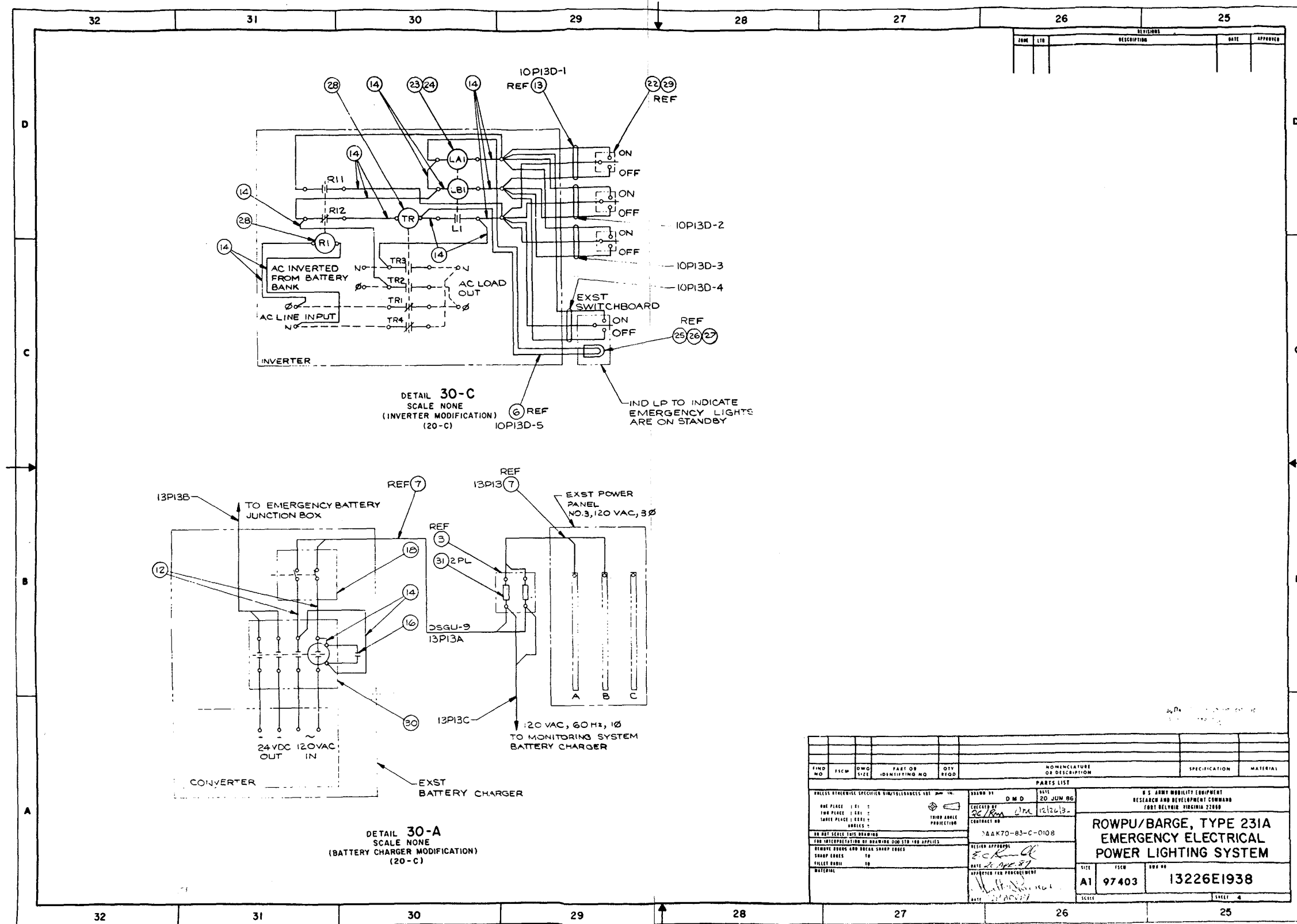


Figure FO-55 (Sheet 3 of 4)
 FP-535/(FP-536 Blank)



FIND NO	ITEM	QTY	DESCRIPTION	SPECIFICATION	MATERIAL
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
DRAWN BY: D M D		DATE: 20 JUN 86			
CHECKED BY: J C / R M		DESIGNED BY: J C / R M			
DATE: 25 APR 87		CONTRACT NO: DA A K 7 0 - 8 3 - C - 0 1 0 8			
DESIGN APPROVAL: [Signature]		RESEARCH AND DEVELOPMENT COMMAND, FORT BELVOIR, VIRGINIA 22060			
DATE: 25 APR 87		SITE: A1		SPECIFICATION: 97403	
APPROVED FOR PROCUREMENT: [Signature]		DATE: 25 APR 87		PART NUMBER: 13226E1938	
MATERIAL:		DATE: 25 APR 87		SHEET: 4	

Figure FO-55 (Sheet 4 of 4)
FP-537/(FP-538 Blank)

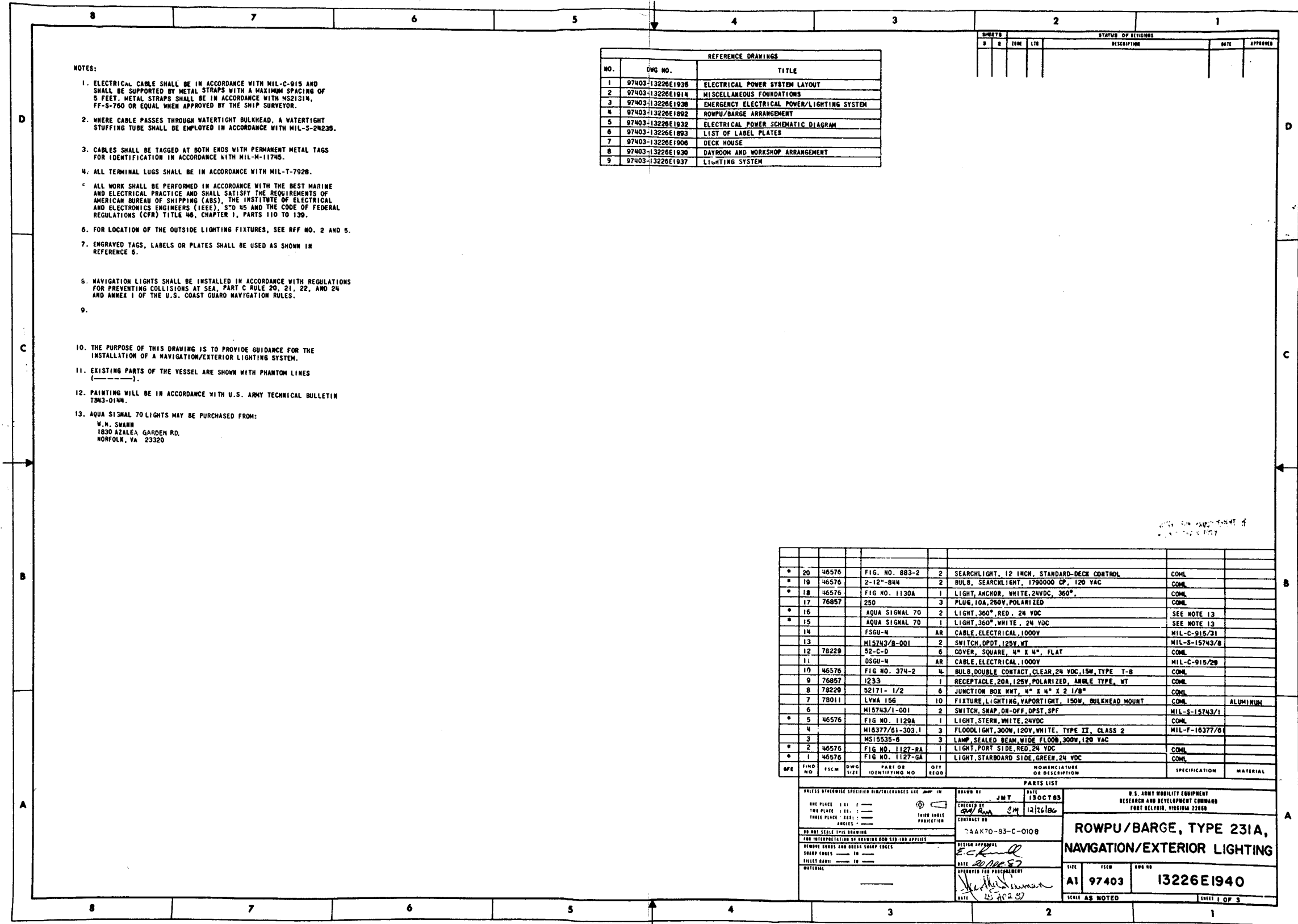


Figure FO-56 (Sheet 1 of 3)
FP-539/(FP-540 Blank)

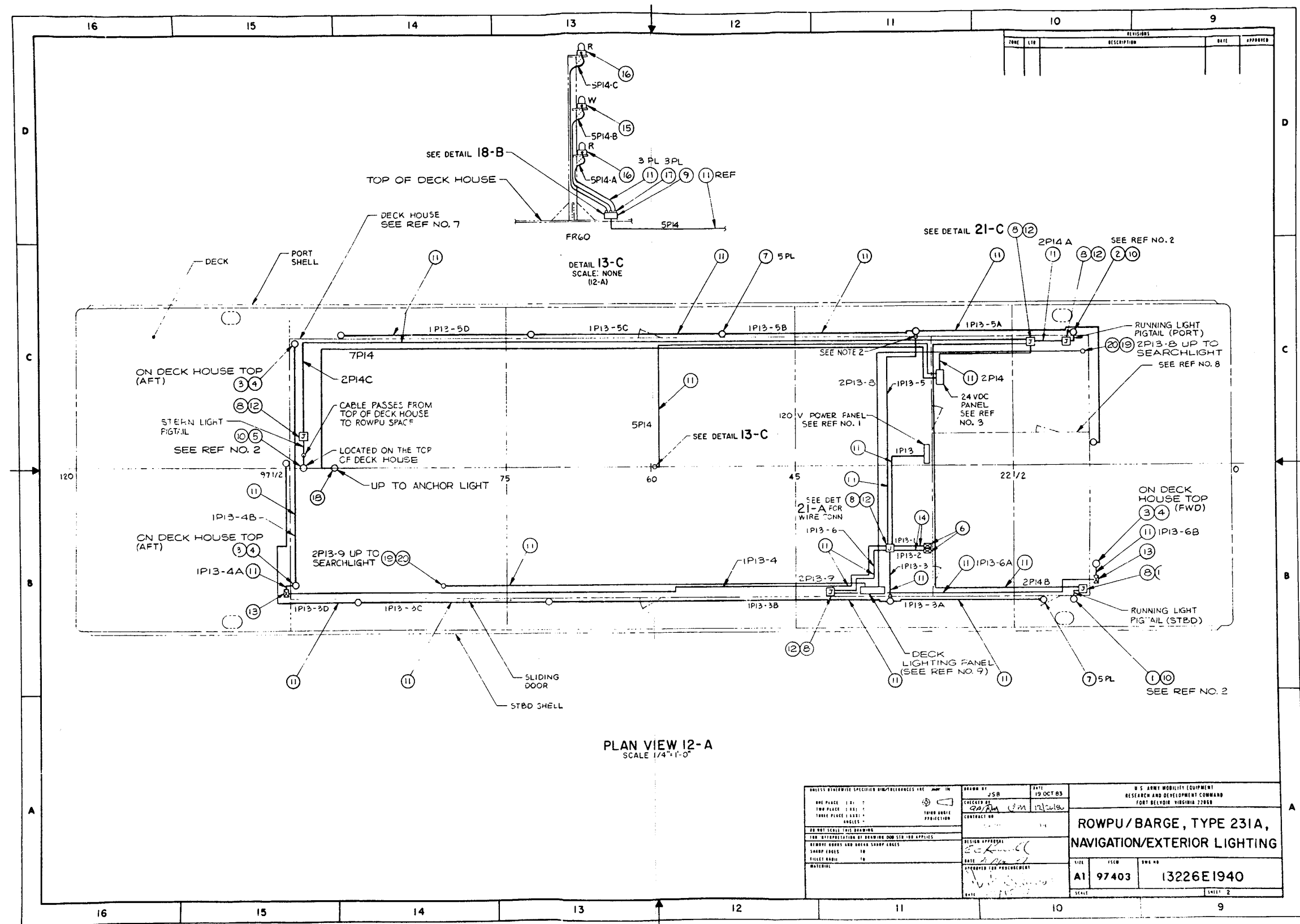


Figure FO-56 (Sheet 2 of 3)
FP-541/(FP-542 Blank)

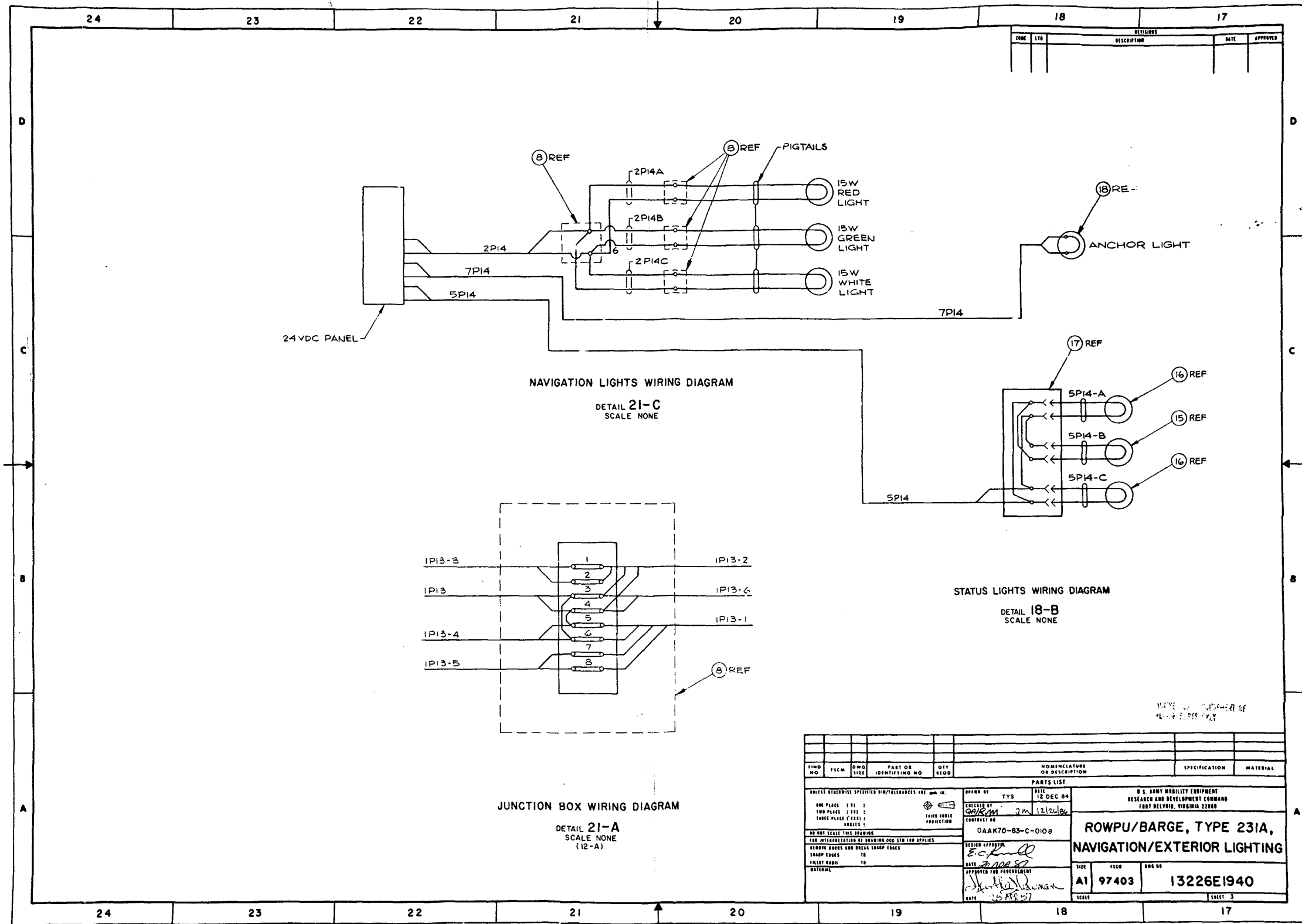


Figure FO-56 (Sheet 3 of 3)
 FP-543/(FP-544 Blank)

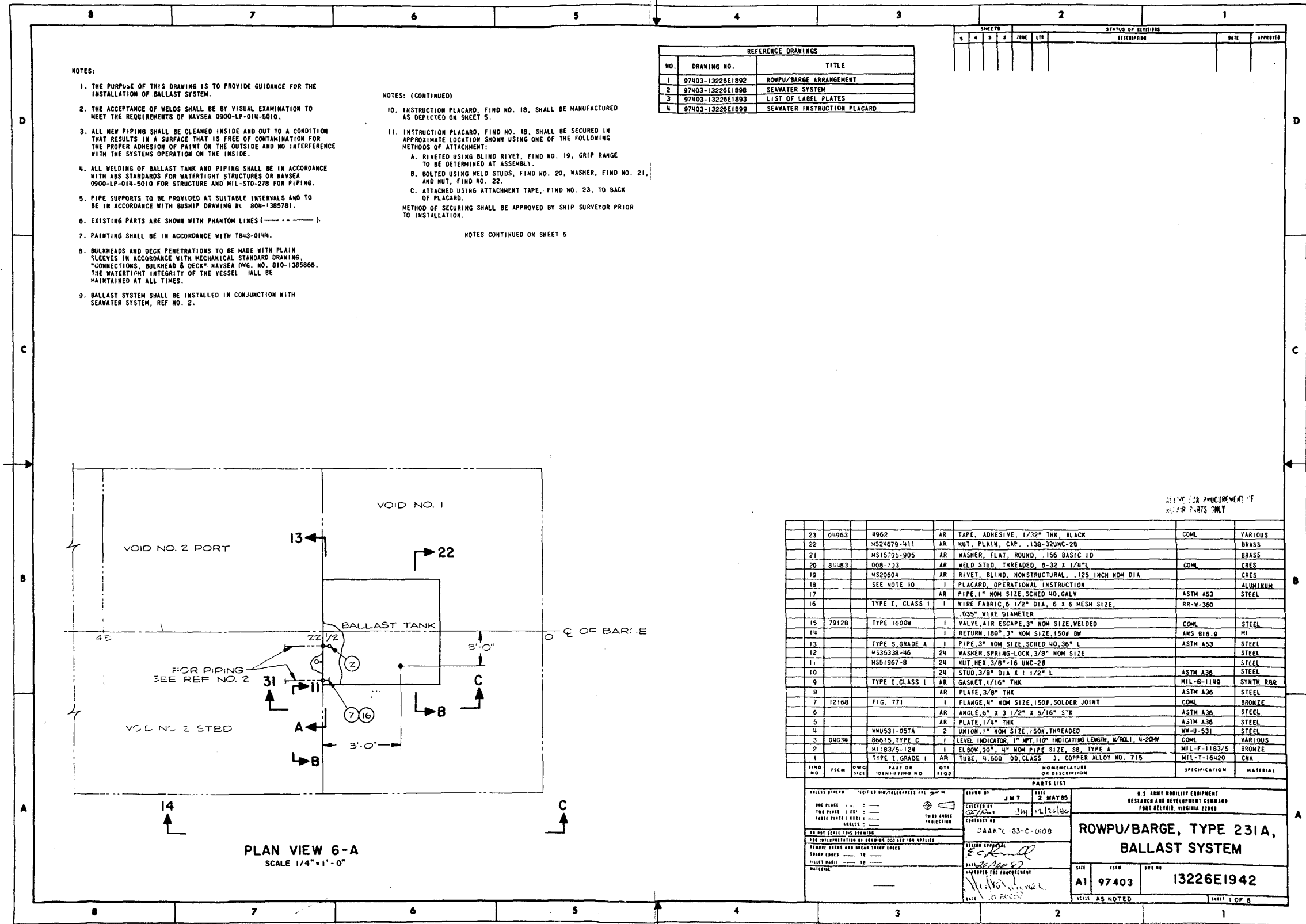


Figure FO-57 (Sheet 1 of 5)
FP-545/(FP-546 Blank)

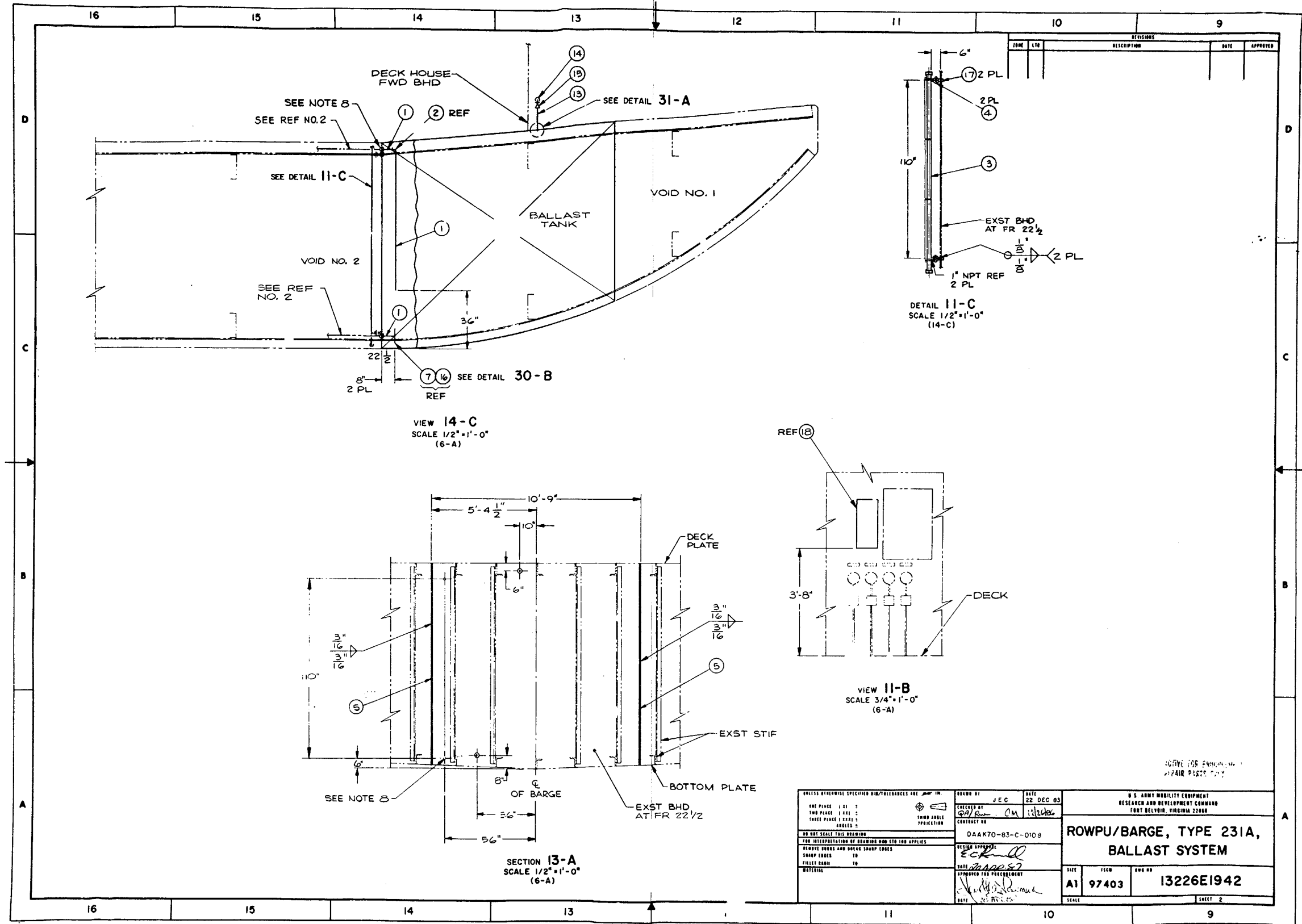


Figure FO-57 (Sheet 2 of 5)
FP-547/(FP-548 Blank)

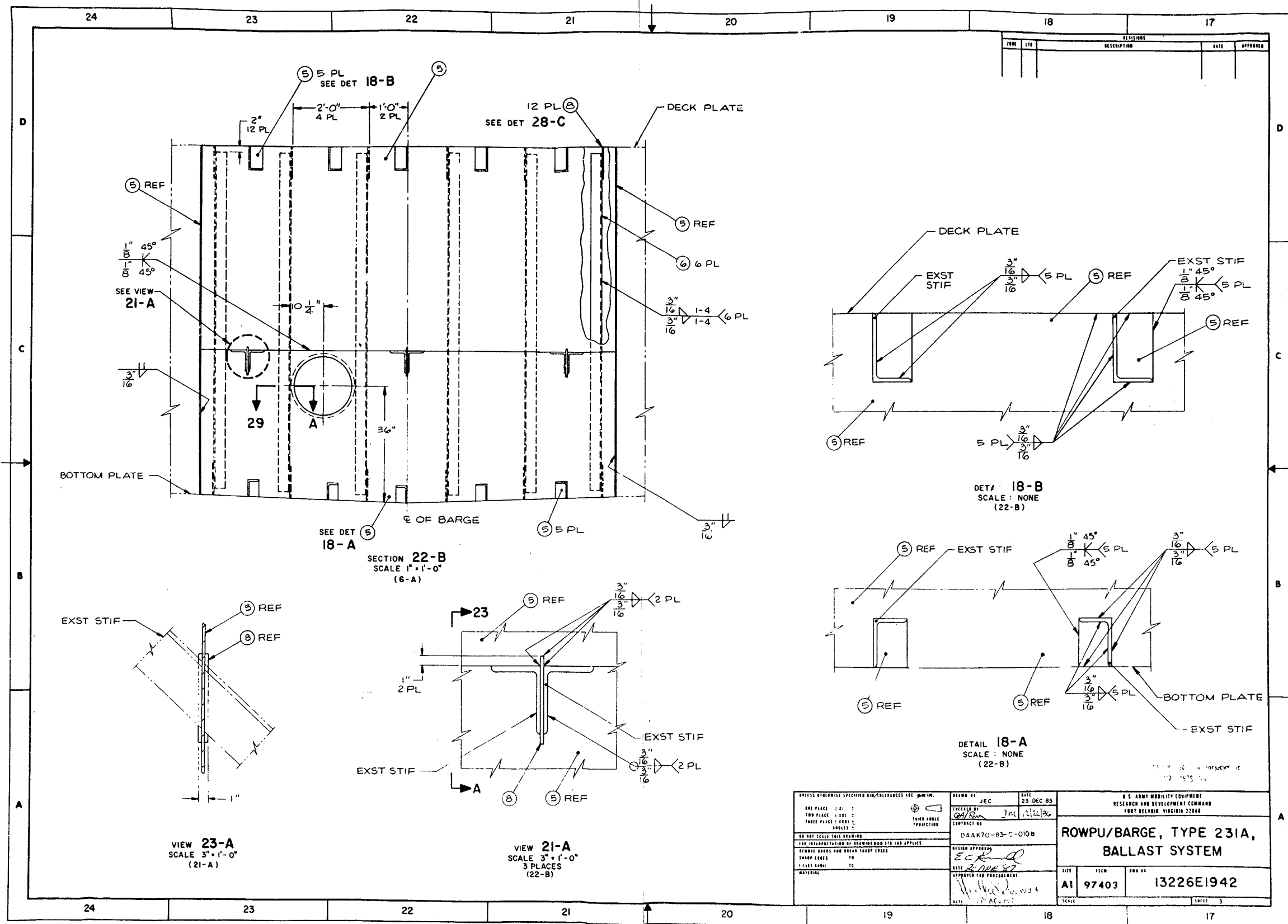


Figure FO-57 (Sheet 3 of 5)
FP-549/(FP-550 Blank)

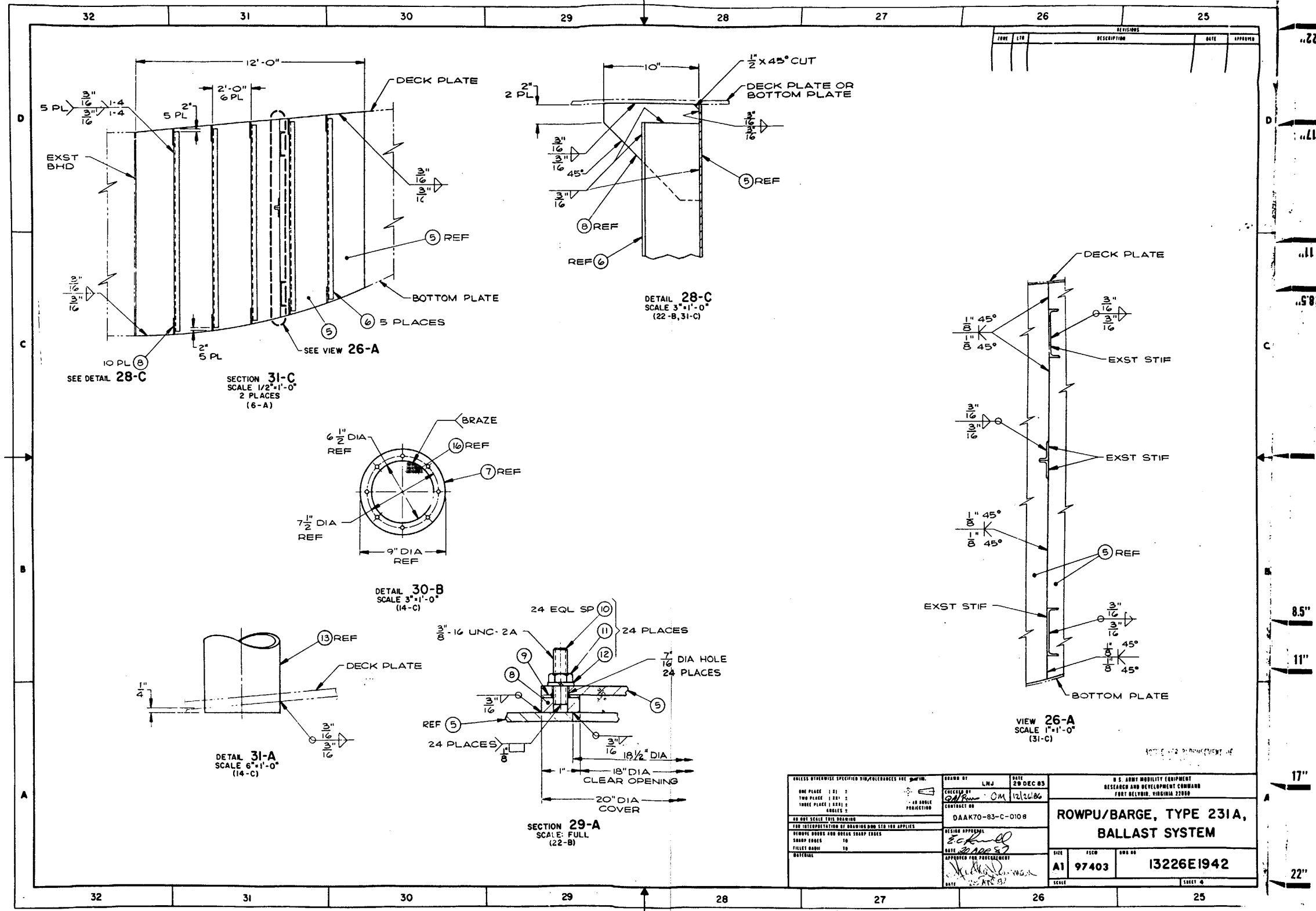
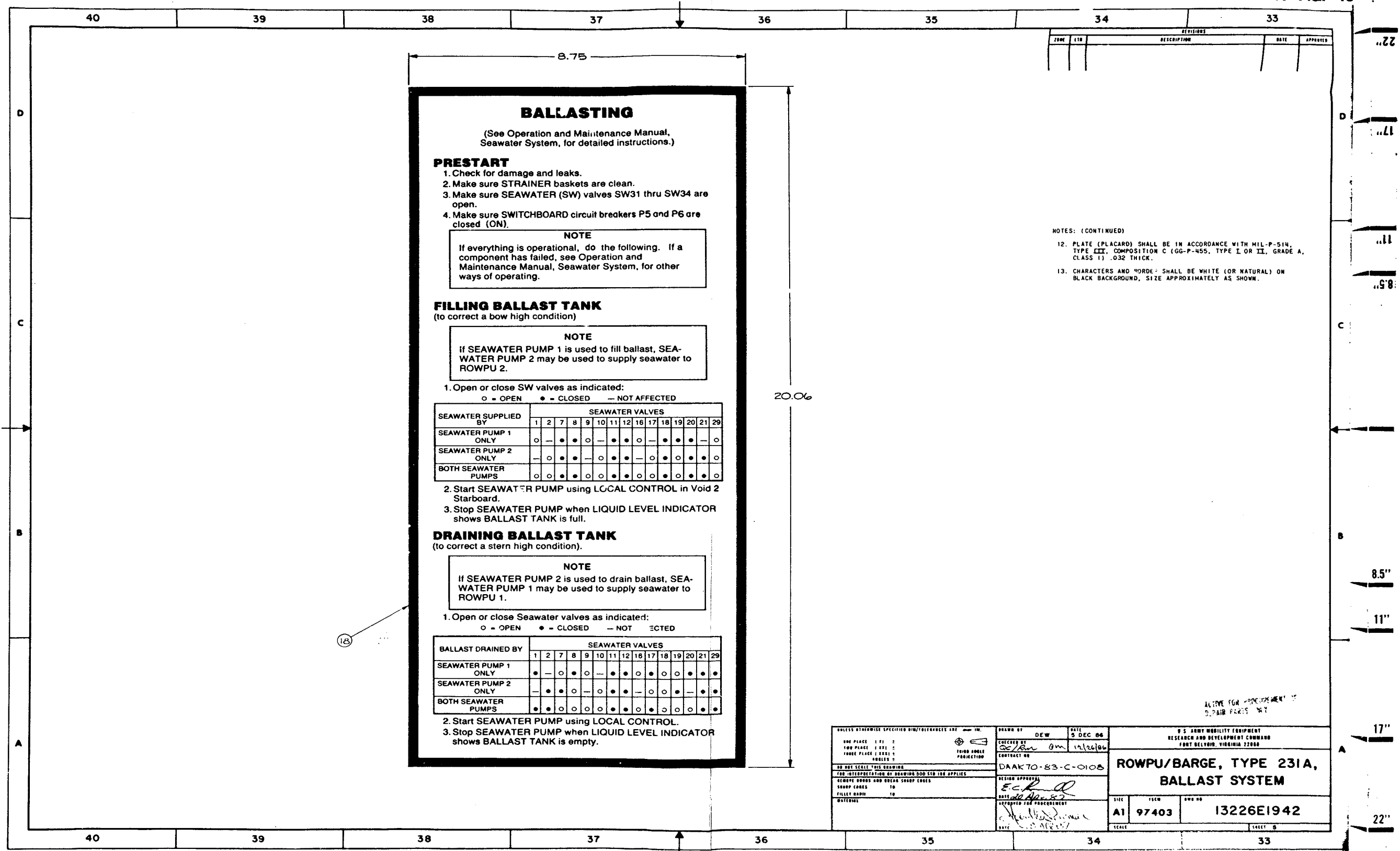


Figure FO-57 (Sheet 4 of 5)
 FP-551/(FP-552 Blank)



BALLASTING

(See Operation and Maintenance Manual, Seawater System, for detailed instructions.)

PRESTART

1. Check for damage and leaks.
2. Make sure STRAINER baskets are clean.
3. Make sure SEAWATER (SW) valves SW31 thru SW34 are open.
4. Make sure SWITCHBOARD circuit breakers P5 and P6 are closed (ON).

NOTE

If everything is operational, do the following. If a component has failed, see Operation and Maintenance Manual, Seawater System, for other ways of operating.

FILLING BALLAST TANK
(to correct a bow high condition)

NOTE

If SEAWATER PUMP 1 is used to fill ballast, SEAWATER PUMP 2 may be used to supply seawater to ROWPU 2.

1. Open or close SW valves as indicated:
○ = OPEN ● = CLOSED — NOT AFFECTED

SEAWATER SUPPLIED BY	SEAWATER VALVES														
	1	2	7	8	9	10	11	12	16	17	18	19	20	21	29
SEAWATER PUMP 1 ONLY	○	—	●	●	○	—	●	●	○	—	●	●	○	—	○
SEAWATER PUMP 2 ONLY	—	○	●	●	—	○	●	●	—	○	●	●	○	—	○
BOTH SEAWATER PUMPS	○	○	●	●	○	○	●	●	○	○	●	●	○	○	○

2. Start SEAWATER PUMP using LOCAL CONTROL in Void 2 Starboard.
3. Stop SEAWATER PUMP when LIQUID LEVEL INDICATOR shows BALLAST TANK is full.

DRAINING BALLAST TANK
(to correct a stern high condition).

NOTE

If SEAWATER PUMP 2 is used to drain ballast, SEAWATER PUMP 1 may be used to supply seawater to ROWPU 1.

1. Open or close Seawater valves as indicated:
○ = OPEN ● = CLOSED — NOT AFFECTED

BALLAST DRAINED BY	SEAWATER VALVES														
	1	2	7	8	9	10	11	12	16	17	18	19	20	21	29
SEAWATER PUMP 1 ONLY	●	—	○	○	—	●	●	○	○	○	○	○	○	○	○
SEAWATER PUMP 2 ONLY	—	●	●	●	—	○	●	●	—	○	○	○	—	○	○
BOTH SEAWATER PUMPS	●	●	○	○	○	○	●	●	○	○	○	○	○	○	○

2. Start SEAWATER PUMP using LOCAL CONTROL.
3. Stop SEAWATER PUMP when LIQUID LEVEL INDICATOR shows BALLAST TANK is empty.

NOTES: (CONTINUED)

12. PLATE (PLACARD) SHALL BE IN ACCORDANCE WITH MIL-P-514, TYPE III, COMPOSITION C (GG-P-455, TYPE I OR II, GRADE A, CLASS 1), .032 THICK.
13. CHARACTERS AND WORDS SHALL BE WHITE (OR NATURAL) ON BLACK BACKGROUND, SIZE APPROXIMATELY AS SHOWN.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	DRAWN BY DEW	DATE 5 DEC 86	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
ONE PLACE = .01" ± TWO PLACE = .001" ± THREE PLACE = .0001" ± FOUR PLACE = .00001" ±	CHECKED BY <i>SM</i>	DATE <i>12/26/86</i>	
FOR INTERPRETATION OF DRAWING DIMENSIONS AND DIMENSIONS	CONTRACT NO. DAAK70-83-C-0108	ROWPU/BARGE, TYPE 231A, BALLAST SYSTEM	
REMOVE DIMENSIONS AND DIMENSIONS FROM DRAWING	DESIGN APPROVAL <i>E.C. King</i>	DATE <i>12/26/86</i>	SCALE AS SHOWN
FOR INTERPRETATION OF DRAWING DIMENSIONS AND DIMENSIONS	APPROVED FOR PRODUCTION <i>[Signature]</i>	DATE <i>12/26/86</i>	SCALE AS SHOWN
REMOVE DIMENSIONS AND DIMENSIONS FROM DRAWING	DATE <i>12/26/86</i>	SCALE AS SHOWN	SCALE AS SHOWN

Figure FO-57 (Sheet 5 of 5)
FP-553/(FP-554 Blank)

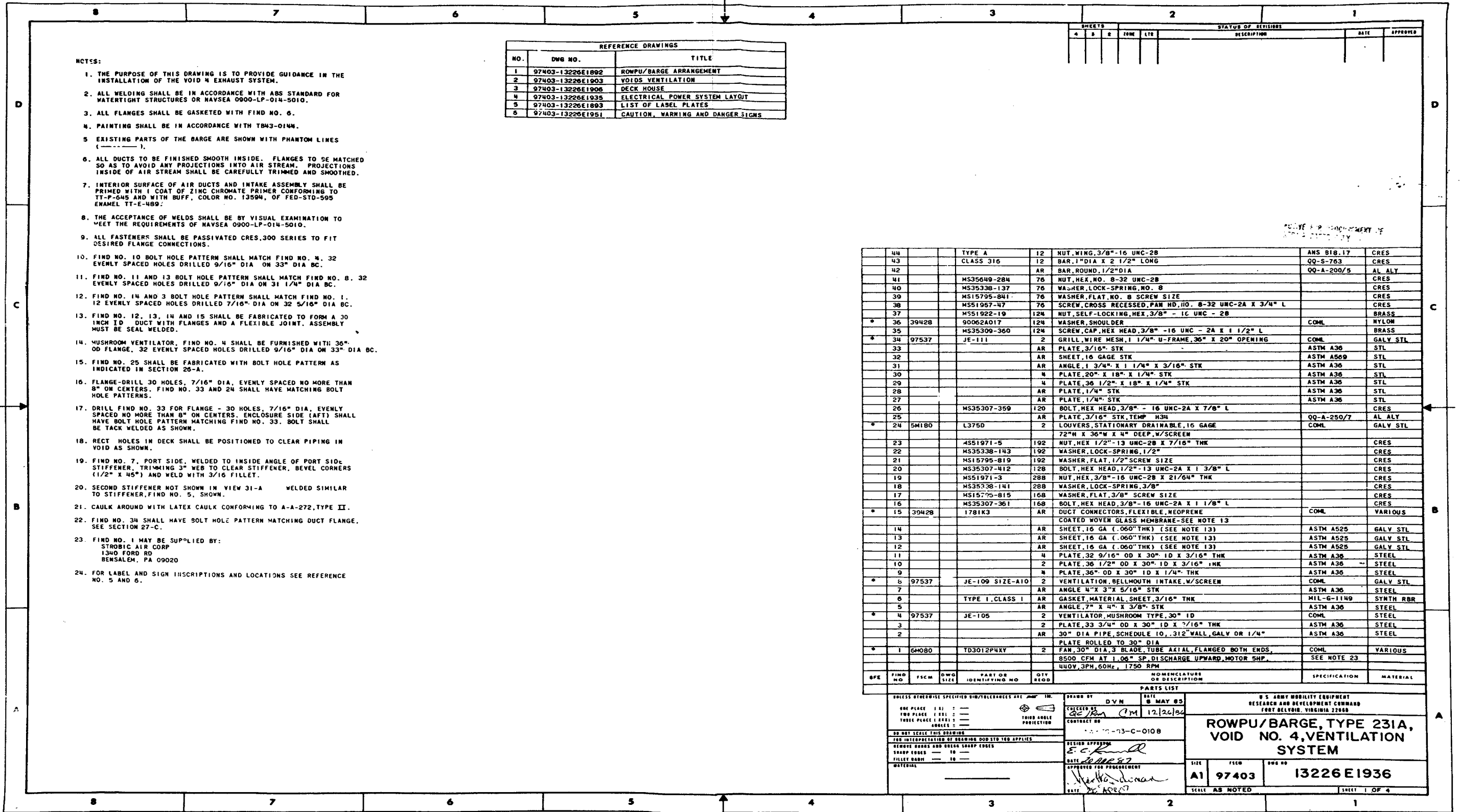


Figure FO-58 (Sheet 1 of 4) FP-555/(FP-556 Blank)

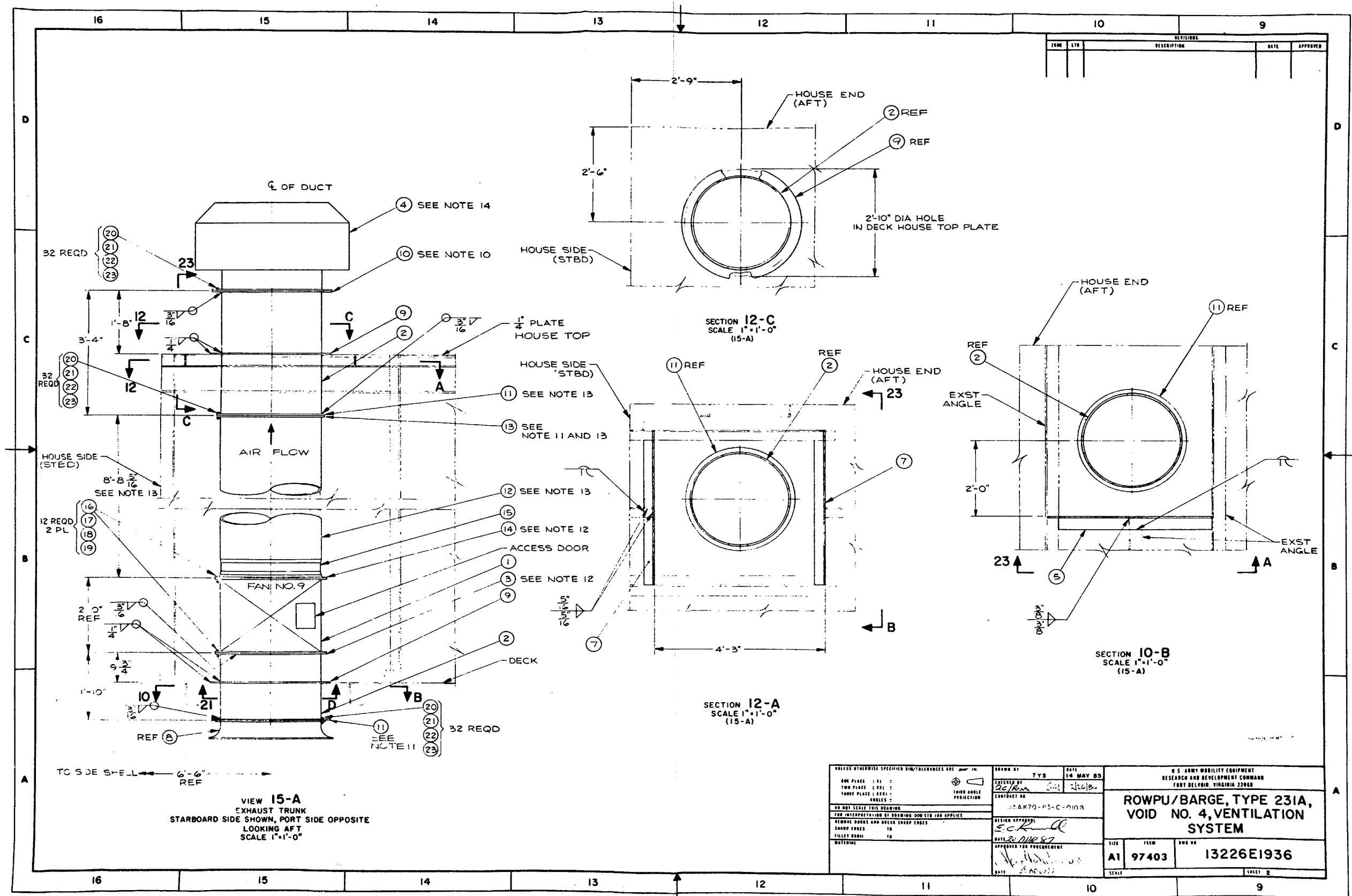


Figure FO-58 (Sheet 2 of 4)
FP-557/(FP-558 Blank)

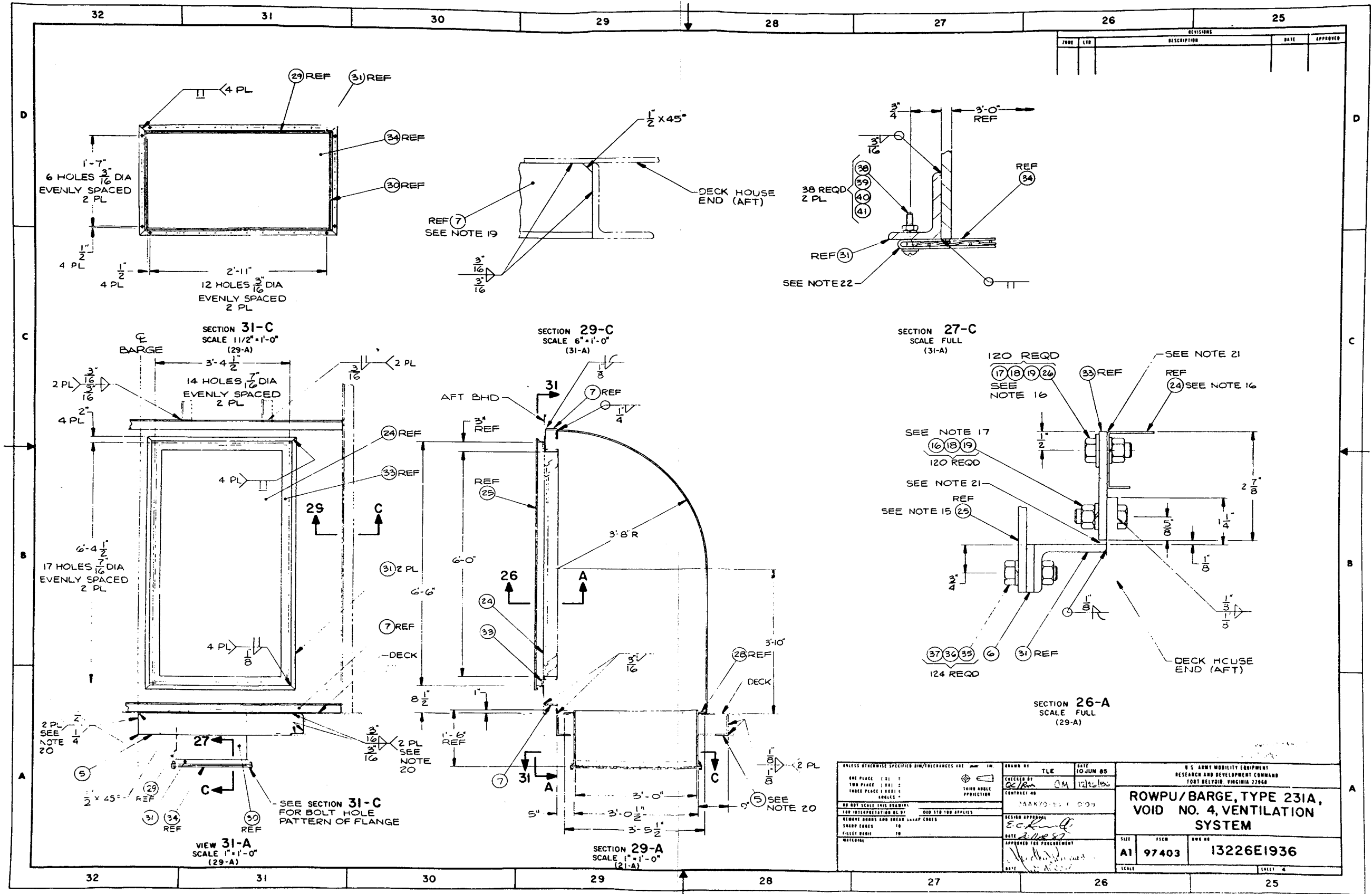


Figure FO-58 (Sheet 4 of 4)
FP-561/(FP-562 Blank)

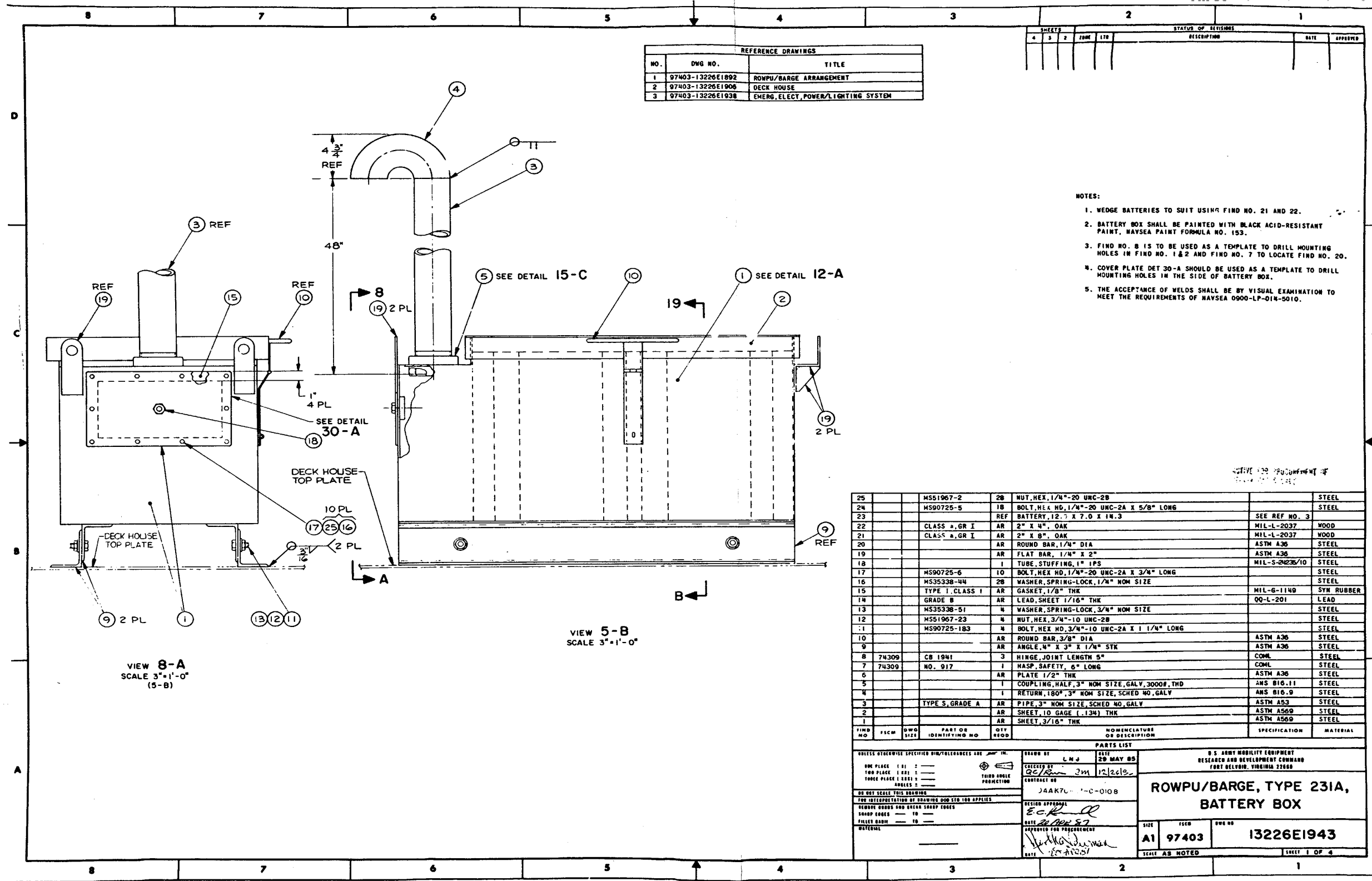


Figure FO-59 (Sheet 1 of 4)
FP-563/(FP-564 Blank)

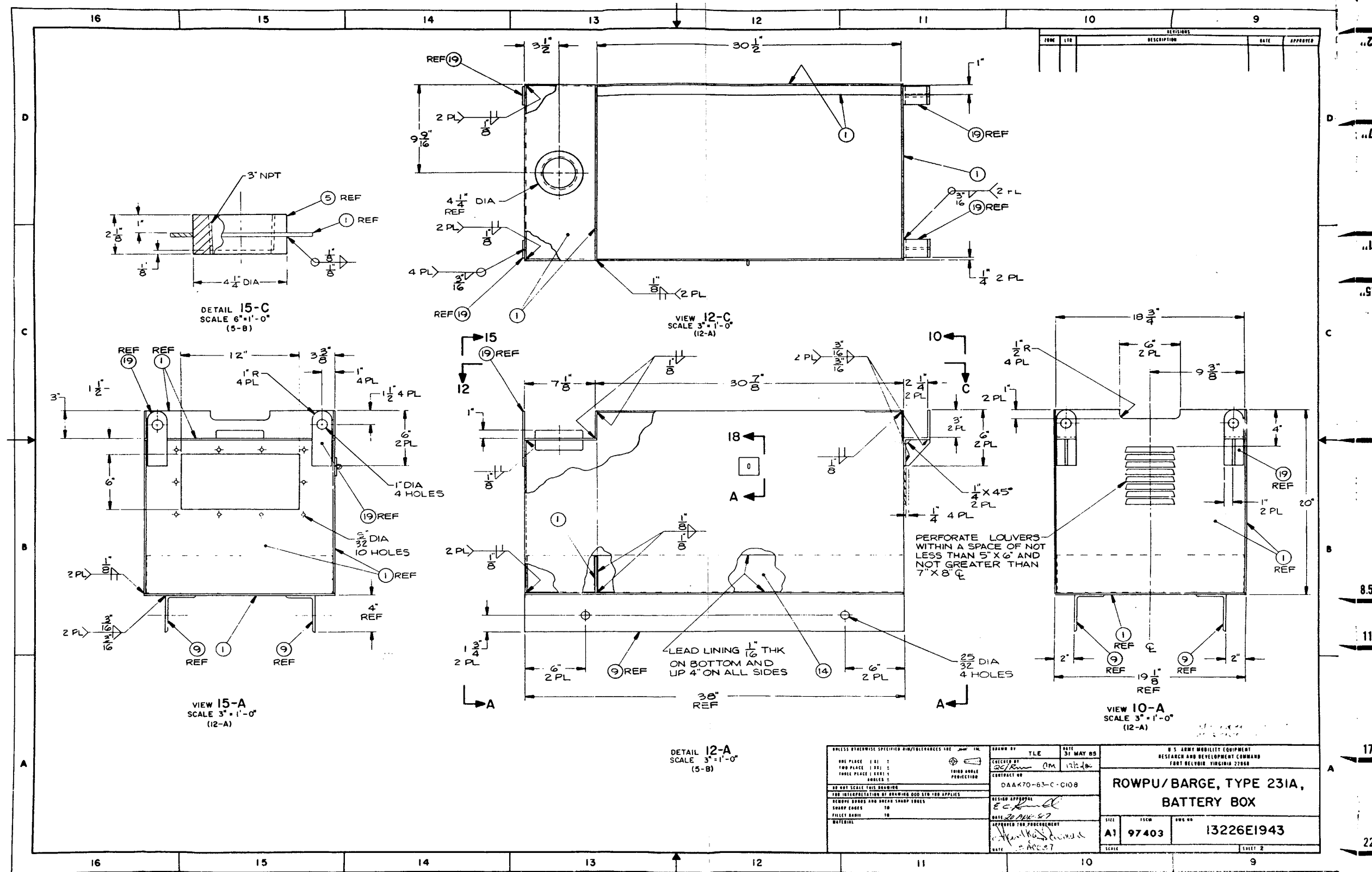


Figure FO-59 (Sheet 2 of 4)
FP-565/(FP-566 Blank)

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DRAWN BY TLE	DATE 31 MAY 65	U.S. ARMY MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND FORT BELVOIR, VIRGINIA 22060
ONE PLACE (1:1)	TWO PLACE (1:2)	EXECUTED BY 355/Room (M)	DATE 12/1/64	
THREE PLACE (1:4)	FOUR PLACE (1:8)	THIRD ANGLE PROJECTION	CONTRACT NO. DAAK70-63-C-1018	ROWPU/BARGE, TYPE 231A, BATTERY BOX
DO NOT SCALE THIS DRAWING				
FOR REPRODUCTION OF DRAWINGS SEE FOR APPLICABLE				
SHARP EDGES TO		DESIGN APPROVAL <i>E.C. [Signature]</i>	DATE 20 DEC 67	SIZE A1
FILLET RADIUS TO		APPROVED FOR PROCUREMENT <i>[Signature]</i>	DATE 10 DEC 67	
REVISIONS		SCALE	FIGURE NO. 97403	WORK NO. 13226E1943
			SHEET 2	

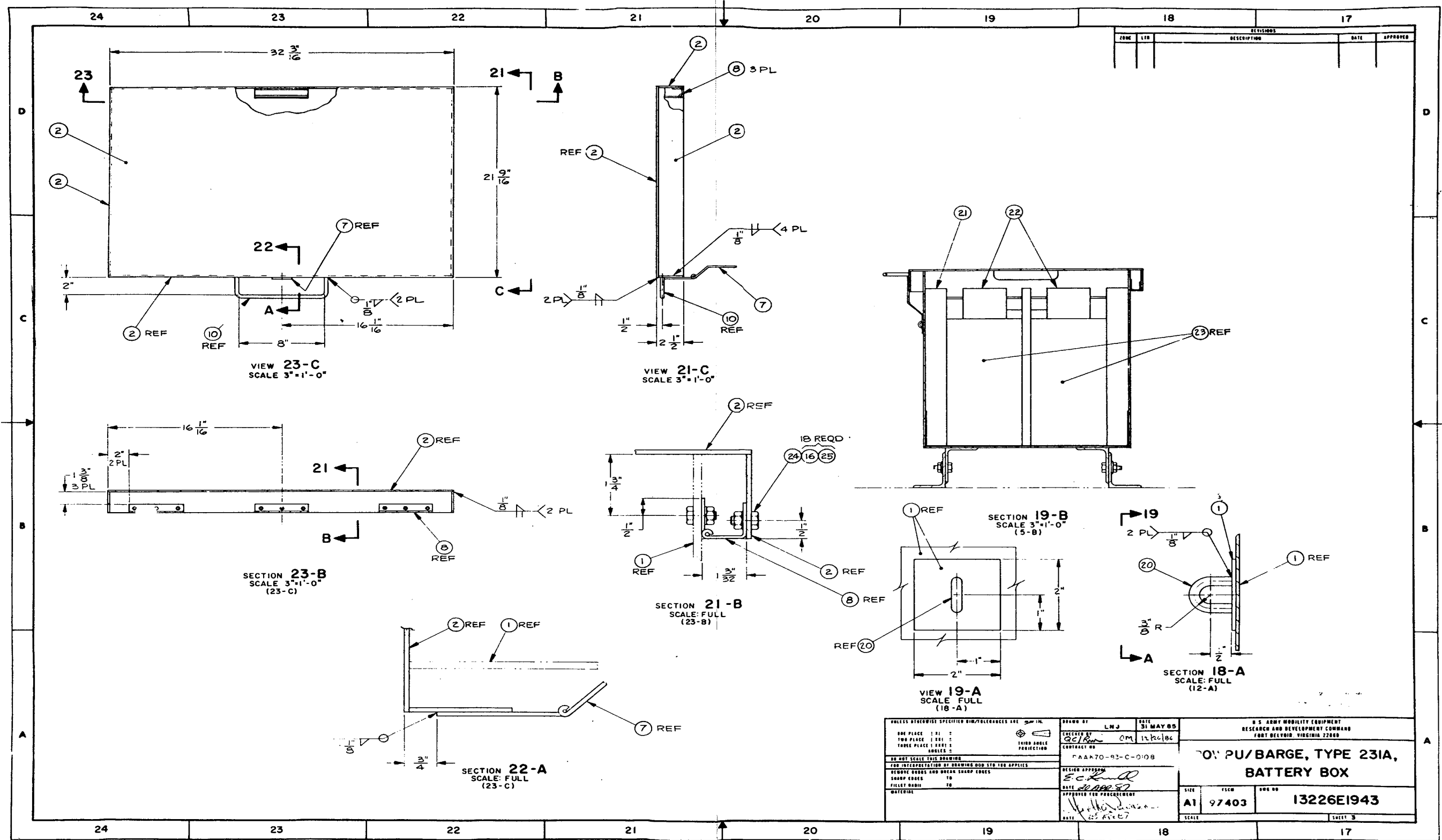


Figure FO-59 (Sheet 3 of 4)
FP-567/(FP-568 Blank)

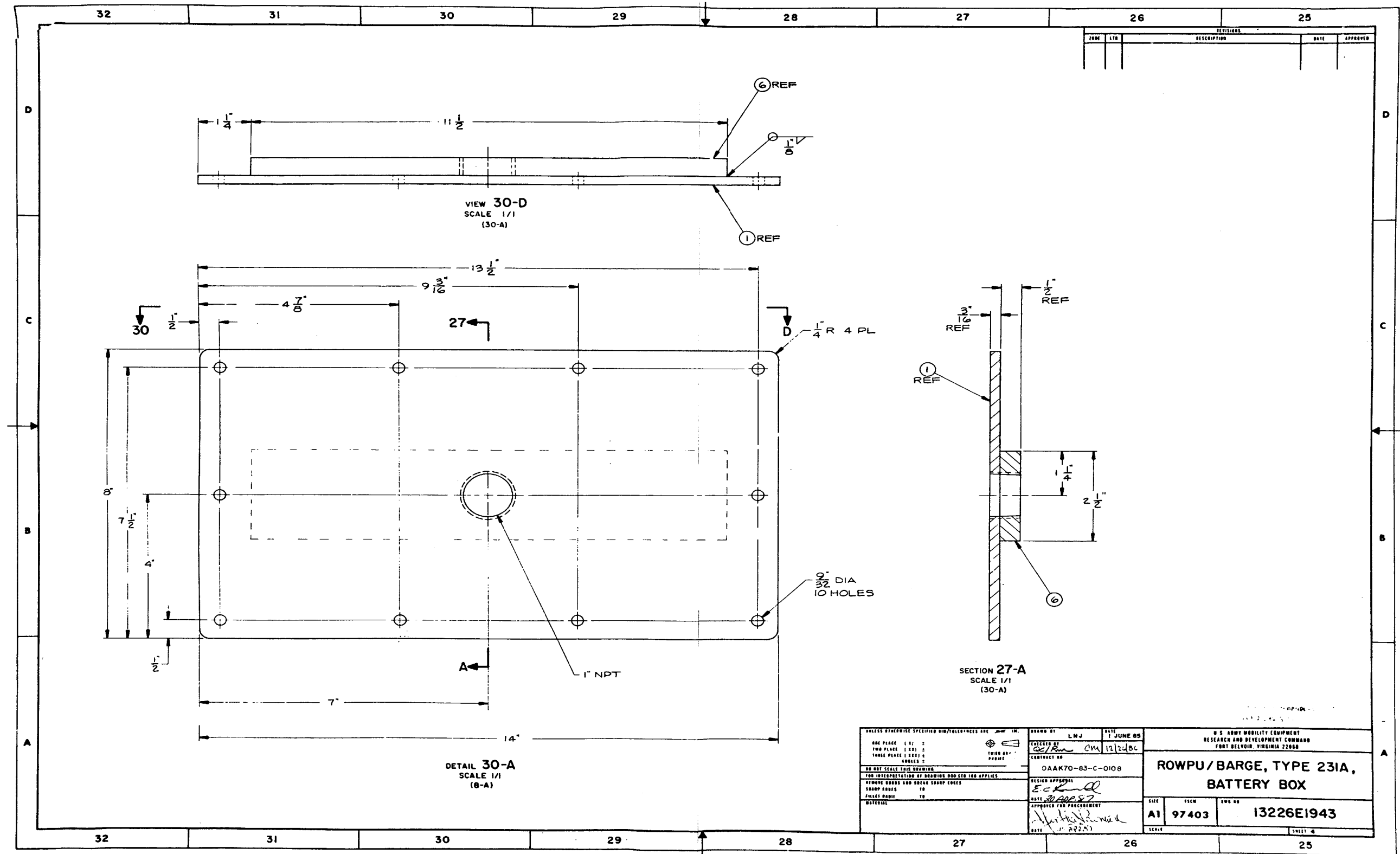


Figure FO-59 (Sheet 4 of 4)
FP-569/(FP-570 Blank)

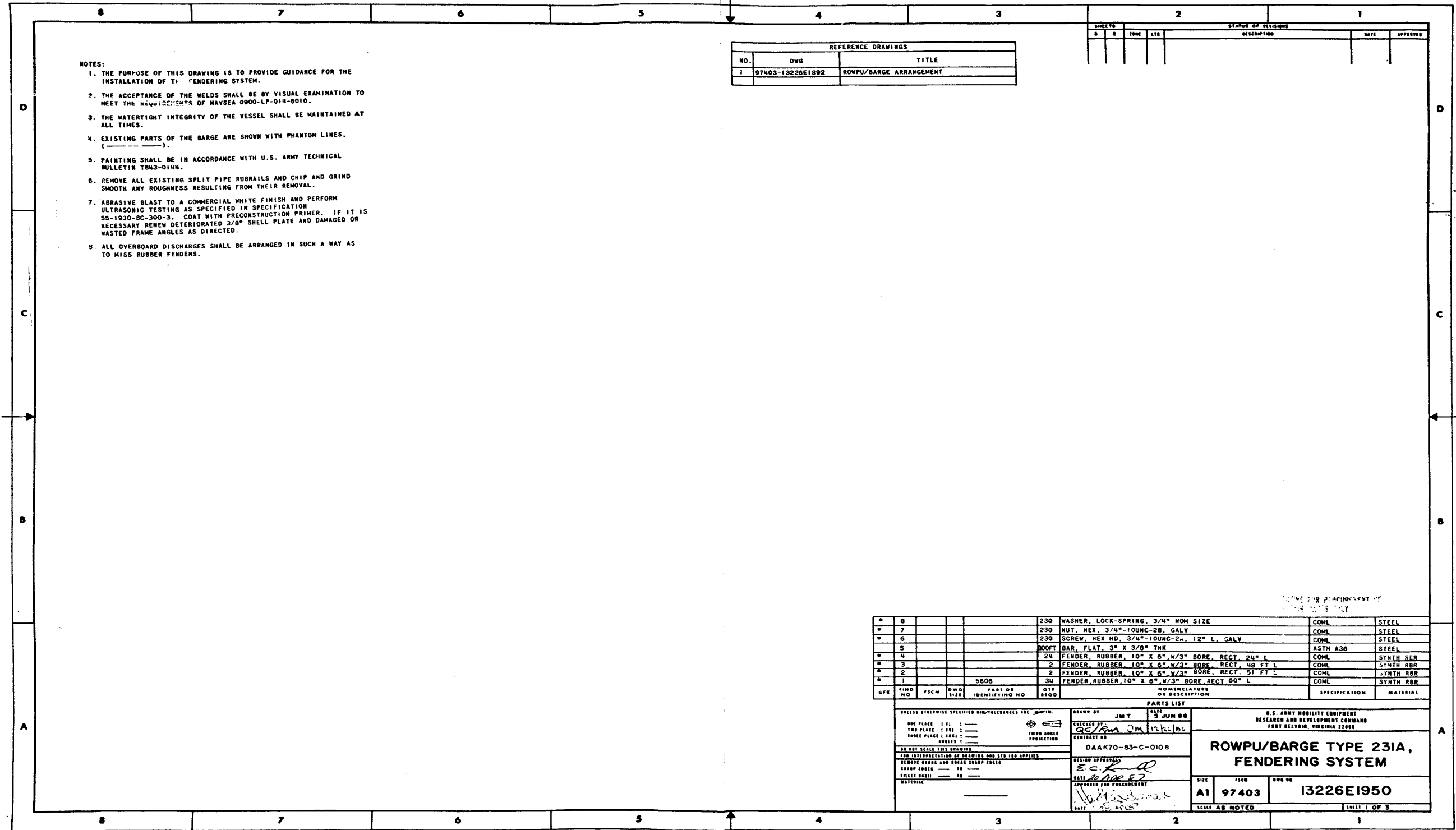


Figure FO-60 (Sheet 1 of 3)
FP-571/(FP-572 Blank)

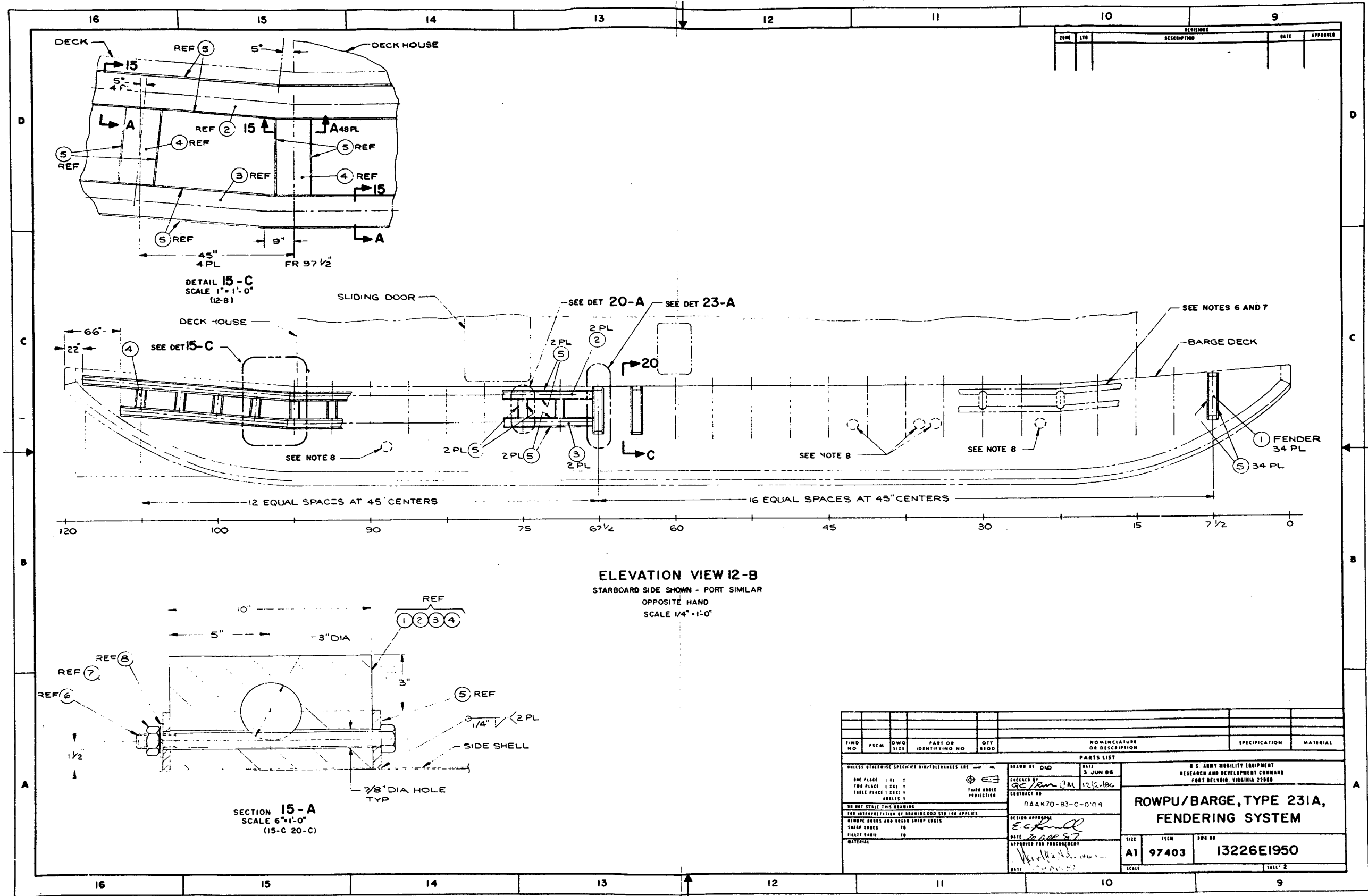


Figure FO-60 (Sheet 2 of 3)
 FP-573/(FP-574 Blank)

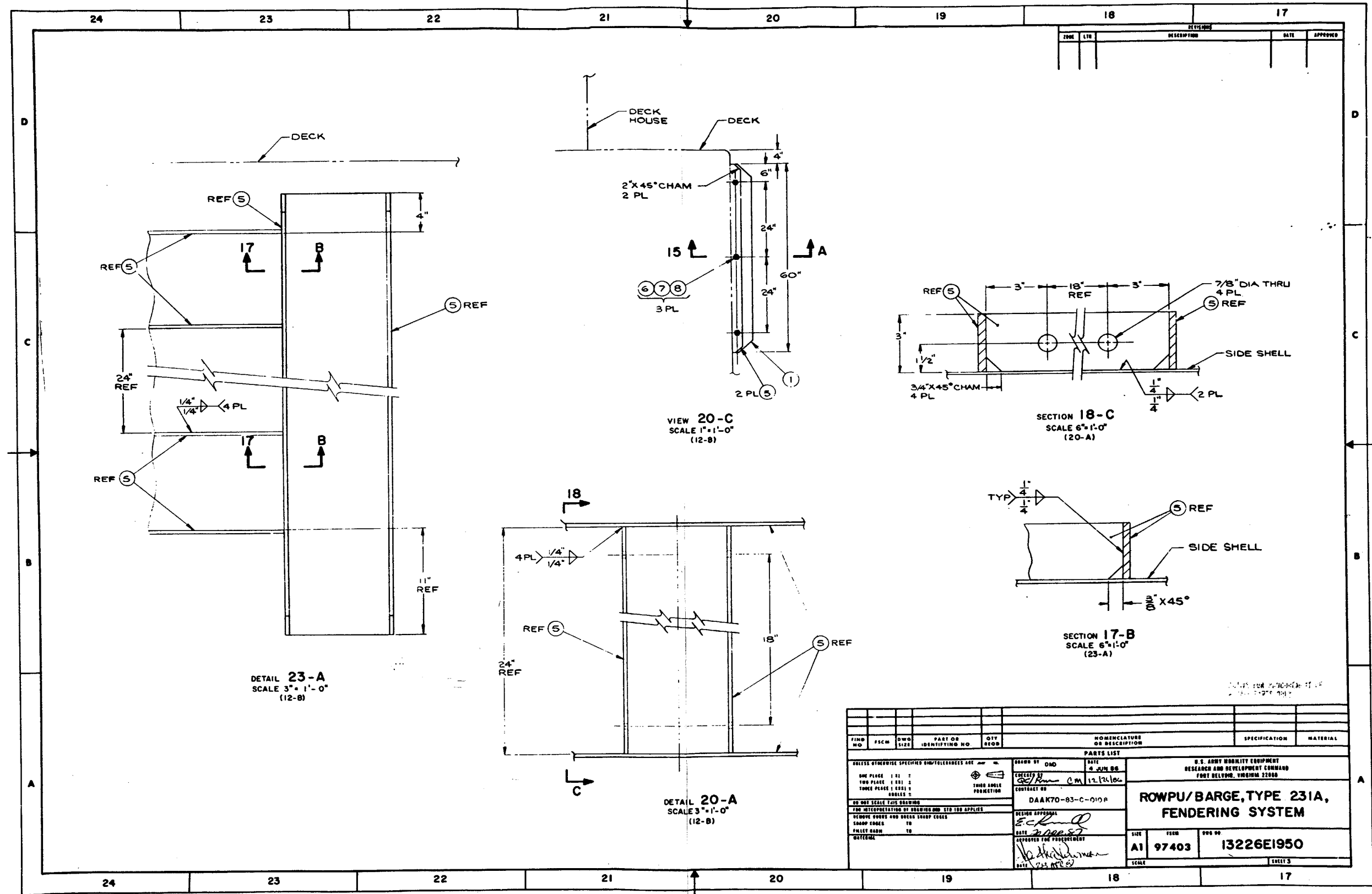


Figure FO-60 (Sheet 3 of 3)
FP-575/(FP-576 Blank)

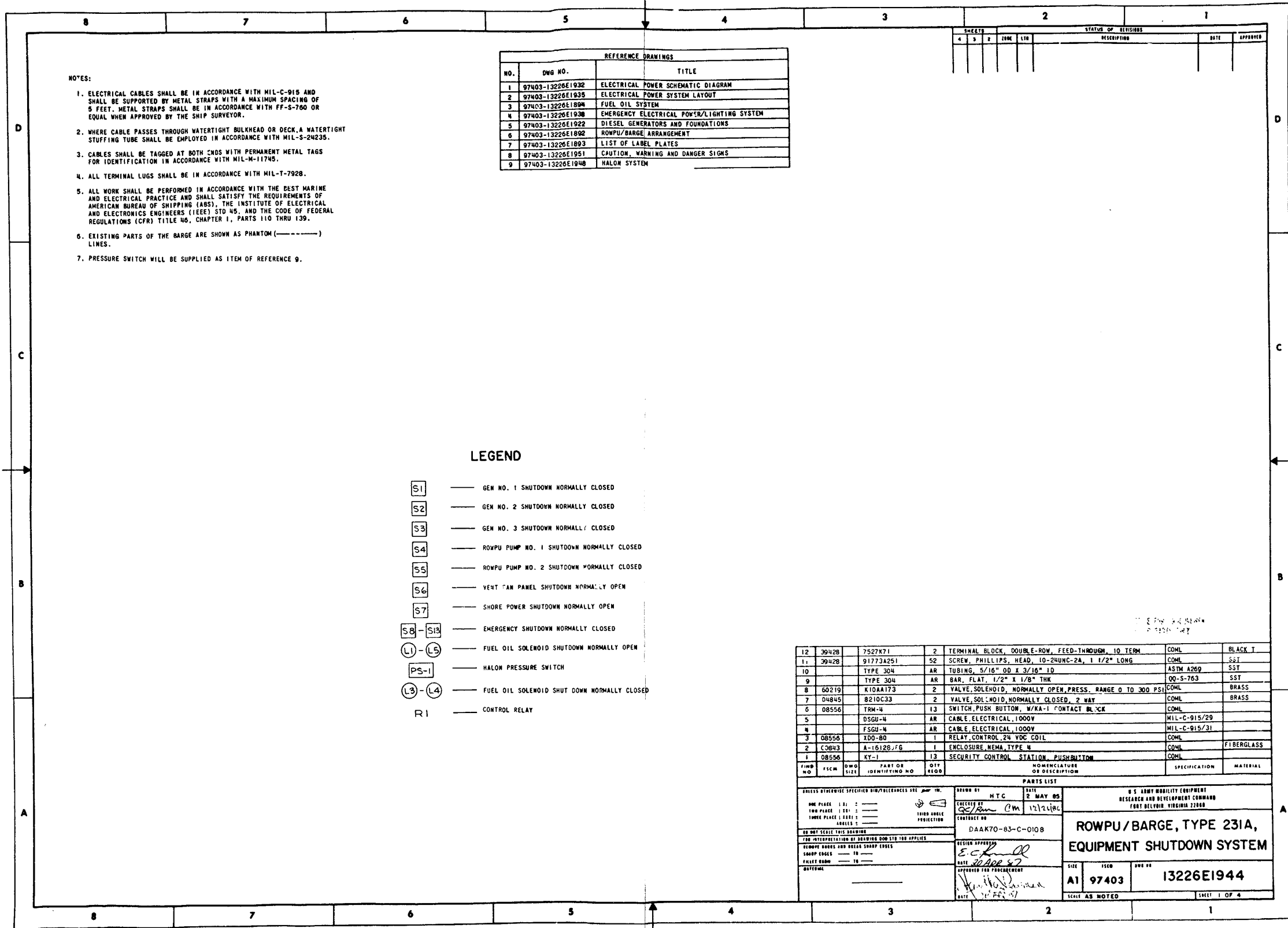


Figure FO-61 (Sheet 1 of 4)
 FP-577/(FP-578 Blank)

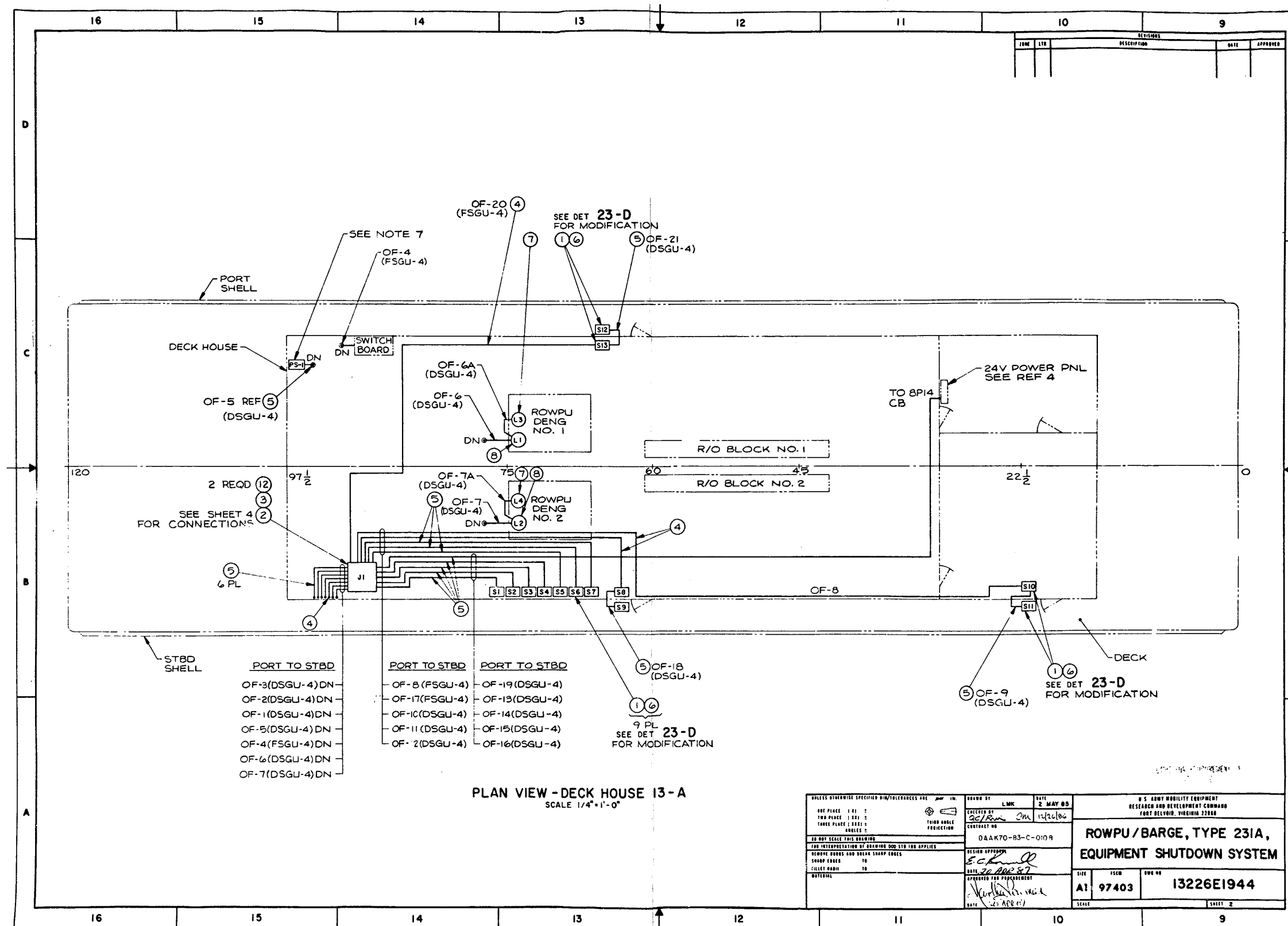


Figure FO-61 (Sheet 2 of 4)
FP-579/(FP-580 Blank)

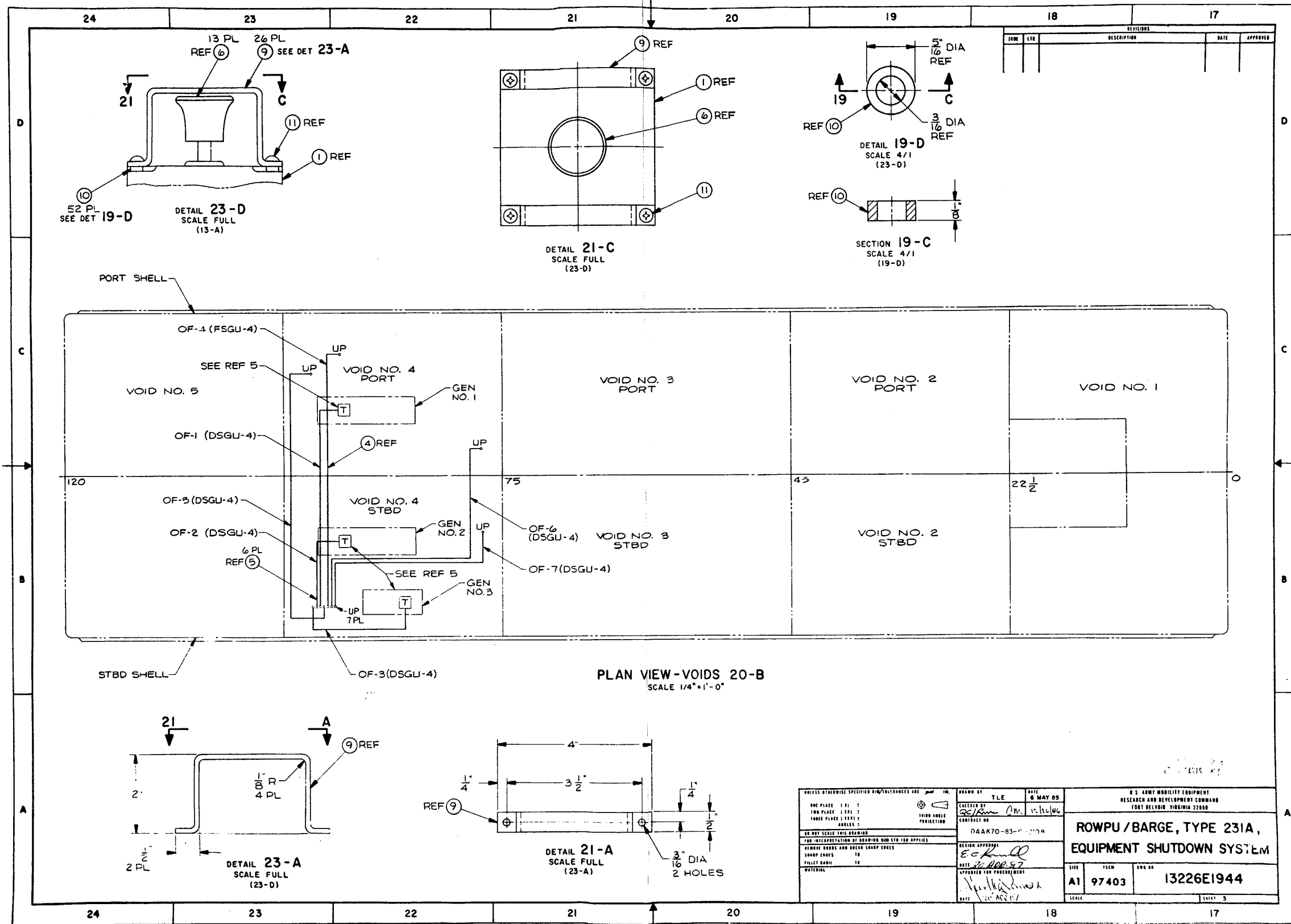


Figure FO-61 (Sheet 3 of 4)
FP-581/(FP-582 Blank)

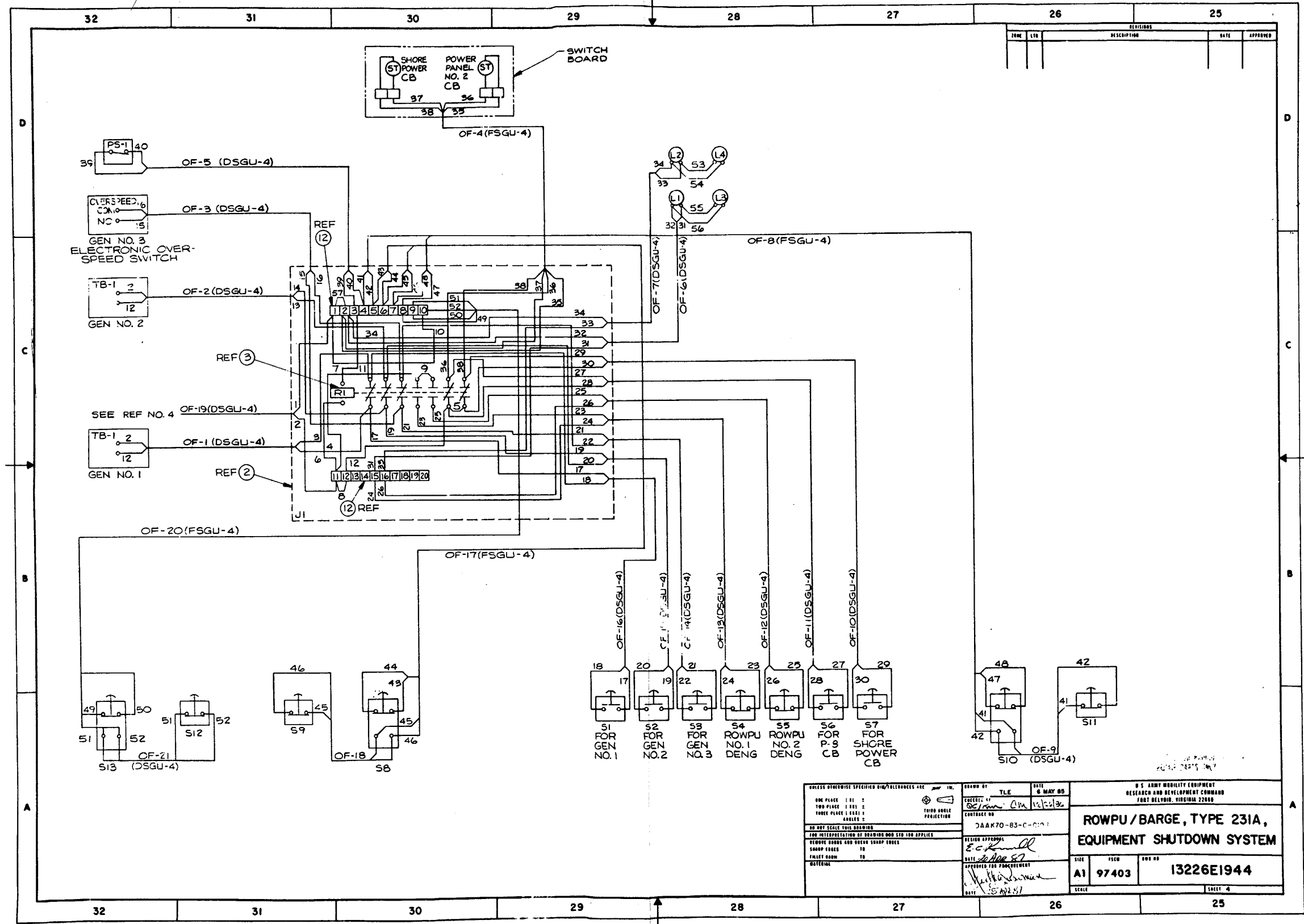


Figure FO-61 (Sheet 4 of 4)
FP-583/(FP-584 Blank)

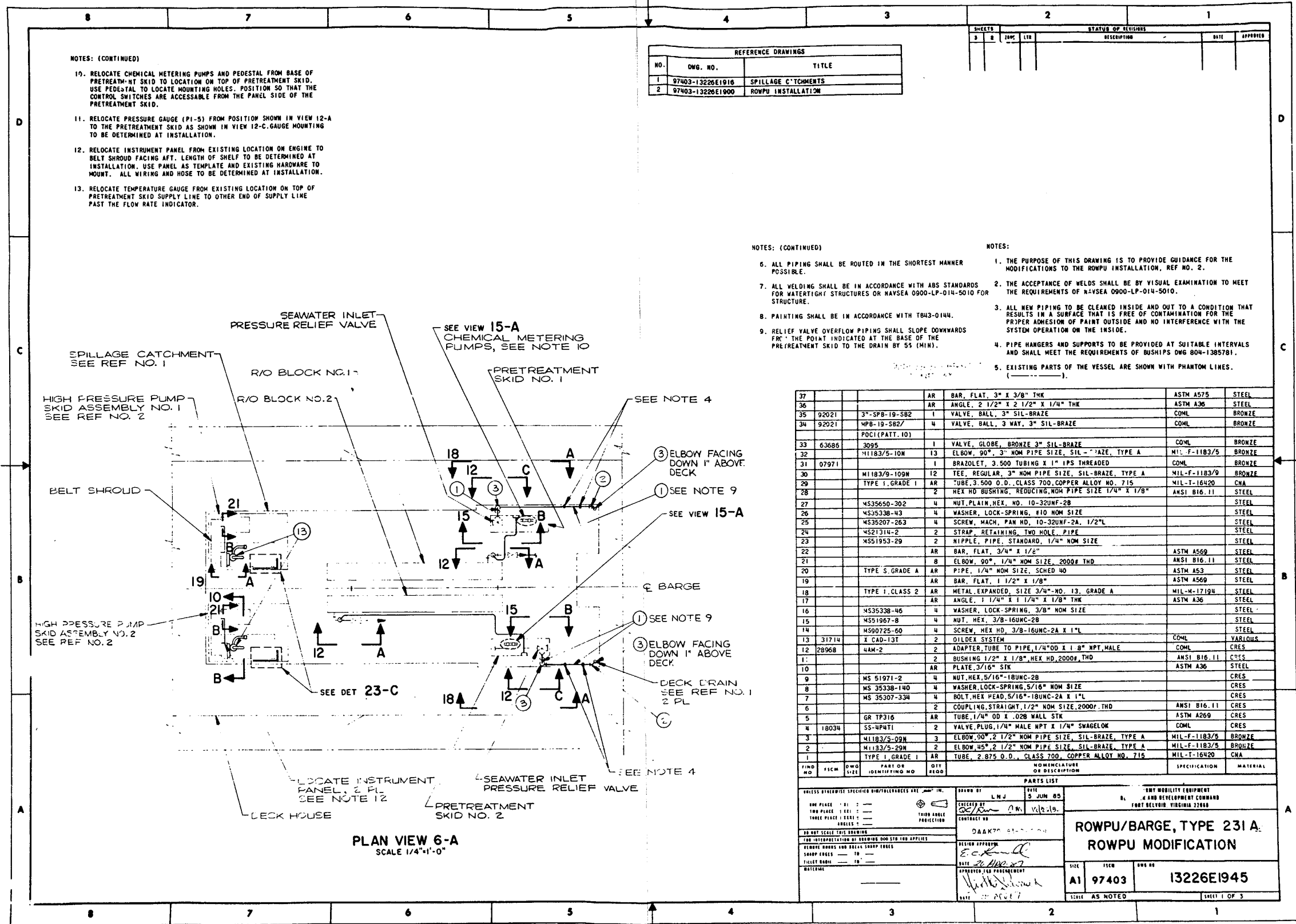


Figure FO-62 (Sheet 1 of 3)
FP-585/(FP-586 Blank)

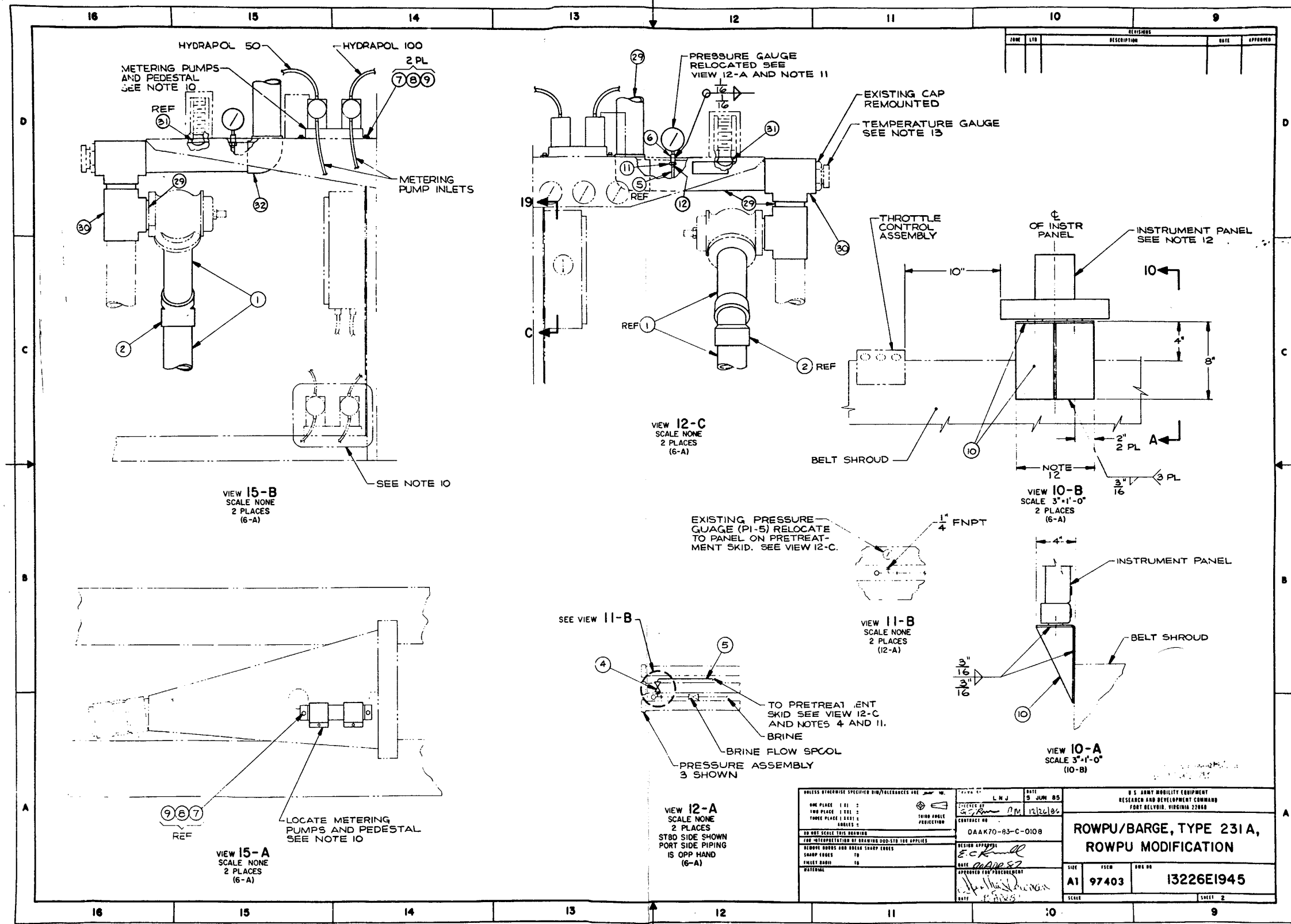


Figure FO-62 (Sheet 2 of 3)
FP-587/(FP-588 Blank)

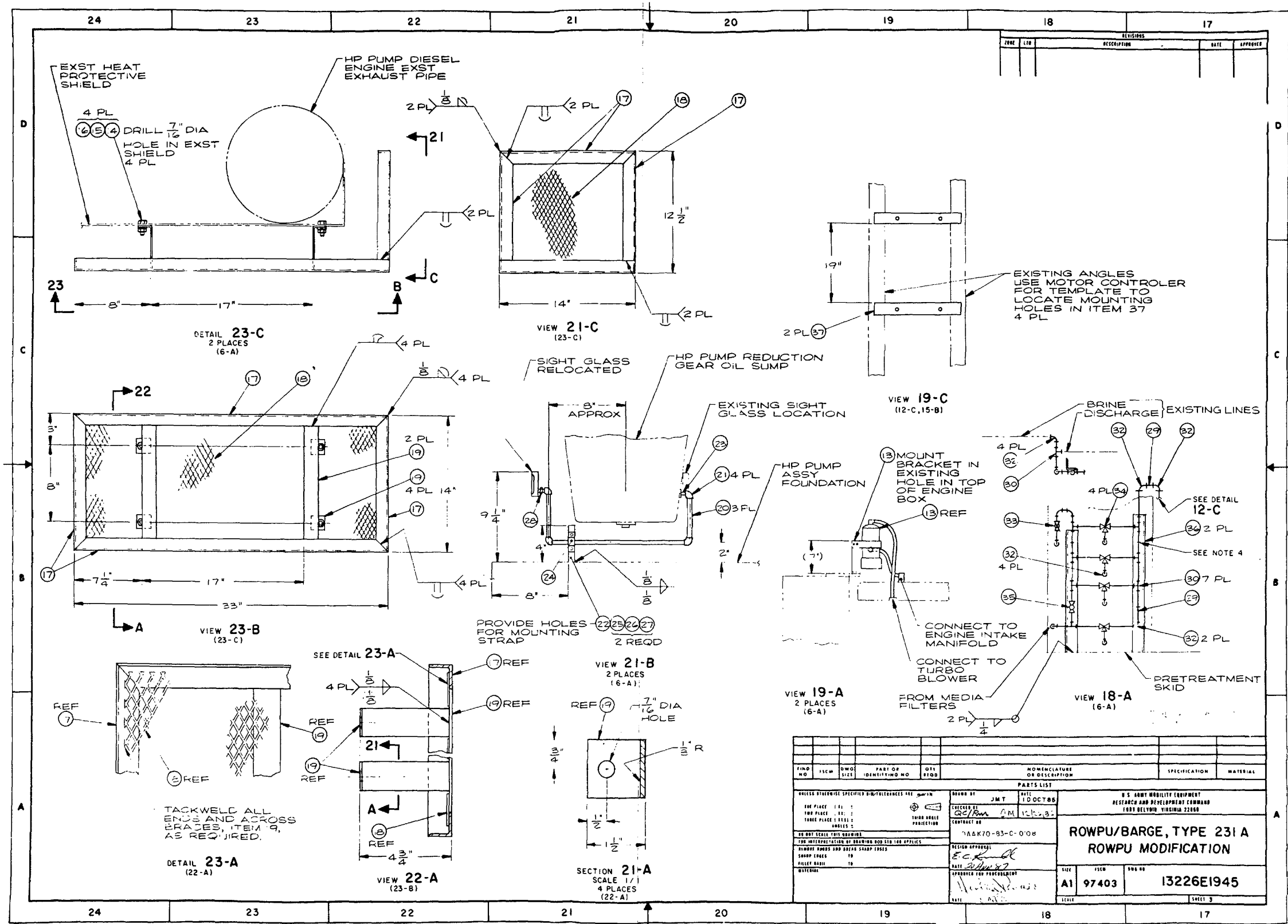
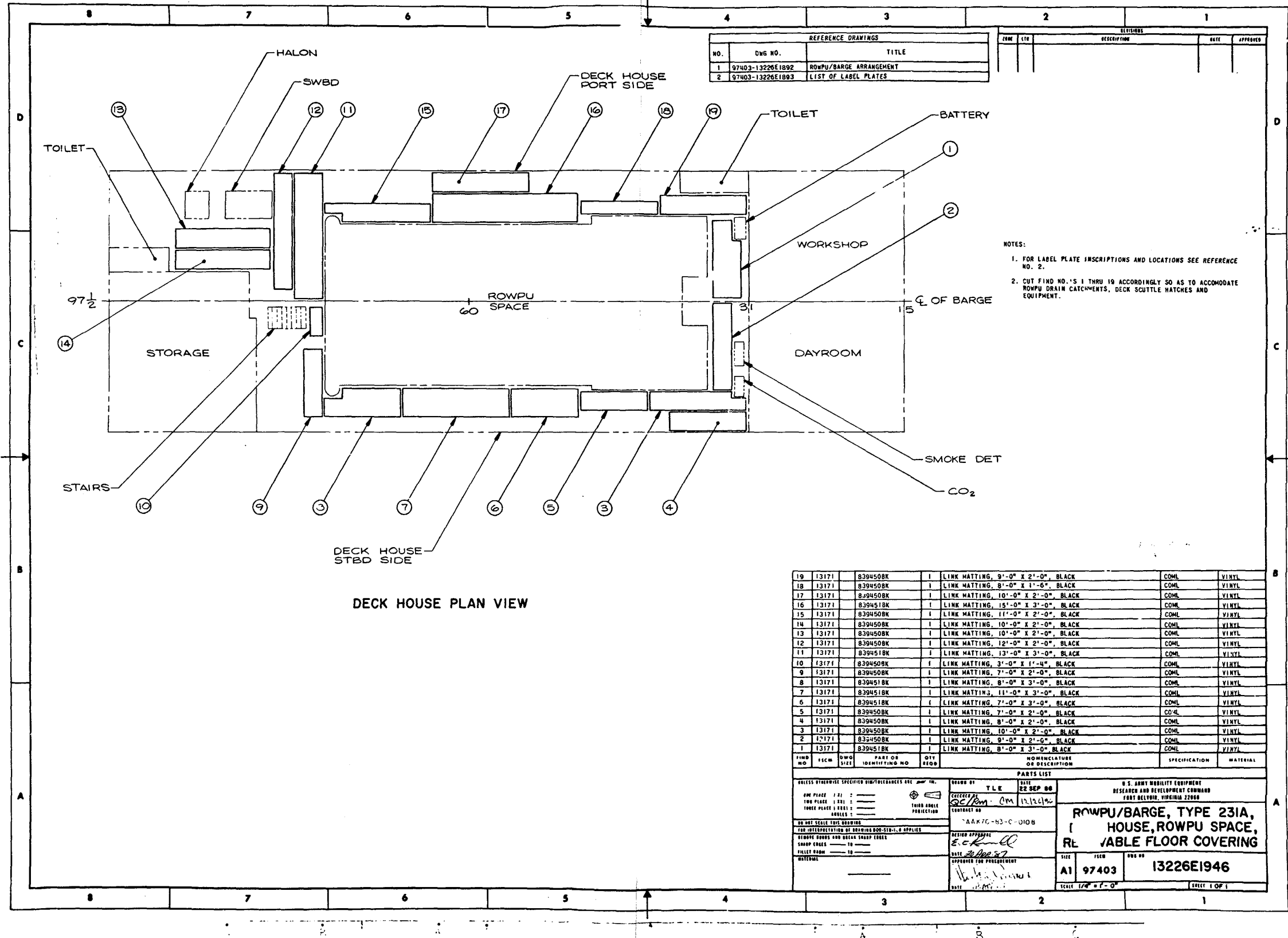


Figure FO-62 (Sheet 3 of 3)
FP-589/(FP-590 Blank)



REFERENCE DRAWINGS		
NO.	DWG NO.	TITLE
1	97403-13226E1892	ROWPU/BARGE ARRANGEMENT
2	97403-13226E1893	LIST OF LABEL PLATES

REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED

NOTES:
 1. FOR LABEL PLATE INSCRIPTIONS AND LOCATIONS SEE REFERENCE NO. 2.
 2. CUT FIND NO.'S 1 THRU 19 ACCORDINGLY SO AS TO ACCOMMODATE ROWPU DRAIN CATCHMENTS, DECK SCUTTLE HATCHES AND EQUIPMENT.

DECK HOUSE PLAN VIEW

FIND NO.	QTY	DESCRIPTION	SPECIFICATION	MATERIAL
19	13171	8394508K	1 LINK MATTING, 9'-0" X 2'-0", BLACK	COML VINYL
18	13171	8394508K	1 LINK MATTING, 8'-0" X 1'-6", BLACK	COML VINYL
17	13171	8394508K	1 LINK MATTING, 10'-0" X 2'-0", BLACK	COML VINYL
16	13171	8394518K	1 LINK MATTING, 15'-0" X 3'-0", BLACK	COML VINYL
15	13171	8394508K	1 LINK MATTING, 11'-0" X 2'-0", BLACK	COML VINYL
14	13171	8394508K	1 LINK MATTING, 10'-0" X 2'-0", BLACK	COML VINYL
13	13171	8394508K	1 LINK MATTING, 10'-0" X 2'-0", BLACK	COML VINYL
12	13171	8394508K	1 LINK MATTING, 12'-0" X 2'-0", BLACK	COML VINYL
11	13171	8394518K	1 LINK MATTING, 13'-0" X 3'-0", BLACK	COML VINYL
10	13171	8394508K	1 LINK MATTING, 3'-0" X 1'-4", BLACK	COML VINYL
9	13171	8394508K	1 LINK MATTING, 7'-0" X 2'-0", BLACK	COML VINYL
8	13171	8394518K	1 LINK MATTING, 8'-0" X 3'-0", BLACK	COML VINYL
7	13171	8394518K	1 LINK MATTING, 11'-0" X 3'-0", BLACK	COML VINYL
6	13171	8394518K	1 LINK MATTING, 7'-0" X 3'-0", BLACK	COML VINYL
5	13171	8394508K	1 LINK MATTING, 7'-0" X 2'-0", BLACK	COML VINYL
4	13171	8394508K	1 LINK MATTING, 8'-0" X 2'-0", BLACK	COML VINYL
3	13171	8394508K	1 LINK MATTING, 10'-0" X 2'-0", BLACK	COML VINYL
2	13171	8394508K	1 LINK MATTING, 9'-0" X 2'-0", BLACK	COML VINYL
1	13171	8394518K	1 LINK MATTING, 8'-0" X 3'-0", BLACK	COML VINYL

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

DATE: 22 SEP 88

DESIGNED BY: [Signature]

DATE: 20 Dec 87

APPROVED FOR PRODUCTION: [Signature]

DATE: [Signature]

U.S. ARMY MOBILITY EQUIPMENT
 RESEARCH AND DEVELOPMENT COMMAND
 FORT BELVOIR, VIRGINIA 22060

**ROWPU/BARGE, TYPE 231A,
 HOUSE, ROWPU SPACE,
 RELEASABLE FLOOR COVERING**

SIZE: 1/4" = 1'-0"

FIG NO: A1 97403

DWG NO: 13226E1946

SHEET 1 OF 1

Figure FO-63
 FP-591/(FP-592 Blank)

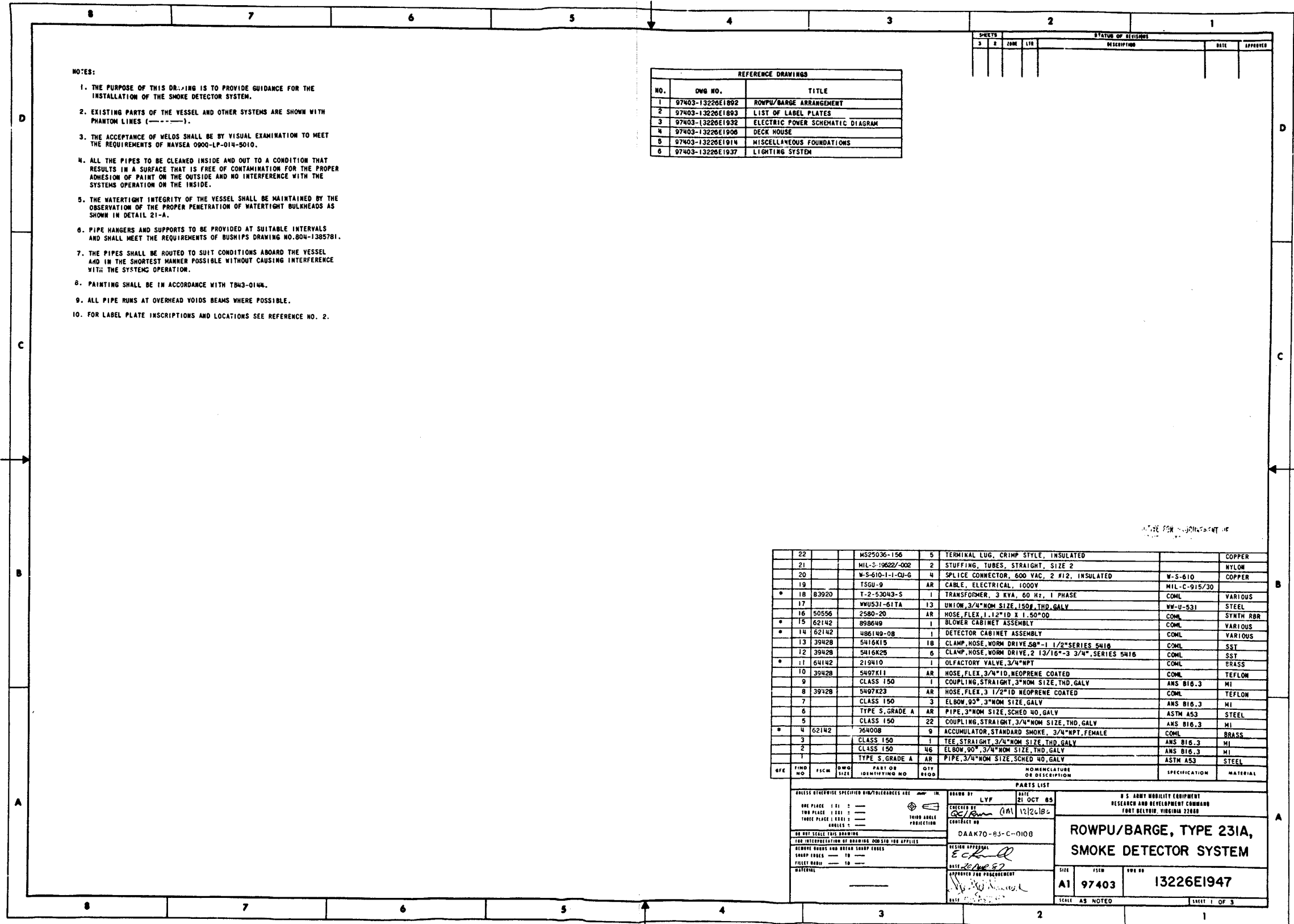


Figure FO-64 (Sheet 1 of 3)
 FP-593/(FP-594 Blank)

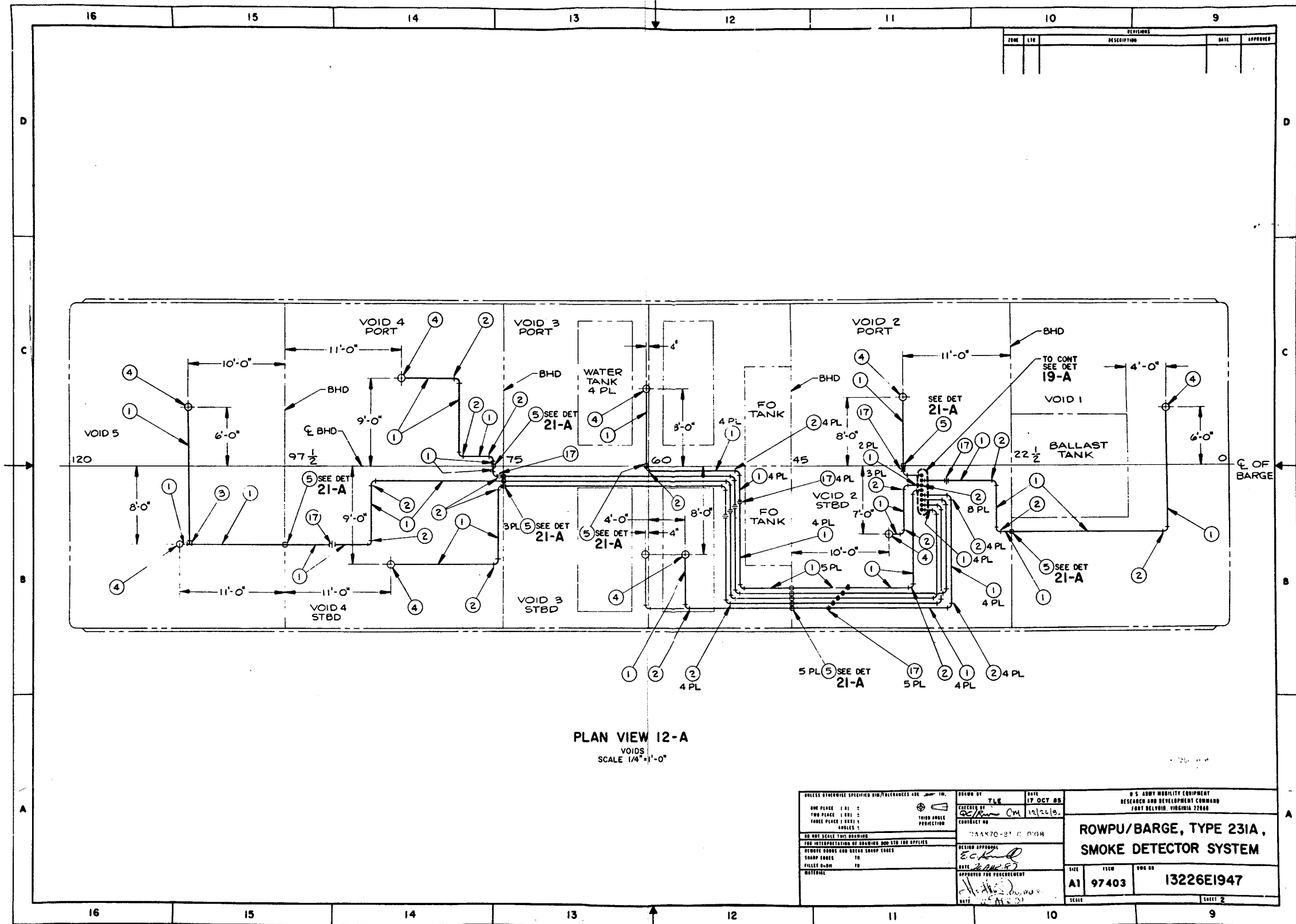


Figure FO-64 (Sheet 2 of 3)
FP-595/(FP-596 Blank)

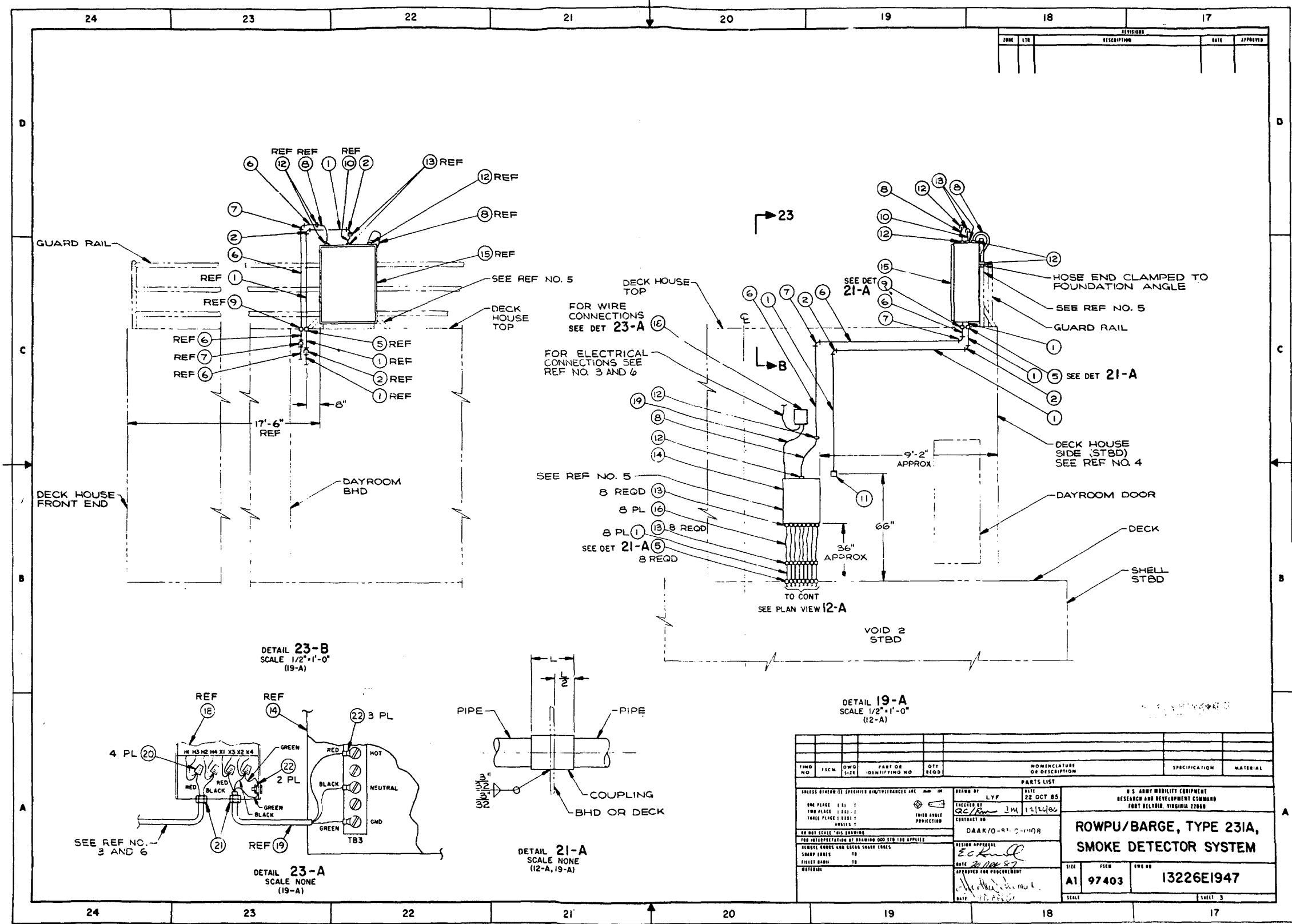


Figure FO-64 (Sheet 3 of 3)
FP-597/(FP-598 Blank)

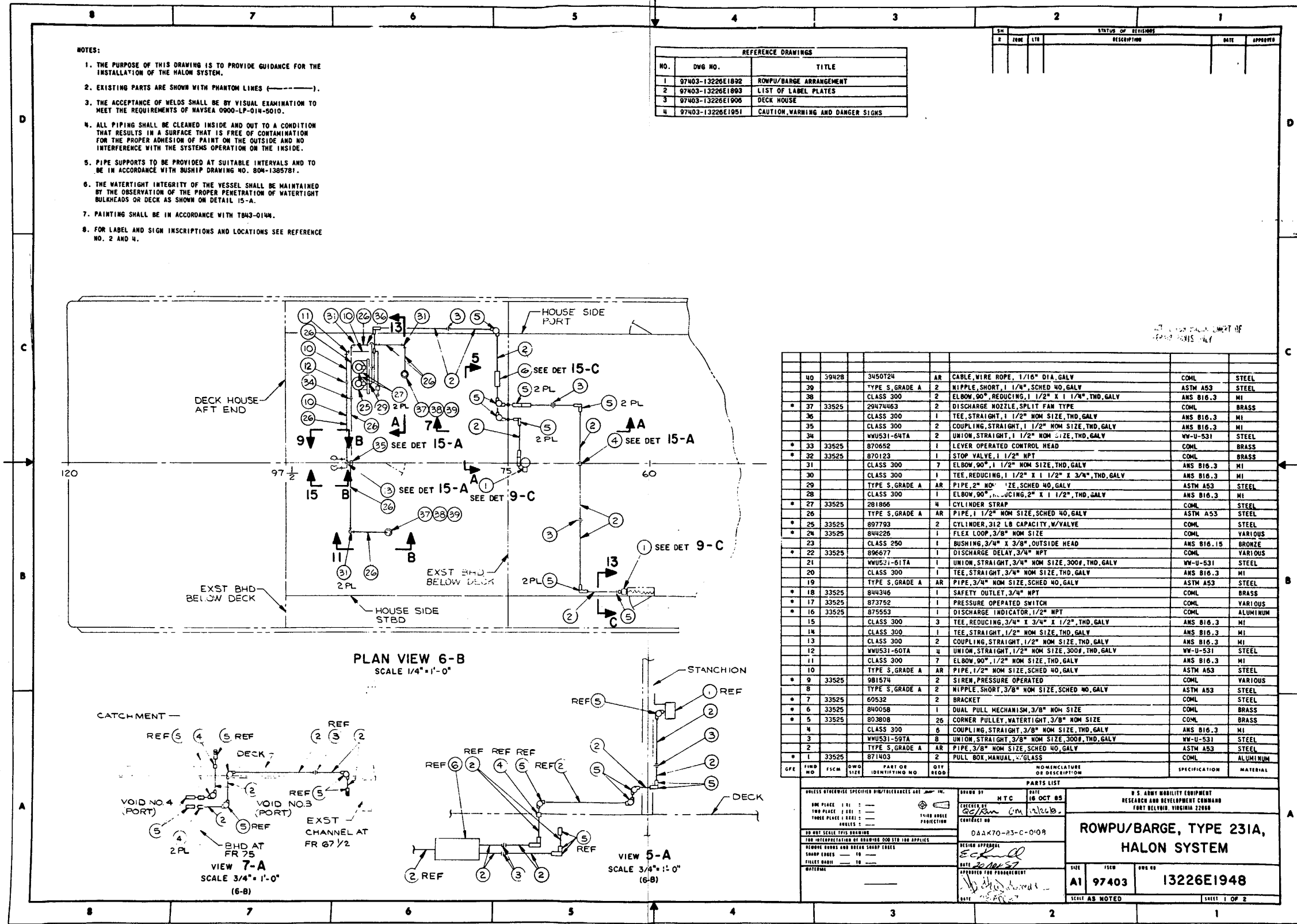


Figure FO-65 (Sheet 1 of 2)
FP-599/(FP-600 Blank)

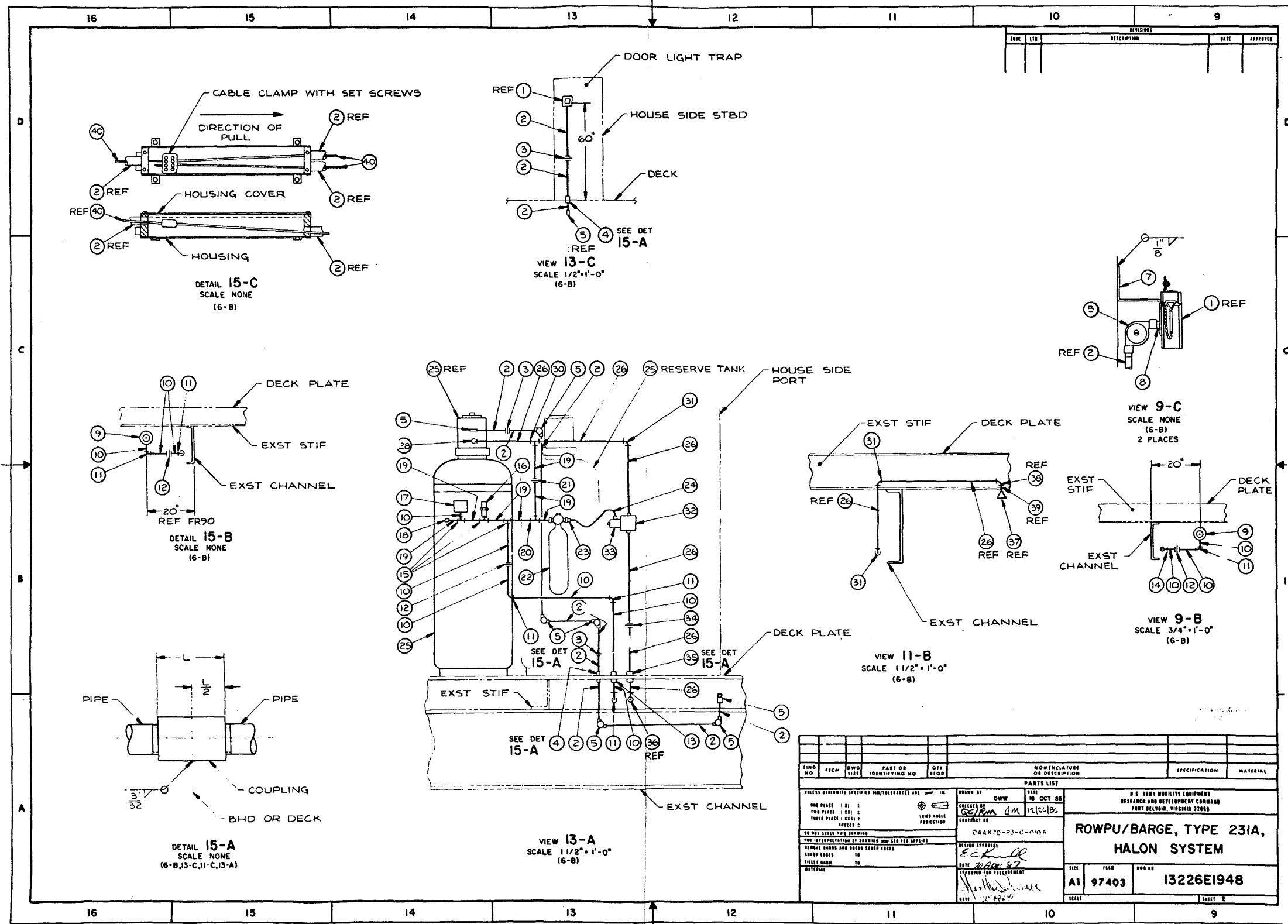


Figure FO-65 (Sheet 2 of 2)
FP-601/(FP-602 Blank)

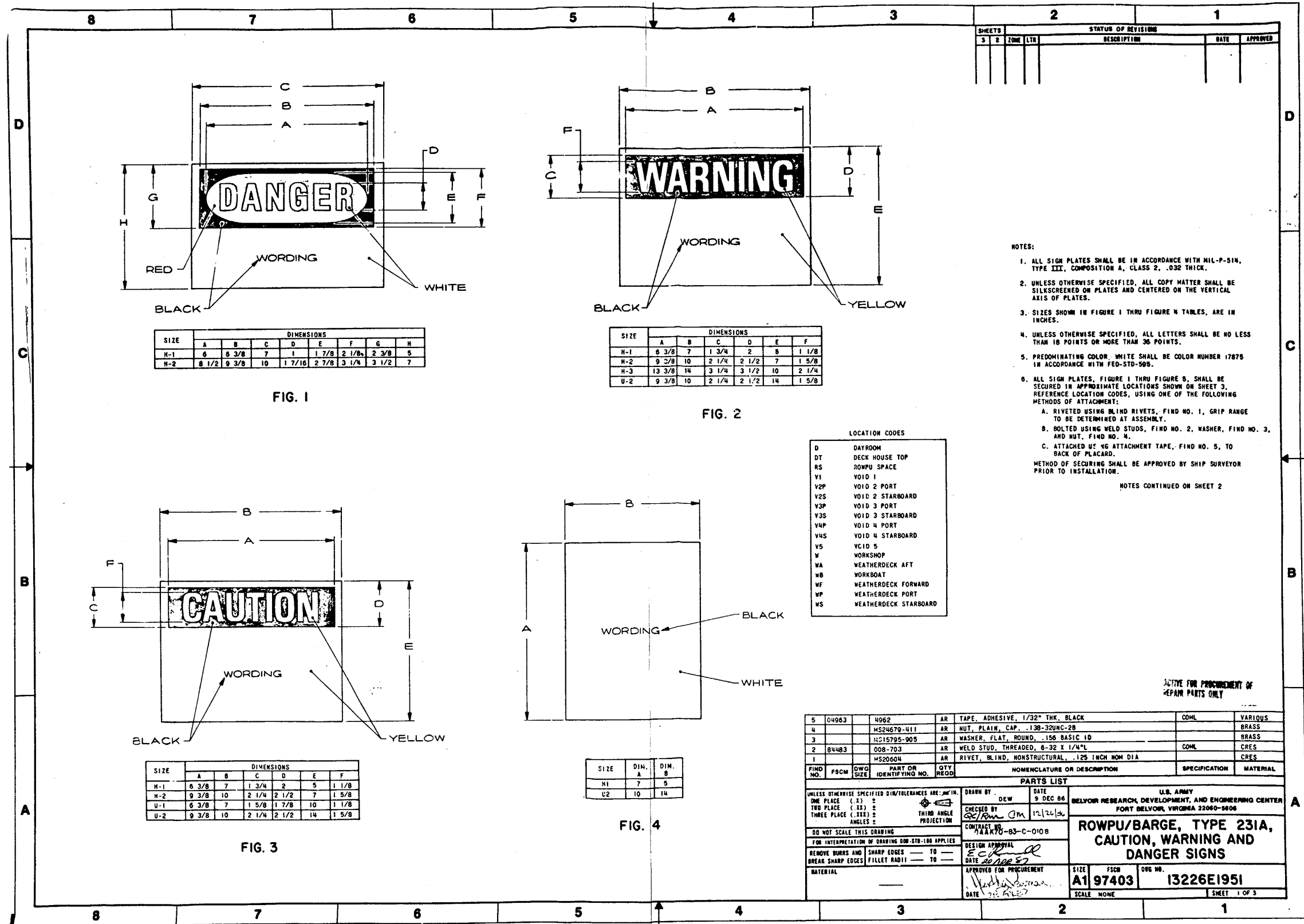


Figure FO-66 (Sheet 1 of 3)
 FP-603/(FP-604 Blank)

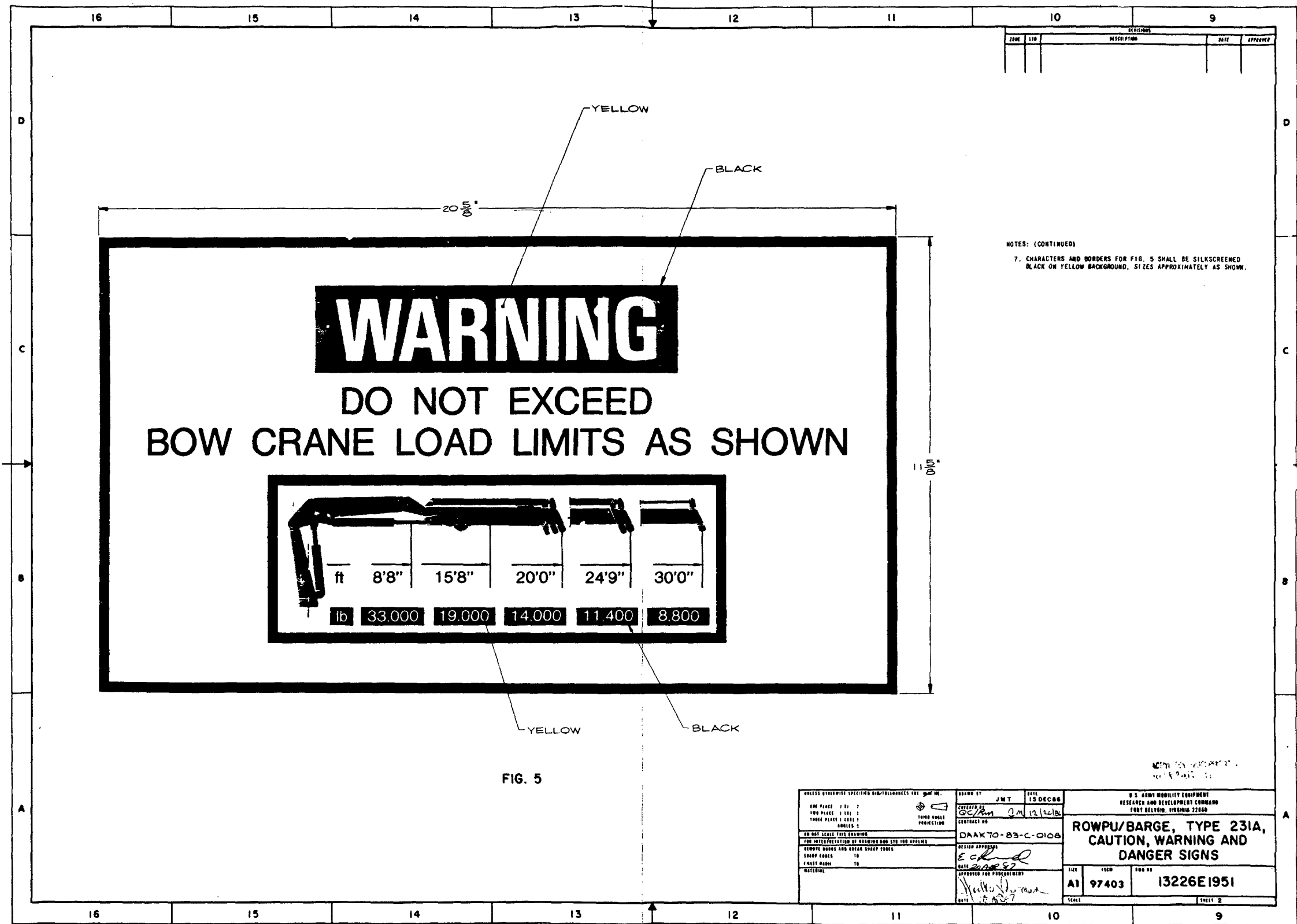


Figure FO-66 (Sheet 2 of 3)
FP-605/(FP-606 Blank)

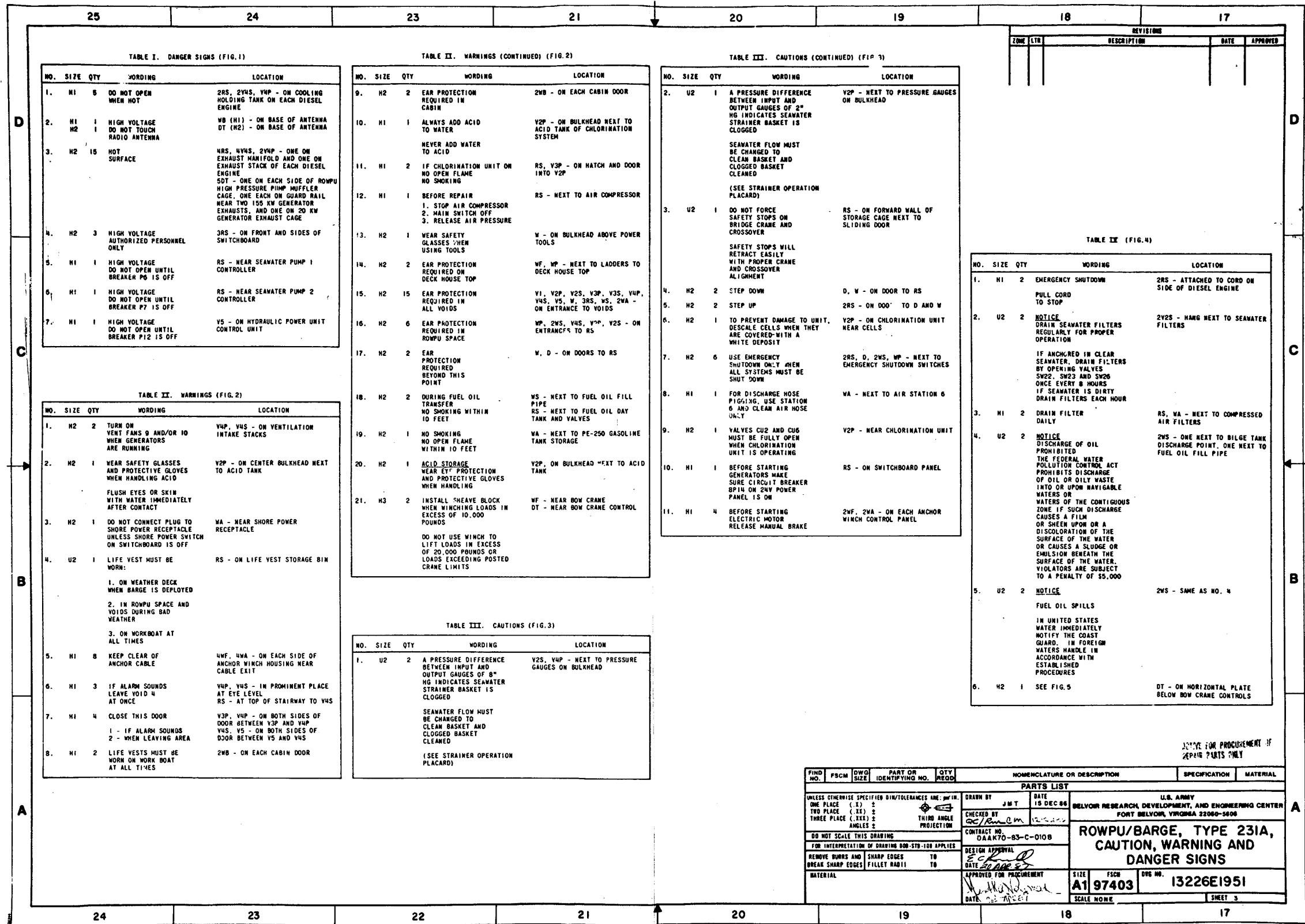



Figure FO-66 (Sheet 3 of 3)
FP-607/(FP-608 Blank)

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

 <p style="font-size: 1.2em; font-weight: bold; margin: 0;">SOMETHING WRONG WITH PUBLICATION</p> <p style="margin: 0;"><i>THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.</i></p>		FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)								
		DATE SENT								
PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE								
<p>BE EXACT PIN-POINT WHERE IT IS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%; padding: 5px;">PAGE NO.</th> <th style="width: 15%; padding: 5px;">PARA-GRAPH</th> <th style="width: 15%; padding: 5px;">FIGURE NO.</th> <th style="width: 15%; padding: 5px;">TABLE NO.</th> </tr> </thead> <tbody> <tr> <td style="height: 400px;"></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.				
PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.							
<p style="text-align: center;">IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.</p>										
PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER		SIGN HERE								

DA FORM 1 JUL 79 **2028-2**

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigrams = .035 ounce
 1 decagram = 10 grams = .35 ounce
 1 hectogram = 10 decagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
 1 sq. kilometer = 100sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
----	------------------------	----------------------------	---------------------	----

PIN: 065369-000