



**CITY OF ANN ARBOR, MICHIGAN**  
Public Services Area/Water Treatment  
919 Sunset Road  
Ann Arbor, Michigan 48103

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May 25, 2012

To: All Contract Document Holders

**RE: Addendum to the Contract Documents for the West High Service Pump Station  
Bid No. ITB-4221**

Attached is a copy of Addendum Number Three for the West High Service Pump Station Project. This Addendum supersedes and updates the Contract Document information for Bid No. ITB-4221. All Bidders shall acknowledge receipt and acceptance of this Addendum Number Three by so indicating on the Invitation to Bid Form located in the existing Contract Documents. Bids submitted without acknowledgment of receipt of this Addendum will be considered informal.

Sincerely,

Brian Steglitz, P.E.  
Sr. Utilities Engineer  
City of Ann Arbor Water Treatment Plant

enc.

May 25, 2012

**ADDENDUM NO. 3  
TO  
BID DOCUMENTS  
FOR  
WEST HIGH SERVICE PUMP STATION  
FOR THE  
CITY OF ANN ARBOR, MICHIGAN**

The following changes, additions, and/or deletions shall be made to the Bid Documents for the West High Service Pump Station Project for the City of Ann Arbor, Michigan, Bid No. ITB – 4221 on which bids are to be received, on or before, 3:00 P.M. Thursday, May 31, 2012.

The information contained herein shall take precedence over the original documents and all previous addenda, and is appended thereto.

**All Bidders shall acknowledge receipt and acceptance of this Addendum No. 3, including all attachments, by so indicating on page ITB-1 of the Invitation to Bid Form. Bids submitted without acknowledgement of receipt of this addendum will be considered informal.**

Changes in the Bid Documents which are outlined below are referenced to a page or drawing in which they appear conspicuously. The Bidder is to take note in its review of the documents and include these changes as they affect work or details in other areas not specifically referenced here. Changes to the original text are bolded, underlined and italicized.

**GENERAL**

TABLE OF CONTENTS

**Revise** Page TC-5, Detailed Specifications, as follows:

Section 15621    ~~Gas Fired~~ Unit Heaters..... **23**

**DETAILED SPECIFICATIONS**

SPECIFICATION SECTION 15510 – HEATING BOILERS

**Revise** Paragraph 2.2.D.8.a, as follows:

- a. Flame sensing shall be accomplished with a **UV scanner** ~~flame rod mounted in the burner mounting plate~~, designed for easy removal for inspection or replacement.

Revise Paragraph 2.5.E, as follows:

- E. The separator shall be furnished with 300# 150# flanged connections.

Revise Paragraph 2.7, as follows:

## 2.7 CONDENSATE RECEIVER

- ~~A. Condensate receiver shall include a 200 gallon stainless steel receiver tank, level switches and duplex stainless steel condensate pumps with capacity of 25 gpm at 65 ft total dynamic head.~~

A. Provide a condensate receiver inclusive of the following:

1. Packaged custom condensate receiver made of 304L stainless steel to resist corrosion. The tank shall be furnished with integral supports and connections for inlet, outlet drain, makeup valve, level switches, thermometer and gauge glass, inlet basket strainer(s) and duplex stainless steel condensate pumps.
2. Tank size shall be approximately 42 to 48 inches diameter and approximately 48 inches in height with 300 gallon capacity. Contractor shall field measure the available space prior to preparing shop drawings.
3. Provide a new concrete pad for the tank and pumps.
4. Two stainless steel centrifugal pumps certified by the manufacturer for a minimum of 25 gpm of 212°F water at 35 psig discharge head. The pumps shall be equipped with mechanical seals for temperatures up to 250 deg. F. The pumps shall be close coupled to TEFC motors.
5. Float switches.
6. Solenoid valves suitable for tight shutoff against 100 psig inlet pressure.
7. Piping between the receiver and the pump shall consist of three sections containing a gate valve and three L type strainers to ensure minimum pressure drop between receiver and pump.
8. Provide a wall mounted NEMA 12 with gasket control panel with motor starter(s) with overload protection, H-O-A switch, selector switch, control circuit transformer, fuse protection, and numbered terminal strips. The wires shall be identified by number. Color coded wiring is not acceptable.

**9. Provide gauge glass (with shutoff valves) of proper size and tank thermometer.**

**Revise** Paragraph 2.9, as follows:

- A. The **entire** boiler **system and related equipment** shall be covered by a ~~One~~ **complete two** year parts and labor warranty, for the first **two** years of operation.
- B. Boiler manufacturer will repair or replace, at its discretion, boiler pressure vessel which is found to be defective, in workmanship, or material within ~~seven~~ **two** years from date of ~~shipment from the factory~~ **final acceptance**, provided said pressure vessel has been operated in accordance with conditions of service outlined by the boiler manufacturer's Installation operation manual and directions.
- C. Pressure vessel shall be warranted for 25 years against thermal shock from date of shipment.

SPECIFICATION SECTION 15621 – GAS FIRED UNIT HEATERS

**Replace** Specification Section 15621 – Gas Fired Unit Heaters in its entirety with Specification Section 15621 – Unit Heaters, which is included with this Addendum as Attachment A.

SPECIFICATION SECTION 17720 – COMPUTERIZED SCADA SYSTEM

**Revise** Paragraph 1.2.C.2, as follows:

- 2. Factory Talk View ME / SE as operator interface, ~~PanelView Plus 1500~~ **refer to section 17360 for additional HMI requirements.**

**DRAWINGS**

**Revise** Drawing S-411 to add canopy detail notes.

**Revise** Drawing M-810 to add exhaust stack notes.

**QUESTIONS AND ANSWERS**

- Q: What is the ceiling height in the Filter Press Control Room as shown on Drawing E-111 and Drawing E-121?
- A. **The ceiling height is approximately 9 feet.**

- Q: On drawing S-400, Detail 10, how long will the rebar cages be in the 30-inch diameter caisson and the 16-inch diameter caisson?
- A. **The rebar cages in both the 30-inch and 16-inch caissons will be full length.**
- Q: On drawing S-400, Detail 10, what is the required cover for the rebar in the caissons?
- A. **The required cover is 6-inches for the 30-inch diameter caissons and 2-inches for the 16-inch diameter caissons.**
- Q: Is a PRV required at each gas unit heater in the proposed West High Service Pump Station?
- A. **Yes. Michcon has indicated that the gas pressure downstream of the meter is 3 psi. Contractor shall field verify and provide the appropriately size PRV.**
- Q: There is no domestic CW shown to the relocated water heaters in the new boiler room. What size should the CW be and where does it come from?
- A. **The “CW” to the hot water heaters is connected to both domestic CW and hot water circulating loop. Extend the existing hot water piping from the basement to the new boiler room shown as 2-inch diameter on Drawing M-830.**
- Q: What is the height of the door opening on the freight elevator?
- A. **8'-0”**

**END OF ADDENDUM**

**SECTION 15621**

**UNIT HEATERS**

**PART 1 - GENERAL**

**1.1 SCOPE OF WORK**

- A. The work required under this Section of the Specifications shall include all labor, equipment and materials to complete heating work indicated on the drawings and specified herein for gas fired unit heaters, and steam unit heaters.
- B. Related Work Specified Elsewhere:
  - 1. Section 09900 - Finish Painting
  - 2. Section 15400 - Plumbing and Drainage
  - 3. Section 15060 – Steam and Condensate Piping
  - 4. Section 15990 - Testing, Balancing and Controls
  - 5. Division 16 - Electrical

**1.2 SUBMITTALS**

- A. Submit product information and shop drawings to Engineer for review and approval per the requirements of Division 1.

**PART 2 - PRODUCTS**

**2.1. GAS FIRED UNIT HEATERS**

- A. Unit heater shall incorporate a single, one-piece burner assembly with a single orifice, be equipped with a titanium stabilized, corrosion resistant aluminized steel. All heat exchangers shall be fabricated with no welding or brazing, only tool pressed mechanical joints. All units shall have a single venturi tube and orifice supplying fuel to a one-piece burner housing.
- B. Unit heater shall include fan limit safety controls, 24 volts control transformer, combustion air pressure switch, spark ignition with electronic flame supervision, access panel and baked enamel finish. Unit shall be suitable for ceiling suspension. Units shall be equipped with manual summer/winter switch.
- C. Unit heater shall have a factory-installed power vent device to draw combustion air from outside of the building. The control compartment and the access door shall be sealed. Units shall include a flame rollout switch. Units shall be equipped with a centrifugal blower with direct drive from an open drip proof motor with internal overloads.
- D. Unit heater shall be ANSI certified, have a propeller type fan or blower type fan with optional summer/winter switch control relay and be equipped with 60° down turn nozzle when indicated with vertical louvers, single stage heavy duty room thermostat (24V) with summer-winter sub-base switch White Rodgers Model 1E50-303 with sub-base, guard with locking cover and master terminal vent cap.

- E. Provide concentric adapter box for connecting the combustion and vent air pipes from the unit to a type 'B' double wall exhaust vent to discharge to atmosphere. Vent through walls shall have metal flashings and be sealed from the weather, supplied with inlet air guard and screened exhaust cap. Vents which discharge through roof shall be Type "B" double wall vent with proper C.O. fittings, deck plates, tall cone flashing and storm collar and terminal vent per standard drawing details located in the contract drawings.
- F. Unit heater capacities shall be as shown in the Gas Fired Heating Equipment Schedule in the contract drawings.
- G. Manufacturer:
  - 1. Reznor UDAP Series or Modine shall be acceptable equivalent.

## **2.2. STEAM UNIT HEATERS**

- A. Unit heater shall incorporate copper tubing for steam. Heat exchanger composed of 0.030" thick, 0.867" O.D copper tubes and aluminum fins spaced approximately 10-1/2 fins per inch.
- B. Fan/motor assembly to include galvanized fan guard with Horizontal discharge configuration.
- C. 2-speed standard motor is a hermetically sealed motor which is maintenance free. The motor is wired for 115/1/60 supply voltage. The motor speed is field adjustable to run at high or low RPMs. The flexibility of changing motor speeds allows the Owner to adjust the unit to high speed for increased BTUH output, or low speed for reduced noise level. All motors have internal protection as a standard feature.
- D. Provide with heavy duty thermostat.
- E. Cabinet and louvers constructed of galvanized pre-painted steel, with Spring mounted horizontal louvers
- F. Unit heater capacities shall be as shown in the Steam Heating Equipment Schedule in the contract drawings.
- G. Manufacturer:
  - 1. Reznor Model WS, or Modine, Model HSB/HC-24 shall be acceptable equivalent.

## **PART 3 - EXECUTION**

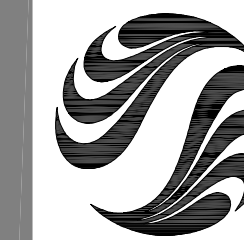
### **3.1 INSTALLATION**

- A. Install unit in location where shown on the Drawings complete with a minimum of 4 stainless steel rod supports for each unit, piping and sealing materials, all as required for a complete and workable system and as recommend by the manufacturer. Start unit up and adjust for proper operation and air flow patterns. Installations shall conform to or be better than the local authorities having jurisdiction.
- B. Arrange unit heaters to create flow patterns as indicated on Drawings. Mount units at mounting heights as indicated on drawings. Adjustments may be made to suit vent and piping installations.

- C. Installation and wiring of thermostat to be by Division 16. Place lamacoid labels on either side of thermostat to indicate "Summer - fan on" operation and "Winter - fan auto" operation.
- D. Provide TAB (Test and Balance) certification on all unit heaters with ductwork supply systems.
- E. Install to mounting heights as indicated on drawings and with maximum 2 ft. long red-i-rod. Provide steel angle iron frame in addition as required to accommodate this arrangement. Install all 4 red-i-rod mounting points to rigid steel framing.

END OF SECTION



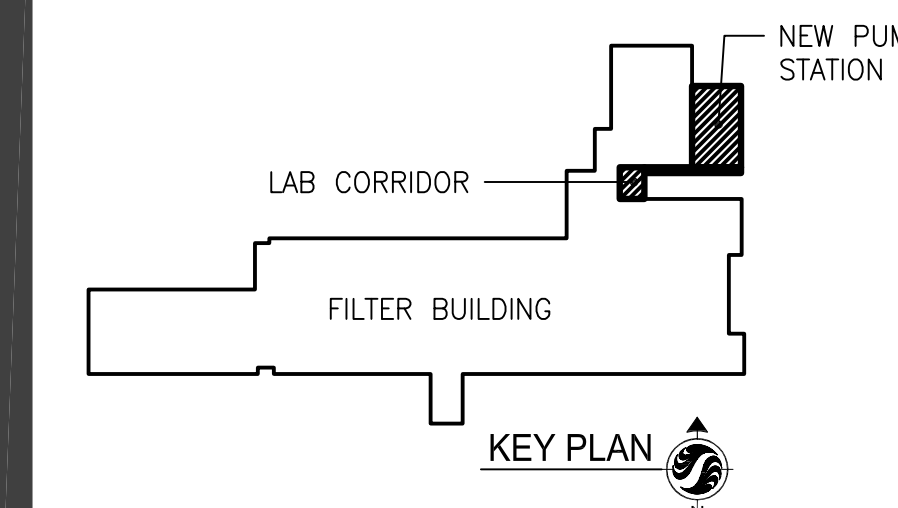


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Legend



Notes

Revision	By	Appd.	YYMMDD
F ADDENDUM NO. 3	GRW	GRW	12.05.25
F ADDENDUM NO. 2	GRW	GRW	12.05.18
E BID SET	GRW	GRW	12.05.01
D MDOE DRAFT SUBMITTAL	GRW	GRW	12.03.14
C PLANNING COMMISSION SUBMITTAL	GRW	GRW	12.01.27
B 90% REVIEW	GRW	GRW	12.01.13
A 30% REVIEW	GRW	GRW	11.12.15

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File Name: 17301-S411.DWG 11.12.15

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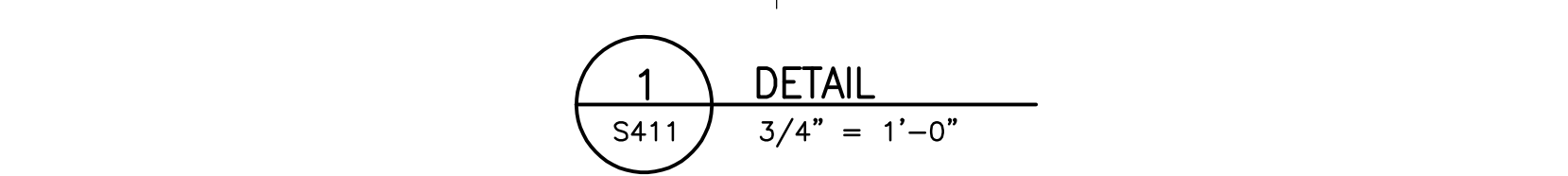
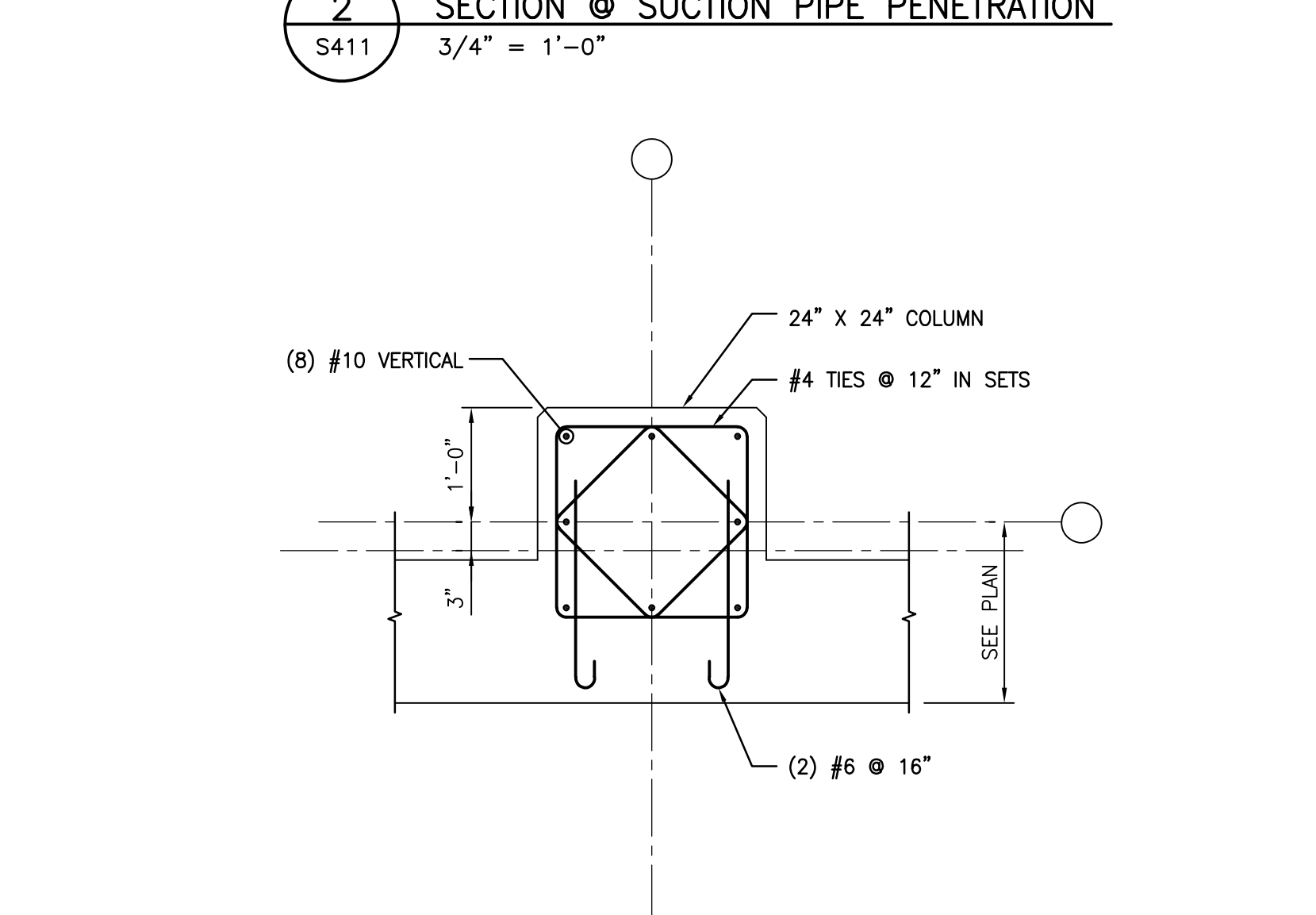
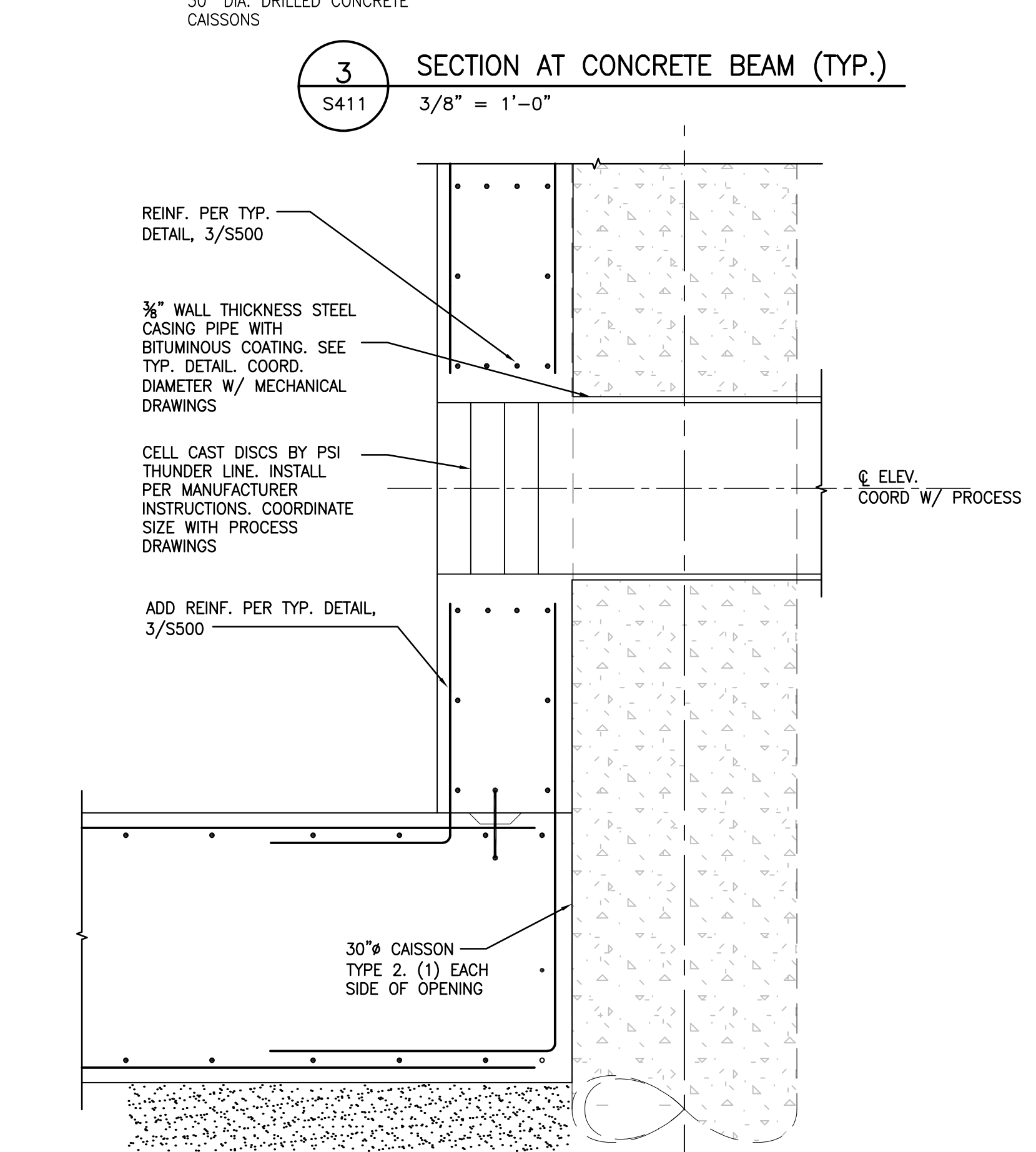
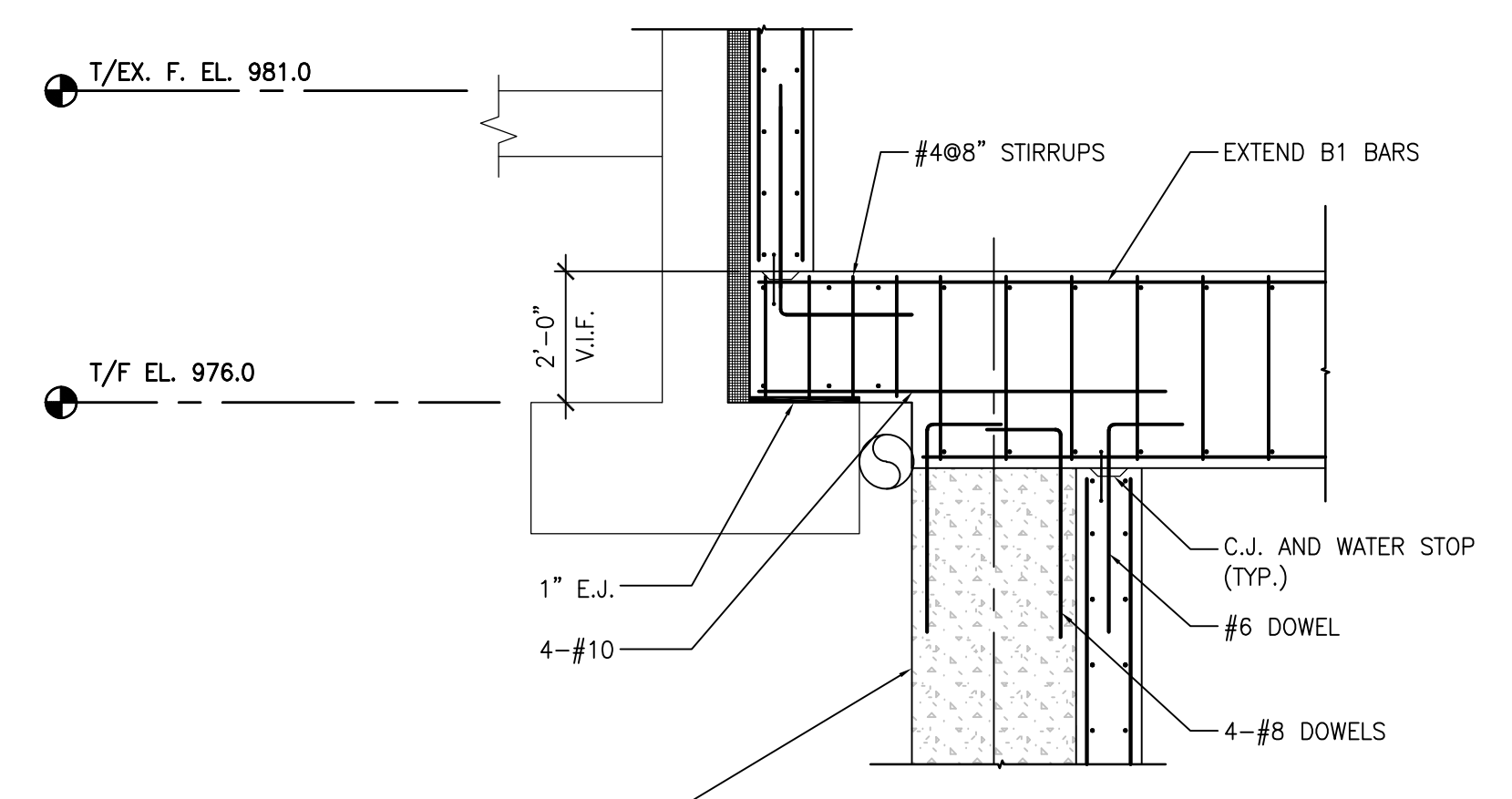
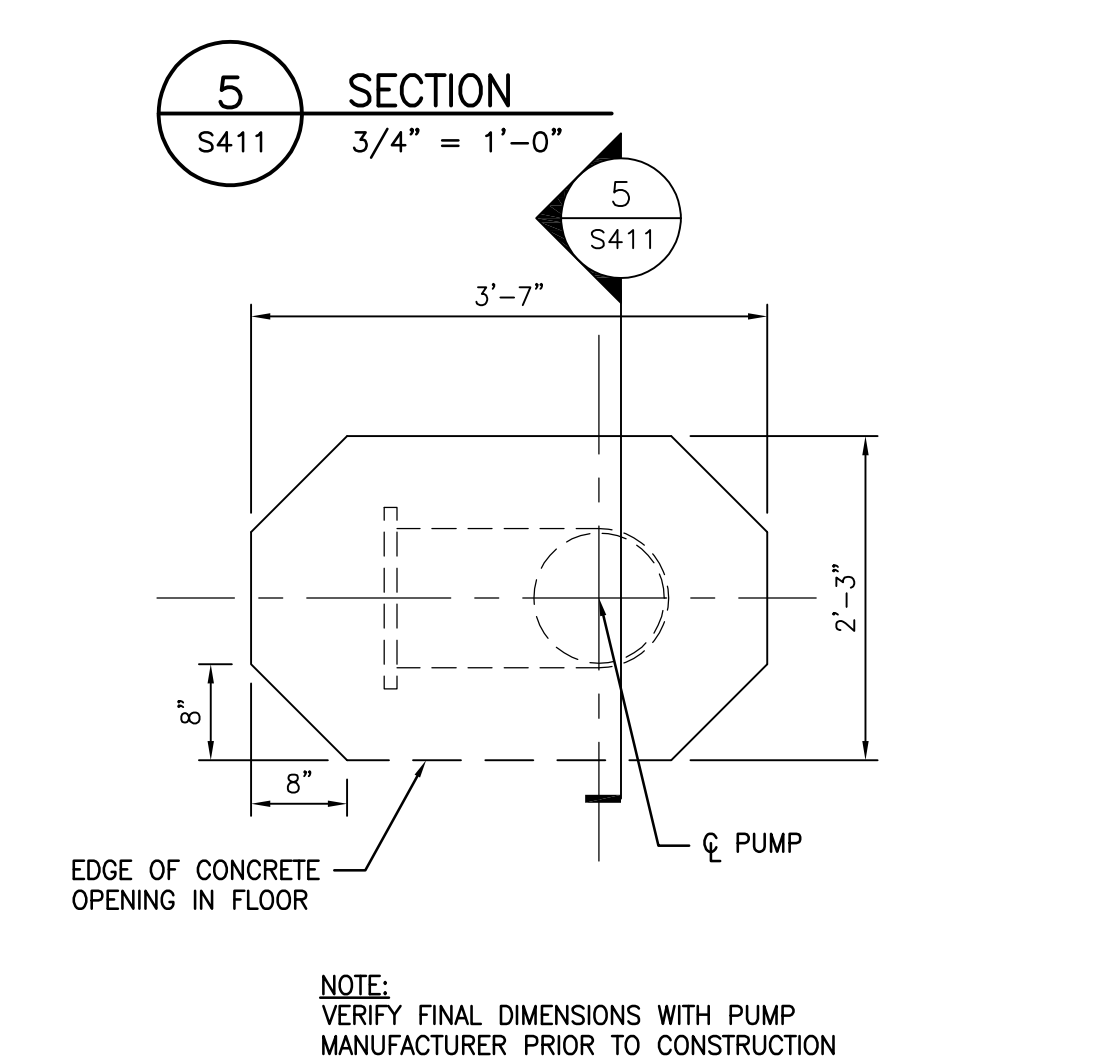
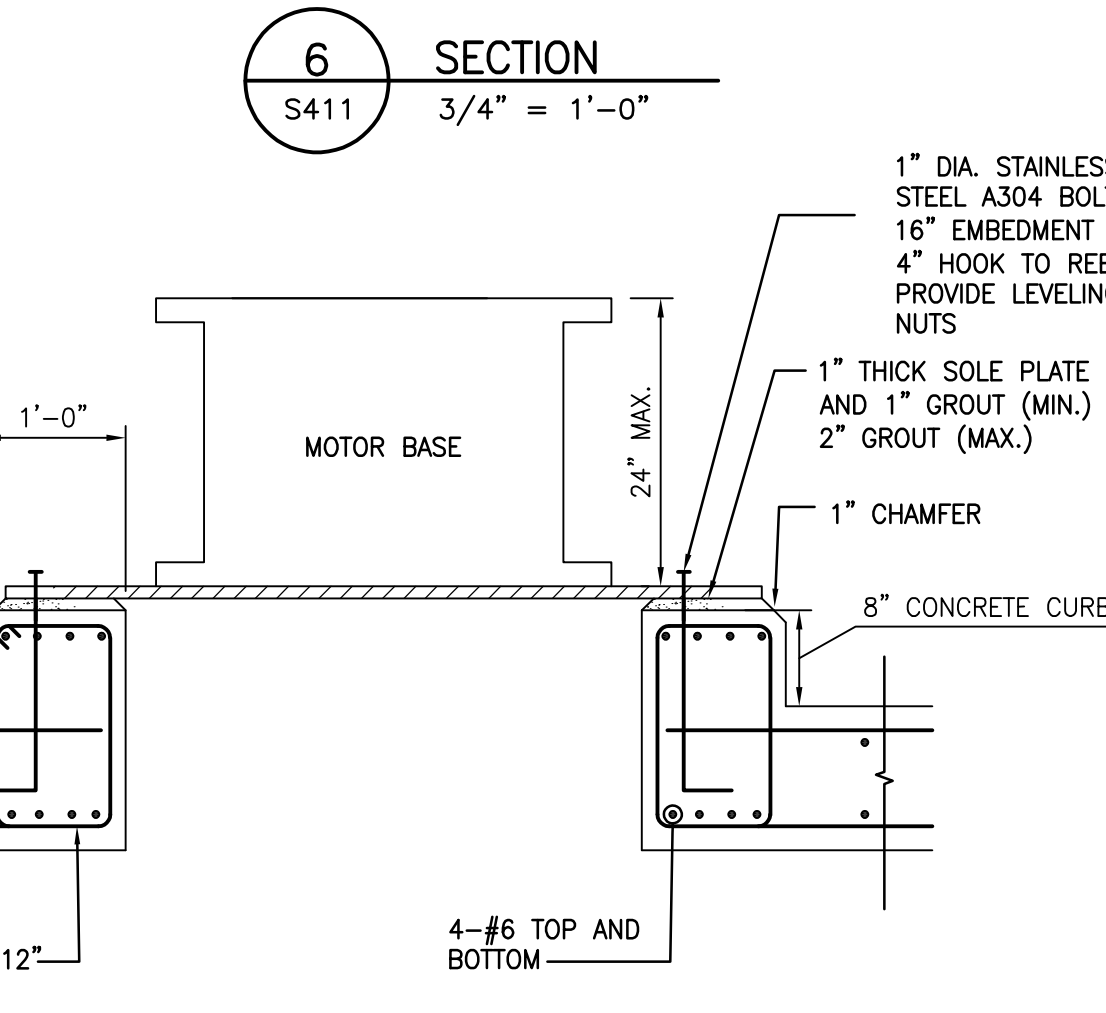
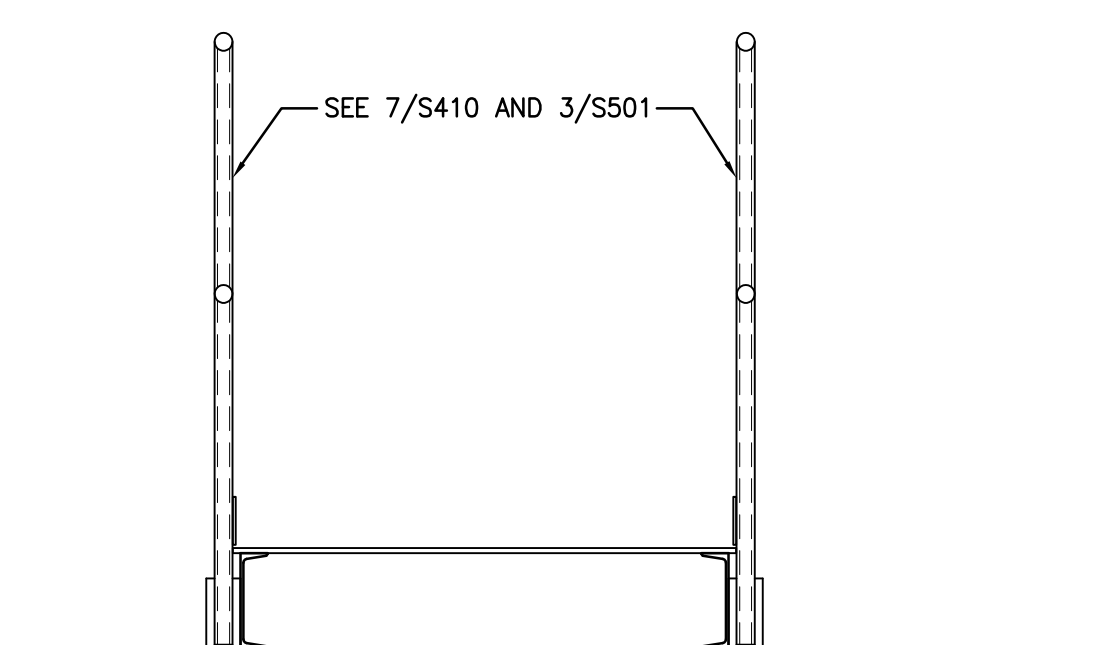
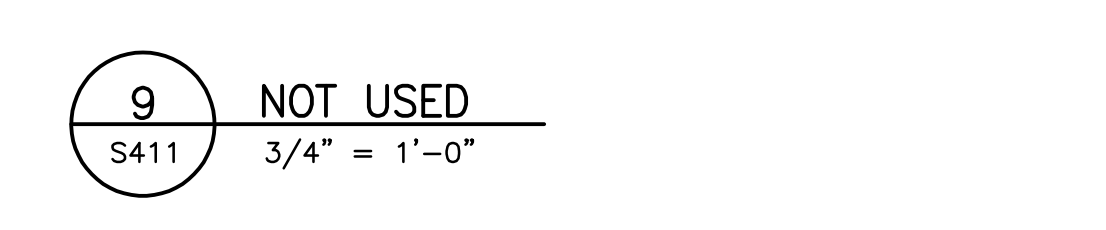
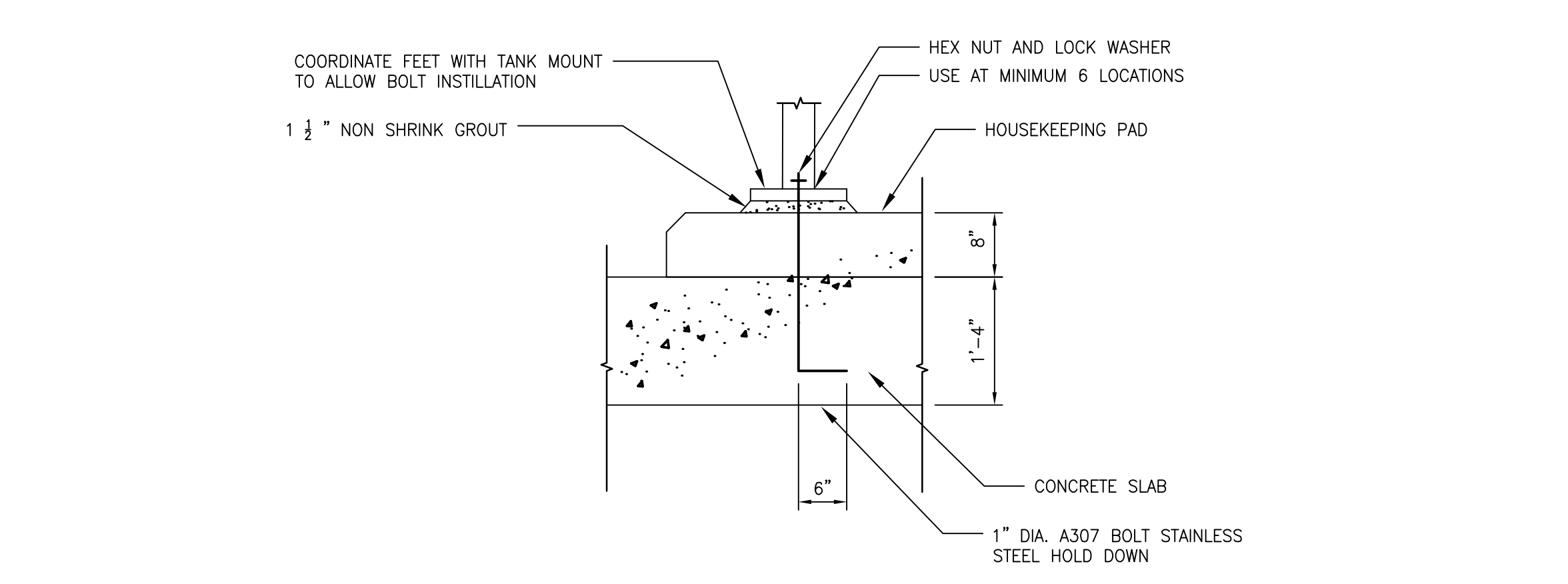
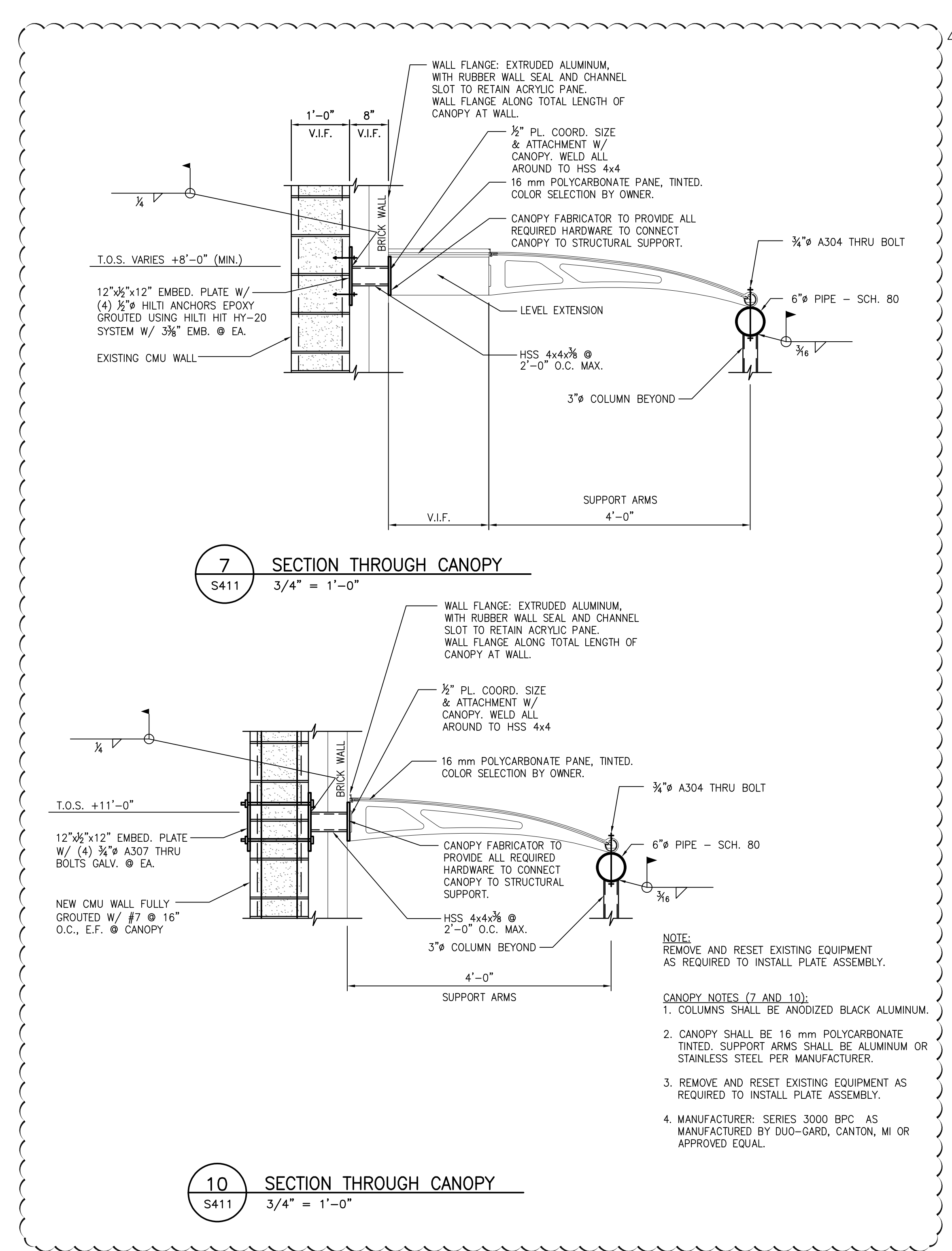
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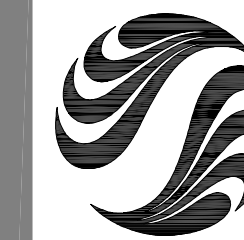
CITY OF ANN ARBOR

WEST HIGH SERVICE PUMP STATION  
 Ann Arbor, Michigan

Title  
 STRUCTURAL FOUNDATION SECTIONS

Project No.	Scale	
2075117301	AS NOTED	
Drawing No.	Sheet	Revision





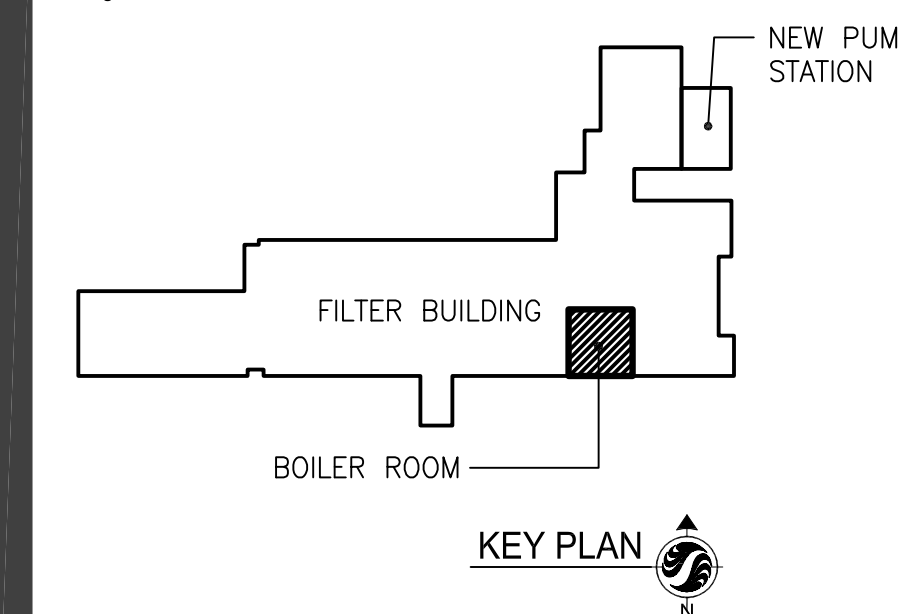
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File Name:	17301-M810.DWG	Dwn.	Chkd.	Dsgn.	11.12.15
Permit-Seal					YYMMDD

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CITY OF ANN ARBOR

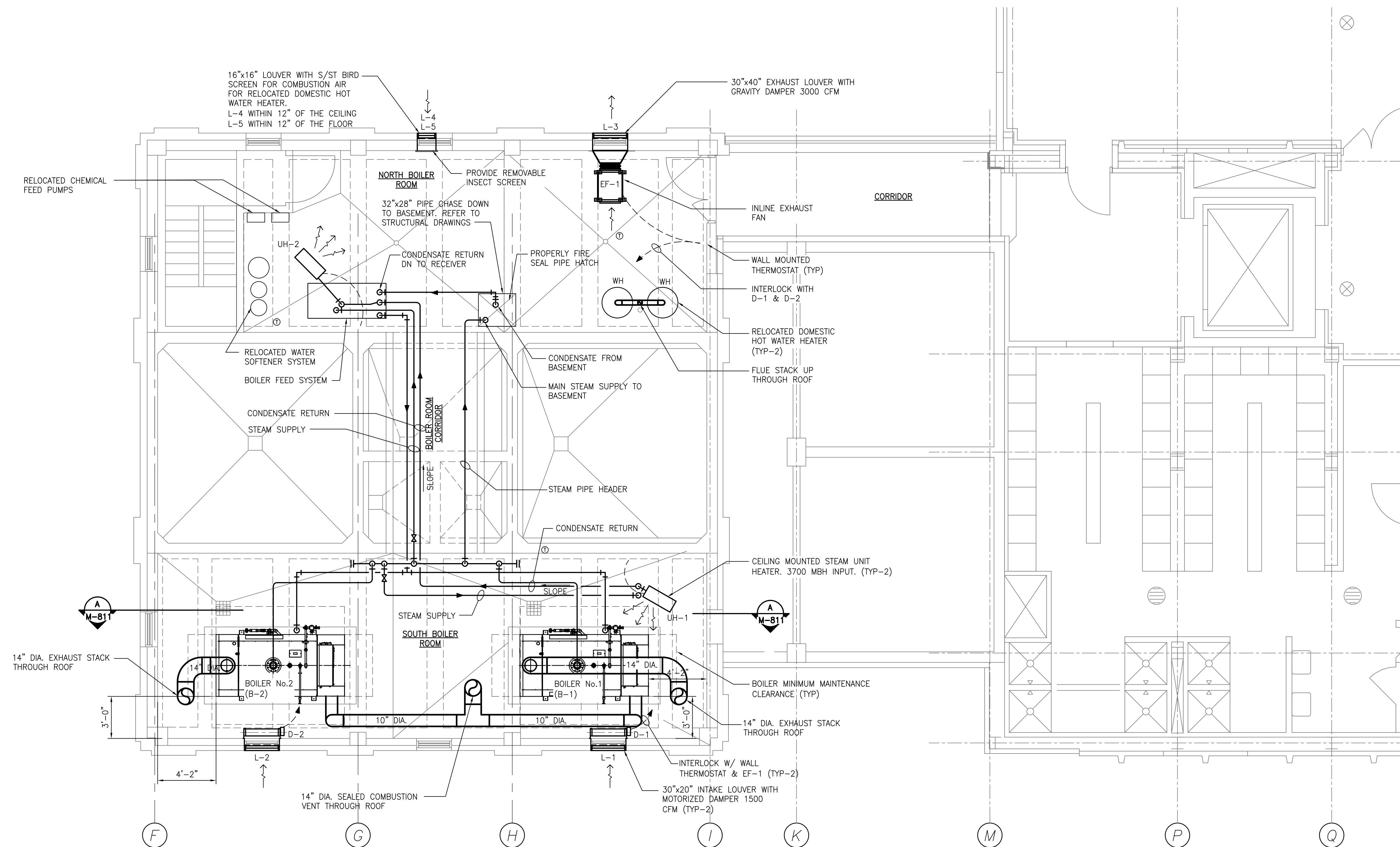
WEST HIGH SERVICE  
 PUMP STATION  
 Ann Arbor, Michigan

Title

MECHANICAL - HVAC  
 BOILER SYSTEM UPGRADE  
 NEW BOILER ROOM - PLAN

Project No.	Scale
2075117301	AS NOTED
Drawing No.	Sheet
	Revision

M-810 131 of 144 0



**NOTE:**  
 THE (2) 14" DIA. EXHAUST STACKS THROUGH THE ROOF SHALL BE LOCATED 10'-0" FROM THE FACE OF THE MASONRY PENTHOUSE ON THE ROOF TOP.

**CONTRACTOR SHALL:**

1. REMOVE EXISTING ROOF DRAINS CAST INTO THE EXISTING CONCRETE ROOF.
2. CORE NEW OPENINGS FOR THE STACKS (2).
3. CORE NEW OPENINGS FOR THE ROOF DRAINS TO BE RELOCATED (2).
4. SET NEW PANS, DRAINS, DOMES AND RE-PIPE AND CONNECT TO EXISTING ROOF DRAIN LINES.
5. INSULATE ROOF DRAINS, PIPING AND PANS PER SECTION 15250.
6. REPAIR ROOFING AT ALL NEW PENETRATIONS.

**THIRD FLOOR HVAC PLAN - NEW BOILER ROOM**  
 SCALE: 1/4" = 1'-0"

- GENERAL NOTES:**
1. ALL NEW WORK SHALL COMPLY WITH THE LATEST MICHIGAN BOILER CODE INCLUDING ALL BULLETINS.
  2. REFER TO DRAWING M-850 FOR ALL PIPE SIZES.