

Project: Pier A – River Water Geothermal  
System Maintenance

Date: January 3, 2017

RE: Addendum #1

# of Pages: 10

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The following information is provided with respect to the Request for Proposals for the Battery Park City Authority Pier A – River Water Geothermal System Maintenance Project in response to a question received by 4:00 p.m. on December 22, 2016.

**Question/Response:** (the response to the question is shown in Italics immediately after the question)

- 1) Can you provide plans showing the location, details and weights of the arrays to be maintained?

*The array location diagram may be found on pages 2 and 3 attached hereto, while pages 4 through 10 contain the details and specifications for the arrays.*

*Each array weighs approximately 6,500 lbs.*

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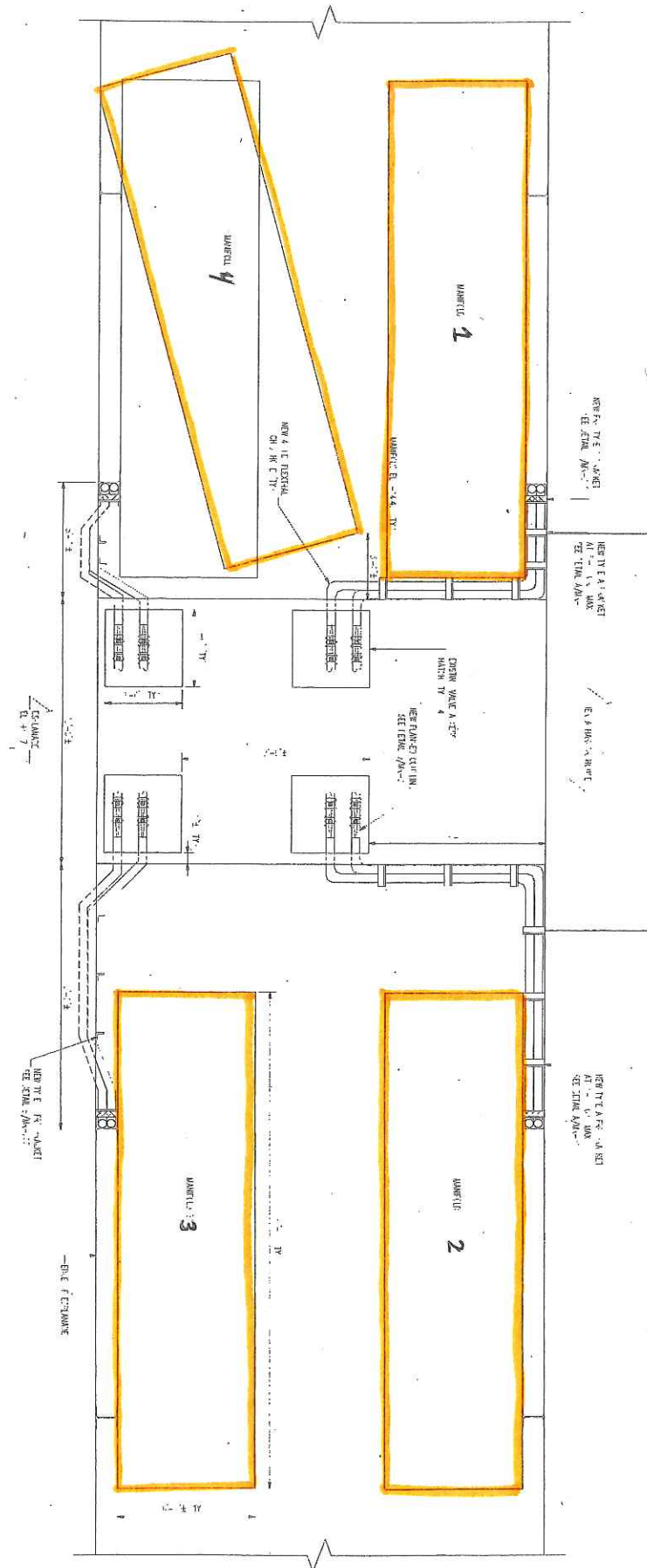
By signing the line below, I am acknowledging that all pages of Addendum #1 have been received, reviewed and understood, and the information therein will be incorporated into the bid price submitted. This document must be attached to the Proposal for consideration.

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Number of pages received: \_\_\_\_\_ <fill in>



**EXISTING PLAN**  
SCALE: 3/8" = 1'-0"

## Existing Structure (Pier A)





Pier A Harbor House

Battery Park Slip 6

BlackTail

Location of Array # 2

Location of Array # 3

Location of Array # 1

Location of Array # 4



CLOSED LOOP COOLING ARRAY (CLCA) DESIGN PERFORMANCE												
SYSTEM OPERATING PARAMETERS							COMPONENT INFORMATION				REMARKS	
SEASON/MODE	COND WTR EWT (°F)	COND WTR LWT (°F)	AMB WTR TEMP (°F)	AMB WTR FLOW (FT/SEC)	CAPACITY (RT/HR)	COND WTR FLOW (GPM)	COND WTR PRESS DROP (PSI)	COND WTR COMPOSITION	COOLER BUNDLE MANUF	MODEL #	QUANTITY	
COOLING	98.0	88.0	80.0	1.0	3,750,000	750	8	POLYPROPYLENE GLYCOL - 30%	WALTER GEAR	4"D 16T 1-1/2TT-320	4 PER ASSEMBLY 16 TOTAL	SYSTEM WILL CONSIST OF A TOTAL OF 16 COOLER TUBE BUNDLES WITH ASSOCIATED HARDWARE AS SHOWN IN PROJECT DRAWINGS. ARRAY ASSEMBLIES WILL CONSIST OF FOUR COOLER TUBE BUNDLES CONNECTED IN SERIES. ARRAYS ARE TO BE FABRICATED AS SHOWN IN DRAWINGS AND IN ACCORDANCE WITH COOLER BUNDLE MANUFACTURER INSTRUCTIONS.
HEATING	25.0	28.4	34.4	1.0	1,140,000	750	12					

- NOTES
1. DO NOT SCALE DRAWINGS – ALL DIMENSIONS TO BE FIELD VERIFIED

2. WATER LEVELS INDICATED (MWL,LWL,etc.) PER H3 DRAWINGS/INFO

3. VERTICAL POSITION OF ARRAY TO BE 4 FEET ABOVE MUDLINE AT THE BOTTOM OF COOLER TUBES.

4. ARRAY SEAT BEAM HEIGHT ABOVE MUDLINE AS REQUIRED TO PROVIDE 4'-0" CLEARANCE FROM ARRAY TUBES TO MUDLINE – FIELD VERIFICATION OF DEPTH REQUIRED. LOCATION SHOWN ON DRAWINGS IS APPROXIMATE BASED ON H3 DRAWINGS FOR PIER A

5. LOCATION SHOWN FOR ARRAY VALVE ACCESS PANEL TO BE VERIFIED AND/OR REVISED ACCORDING TO FIELD CONDITIONS AND SUPPORT UNDER PROMENADE "BRIDGE". THIS AREA COULD NOT BE INSPECTED FOR PREPARATION OF THESE DRAWINGS

6. ARRAY HOSE CONNECTIONS TO BE HOSECRRAFT USA TYPE RC2 (CHEMICAL HOSE) – 4" ID, 8" MIN BEND RADIUS.

7. ARRAY HOSE ROUTINGS ARE TO COMPLY WITH MANUFACTURER MINIMUM BEND RADIUS REQUIREMENTS

8. ALL FITTINGS CONNECTED DIRECTLY TO ARRAYS WILL BE BRASS OR BRONZE.

9. ALL POINTS OF CONTACT BETWEEN ARRAY SUPPORT HARDWARE AND ARRAY FRAME COMPONENTS WILL INCLUDE GALVANIC ISOLATION INSULATORS BETWEEN ARRAY COMPONENTS AND FRAME COMPONENTS. ~~INSULATORS TYPICALLY PROVIDED BY COOLER MANUFACTURER~~

10. EACH HOSE CONNECTION IS TO BE MADE UP WITH TWO (2) STAINLESS STEEL HOSE T-BOLT STYLE CLAMPS – HOSECRRAFT HCLTB1S6 (FIELD VERIFY PROPER SIZE). CLAMPS WILL BE INSTALLED IN STRICT COMPLIANCE WITH MANUFACTURERS INSTRUCTIONS/RECOMMENDATIONS.

11. ALL LIFTING EQUIPMENT INCLUDING SLINGS/CHAINS/WIRE ROPE, AND ALL ASSOCIATED HARDWARE INCLUDING HOOKS AND OTHER CONNECTION EQUIPMENT FOR THE LIFTING EYES ON ARRAY FROM ARE TO BE RATED AT NO LESS THEN 4000 LBS FOR EACH OF THE FOUR LIFTING CONNECTIONS. TOTAL LIFTING CAPACITY MUST BE NO LESS THAN 16,000 POUNDS – SEE ARRAY FRAME DRAWING FOR ADDITIONAL LIFTING DETAILS

12. GROOVED COUPLING CAPS (VICTAULIC #60) TO BE INSTALLED AFTER ISOLATION BY THE VALVES AND REMOVAL OF SPOOL PIECE. COUPLINGS TO REMAIN ON ISOLATION VALVES FOR CAPS.

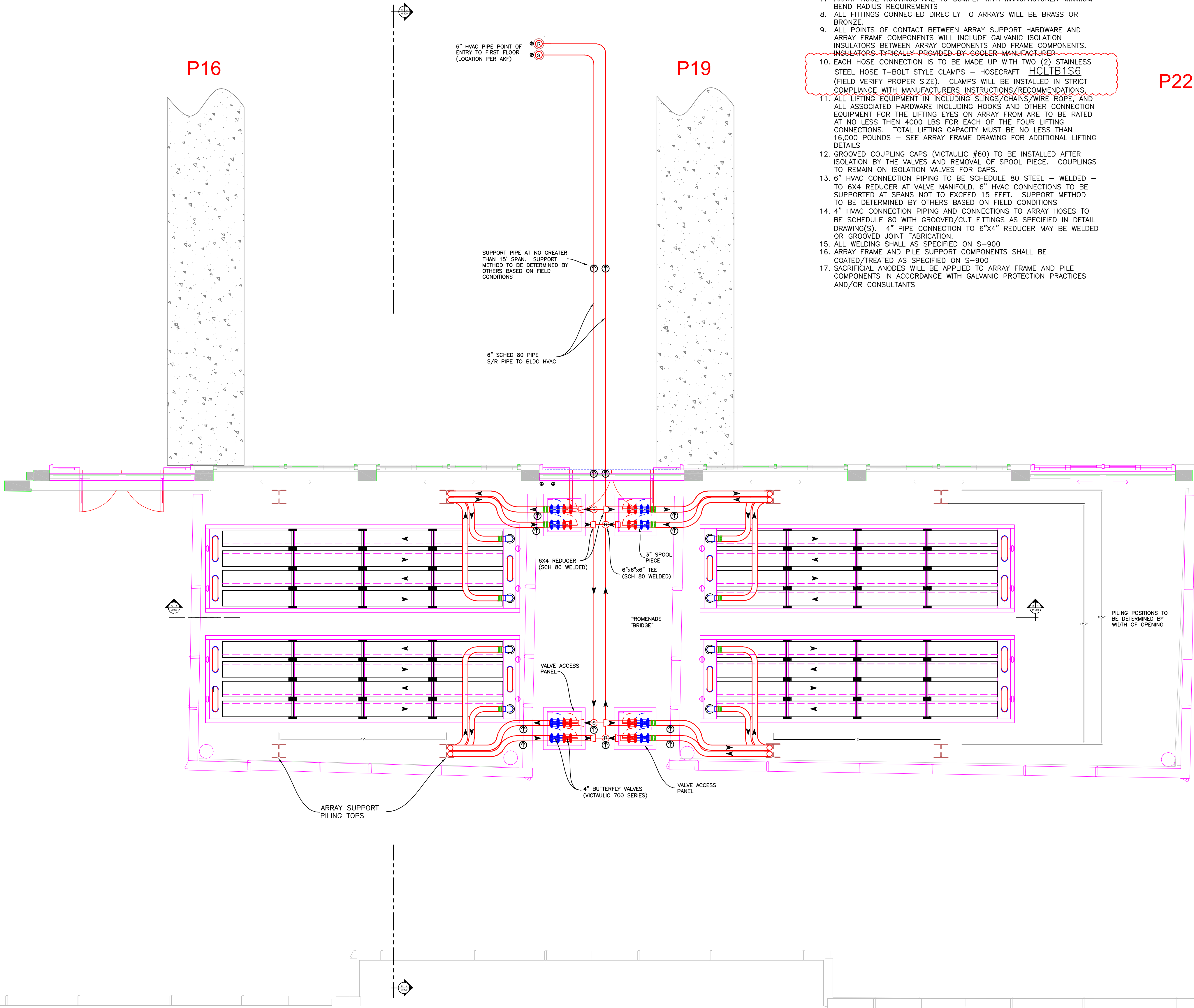
13. 6" HVAC CONNECTION PIPING TO BE SCHEDULE 80 STEEL – WELDED – TO 6X4 REDUCER AT VALVE MANIFOLD. 6" HVAC CONNECTIONS TO BE SUPPORTED AT SPANS NOT TO EXCEED 15 FEET. SUPPORT METHOD TO BE DETERMINED BY OTHERS BASED ON FIELD CONDITIONS

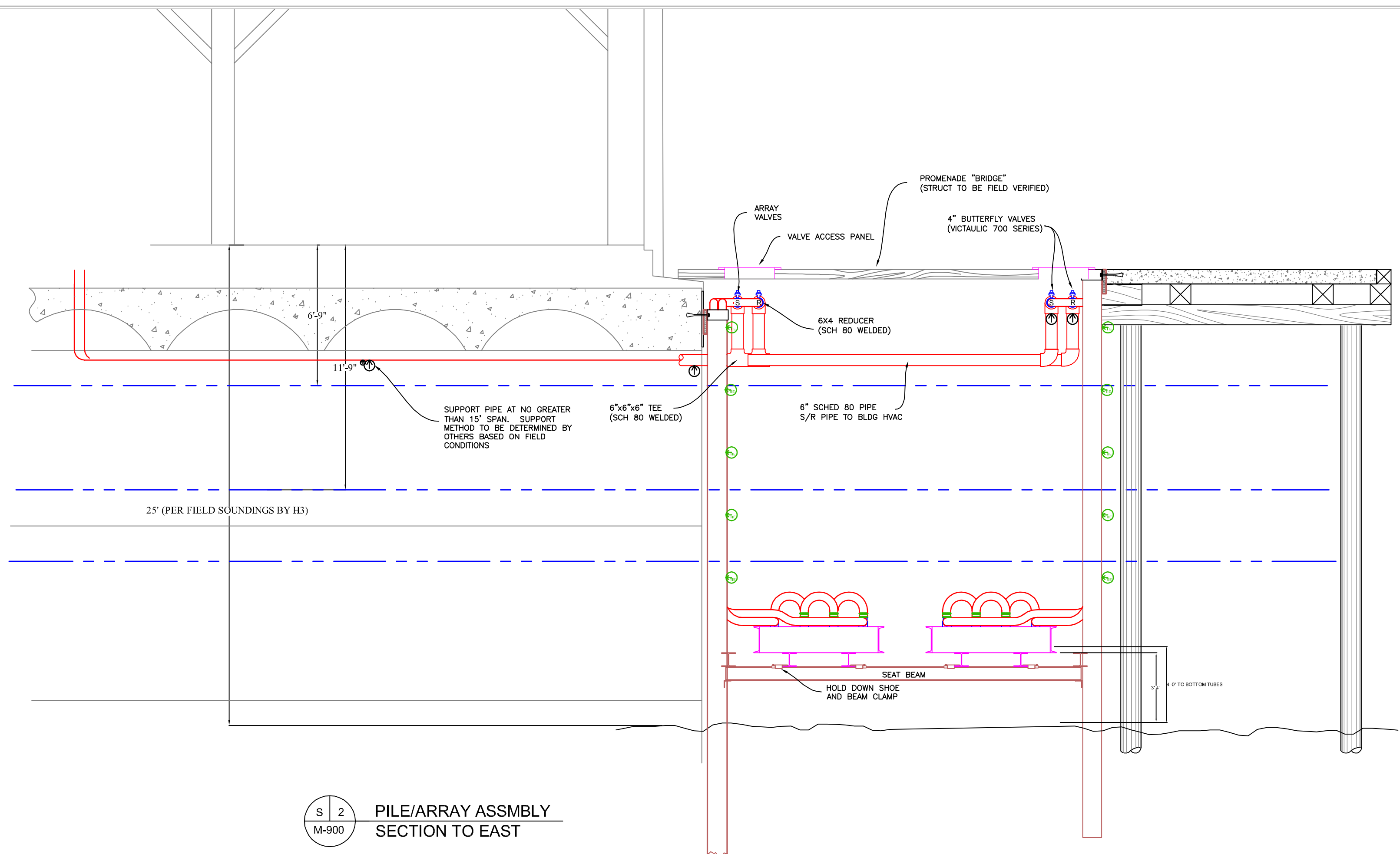
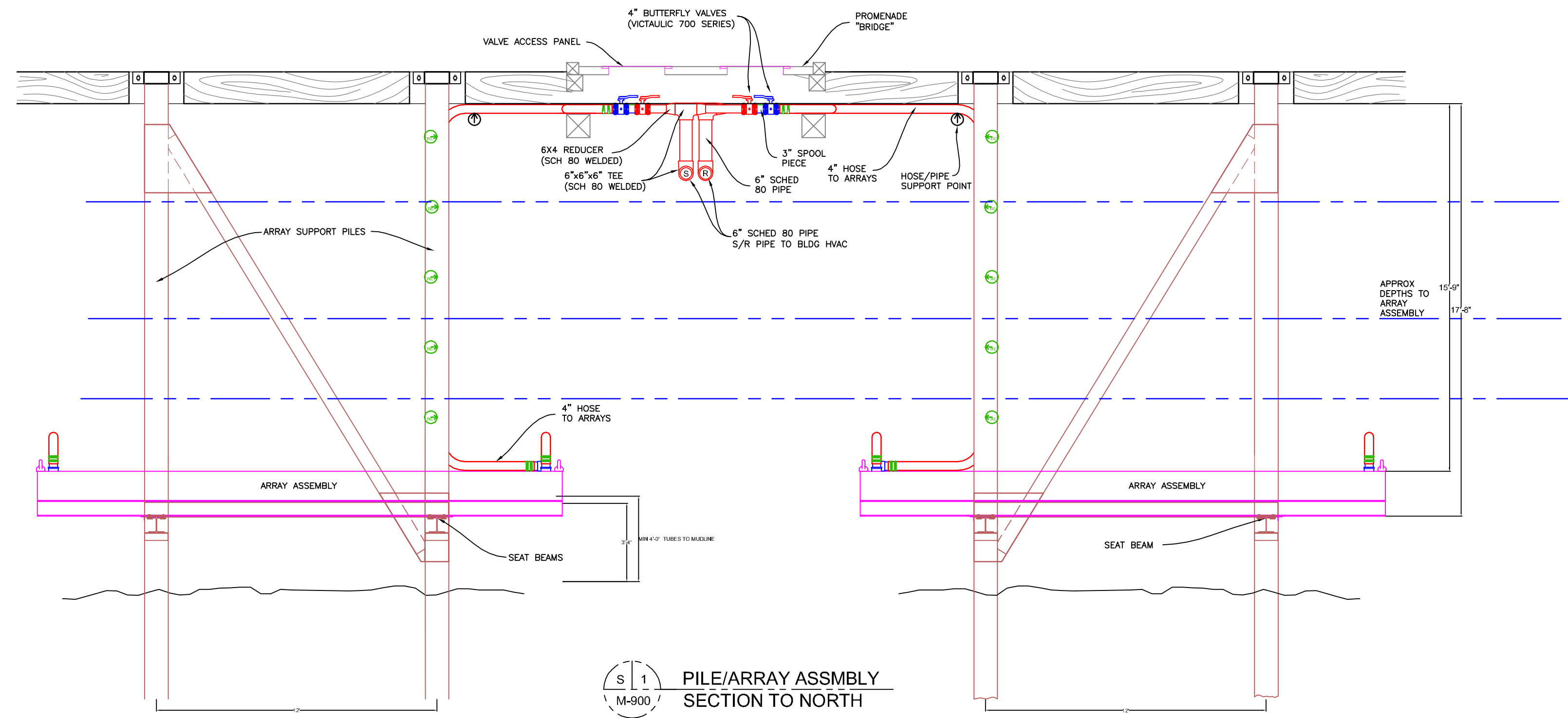
14. 4" HVAC CONNECTION PIPING AND CONNECTIONS TO ARRAY HOSES TO BE SCHEDULE 80 WITH GROOVED/CUT FITTINGS AS SPECIFIED IN DETAIL DRAWING(S). 4" PIPE CONNECTION TO 6"x4" REDUCER MAY BE WELDED OR GROOVED JOINT FABRICATION.

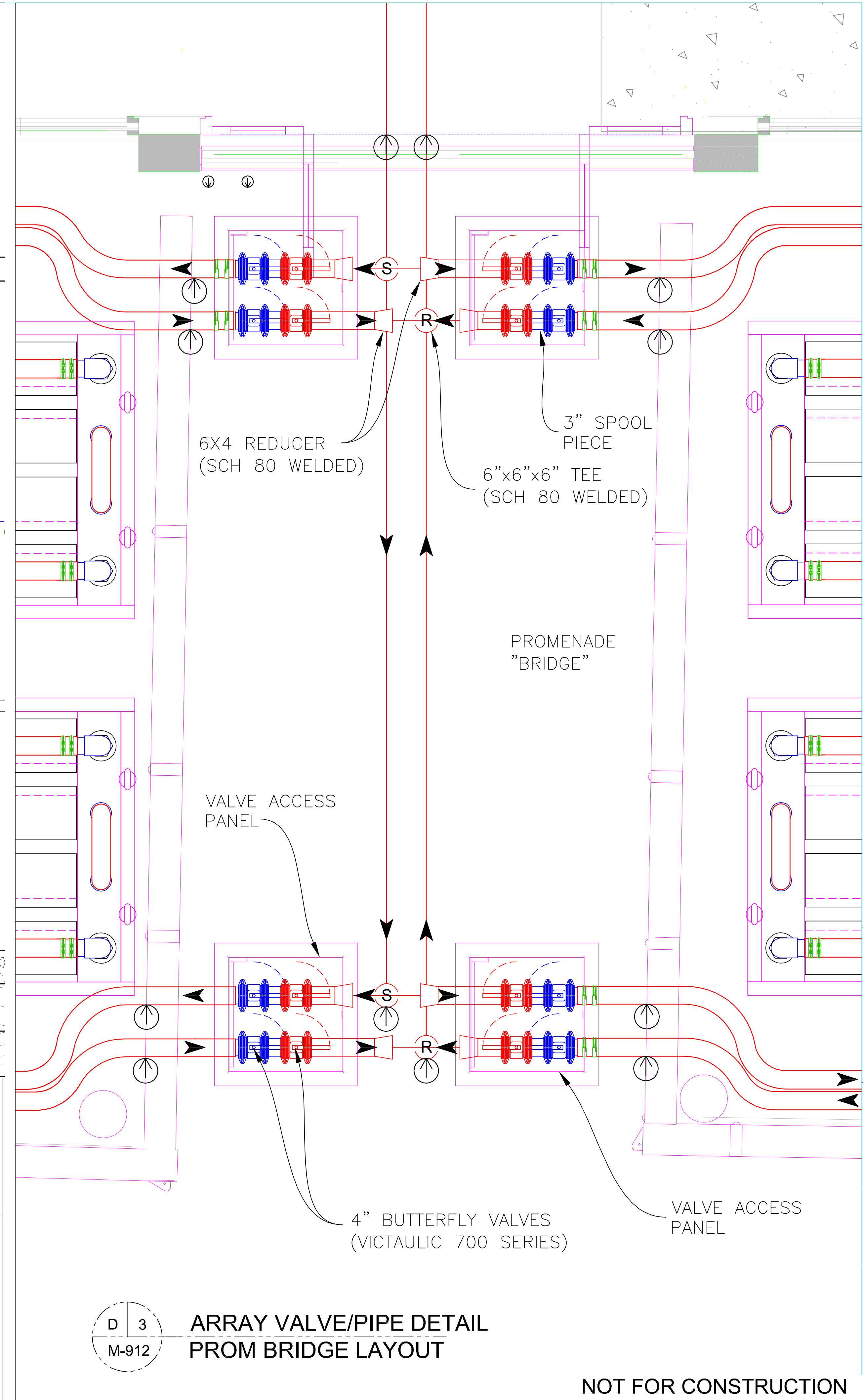
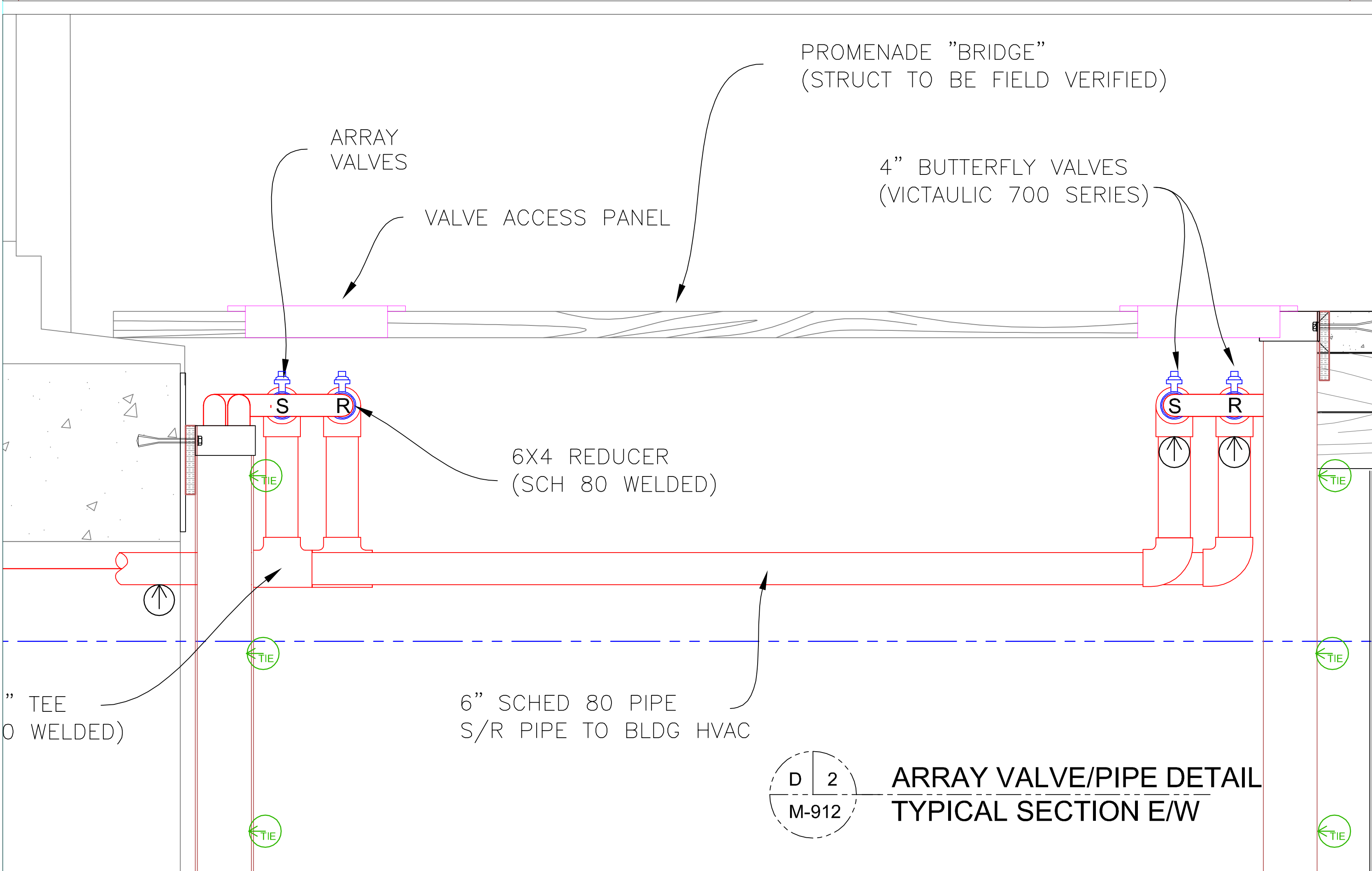
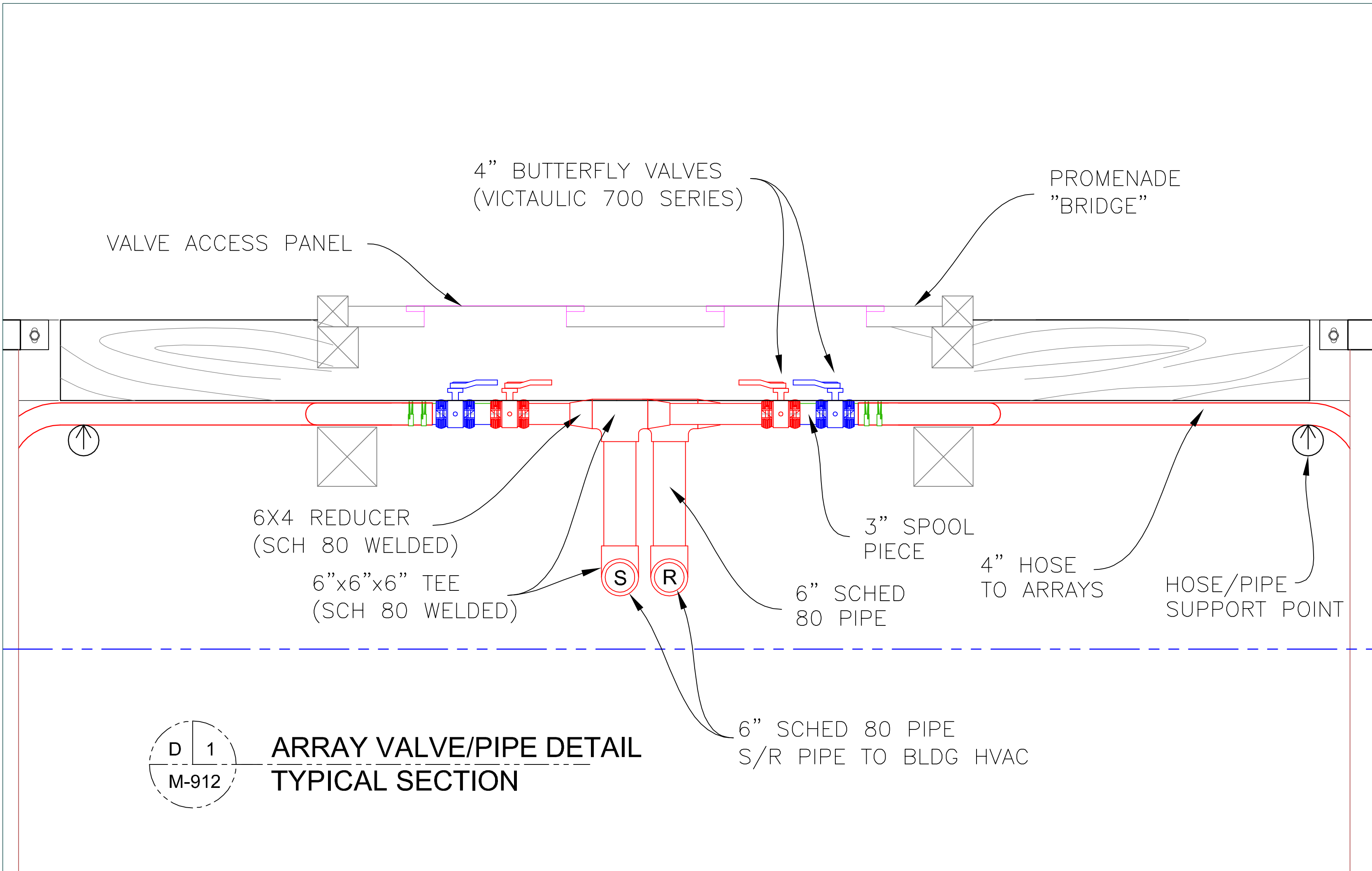
15. ALL WELDING SHALL AS SPECIFIED ON S-900

16. ARRAY FRAME AND PILE SUPPORT COMPONENTS SHALL BE COATED/TREATED AS SPECIFIED ON S-900

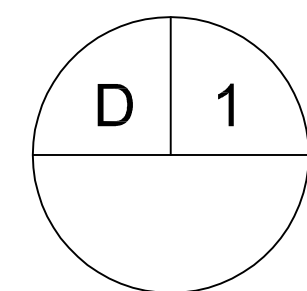
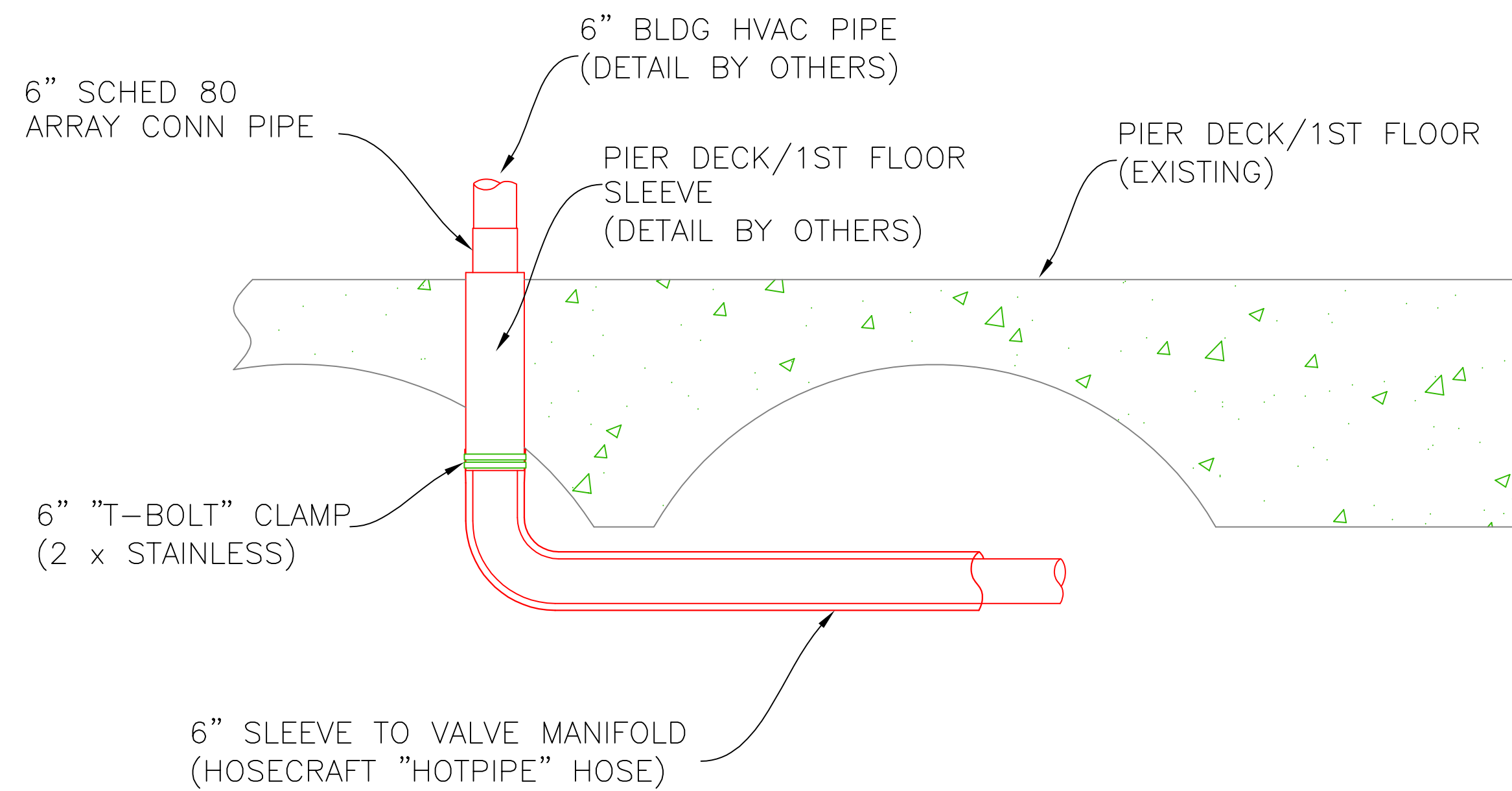
17. SACRIFICIAL ANODES WILL BE APPLIED TO ARRAY FRAME AND PILE COMPONENTS IN ACCORDANCE WITH GALVANIC PROTECTION PRACTICES AND/OR CONSULTANTS



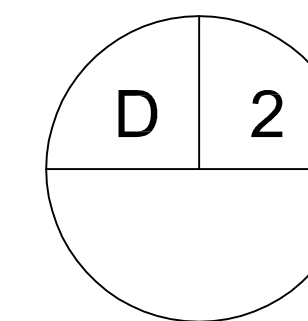
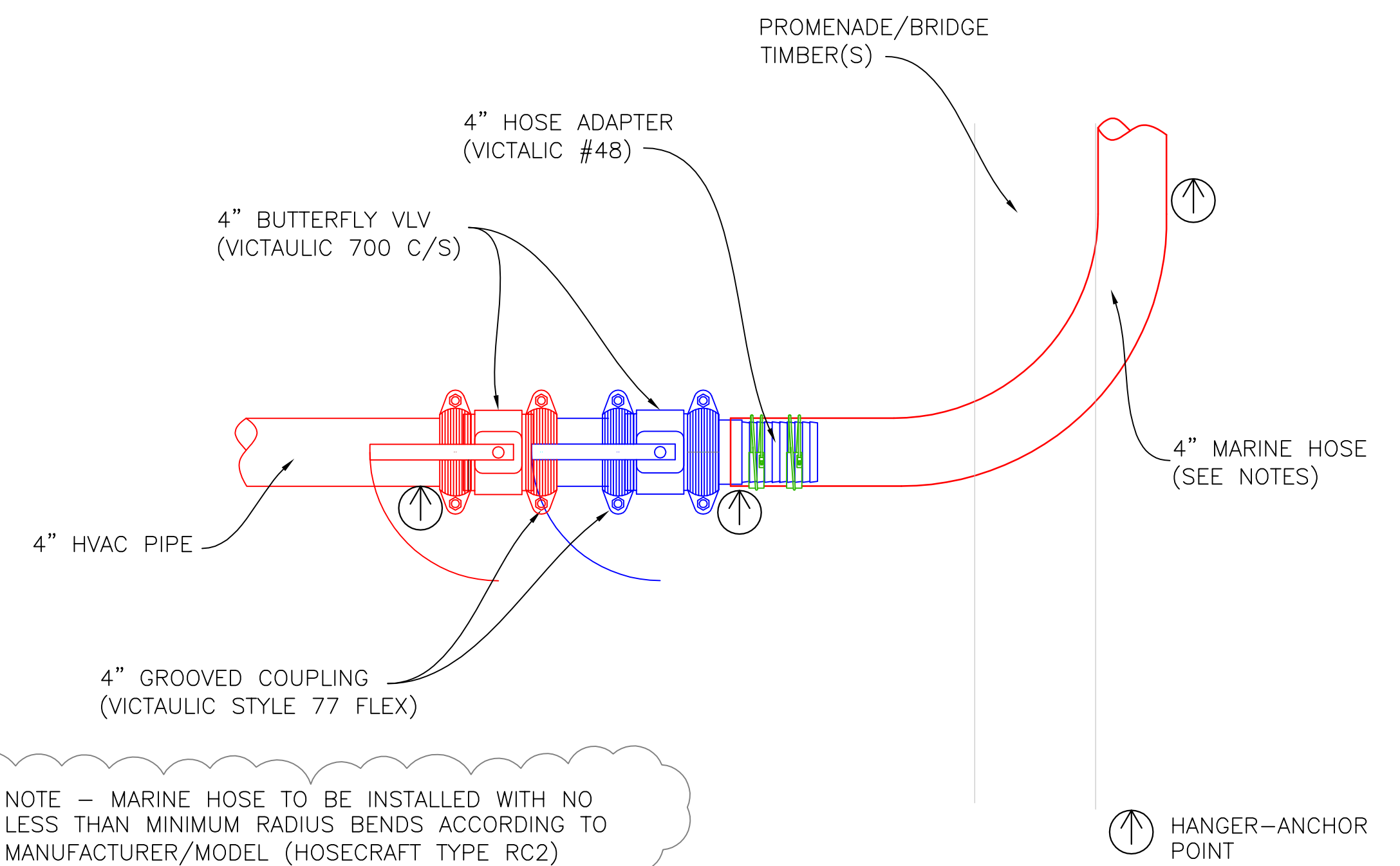




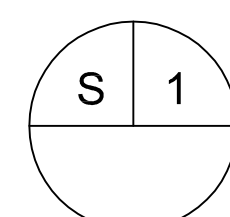
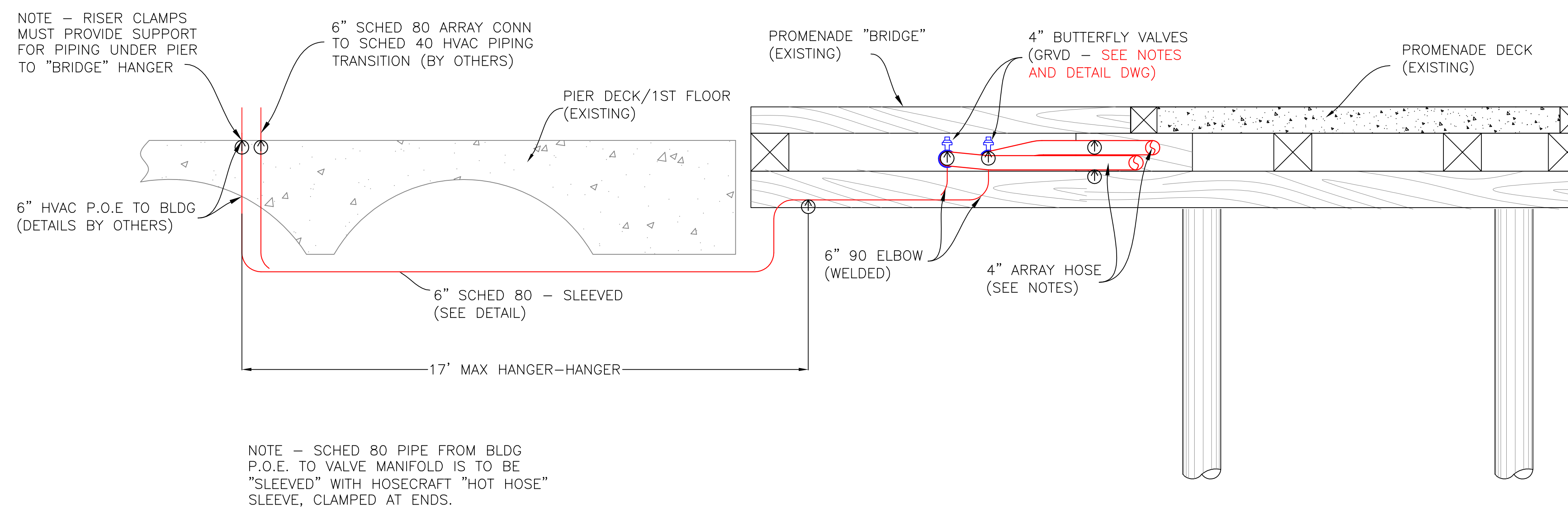




**SCHED 80 SLEEVE DETAIL  
(NOT TO SCALE)**



**VALVE TRAIN TYPICAL ASSEMBLY  
(NOT TO SCALE)**

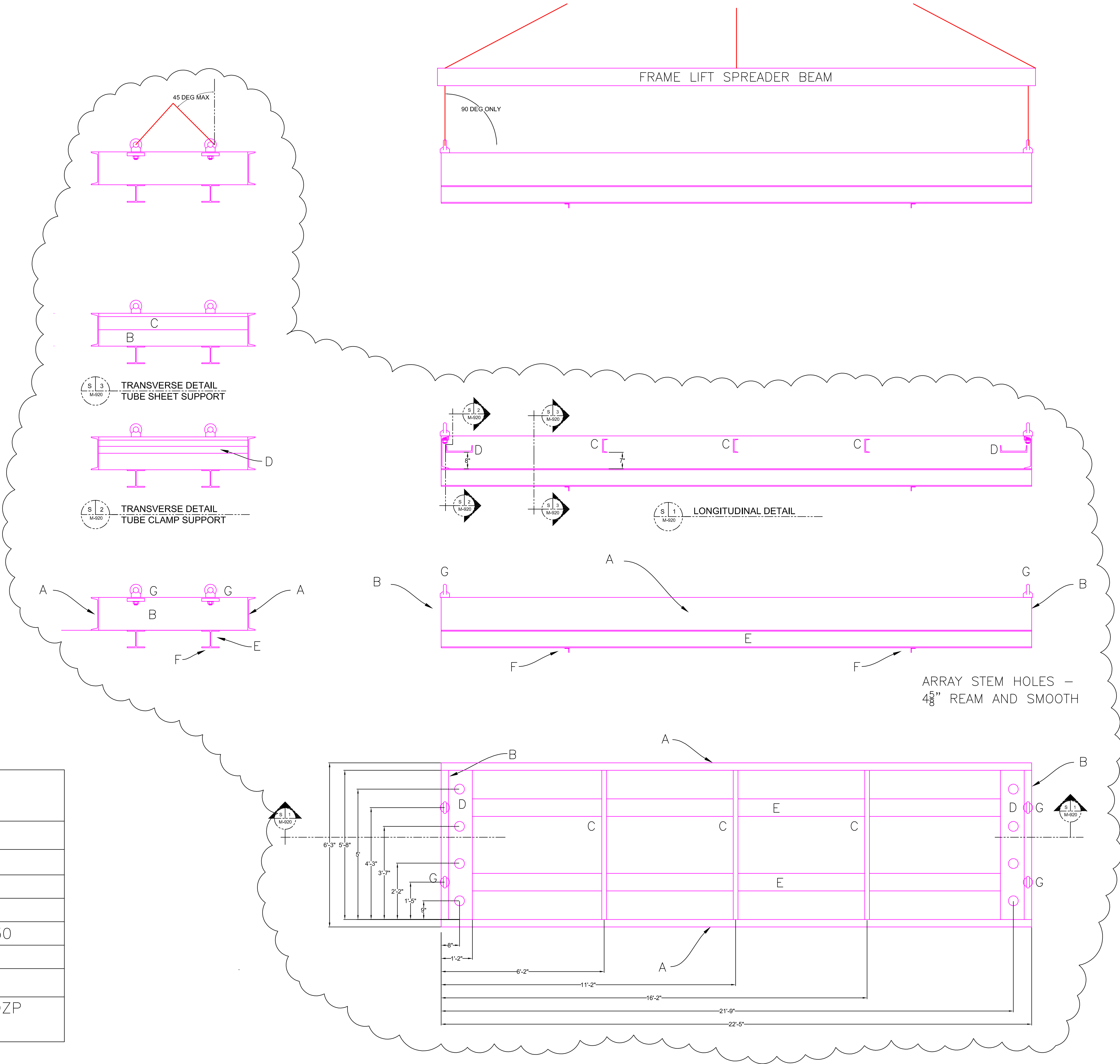


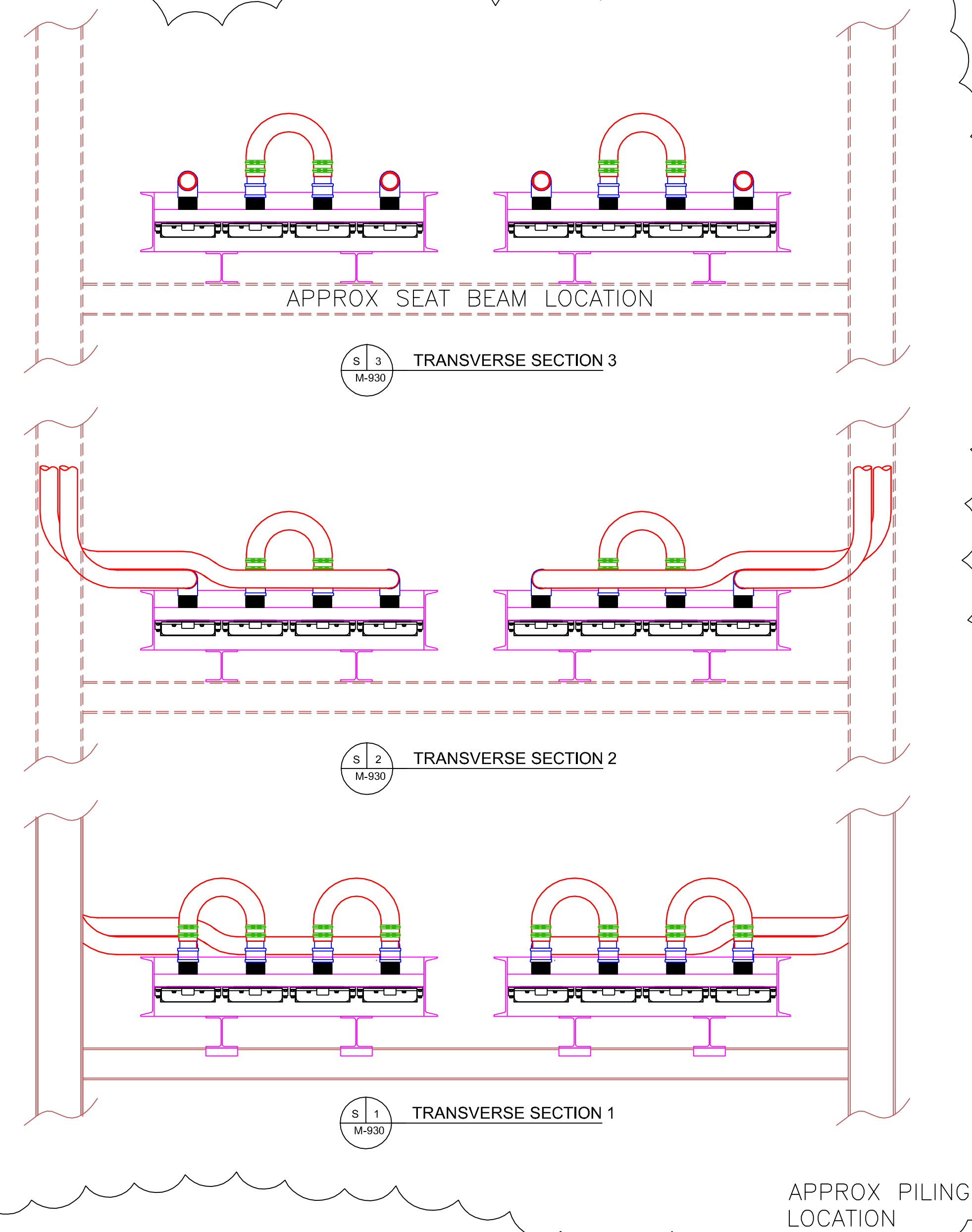
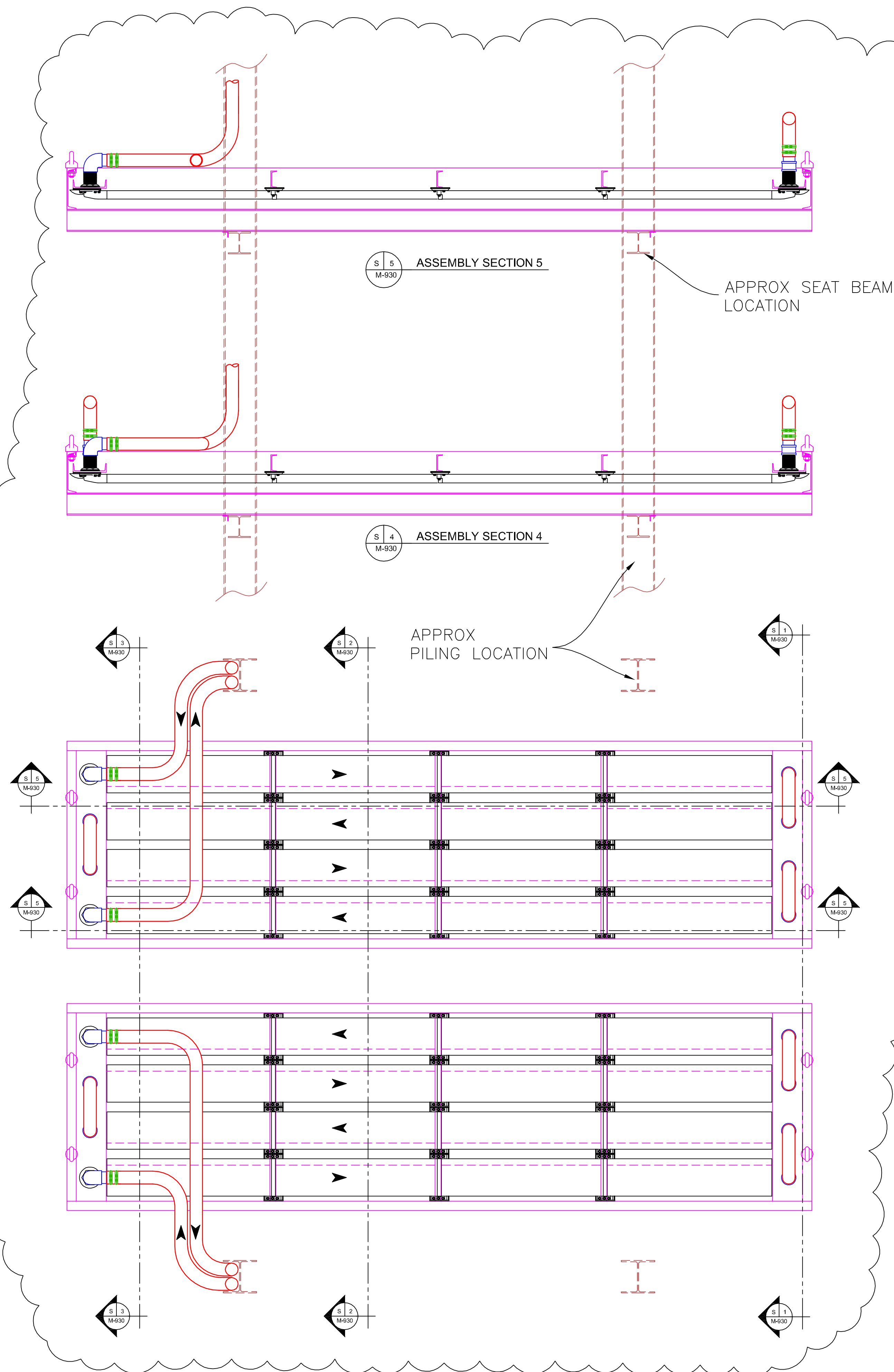
**BUILDING HVAC POE  
TO VALVE MANIFOLD**

ARRAY FRAME NOTES

- 1. ARRAY FRAME COMPONENTS TO BE STRUCTURAL STEEL – ASTM A529, 50 GRADE
- 2. PROTECTIVE COATING (FRAME ONLY – NOT APPLICABLE TO COOLER ARRAYS) PER S–900 CLOSED LOOP SYSTEM PILING DETAILS
- 3. LIFTING WILL BE RIGGED SUCH THAT LIFTING ANGLE FOR LIFTING EYE BOLTS WILL BE NO MORE THAN 45 DEGREES FROM VERTICAL.
- 4. ALL LIFTING EQUIPMENT IN INCLUDING SLINGS/CHAINS/WIRE ROPE, AND ALL ASSOCIATED HARDWARE INCLUDING HOOKS AND OTHER CONNECTION EQUIPMENT FOR THE LIFTING EYES ON ARRAY FROM ARE TO BE RATED AT NO LESS THEN 4000 LBS FOR EACH OF THE FOUR LIFTING CONNECTIONS. TOTAL LIFTING CAPACITY MUST BE NO LESS THAN 16,000 POUNDS.
- 5. ARRAY FRAME TO BE WELDED AT ALL JOINS – SEE S–900 FOR CODE/SPECIFICATION FOR WELDING
- 6. EYE BOLTS TO BE INSTALLED/REMOVED FOR EACH LIFT OPERATION. LEVELING ANGLES AND FRAME AROUND EYE BOLT HOLES TO BE INSPECTED FOR CORROSION DAMAGE/WEKANING BEFORE LIFTING,

LEGEND	
DESIGNATION	DESCRIPTION
A	ARRAY LONGITUDINAL FRAME – C15X33.9
B	ARRAY TRANSVERS FRAME – C15X33.9
C	ARRAY ASSEMBLY SUPPORT – C6X13
D	ARRAY ASSEMBLY END SUPPORT – C12X30
E	ARRAY FRAME SUPPORT BEAM – W8X31
F	ARRAY POSITIONING BRACKET – L4X4X <sup>3</sup> <sub>8</sub>
G	1–3/4” EYE BOLTS – EW DANIELS 14770ZP (SEE TYPICAL DETAILS)





↑ INDICATES HOSE  
TIE LASHING LOCATION.

#### NOTES

1. SEE ASSEMBLY DETAILS DRAWINGS FOR ADDITIONAL DETAIL ON COMPONENT ASSEMBLIES
2. SEE ARRAY FRAME DRAWINGS FOR DIMENSIONS AND DETAILS ON FRAME
3. MARINE HOSES ARE TO BE FITTED/PROTECTED AGAINST ABRASION WHERE THEY ARE IN CONTACT WITH OTHER COMPONENTS. INSTALLATION OF PROTECTIVE SLEEVE MATERIAL OR SLEEVES OF HOSE MATERIAL SPLIT AND SECURED AROUND HOSES. ABRASION PROTECTION TO BE REVIEWED BY ENGINEER.
4. HOSES WILL BE SECURED TO ARRAY ASSEMBLY USING PLASTIC HEAVY DUTY LASHING TIES (CABLE TIES) WITH NO LESS THAN 250 LB TENSILE STRENGTH RATING
5. SUGGESTED LOCATIONS FOR LASHINGS ARE SHOWN, ADDITIONAL LOCATIONS OR ALTERNATE LOCATIONS CAN BE USED BASED ON FIELD CONDITIONS.
6. LASHINGS ARE NOT TO BE SECURED AROUND COOLER TUBES OR TUBE BUNDLES.



