



**SAN ANTONIO WATER SYSTEM  
CROSS MOUNTAIN ELEVATED STORAGE TANK  
SAWS Job No. 07-6006-113  
Solicitation No. B-10-053-MR**

**ADDENDUM NO. 1**

**September 29, 2010**

**BID DATE: October 5, 2010**

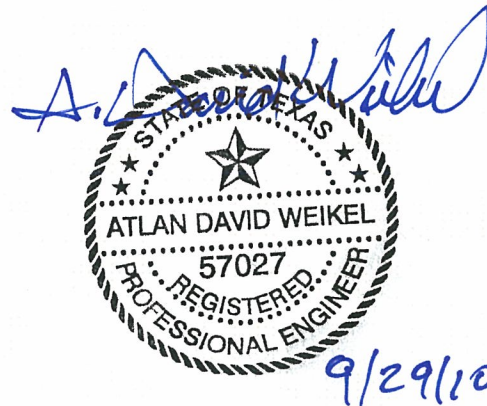
**2:00 p.m. Central Standard Time**

**Consulting Engineer: CP&Y, Inc. TBPE Registration No. F-1741**

To: All Document Holders of Record

This addendum, applicable to work referenced above, forms a part of the Contract Documents and modifies the original Contract Documents dated September 2010. Acknowledge receipt of this addendum by entering the addendum number and issue date in the spaces provided on submitted copies of the proposals. Failure to do so may subject Bidder to disqualification.

Addendum No. 1 consists of 39 items outlined in 9 pages. In addition to these 9 pages, Addendum No. 1 includes 5 re-issued sheets, DRAWING T-1 through T-5 and 1 additional page to a Specification, SECTION 01500, Page 6.



## ADDENDUM NO. 1

### A. GENERAL QUESTIONS/CLARIFICATIONS

1. Question: Is the Cross Mountain tank new construction or rehabilitation of an existing?

Response: *Refer to Section 01010 and the Plans for this Project; tank is to be new construction.*

2. Question: I would like to inquire whether this project will involve the demolition of an existing storage tank, or only new construction? And is there any excavating activities needed?

Response: *Refer to Section 01010 and the Plans for this Project; tank is to be new construction. Excavation will be required for installation of the water line, driveway, tank foundation, retaining wall footing, drainage system, etc.*

3. Question: Does this project include painting or protective coating work? If so what surfaces what surfaces will be coated? What types of paint will be used (i.e. epoxy, polyurethane)? Are there any particular brands requested? Will the tank need to be abrasive blast-cleaned to an SSPC-SP number?

Response: *Painting and protective coating work will be required for this project, refer to Sections 09900 and 09910 of the Specifications and the Plans for additional details.*

4. Question: Will the subcontractors need to be certified with SAWS and would I put that in my solicitations?

Response: *SAWS does not certify. Most of the vendors who we do business with are certified by the SCTRCA, but we recognize SWMB vendors who have been certified by any of the following certification agencies:*

*South Central Texas Regional Certification Agency*

*Southwest Minority Supplier Development Council*

*Texas Statewide Historically Underutilized Business Program*

*U.S. Small Business Administration*

5. Question: Page IV-1 – Invitation to Bidders, paragraph 3 states “each bidder must submit a Reference Package and Qualification package as outlined in Item 5 (f.) of the Instructions to Bidders, as well as Specification 13201, Section 1.03 Experience.

However, upon review of page IB-3, Item 5 (f.) – this items relates to the requirement for the bidder to submit as part of the bid a letter from the insurance provider; it does not relate to the Reference or Qualification package.

On page IB-7, Item 23 it says “the apparent low bidder will submit the following items within one (1) day of the bid opening.

- a) Financial statement

- b) Information packet showing experience, organization and equipment
- c) Statement regarding ability to complete the project within the schedule
- d) Record of performance on three (3) similar projects

Page 13201-2, Item 1.03A Experience it says "Prior to commencing construction activities, the Contractor must complete and submit a Qualification Package for review." There is then a list of 7 items to be submitted.

Page 13201-3, Item 1.03C – "Contractors shall submit with their sealed bid proposal, two copies listing all composite tank projects of 1,500,000 gallons or greater capacity, that were started, completed, or under construction during the past 2 years.

We request clarification with regard to what is required with the bid submission?

*Response: Bid submissions are to include information requested in Section 13201-3, Item 1.03.C – Reference Package. Within one (1) day of bid opening, apparent low bidder is to provide all information requested in Instruction to Bidders, Item 23 – Qualifications Package. Items requested in Section 13201, Item 1.03.A will be submitted at least three (3) days prior to the Pre-Construction Meeting – Construction Information Package. Refer to Items 29, 30 and 33 below for further clarification.*

6. Question: Special Conditions, page SC-1, Item SC.3 says "The Contractor shall complete and submit the Acknowledgement of Pollution Abatement Compliance with the Bid Proposal. This Compliance form is not included in the specification.

*Response: Form has been added as page 6 of Section 01500, please refer to Item 32 below.*

7. Question: Is the Bermad Cv 4,100 GPM adequate for this EST level control application? What size is the fill pipeline?

*Response: A 20" full port valve will be required as called for in Section 11296, paragraph 2.03 of the specifications. Fill pipeline is to be 20-inch as shown on Sheet T-3.*

8. Question: Invitation to Bidders identifies Sept 27th, 4:00 as the deadline for questions. Can that be pushed a few days to allow for late questions by our subcontractors?

*Response: No extension will be provided.*

9. Question: The documents require a drilling program to test for solution voids. Please confirm that any grouting requirements due to found solution cavities are to be paid.

*Response: Information contained within the Appendices are for Contractors information only and do not represent requirements for this project. As discussed in Section 13201/1.05/G, Contractor shall provide a geotechnical report performed by an independent third party firm. Additionally, as discussed in Section 02010/2.01/B the Contractor shall perform additional geotechnical investigations as he deems necessary for his construction activities at no additional cost to the owner. Any grouting requirements due to the discovery of any additional solution cavities, other than the*

*sinkhole currently discussed in note 4 on Sheet C-2 will be considered as part of the scope of work of this contract.*

10. Question: Bid Proposal, Page BP-2 identifies the completion as 450 days. Please confirm this is substantial completion.

*Response: 450 days is to be the final construction time which includes substantial completion. Refer to General Conditions Item 8.4 for additional discussion.*

11. Question: Supplementary Conditions, Page SS-1, Item 5.19 - Please confirm work on Saturday will be allowed.

*Response: Given the residential setting of the project site, work on Saturdays will be considered by the Owner on a case-by-case basis at the written request of the Contractor at least forty-eight (48) hours in advance.*

12. Question: Supplementary Conditions, Page SS-1, Item 5.19 - Will work on Sunday be given consideration?

*Response: Work will not be allowed on Sundays or on Holidays observed by the Owner.*

13. Question: Section 01010-2, Item 1.03.A identifies another contract scheduled for construction at the site during this contract. Can some description and duration of that work be identified?

*Response: Work is expected to begin in mid-2012 and will not interfere with the work performed under this Contract. Information is provided to ensure the Contractor is made aware of subsequent work on or near the site. Proposed work will include drainage improvements downstream of the proposed storm sewer outfall shown on the plans.*

14. Question: Drawing T-1 specifies a 42 ft minimum insides pedestal diameter, however the 42 ft is dimensioned to the outside of the pedestal diameter, Regardless we suggest the drawing be revised to 42 ft +/- 2ft to allow individual manufacturers standard pedestal diameters.

*Response: Dimension will be revised, refer to Item 36 below. Refer to Note 8 on Sheet C-1 addressing allowance of other manufacturers standard pedestal diameters and the resulting modifications that will need to be provided for engineers review at no additional cost.*

15. Question: Pipe brackets on the overflow are galvanized, yet on the inlet/outlet piping they are stainless steel. What is your preference?

*Response: Stainless steel brackets shall be used on all pipe located within the tank pedestal.*

16. Question: Drawing T-1 shows the access tube extending down to the upper platform complete with a 36x84 opening. This is another manufacturers standard. Our standard does not permit the access tube to extend past the tank floor. Both standards allow for continuous ladder access from the upper platform to the tank roof. Please confirm individual manufacturers standards will be acceptable with respect to the access tube.

Response: *Owners preference is that the access tube extend down to the upper platform for the safety of personnel working at the facility.*

17. Question: Drawing T-1, Note 19 specifies a stainless steel “protective rail” within the tank at the floor manhole and at the inlet/outlet piping openings. Can a detail or description be provided?

Response: *Protective rail is to be provided at access openings within the tank per Note 19 on Sheet T-1. Rail design is to match those found on T-4 and T-5 of the plans.*

18. Question: Drawing T-2 shows a stainless steel expansion joint on the overflow. Typically this is not required as any differential movement would be accommodated by the horizontal section of piping below the tank bowl. Please advise.

Response: *Stainless steel expansion joint is a SAWS requirement and must be provided.*

19. Question: Drawing T-3. Please confirm the Steel Pipe is 0.375 wall pipe, fusion bonded epoxy coated both interior and exterior per Section 15060 or advise otherwise.

Response: *Confirmed, only NSF approved coatings will be accepted. Final exterior color to be selected by the Owner.*

20. Question: Drawings T-3. Please confirm bolts and nuts for the flanged connections are 316 stainless steel or advise otherwise.

Response: *Confirmed.*

21. Question: Drawing T-8. Can a specification/manufacturer for the precast retaining wall be provided?

Response: *Intent was to not limit the selection of precast block retaining wall to a specific brand or brands. An engineer will need to be retained by the Contractor for design of the retaining wall as discussed in the general note on Sheet T-8, Detail C. During design products from Keystone and Anchor Wall blocks were reviewed.*

22. Question: Can a detail for the irrigation tap be provided. We suggest a ¾” tap with a service line terminating at the property line with a curb stop. The meter and the double check assembly should be on site – not within the road allowance as shown. Please clarify.

Response: *Tap is detailed on Sheet C-18, additional Owner specific requirements can be found on SAWS web site at [www.saws.org](http://www.saws.org) by going to the Business Center and following the links to Construction and Material Specs, Construction Specifications, “832—Tapping Sleeves and Valves” and “833—Meter and Meter Box Installation”. The meter and double check assembly should be relocated to within the proposed fence.*

23. Question: What is required for tree protection or tree preservation with the tree canopy area? What is meant by “trees to be trimmed up to 6 ft from the adjacent grade? Are we to clear 6 ft inside the fence?

Response: *Owner has requested that ALL underbrush and tree limbs below 6 feet in elevation above the natural ground be grubbed/trimmed so as to allow an unobstructed line-of-sight across the property. Work will need to be completed in compliance with the City of San Antonio Tree Ordinance, specifically as it relates to the protection of heritage and significant trees. An on-site meeting will need to be held with the City Arborist, SAWS Inspector, Contractor and Engineer prior to the commencement of grubbing/trimming to discuss any limitations on the grubbing/trimming as they relate to the Tree Ordinance. See Section 02200/3.02/A/3/c for additional information.*

24. Question: Sheet I-2 indicates a PTZ Keypad/Controller yet the part number is for a power supply. Specifications don't indicate a keyboard controller if one is desired, the compatible part number would be a KTD-405.

Response: *Agree, Keypad controller (KTD-405) and associated power supply (KTP24) are required for this project. Please plan accordingly in the preparation of Bids. Please refer to Items 34, 38 and 39 below for additional information.*

25. Question: The specifications call for contractor to provide two radio links yet the drawing only shows one to be installed please clarify.

Response: *Two radio links will be required. Please plan accordingly in the preparation of Bids. Please refer to Items 34, 38 and 39 below for additional information.*

26. Question: Who do we need to submit our proposal for the materials testing on the above referenced project?

Response: *See Plan Holders List on project advertisement located at [www.saws.org](http://www.saws.org). Note that this is a listing of those who have expressed interest in the project by downloading the plans and specifications. The SAWS does not guarantee that the listed firms intend on submitting a proposal. It is up to the vendors to make contact and determine which of those listed will be pursuing the project.*

27. Question: Within the Geotechnical Recommendations given in Table 5 the Contractor is required to conduct a pilot hole program to identify any voids within the limestone. Any voids that are identified should be grouted. Given the fact there is an existing sinkhole visible at the site and that fact that one of the boreholes identifies a clay seam there is a high probability voids will be found.

It is impossible to quantify at this time the number or extent of the voids and the costs associated with their remediation. It goes beyond just grouting of the voids, depending on the size of the voids further reporting and investigations may be applicable. As the risk is with the Contractor one would have no choice but to assume worst case scenario and allow appropriate funds.

Therefore it would be fair to the Contractor and also in SAWS best interest to make remediation of the voids as a pay item, we suggest a cash allowance be specified.

Response: *Please refer to response to Question 9 above.*

28. Question: Please confirm there is a top, middle and bottom rail [on the fence].

Response: *Refer to Sheet C-9, Details 2 and 3, 1-5/8" O.D. rail to be provided at top, middle and bottom.*

## **B. SPECIFICATIONS**

### **29. Invitation to Bidders**

- a. Delete the last sentence of the third paragraph and replace with "In addition, each bidder must submit a Reference Package and Qualification Package as outlined in Item 23 of the Instructions to Bidders, as well as Specification 13201, Section 1.03/C, for SAWS to review."

### **30. Instructions to Bidders**

- a. Delete the second sentence of Item 23 and replace with "Failure to provide the required Qualifications Package information within the specified time, may result in determining a non-responsive bidder."
- b. Delete Item 23 (d) and replace with "Record of performance on three (3) similar projects completed within the last 5 years including name of project, projects location and size, owner contact name and telephone number, engineer contact name and telephone number, final contract cost, listing of any change orders with explanation of each, and contract versus actual completion dates with explanation of any variance if applicable."

### **31. Supplementary Conditions**

- a. 5.4 Superintendent. Delete in its entirety and replace with "5.4 SUPERINTENDENT - The Contractor shall keep on-site for this Project during its progress a competent Superintendent and any necessary assistants, all satisfactory to the Owner. A Superintendent shall be identified in writing to the Vice President of Engineering or his duly authorized representative, promptly after Owner issued written Authorization to Proceed. The Superintendent shall represent the Contractor and all directions given to him shall be binding. Other Oral directions from the SAWS representatives involving critical situations or Work elements shall be immediately confirmed in writing by Owner to the Contractor. The Contractor's Superintendent shall provide full-time on-site supervision to any Work ongoing at the site by its own forces or subcontractors, using the best skill and attention."

### **32. Section 01500 – Construction Facilities and Temporary Controls**

- a. Add the attached page 6 to Section 01500, Acknowledgement of Pollution Abatement Compliance. Modify the Table of Contents to reflect the change in total page numbers for this Section.

### **33. Section 13201 – Composite Elevated Water Storage Tank**

- a. Delete the third sentence of Paragraph 1.03.A and replace with "At least three (3) days prior to the Pre-Construction Meeting the CONTRACTOR must complete and submit a Construction Information Package for review."
- b. Delete Item 1 of Paragraph 1.03.A and renumber Items 2 through 7 as Items 1 through 6.

- c. Delete the first sentence of Paragraph 1.03.C and replace with “CONTRACTOR shall submit with their sealed bid proposal a Reference Package comprising of two copies listing all composite tank projects of 1,500,000 gallons or greater capacity, that were started, completed, or under construction during the past 2 years.

34. Section 16722 – CCTV Surveillance and Security System

- a. Paragraph 2.01/E/3. Change text: “THE WIRELESS ETHERNET BRIDGE SHALL CONSIST OF 2 PIDU AND 2 ODU UNITS. ONE ODU AND PIDU INSTALLED AT CROSS MOUNTAIN AND ONE ODU AND PIDU INSTALLED AT SAWS REPEATER STATION FOR CONNECTION TO SAWS SECURITY NETWORK. CONTACT JACK CONTOLEON AT 210-415-7791 FOR SITE INFORMATION AND ACCESS. ODU UNIT SHALL BE SUPPLIED WITH A...”
- B. Paragraph 2.01. Add: “H. KEYPAD CONTROLLER
  - 1. THE KEYPAD CONTROLLER SHALL BE GE PART # KTD-405 AND ASSOCIATED POWER SUPPLY GE PART # KTP24.”

**C. DRAWINGS**

35. DRAWING NO. C-1

- a. Add the following General Notes: “9. REMOVE AND RELOCATE APPROXIMATELY 260 LF OF EXISTING ROCK WALL LOCATED BETWEEN POINTS 2, 3 AND 4 AS LISTED IN THE COORDINATE TABLE. WORK SHOULD BE COORDINATED WITH ADJACENT PROPERTY OWNER AND COMPLETED AT NO ADDITIONAL COST TO OWNER.” AND “10. REMOVE AND REPLACE APPROXIMATELY 260 LF OF EXISTING 8-FOOT HIGH, 9-GAUGE WIRE FENCE AND SINGLE STRAND OF BARBED WIRE LOCATED BETWEEN POINTS 2, 3 AND 4 AS LISTED IN THE COORDINATE TABLE. WORK SHOULD BE COORDINATED WITH ADJACENT PROPERTY OWNER AND COMPLETED AT NO ADDITIONAL COST TO OWNER.”

36. DRAWING NO. T-1

- a. Delete General Note 9 in its entirety and replace with “SECURITY ANTENNA (1), AND SCADA ANTENNA MASTS (2 TOTAL – 1 SPARE) TO BE DESIGNED AND SUPPLIED BY TANK MANUFACTURER.”
- b. Add the following note:  
”TANK BOWL:  
25. BOTTOM CONE SHALL BE DIRECTLY PROPORTIONAL TO THE SHELL IN ORDER TO CONFORM TO THE TANK BOWL SHAPE AS SHOWN IN THE ELEVATION ON THIS SHEET. TANK MANUFACTURER SHALL SUBMIT PROPOSED TANK BOWL SHAPE AND ALL DIMENSIONS TO OWNER FOR REVIEW AND APPROVAL PRIOR TO BEGINNING MANUFACTURE. OWNER SHALL HAVE THE RIGHT TO REQUEST MODIFICATIONS, AS REQUIRED TO ACHIEVE THE BOWL SHAPE AS SHOWN IN THE ELEVATION”
- c. Tank pedestal dimension was modified to accurately reflect relation to interior pedestal diameter.



37. DRAWING NO. T-1 through T-5

- a. Delete these drawings in their entirety and replace with the attached drawings T-1 through T-5. Revised Section and Detail References and items discussed in Item 36 above.

38. DRAWING NO. E-2

- a. Detail 2, Security antenna. Delete "(TYPICAL OF 2)".
- b. Detail 2, Note 7. Change text to read: "PROVISION FOR (1) SECURITY AND (2) SCADA RADIO MASTS..."

39. DRAWING NO. I-2

- a. Detail 1, Notes. Add note 6: "PROVIDE KEYPAD CONTROLLER (P/N KTD-405) AND POWER SUPPLY (P/N KTP24)".

**ACKNOWLEDGEMENT BY BIDDER**

Each bidder is requested to acknowledge receipt of this Addendum No. 1 by his/her signature affixed hereto and to file same with and attached to his/her bid.

The Undersigned acknowledges receipt of this Addendum No. 1 and the bid submitted herewith is in accordance with the information and stipulation set forth.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Bidder

END OF ADDENDUM

ACKNOWLEDGEMENT OF POLLUTION ABATEMENT COMPLIANCE  
(To Be Submitted with Bid Proposal)

THE STATE OF TEXAS §  
COUNTY OF \_\_\_\_\_ §

CONTRACTOR'S ACKNOWLEDGEMENT  
OF  
POLLUTION ABATEMENT COMPLIANCE

I hereby attest that as of the date hereof, I have read and familiarized myself with the Pollution Abatement and Sediment and Erosion Control Plans and Specifications for this project and EPA's NPDES Construction Storm Water Regulations and that I have made an independent diligent effort to identify all other applicable state and local regulations related to this specification.

I hereby attest that I have considered the conditions required by the Pollution Abatement and Sediment and Erosion Control Plans and Specifications for this project, the EPA's NPDES Construction Storm Water Regulations and the other applicable and related state and/or local regulations and that cost for measures necessary to comply fully with these conditions, regulations and requirements have been and are included in the bid proposal submitted herewith.

By: \_\_\_\_\_  
Title: \_\_\_\_\_

STATE OF TEXAS §  
COUNTY OF \_\_\_\_\_ §

This instrument was acknowledged before me on this \_\_\_\_\_, 20\_\_\_\_,  
by \_\_\_\_\_, the \_\_\_\_\_  
of \_\_\_\_\_ on behalf of said corporation.

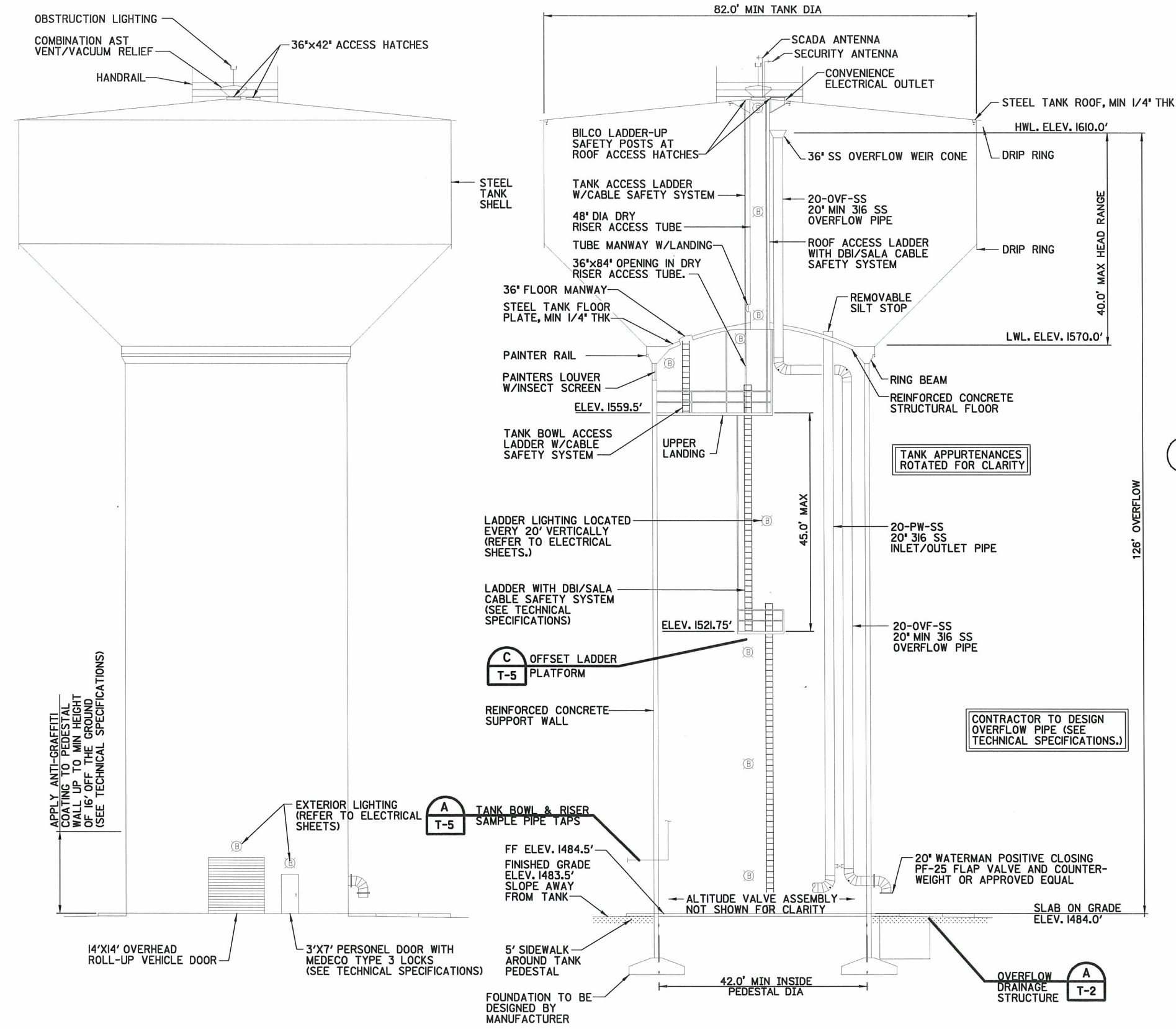
\_\_\_\_\_  
Notary Public in and for  
the State of Texas

My Commission Expires:

\_\_\_\_\_

\_\_\_\_\_  
Typed or Printed Name of Notary

END OF SECTION



**GENERAL NOTES:**

- SEE TECHNICAL SPECIFICATIONS FOR DESIGN CRITERIA AND DETAILS. APPLICABLE ELEVATED TANK SPECIFICATIONS ARE AWWA D100, ACI 318.
- CONTRACTOR'S GEOTECHNICAL CONSULTANT SHALL PROVIDE RECORDING SEISMOMETER ON-SITE DURING FOUNDATION CONSTRUCTION.
- STEEL TANK FLOOR WITHIN THE PERIMETER OF THE CONCRETE SUPPORT PEDESTAL SHALL BE SUPPORTED BY A DOMED STRUCTURAL CONCRETE SLAB.
- CONCRETE PEDESTAL EXTERIOR SHALL INCORPORATE HORIZONTAL AND VERTICAL RUSTICATION STRIPS TO CREATE A SYMMETRICAL ARCHITECTURAL PATTERN.
- SEE TECHNICAL SPECIFICATIONS FOR STEEL TANK COATING REQUIREMENTS.
- ALL LADDERS SHALL BE PROVIDED WITH A CABLE CLIMB SAFETY SYSTEM PER THE SPECIFICATIONS.
- ALL PEDESTAL WALL PENETRATIONS SHALL BE DESIGNED BY CONTRACTOR AND SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE OF TEXAS.
- TANK GROUNDING PAD TO BE SUPPLIED BY TANK MANUFACTURER.
- SECURITY ANTENNA (AND SCADA ANTENNA MASTS (2 TOTAL-1 SPARE)) TO BE DESIGNED AND SUPPLIED BY TANK MANUFACTURER.
- TANK MANUFACTURER TO PROVIDE FAA OBSTRUCTION BEACON SUPPORT AND MAST.

**MECHANICAL:**

- OVERFLOW PIPING AND INLET/OUTLET PIPING ABOVE THE ALTITUDE VALVE PIPING WITHIN THE PEDESTAL SHALL BE TYPE 316 STAINLESS STEEL. SEE SHEET T-3 FOR STAINLESS STEEL TRANSITION POINT.
- PROVIDE HANGERS, BRACKETS AND THRUST RESTRAINTS AS REQUIRED.
- OVERFLOW SYSTEM SHALL BE DESIGNED TO ACCOMMODATE MAXIMUM FILL RATE. SEE TECHNICAL SPECIFICATIONS.
- REMOVABLE SILT STOP SHALL BE MINIMUM 6 INCHES ABOVE TANK FLOOR.
- INSTALL ISOLATION KITS BETWEEN ALL DISSIMILAR METALS.

**FOUNDATION:**

- THE CONTRACTOR SHALL PERFORM GEOTECHNICAL ANALYSIS FOR RECOMMENDATIONS REGARDING ALLOWABLE BEARING CAPACITY (SAFETY FACTORS PER MOST CURRENT VERSION OF AWWA D100). SEE TECHNICAL SPECIFICATIONS.
- DESIGN FOUNDATION SYSTEM PER CONTRACTOR PREPARED GEOTECHNICAL REPORT RECOMMENDATIONS AND MAXIMUM APPLICABLE DESIGN LOADS IN ACCORDANCE WITH AWWA D100. SEE TECHNICAL SPECIFICATIONS.
- CONCRETE FOUNDATION DESIGN IN ACCORDANCE WITH ACI 318.

**MISCELLANEOUS:**

- PROVIDE PROTECTIVE RAIL AROUND TANK FLOOR MANHOLE AND INLET/OUTLET PIPE WITHIN THE TANK BOWL. PROTECTIVE RAILS SHALL BE STAINLESS STEEL.

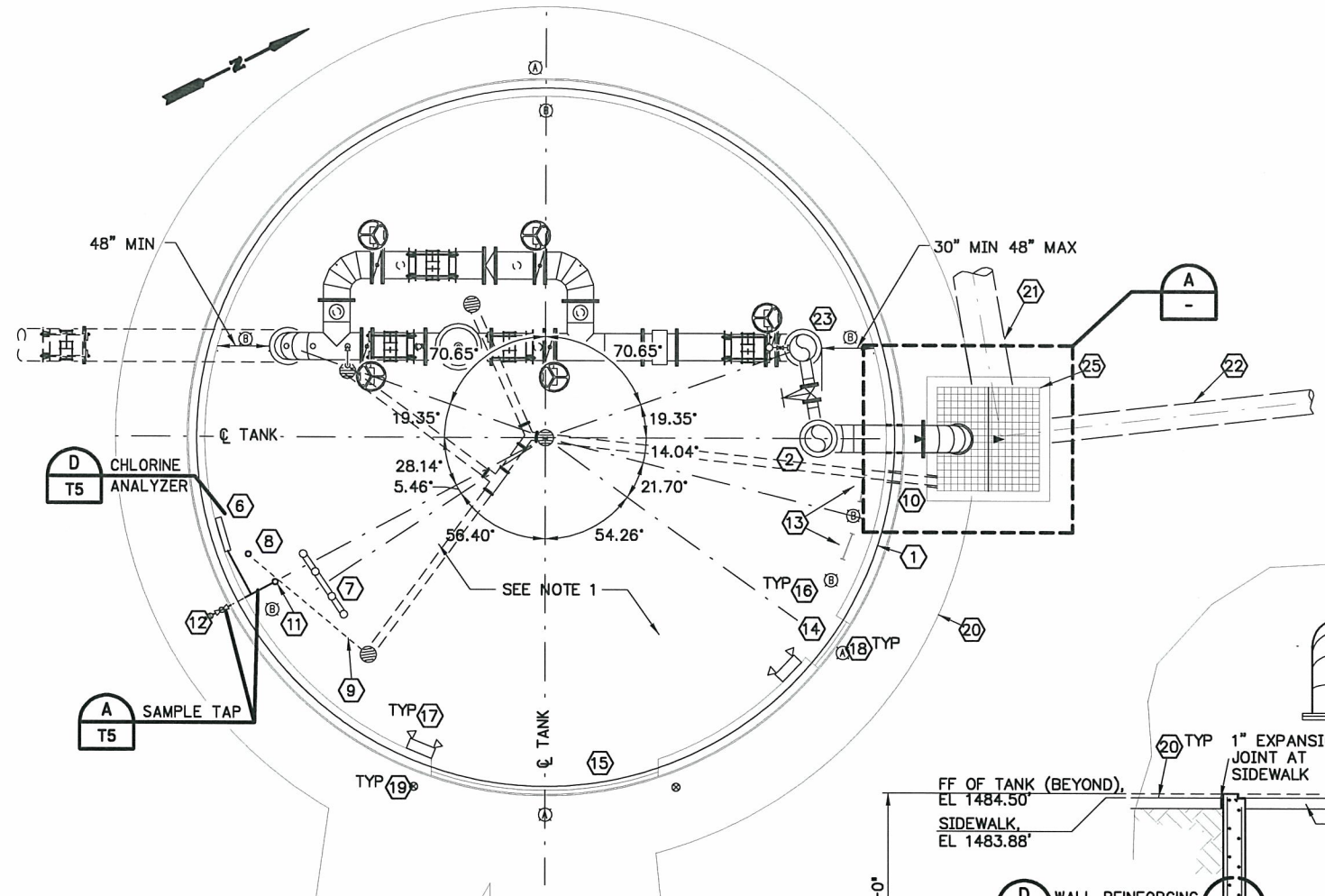
**SAMPLE TAP:**

- SAMPLE TAP PIPE SHALL BE A 3/4" DIA SCH 80 PVC PIPE ABOVE BOWL FLOOR.
- SAMPLE TAP PIPE SHALL BE 3/4" DIA GALVANIZED BELOW THE TANK BOWL.
- SUPPORT SAMPLE TAP PIPE WITH STAINLESS STEEL BRACKETS AT 10' SPACING.
- SUPPORT PIPE TO RAFTER AT TOP OF TANK.
- INSULATE PIPING AND VALVE BELOW TANK BOWL.

**TANK BOWL:**

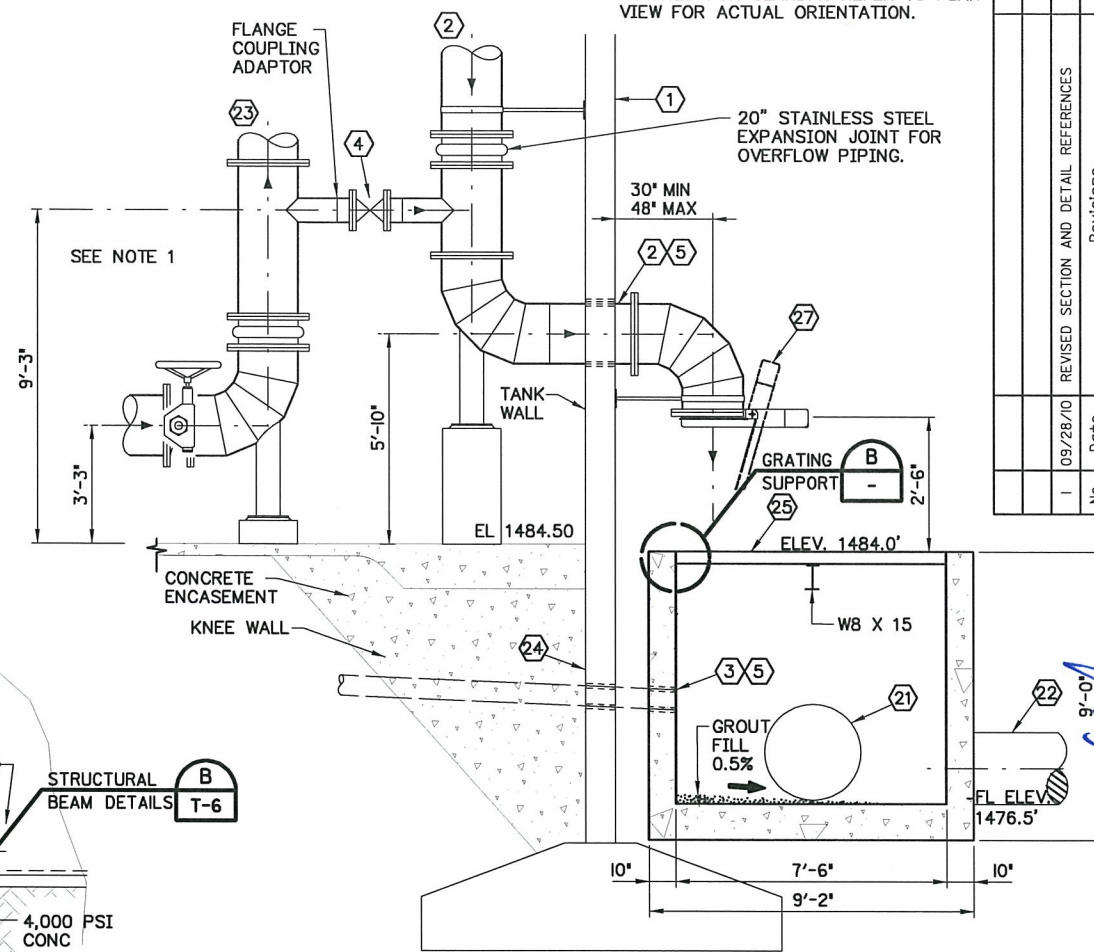
- BOTTOM CONE SHALL BE DIRECTLY PROPORTIONAL TO THE SHELL IN ORDER TO CONFORM TO THE TANK BOWL SHAPE AS SHOWN IN THE ELEVATION ON THIS SHEET. TANK MANUFACTURER SHALL SUBMIT PROPOSED TANK BOWL SHAPE AND ALL DIMENSIONS TO OWNER FOR REVIEW AND APPROVAL PRIOR TO BEGINNING MANUFACTURE. OWNER SHALL HAVE THE RIGHT TO REQUEST MODIFICATIONS, AS REQUIRED TO ACHIEVE THE BOWL SHAPE AS SHOWN IN THE ELEVATION.

NOTE: PIPING AND APPURTENANCES ROTATED FOR CLARITY. REFER TO PLAN VIEW FOR ACTUAL ORIENTATION.



1.5-MG TANK - FLOOR PLAN

SCALE IN FEET

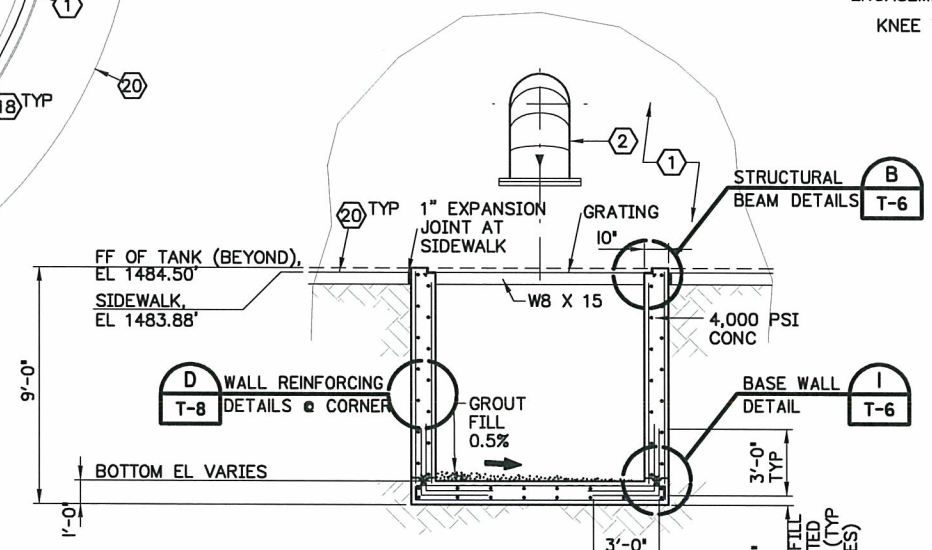


LEGEND:



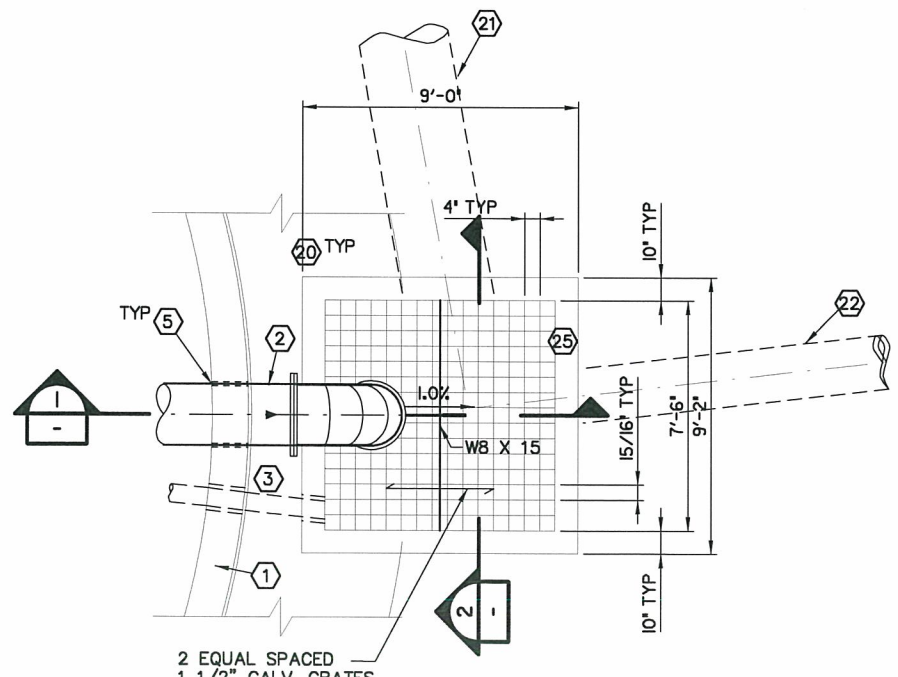
NOTES:

- FOR ADDITIONAL INFORMATION ON ALTITUDE VALVE AND TANK APPURTENANCES, SEE PLAN AND SECTION, SHEET T-3.
- RISER SUPPORTS ATTACHED TO TANK PEDESTAL ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY. PROVIDE SUPPORTS PER TANK MANUFACTURER'S RECOMMENDATION.



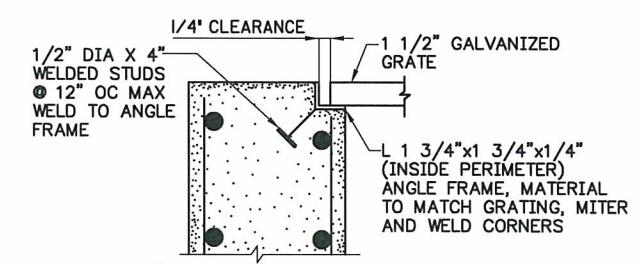
SECTION 2

SCALE IN FEET



SECTION A OVERFLOW DRAINAGE STRUCTURE

SCALE IN FEET



SECTION B GRATING SUPPORT

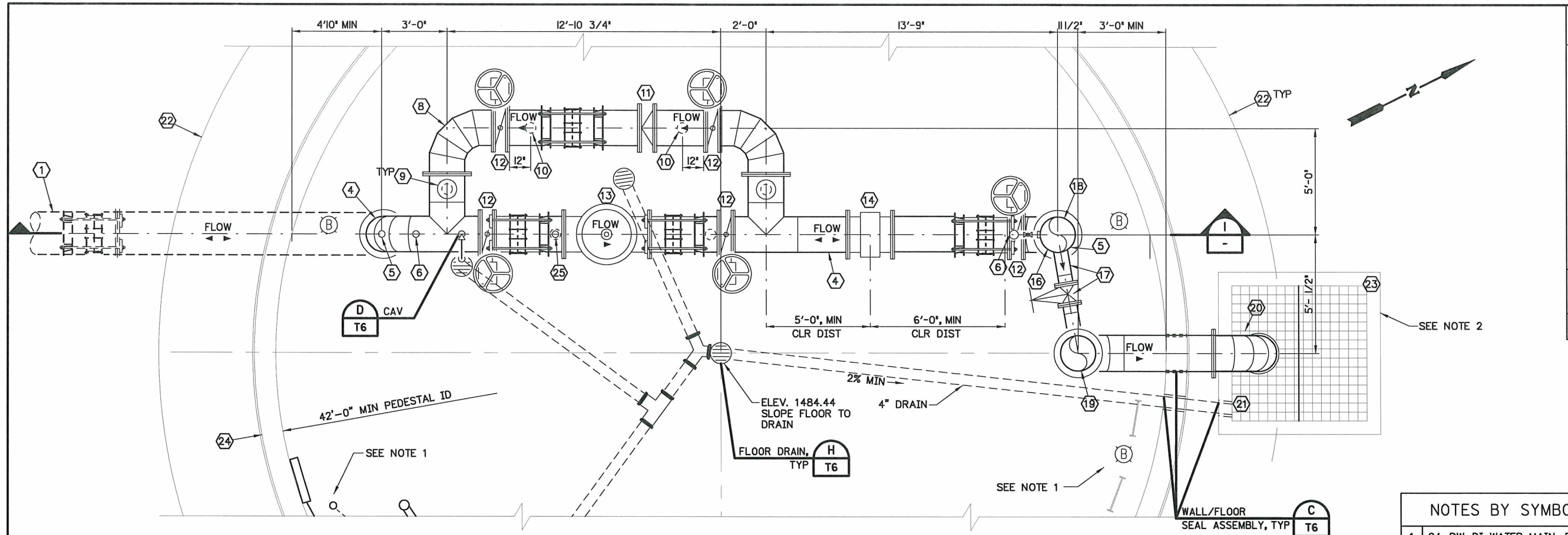
SCALE IN FEET

NOTES:

- ALL REINFORCING #5 @ 10" O.C.E.W., EF @ WALLS & EW, T&B @ SLAB UNLESS OTHERWISE NOTED.
- DRAINAGE STRUCTURE SIZED AS PER INFLOW AND OUTFLOW CAPACITY CALCULATIONS TYPICAL FOR 18" AND 24" PIPE.
- ALL ENDS & OPENINGS SHALL BE BANDED.
- ALL GRATINGS SHALL BE SECURED IN PLACE WITH REMOVABLE FASTENERS.
- ALL BOLTS, RIVETS, ANCHOR BOLTS & FASTENERS SHALL BE 316SS UNLESS OTHERWISE NOTED.

NOTES BY SYMBOL

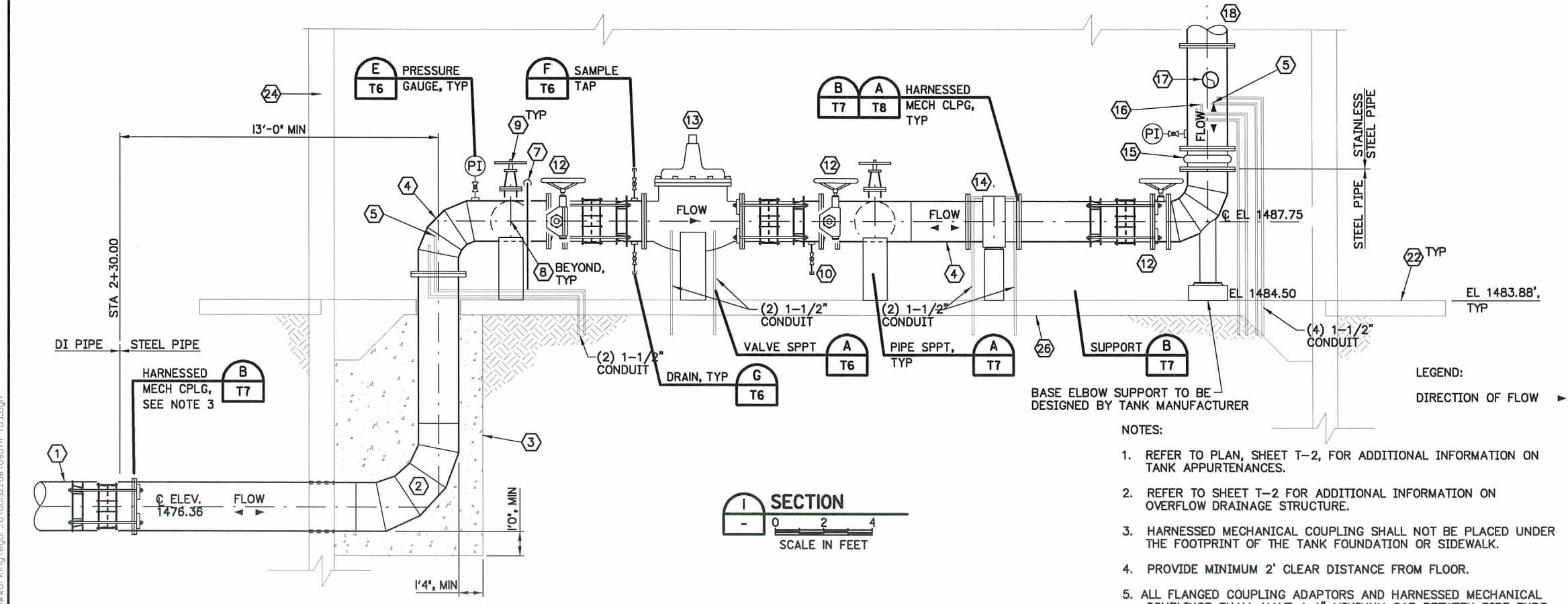
1 REINFORCED CONCRETE TANK PEDESTAL WALL	16 INTERIOR BASE LIGHT
2 20-OVF-SS	17 EMERGENCY LIGHT
3 4-D-PVC FLOOR DRAIN PIPE	18 EXTERIOR LIGHT
4 8-D-SS TANK DRAIN & GATE VALVE W/CHAIN WHEEL OPERATOR	19 FIXED BOLLARD
5 REFER TO SHT T-3 FOR WALL PENETRATION INFORMATION	20 5' CONCRETE SIDEWALK
6 CHLORINE ANALYZER, MOUNT TO WALL	21 24-D-RCP STORM DRAIN, REFER TO CIVIL SHTS
7 ELECTRICAL EQUIPMENT RACK	22 18-D-RCP STORM DRAIN, REFER TO CIVIL SHTS
8 CHLORINE ANALYZER HUB DRAIN	23 20-PW-SS PIPE TO TANK BOWL
9 3/4-D-GS CHLORINE ANALYZER DRAIN LINE (TO BE ROUTED TO NEAREST FLOOR DRAIN)	24 TANK FOUNDATION PER MFR'S RECOMMENDATIONS
10 FOUNDATION WALL PENETRATION 3' BELOW EST FF ELEVATION	25 OVERFLOW DRAINAGE STRUCTURE, REFER TO DETAIL B & SECTION 2
11 3/4-PW-GS SAMPLE TAP	26 PIPE SUPPORT BY TANK MFR, SEE NOTE 2
12 3/4-PW-GS SAMPLE TAP TO OUTSIDE OF TANK	27 20" WATERMAN POSITIVE CLOSING PF-25 FLAP VALVE AND COUNTERWEIGHT
13 LADDER ACCESS TO TANK	
14 3'x7' PERSONNEL DOOR W/MEDECO TYPE 3 LOCKS	
15 14'x14' OVERHEAD ROLL-UP VEHICLE DOOR	



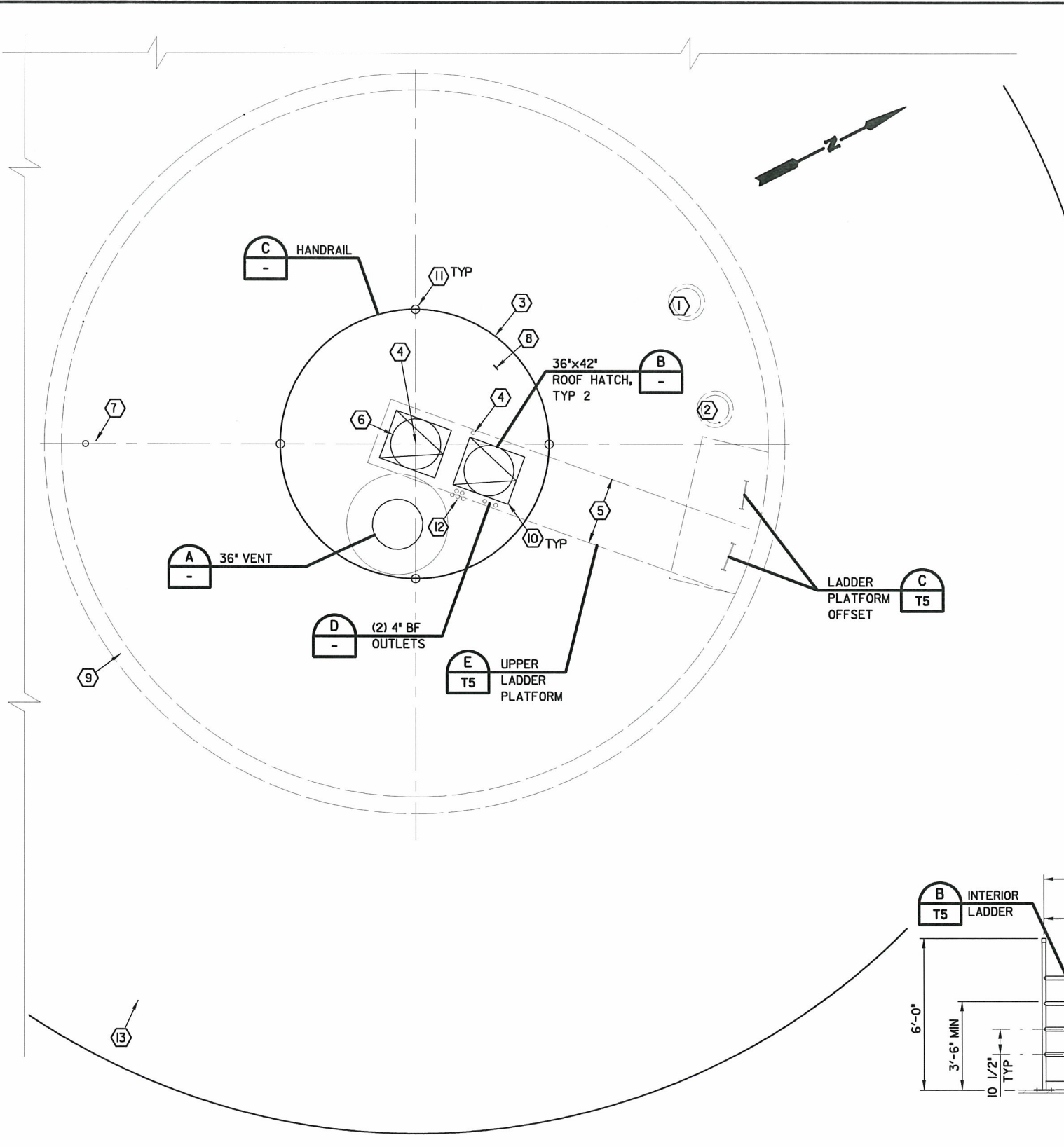
ALTITUDE VALVE PIPING - PLAN  
 SCALE IN FEET

NOTES BY SYMBOL

- 24-PW-DI WATER MAIN, REFER TO CIVIL SHTS FOR CONT
- 24"x20" REDUCING ELBOW
- CONCRETE ENCASEMENT BELOW SLAB, 1500 PSI MIN
- 20-PW-S INLET/OUTLET PIPE
- SUPPLY PRESSURE TRANSMITTER TAP (0-150 PSI RANGE, REF ELEC SHTS)
- PRESSURE GAUGE
- 2" COMBINATION AIR VALVE ASSEMBLY, ROUTE DISCH PIPE TO 6" AFF
- 20" STEEL BY-PASS PIPING
- 6" OUTLET W/GATE VALVE (OPEN LEFT) AND BLIND FLANGE
- 2" DRAIN LINE, TYP (SEE NOTE 4)
- 20" DUO-CHECK VALVE
- 20" BUTTERFLY VALVE (OPEN LEFT)
- 20" CONTROL VALVE W/STAINLESS STEEL TUBING & DUAL PRESSURE GAUGES
- 20" MAG METER
- 20" STAINLESS STEEL EXPANSION JOINT
- LEVEL TRANSMITTER TAP (0-40' RANGE, REF ELEC SHTS)
- 8" STAINLESS STEEL TANK DRAIN & GATE VALVE W/CHAIN WHEEL OPERATOR (NORMALLY CLOSED)
- 20" STAINLESS STEEL PIPE TO TANK BOWL
- 20" STAINLESS STEEL OVERFLOW PIPE
- 20" WATERMAN POSITIVE CLOSING PF-25 FLAP VALVE AND COUNTER WEIGHT
- OVERFLOW DRAINAGE STRUCTURE
- 5' CONCRETE SIDEWALK AROUND TANK
- REFER TO CIVIL SHTS FOR DRAINAGE STRUCTURE & STORM DRAIN PIPING
- REINF CONC PEDESTAL WALL PER MFR'S SPECIFICATIONS
- SAMPLE TAP
- EST CONC SLAB ON GRADE

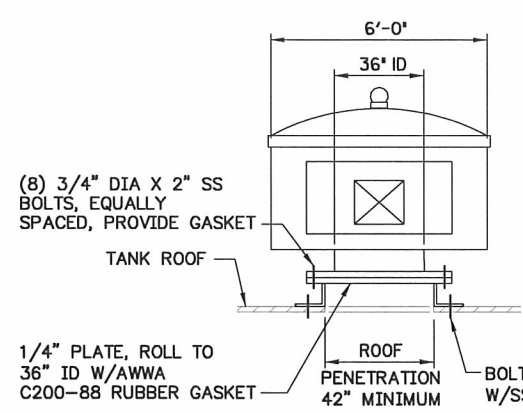


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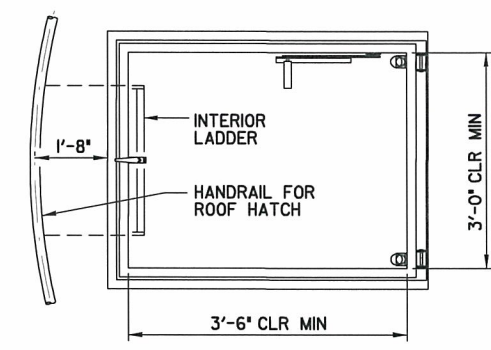
**1.5-MG TANK - ROOF PLAN**  
 SCALE IN FEET

- NOTES:
- CONTRACTOR TO INSTALL CONDUIT TO ROOF PER TECHNICAL SPECIFICATIONS.
  - CONDUIT STUB-UP LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL SUBMIT A SHOP DRAWING DETAILING CONDUIT SIZE AND STUB-UP LOCATIONS TO THE OWNER AND CONSULTANT FOR APPROVAL.



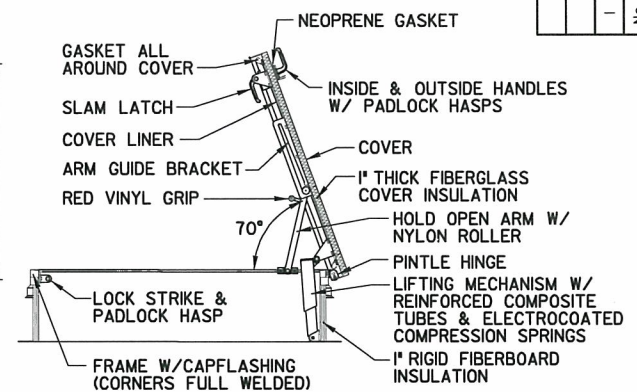
**A STANDARD VENT**  
 NTS

- NOTES:
- VENT DESIGN AND CONSTRUCTION TO BE AST MODEL VENT BY ADVANCE TANK CONSTRUCTION.
  - APPLY SEIZE TO ALL STAINLESS STEEL FASTENERS PRIOR TO INSTALLATION.
  - THE VENT SHALL BE ALUMINUM CONSTRUCTION.
  - THE VENT SHALL HAVE A LOCKING MECHANISM TO PREVENT ACCESS TO THE TANK.
  - THE VENT SHALL BE SCREENED WITH STAINLESS STEEL 16 MESH SCREEN.



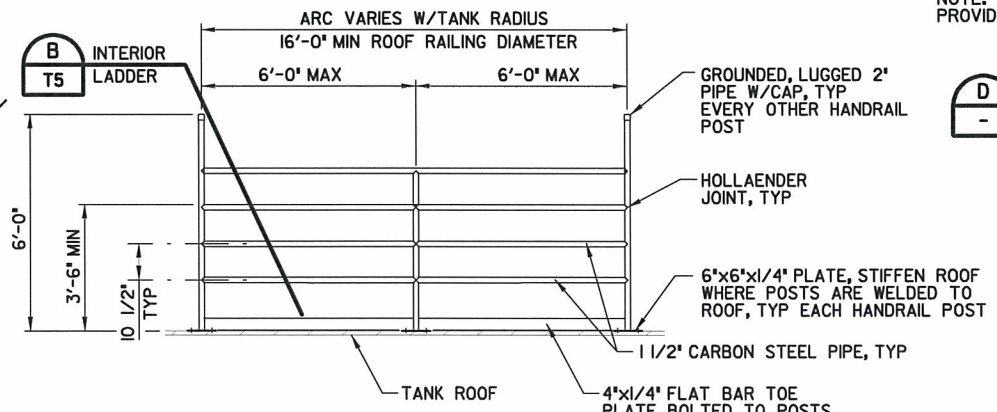
**B ROOF HATCH**  
 NTS

- NOTES:
- HATCH TO BE BILCO TYPE S OR APPROVED EQUAL.



**D BLIND FLANGE OUTLET FOR LEVEL ELECTRODES**  
 NTS

- NOTE: PROVIDE TWO 4" OUTLETS FOR LEVEL ELECTRODES.



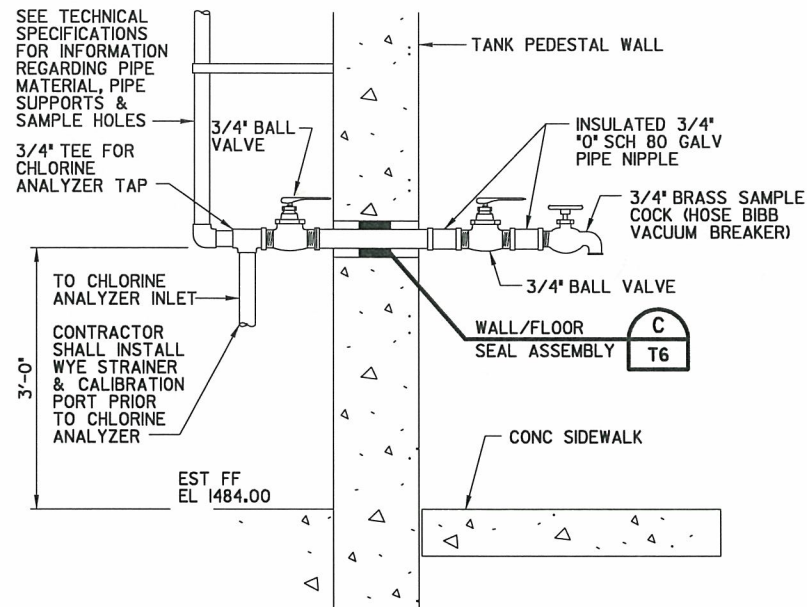
**C HANDRAIL FOR ROOF HATCH**  
 NTS

- NOTES:
- SPACE 8 POSTS EVENLY AROUND RAILING CIRCUMFERENCE (6'-0" MAX).
  - HANDRAIL SHALL COMPLY WITH ALL OSHA REQUIREMENTS.

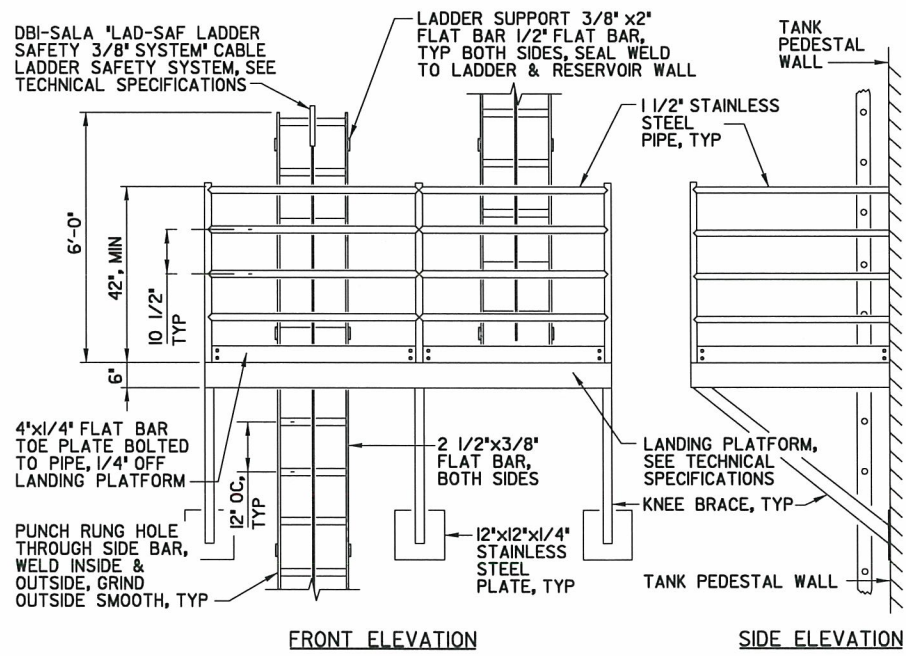
NOTES BY SYMBOL

- |    |                                                   |
|----|---------------------------------------------------|
| 1  | 20-PW-SS INLET/ OUTLET PIPE                       |
| 2  | 20-D-SS MIN OVERFLOW PIPE                         |
| 3  | ROOF RAILING - 16" DIA                            |
| 4  | TIE-OFF D-RING                                    |
| 5  | 48" WIDE PLATFORM W/42" HIGH HANDRAIL             |
| 6  | 48" DRY RISER ACCESS TUBE                         |
| 7  | 3/4-PW-PVC SAMPLE TAP                             |
| 8  | RED OBSTRUCTION LIGHT & SCADA/SECURITY ANTENNA    |
| 9  | TANK PEDESTAL BELOW                               |
| 10 | 36"x42" HATCH OPENING TO TANK BOWL                |
| 11 | (4) 6" HIGH GROUND LUGGED 2" PIPE WITH 2" CAPS    |
| 12 | (5) 1" CONDUIT PENETRATIONS, SEE NOTE 2, THIS SHT |
| 13 | 1.5 MG STEEL BOWL                                 |

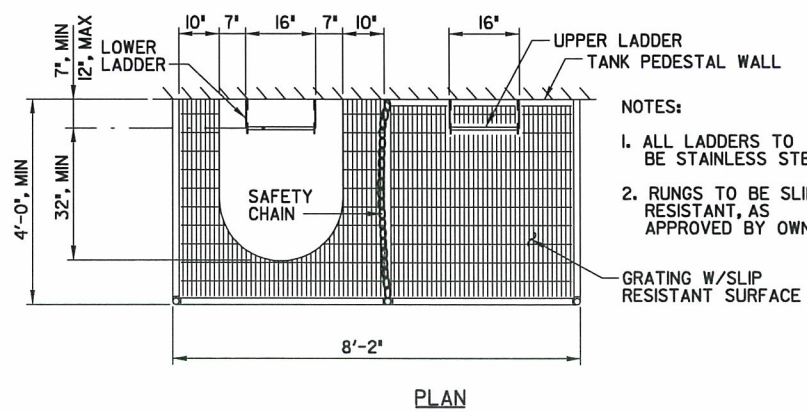
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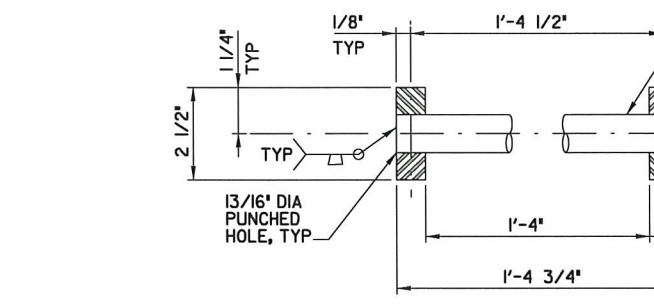
**A**  
T2 NTS  
**TANK BOWL & RISER  
SAMPLE PIPE TAPS**



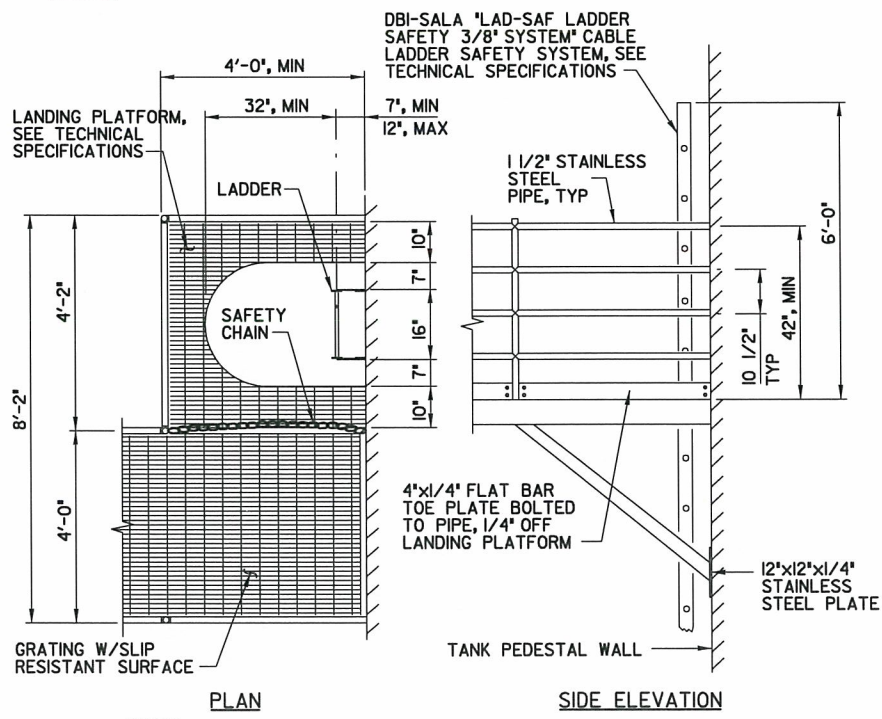
**B**  
T4 NTS  
**INTERIOR LADDER**



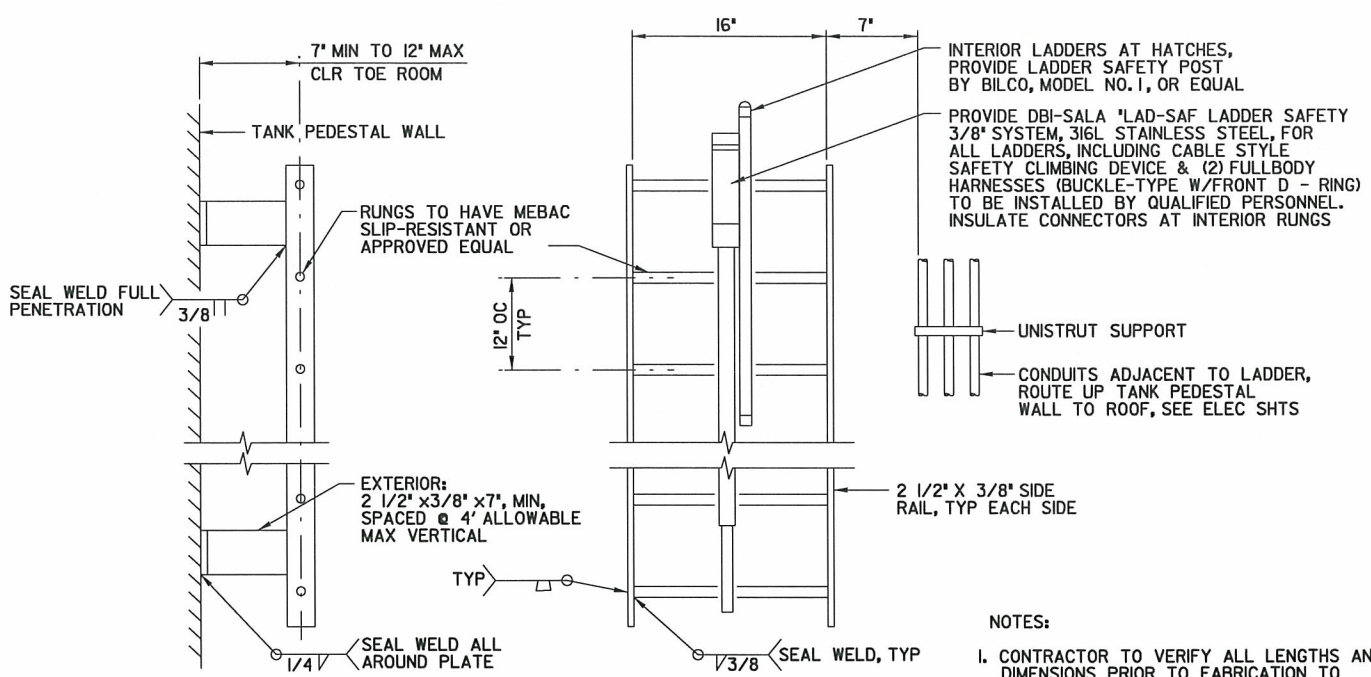
**C**  
T1 NTS  
**LADDER PLATFORM OFFSET**



**D**  
T2 NTS  
**CHLORINE ANALYZER**



**E**  
T4 NTS  
**UPPER LADDER PLATFORM**



- NOTES:
1. CONTRACTOR TO VERIFY ALL LENGTHS AND DIMENSIONS PRIOR TO FABRICATION TO ENSURE 7' MINIMUM TO 12' MAXIMUM TOE CLEARANCE FROM CENTERLINE OF RUNGS TO FACE OF TANK WALL.
  2. THE FIRST RUNG OFF THE TANK PEDESTAL FLOOR SHALL BE INSTALLED 12' FROM FINISHED FLOOR ELEVATION TO CENTERLINE OF RUNG.
  3. ALL LADDERS TO BE STAINLESS STEEL.
  4. SIDE RAILS WELDED NOT BOLTED.

SAWS Job No. 07-6006-113

300 E. SONTERRA BLVD., SUITE 1250 SAN ANTONIO, TEXAS 78258 210.494.8004

CP&Y CP&Y, Inc. TBPE REGISTRATION NO.: F-1741

DATE: SEPTEMBER 2010

DESIGN BY: JUM

DRAWN BY: PEC

CHECKED BY: ADW

SCALE: AS SHOWN

ATLAN DAVID MEIKEL ST027 PROFESSIONAL ENGINEER

SAWS JOB NO. 07-6006-113

CROSS MOUNTAIN ELEVATED STORAGE TANK

TANK DETAILS I

DWG. NO. T-5

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