

MONTANA WATER FACILITIES

PIPE RELOCATION

PROJECT GENERAL NOTES

PROJECT GENERAL NOTES PROVIDE INFORMATION CONCERNING THE WORK OF THE ENTIRE PROJECT AND ARE NOT LIMITED TO ANY INDIVIDUAL DRAWING OR SHEET.

1. THE DRAWINGS AND THE SPECIFICATIONS ARE COOPERATIVE. WHERE DRAWINGS AND SPECIFICATIONS, OR DRAWINGS, OR SPECIFICATIONS THEMSELVES ARE IN CONFLICT, CONTRACTOR SHALL PROVIDE THE BETTER QUALITY / GREATER QUANTITY.
2. ACTUAL FIELD CONDITIONS FOUND TO BE AT VARIANCE WITH THE INTENT OF THE CONSTRUCTION DOCUMENTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR HIS CONSIDERATION BEFORE PROCEEDING WITH THE WORK. FIELD VERIFICATION OF ALL JOB CONDITIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. ALL DIMENSIONS ARE NOMINAL AND REQUIRE FIELD VERIFICATION AND COORDINATION. DIMENSIONS ARE TO FACE OF CONCRETE, FACE OF MASONRY OR FACE OF STUD, UNLESS NOTED OTHERWISE. DO NOT SCALE THE DRAWINGS.
4. LOCATE EXISTING UTILITIES PRIOR TO CONSTRUCTION AND COORDINATE ALL WORK WITH RESPECTIVE UTILITY OWNERS, IF THEY OCCUR IN THE PROJECT AREA. & INTERFERE W/ THE SCOPE OF WORK - WHETHER THEY ARE SHOWN OR NOT.
5. GENERAL DATA SHOWN ON ONE PART OF THE DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS.
6. FINISH ALL WORK, UNLESS SPECIFICALLY NOTED OTHERWISE. ALL FINISHES TEXTURES, ETC. NOT INDICATED, SHALL BE AS SELECTED BY THE ARCHITECT.
7. PROVIDE PROPER MATERIALS, INSTALLATIONS AND PROTECTIONS NECESSARY TO MEET FIRE RATED CONSTRUCTION REQUIREMENTS. PERFORM ALL WORK IN COMPLIANCE WITH ALL APPLICABLE CODES AND THE REFERENCED STANDARDS.
8. ACCESSIBILITY REQUIREMENTS:
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL ITEMS AND INSTALLATIONS COMPLY W/ THE ACCESSIBILITY REQUIREMENTS OF ALL GOVERNING AUTHORITIES HAVING JURISDICTION OVER THE PROJECT (INCLUDING ARTICLE 9102, TEXAS CIVIL STATUTE, STANDARDS OF THE TEXAS DEPT. OF LICENSING & REGULATION, AND THE AMERICANS W/ DISABILITIES ACT (ADA) OF 2012. VERIFY COMPLIANCE AND REPORT DISCREPANCIES TO THE ARCHITECT PRIOR TO ORDERING ITEMS AND MATERIALS. ALL ITEMS, MATERIALS AND INSTALLATIONS SHALL BE IN COMPLIANCE.
9. THE CONSTRUCTION DOCUMENTS DO NOT CONTAIN THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. SAFETY, CARE OF ADJACENT PROPERTIES DURING CONSTRUCTION AND COMPLIANCE W/ ALL GOVERNING REGULATIONS CONCERNING SAFETY, IS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
10. REPORT ALL DISCREPANCIES TO THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
11. ERRORS AND/OR OMISSIONS IN THE ROOM FINISH OR DOOR SCHEDULES DOES NOT RELIEVE THE CONTRACTOR FROM EXECUTING ALL WORK INDICATED ON THE DRAWINGS.

CONTRACTOR'S RESPONSIBILITY

1. THE CONTRACTOR SHALL CAREFULLY STUDY AND COMPARE THE CONTRACT DOCUMENTS WITH EACH OTHER AND WITH INFORMATION FURNISHED BY THE OWNER, AND SHALL AT ONCE REPORT TO THE ARCHITECT, ERRORS, INCONSISTENCIES, OR OMISSIONS DISCOVERED. IF THE CONTRACTOR PERFORMS ANY CONSTRUCTION ACTIVITY, KNOWING IT INVOKES A RECOGNIZED ERROR, INCONSISTENCY OR OMISSION IN THE CONTRACT DOCUMENTS WITHOUT SUCH NOTICE TO THE ARCHITECT, THE CONTRACTOR SHALL ASSUME APPROPRIATE RESPONSIBILITY FOR SUCH PERFORMANCE AND SHALL BEAR AN APPROPRIATE AMOUNT OF THE ATTRIBUTABLE COST FOR CORRECTION.
2. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS AND SHALL CAREFULLY COMPARE SUCH FIELD MEASUREMENTS AND CONDITIONS AND OTHER INFORMATION KNOWN TO THE CONTRACTOR WITH THE CONTRACT DOCUMENTS, BEFORE COMMENCING ACTIVITIES. ERRORS, INCONSISTENCIES OR OMISSIONS DISCOVERED, SHALL BE REPORTED TO THE ARCHITECT AT ONCE.
3. THE SUBMISSION OF A BID AND SUBSEQUENT SIGNING OF A CONSTRUCTION CONTRACT, WILL BE REGARDED AS A GUARANTEE THAT THE CONTRACTOR HAS VERIFIED ALL FIELD CONDITIONS, AND FULLY UNDERSTANDS THE SCOPE OF THE PROJECT. HENCEFORTH, ONLY CONCEALED OR UNKNOWN EXISTING CONDITIONS AND SCOPE CHANGES WILL BE CONSIDERED AS A BASIS FOR A CHANGE ORDER.
4. THE ASSUMPTION IS MADE THAT SUBCONTRACTORS FOR ALL TRADES POSSESS AT LEAST A MINIMUM STANDARD OF EXPERTISE IN THEIR TRADE, AND THEREFORE WILL BEAR PARTIAL RESPONSIBILITY FOR THE PROPER EXECUTION OF THEIR WORK. THE IDENTIFICATION AND NOTIFICATION OF THE ARCHITECT REGARDING ERRORS, INCONSISTENCIES AND OMISSIONS IN THE CONTRACT DOCUMENTS, PRIOR TO THE IMPLEMENTATION OF ANY WORK, ARE INCLUSIVE OF SUCH RESPONSIBILITY.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR, AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCES AND PROCEDURES, AND FOR COORDINATING ALL PORTIONS OF WORK UNDER THE CONTRACT, UNLESS THE CONTRACT DOCUMENTS GIVE OTHER SPECIFIC INSTRUCTIONS CONCERNING THESE MATTERS....
6. THE CONTRACTOR SHALL REVIEW, APPROVE AND SUBMIT TO THE ARCHITECT, SHOP DRAWINGS PRODUCT DATA, SAMPLES AND SIMILAR SUBMITTALS REQUIRED BY THE CONTRACTOR DOCUMENTS WITH REASONABLE PROMPTNESS, AND IN SUCH A SEQUENCE AS TO CAUSE NO DELAY IN THE PROJECT OR IN THE ACTIVITIES OF THE OWNER, OR OF SEPARATE CONTRACTORS.
7. BY APPROVING AND SUBMITTING SHOP DRAWINGS, PROJECT DATA, SAMPLES AND SIMILAR SUBMITTALS, THE CONTRACTOR REPRESENTS THAT THE CONTRACTOR HAS DETERMINED AND VERIFIED MATERIALS, FIELD MEASUREMENTS AND FIELD CONSTRUCTION CRITERIA RELATED THERETO OR WILL DO SO AND HAS CHECKED AND COORDINATED THE INFORMATION CONTAINED WITHIN SUCH SUBMITTALS WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.

ABBREVIATIONS

ACOUST.	ACOUSTICAL
A.D.A.	AMERICANS WITH DISABILITIES ACT
ALUM.	ALUMINUM
LAM.	LAMINATE
GYP.BD.	GYPHUM BOARD
EXIST.	EXISTING
F.E.C.	FIRE EXTINGUISHER CABINET
F.D.	FLOOR DRAIN
GL.	GLASS/ GLAZING
H.C.	HOLLOW CORE
HDW.	HARDWARE
H.M.	HOLLOW METAL
V.W.C.	VINYL WALL COVERING
S.C.W.	SOLID CORE WOOD
SGL.	SAFETY GLASS
ST.	STAIN
TEMP.	TEMPERED
U.N.O.	UNLESS NOTED OTHERWISE
V.C.T.	VINYL COMPOSITION TILE
V.I.F.	VERIFY IN FIELD

CODE COMPLIANCE:

IBC 2015 EDITION WITH ALL LATEST LOCAL AMENDMENTS BY THE CITY OF EL PASO, INCLUDING THE TEXAS ASBESTOS HEALTH PROTECTION ACT.
ZONING ORDINANCE, CITY OF EL PASO
TEXAS ACCESSIBILITY STANDARDS (TAS)
AMERICAN WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES
NATIONAL FIRE PREVENTION ASSOCIATION (NFPA)
2015 EDITION OF THE INTERNATIONAL MECHANICAL CODE
2015 EDITION OF THE INTERNATIONAL PLUMBING CODE
2015 EDITION OF THE NATIONAL ELECTRICAL CODE
2015 EDITION OF THE INTERNATIONAL ENERGY CONSERVATION CODE

MECHANICAL AND PLUMBING
JOSE BERNAL
FLUID SYSTEMS INC.
12244 RATHMORE DRIVE
EL PASO TEXAS 79928
(915) 856-9420

INDEX OF DRAWINGS:

- COVER SHEET
- ARCHITECTURAL
A-1.0 LOCATION MAP
- PLUMBING
P-1 SITE PLAN
P-1.1 DETAILS AND SECTIONS
P-1.2 DETAILS AND SECTIONS



STANDARD SYMBOLS LEGEND

- 1/A-4 1/A-4 BUILDING SECTION (PARTIAL OR FULL)
- 6/A-7 INTERIOR/ EXTERIOR ELEVATION MARKER
- 6/A-1.0 ENLARGED DETAIL MARKER AND BUBBLE
- WALL TYPE FLAG
- WINDOW DESIGNATION MARKER
- DOOR DESIGNATION MARKER
- KEYED NOTE
- ROOM NAME AND ROOM NUMBER MARKER
- CERLICAL 103
- NORTH ARROW

SALT BUSH ROAD

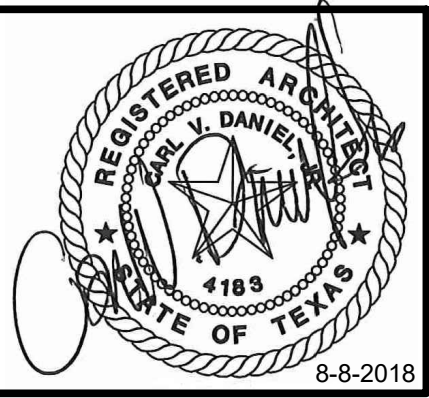


LOCATION MAP
SCALE: N.T.S.

LEGAL DESCRIPTION

6 PUBLIC SCHOOL SEC 3 ABST 6673 TR 3 932.598 AC)





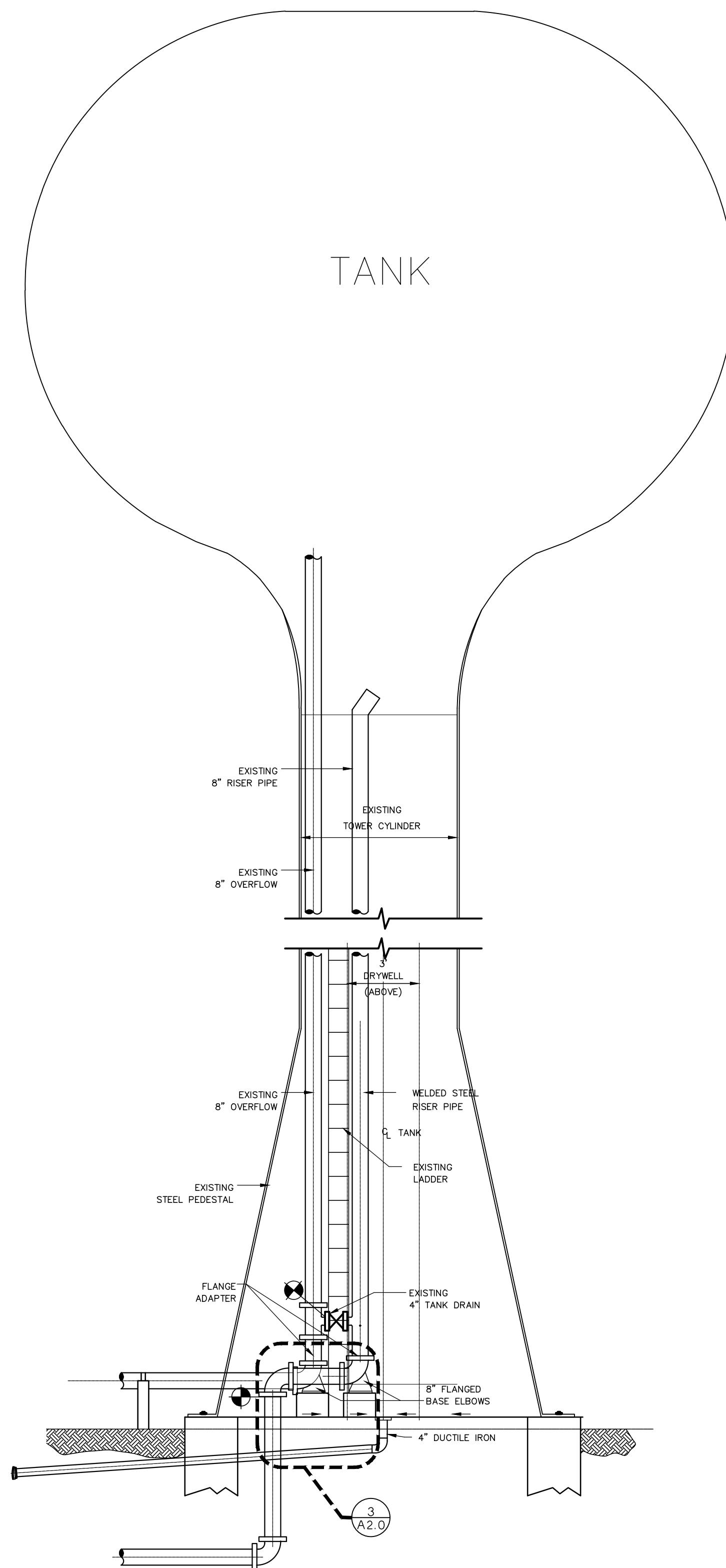
**MONTANA WATER
 FACILITIES PIPE
 REPLACEMENT**

SALT BUSH ROAD
 EL PASO, TEXAS

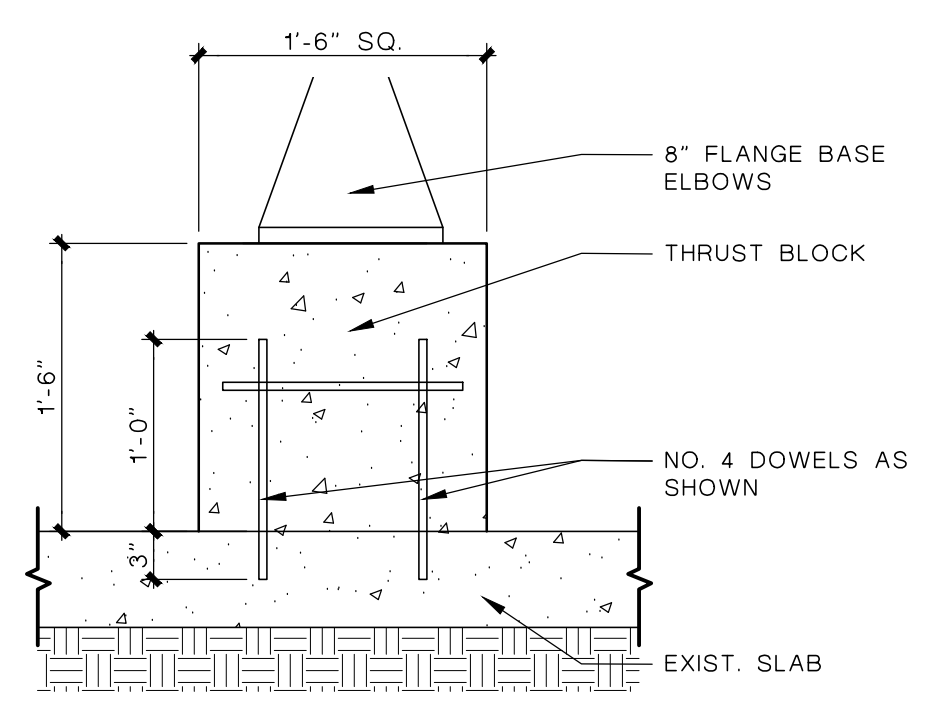
NOT ISSUED FOR
 CONSTRUCTION

NO.	DATE	REVISION:

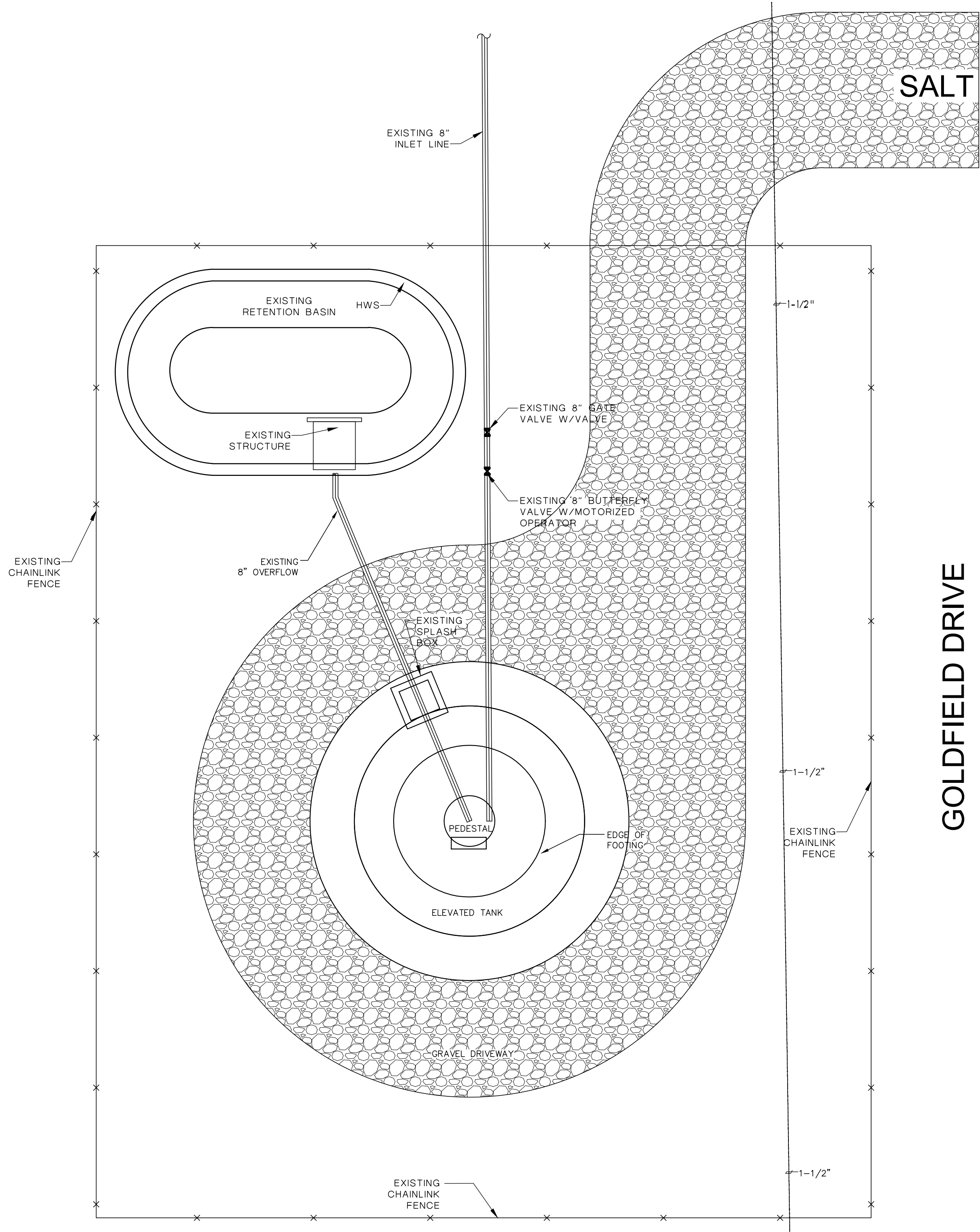
SHEET:
A1.0
 SITE PLAN



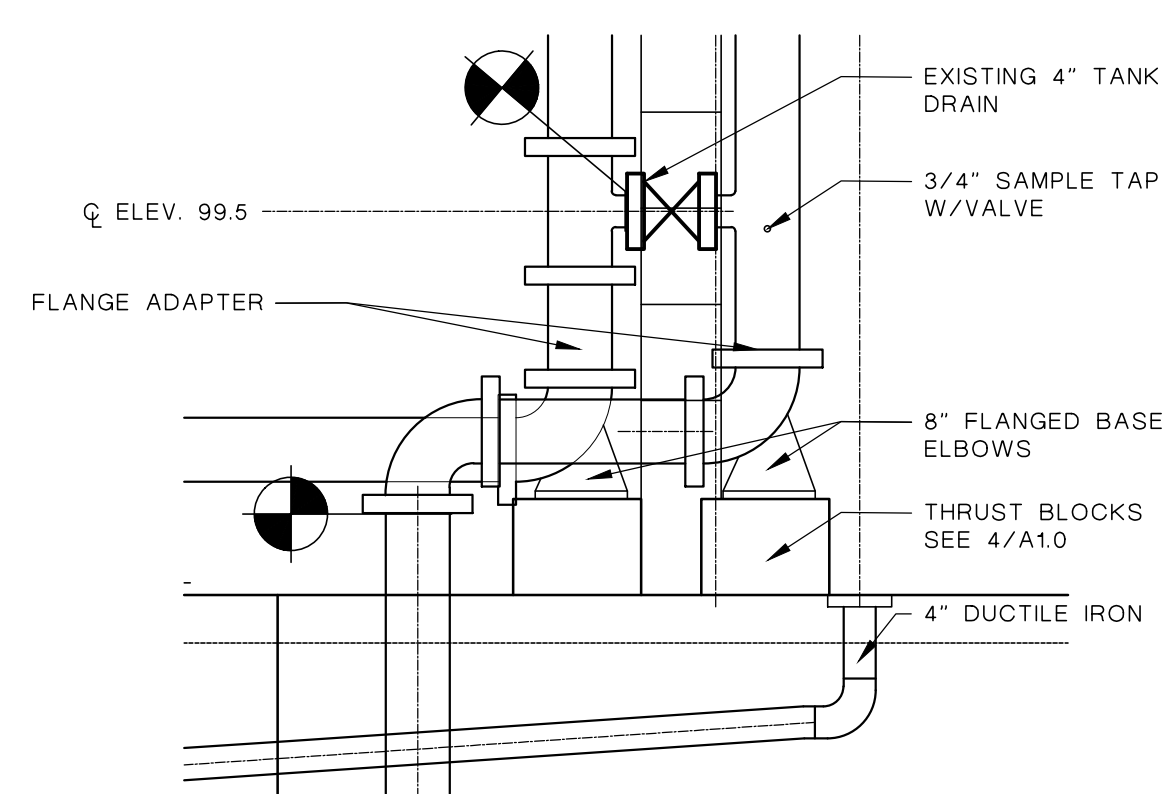
2 SECTION
 SCALE: 1/4"=1'-0"



4 THRUST BLOCK DETAIL
 SCALE: 1/4"=1'-0"



1 SITEPLAN
 SCALE: 1"=10'



3 DETAIL
 SCALE: 1/4"=1'-0"



REFERENCE SITEPLAN
 SCALE: NTS

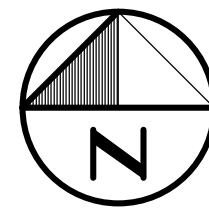
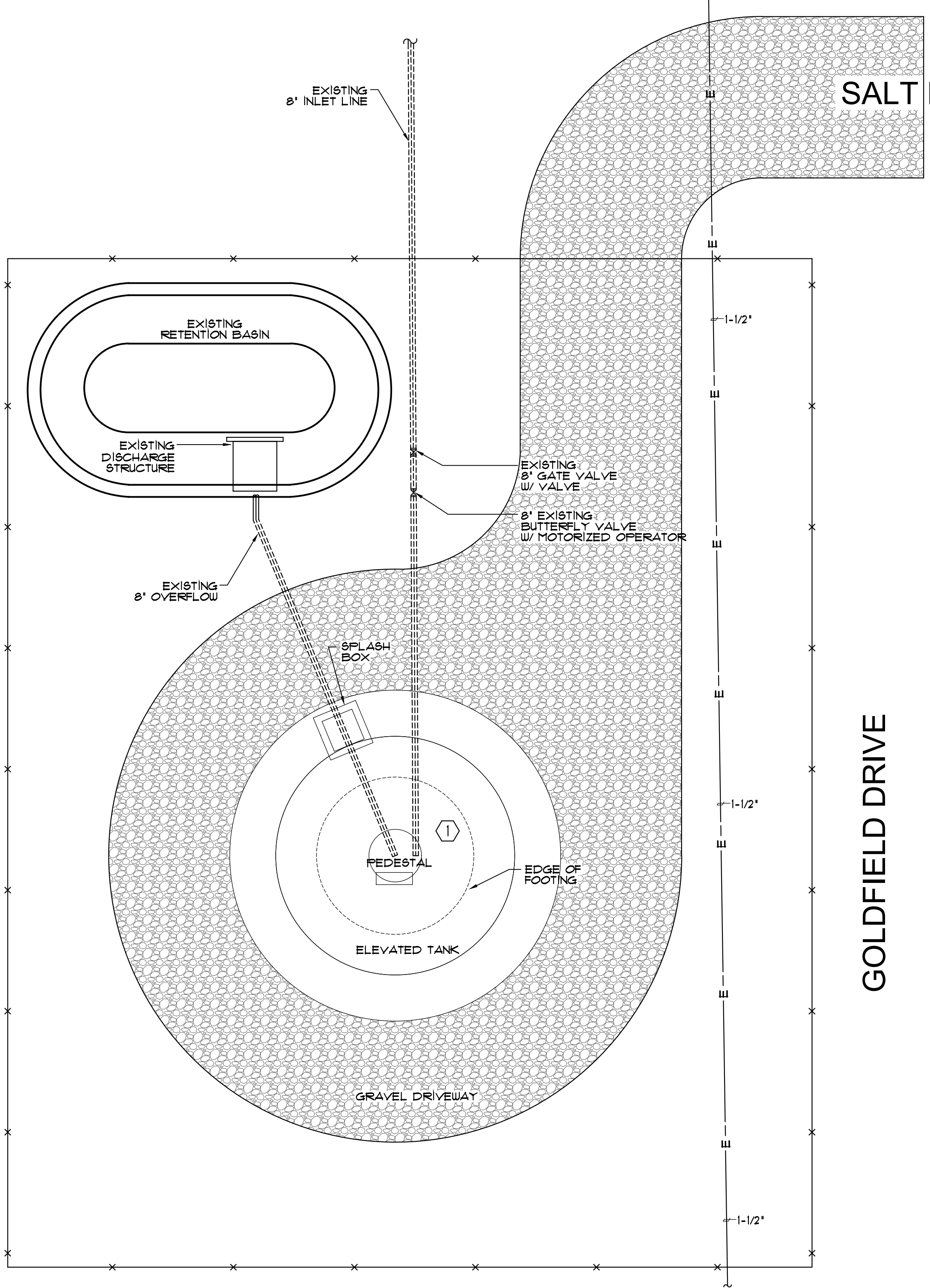
SALT BUSH ROAD

GOLDFIELD DRIVE

TANK

PROJECT AREA

REFERENCE SITEPLAN

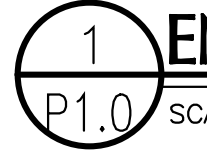


SITE PLAN

SCALE: 1" = 10'-0"

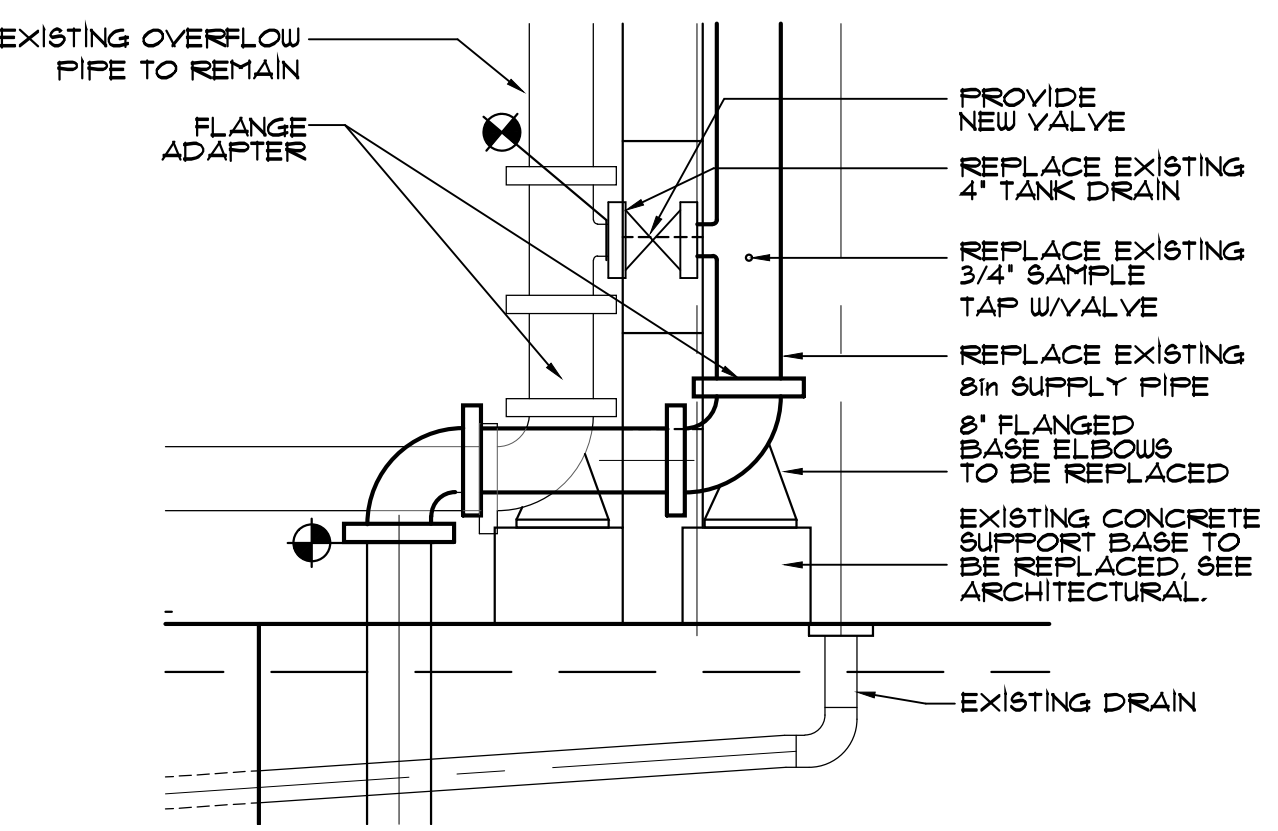
KEYED NOTES

- ① EXISTING ELEVATED TANK TO BE TAKEN OFFLINE FOR REPAIRS. CONTRACTOR IS TO PROVIDE TEMPORARY WATER STORAGE TANKS AND PUMPING SYSTEM TO MAINTAIN SERVICE TO AREA DURING THE DURATION OF REPAIRS.
- ② STORAGE WATER TANK CAPACITY TO BE A MINIMUM 30,000 GALLONS. MULTIPLE INTERCONNECTED TANKS CAN BE USED. TANKS SHALL BE FOR POTABLE WATER USE, NSF.
- ③ TEMPORARY PUMPING SYSTEMS TO BE ABLE TO MAINTAIN 100 PSI AT THE OULET AND PROVIDE A MAXIMUM OF 800 GPM. IT IS ANTICIPATED FLOWS TO BE VARIABLE.
- ④ TEMPORARY TANKS TO BE FILLED USING EXISTING SYSTEM PRESSURE. PROVIDE LEVEL SENSOR TO AND SHUT OFF VALVE TO MAINTAIN TANKS AT FULL CAPACITY.
- ⑤ INTERSECT EXISTING WATER SUPPLY AND CONNECT TO TEMPORARY SYSTEM TO ALLOW FOR DRAIN DOWN OF EXISTING TANK.



ENLARGED BASE DETAIL

SCALE: 1/2" = 1'-0"

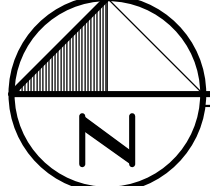
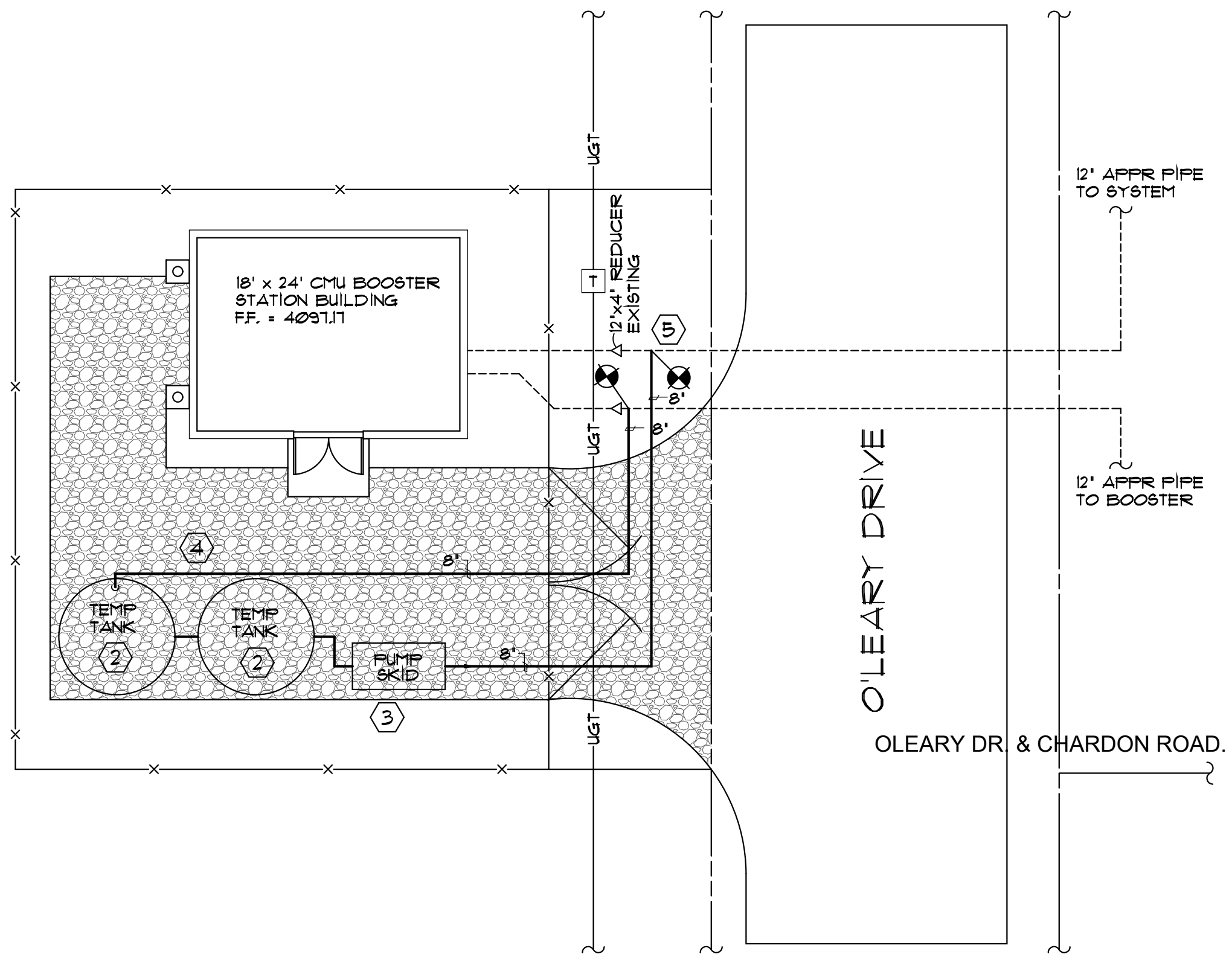


LEGEND

	NEW	EXISTING
SEWER (BURIED)		
COLD WATER LINE		
GAS LINE		
FIRE LINE		
DEMOLITION		
GAS METER	GM	EGM
WATER METER	WM	EW
LIFT STATION	LS	ELS
CLEANOUT	CO	ECO
STORAGE TANK	ST	EST
DOUBLE CLEANOUT	DCO	EDCO
MANHOLE	MH	EMH
NEW WORK INTERFACE		
KEYED SYMBOL		
FIRE HYDRANT	FH	EFH

GENERAL NOTES

- 1. COORDINATE INSTALLATION OF WATER LINES WITH EL PASO COUNTY OFFICIALS. SCHEDULE WORK WITH FIRE MARSHALL'S OFFICE AND UTILITY COMPANY.
- 2. EXISTING WATER SYSTEM IS TO REMAIN OPERATIVE DURING CONSTRUCTION. IF SYSTEM IS TAKEN OFF LINE PROVIDE A TEMPORARY SYSTEM TO MAINTAIN SERVICE TO AREA.
- 3. ALL INFORMATION TAKEN FROM ORIGINAL DRAWINGS. CONTRACTOR IS TO FIELD VERIFY EXACT LOCATIONS OF LINES.
- 4. CONTRACTOR IS TO REPAIR ALL PAVEMENT, CURBS, AND CONCRETE STRUCTURES DISTURBED BY WORK.
- 5. CARE IS TO BE TAKEN SO AS NOT TO DAMAGE EXISTING UTILITY LINES. CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY DAMAGE.
- 6. WATER SYSTEM IS REQUIRED TO MAINTAIN A MINIMUM OF 20 PSI. CONTRACTOR IS TO NOTIFY OWNER WITHIN ONE HOUR IF PRESSURE DROPS BELOW MINIMUM REQUIRED.
- 7. PRESSURE TEST ALL NEW PIPING TO 150 PSI FOR 24 HOURS, PROVIDE CHART RECORDING.
- 8. ALL NEW PIPING IS TO BE TESTED AS REQUIRED BY TCEQ, TO VERIFY SYSTEMS ARE CLEAN PRIOR TO BE PLACED IN OPERATION.



TEMPORARY BOOSTER STATION

SCALE: 1" = 10'-0"

The seal appearing on this document was authorized by JOSE A. BERNAL, P.E. 90861, on 2/16/2018.

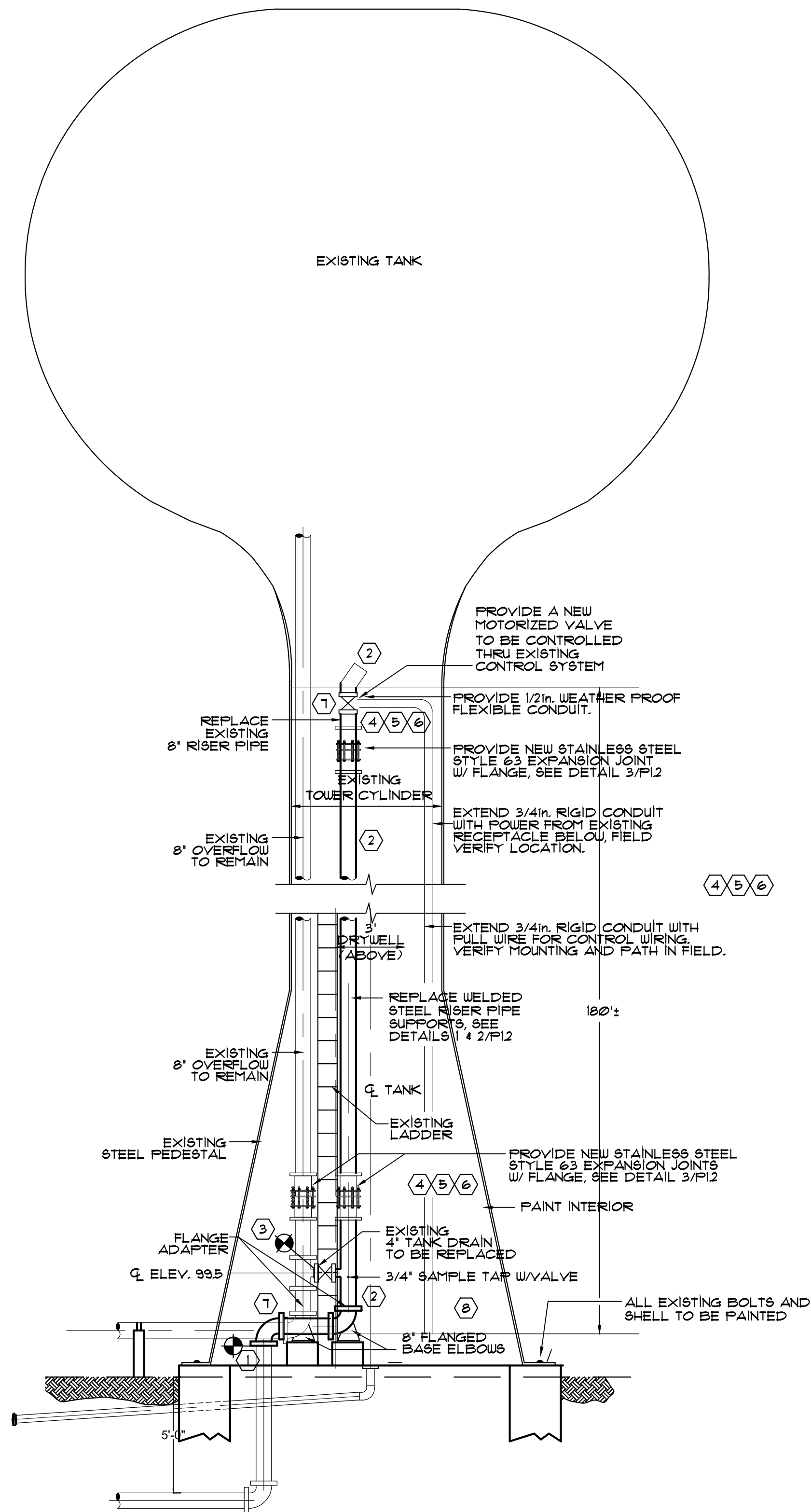


FLUID SYSTEMS, INC.
 CONSULTING MECHANICAL ENGINEERS
 REGISTRATION NUMBER: F-1161
 12244 BATHMORE DR. • EL PASO, TEXAS 79928
 OFFICE: (915) 856-9420

**MONTANA WATER FACILITIES
 ELEVATED TANK REPAIRS**
 GOLDFIELD DR./SALTBUSH RD.
 EL PASO, TX

NO.	DATE	REVISION

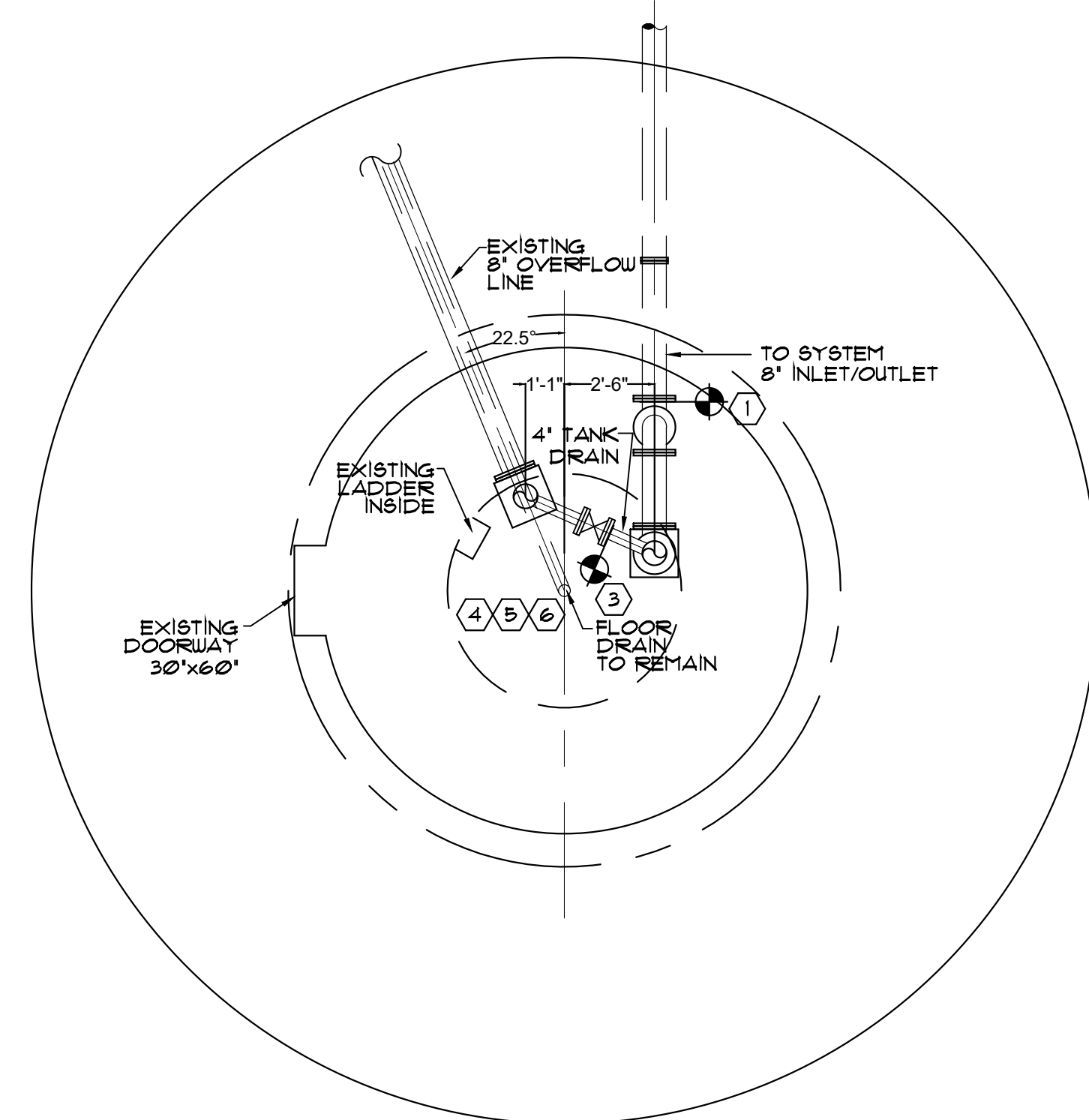
SHEET:
P1.0
 SITE PLAN



1 SECTION
 P1.1 SCALE: 1/4" = 1'-0"

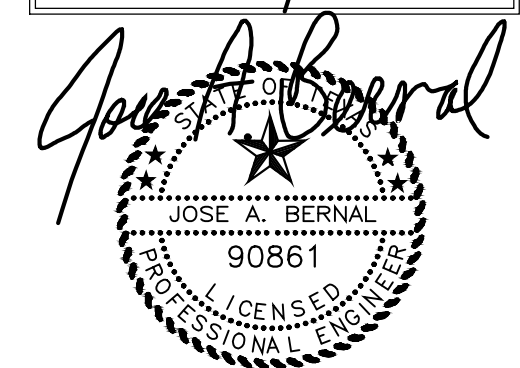
KEYED NOTES

- ① EXISTING ABOVE GROUND EIGHT INCH SUPPLY PIPE TO BE REPLACED. PIPE TO BE REMOVED FROM FIRST JOINT ABOVE GROUND UP THROUGH TOWER TO ELEVATED TANK.
- ② EXISTING VERTICAL PIPE TO BE REMOVED AND REPLACED. EXISTING SUPPORT STRUCTURES TO BE REMOVED.
- ③ REMOVE AND REPLACE FOUR-INCH DIAMETER TANK DRAIN. PROVIDE A NEW SHUT OFF VALVE. RECONNECT TO OVERFLOW DRAIN LINE.
- ④ PROVIDE VENTILATION TO COMPLY WITH OSHA 1910.146 CONFINED SPACES REQUIREMENTS. AIR OXYGEN LEVELS TO BE MONITORED AT ALL TIMES DURING WELDING OPERATIONS.
- ⑤ PROVIDE REQUIRED HARNESSES OR SCAFFOLDING SUPPORT TO ALLOW FOR WELDING OPERATIONS IN CYLINDER. PROVIDE HOLE WATCH PERSONNEL.
- ⑥ CONTRACTOR TO DEVELOP AND IMPLEMENT THE MEANS, PROCEDURES, AND PRACTICES FOR A SAFE WORKING ENVIRONMENT.
- ⑦ REMOVE EXISTING SHUT OFF VALVES AND FLEX CONNECTORS, SALVAGE TO OWNER.
- ⑧ PROVIDE WEATHER PROOF JUNCTION BOX FOR VALVE CONTROLLER. COORDINATE MOUNTING LOCATION IN FIELD.



2 PEDESTAL FLOOR PLAN
 P1.1 SCALE: 1/4" = 1'-0"

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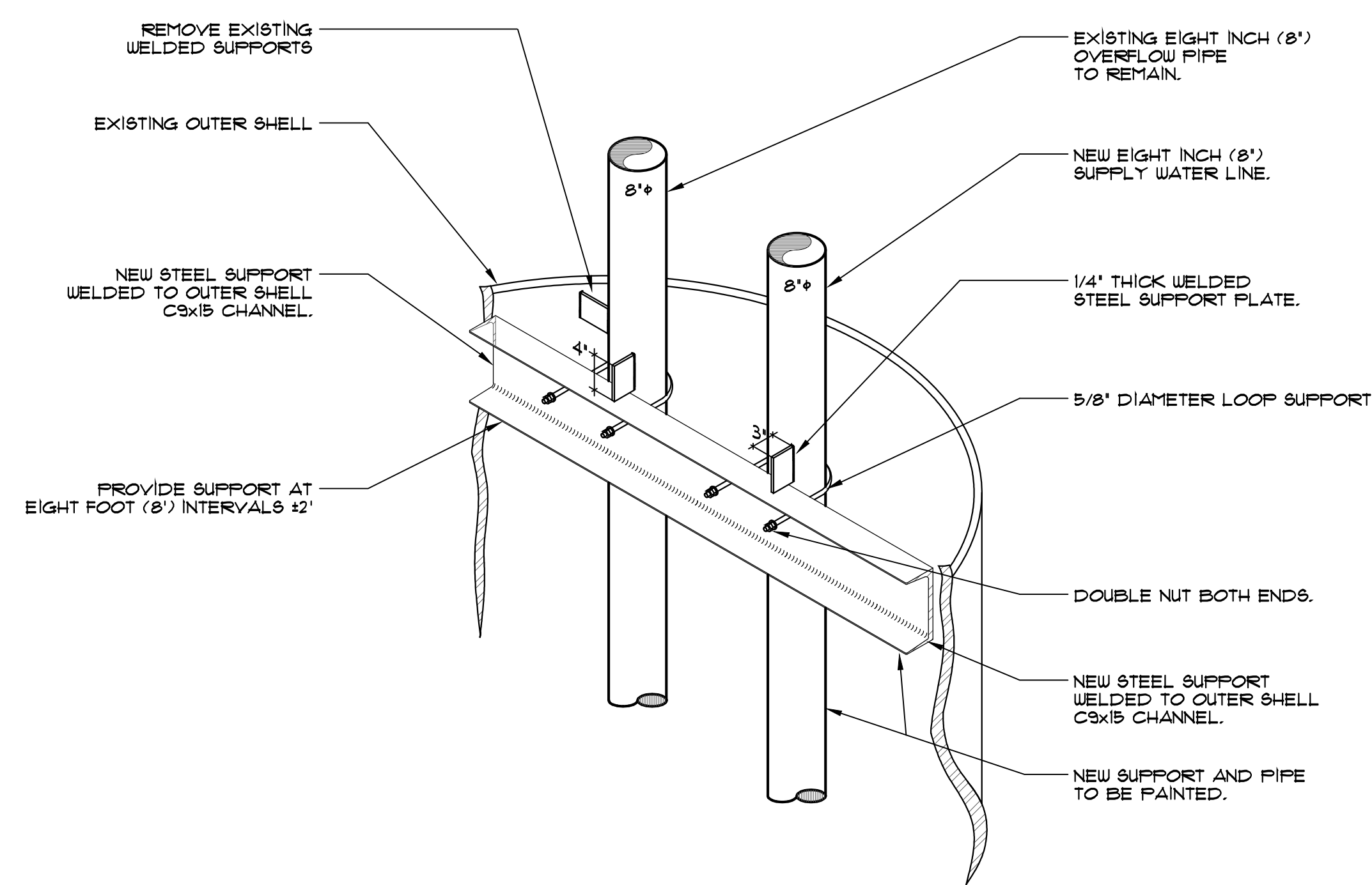


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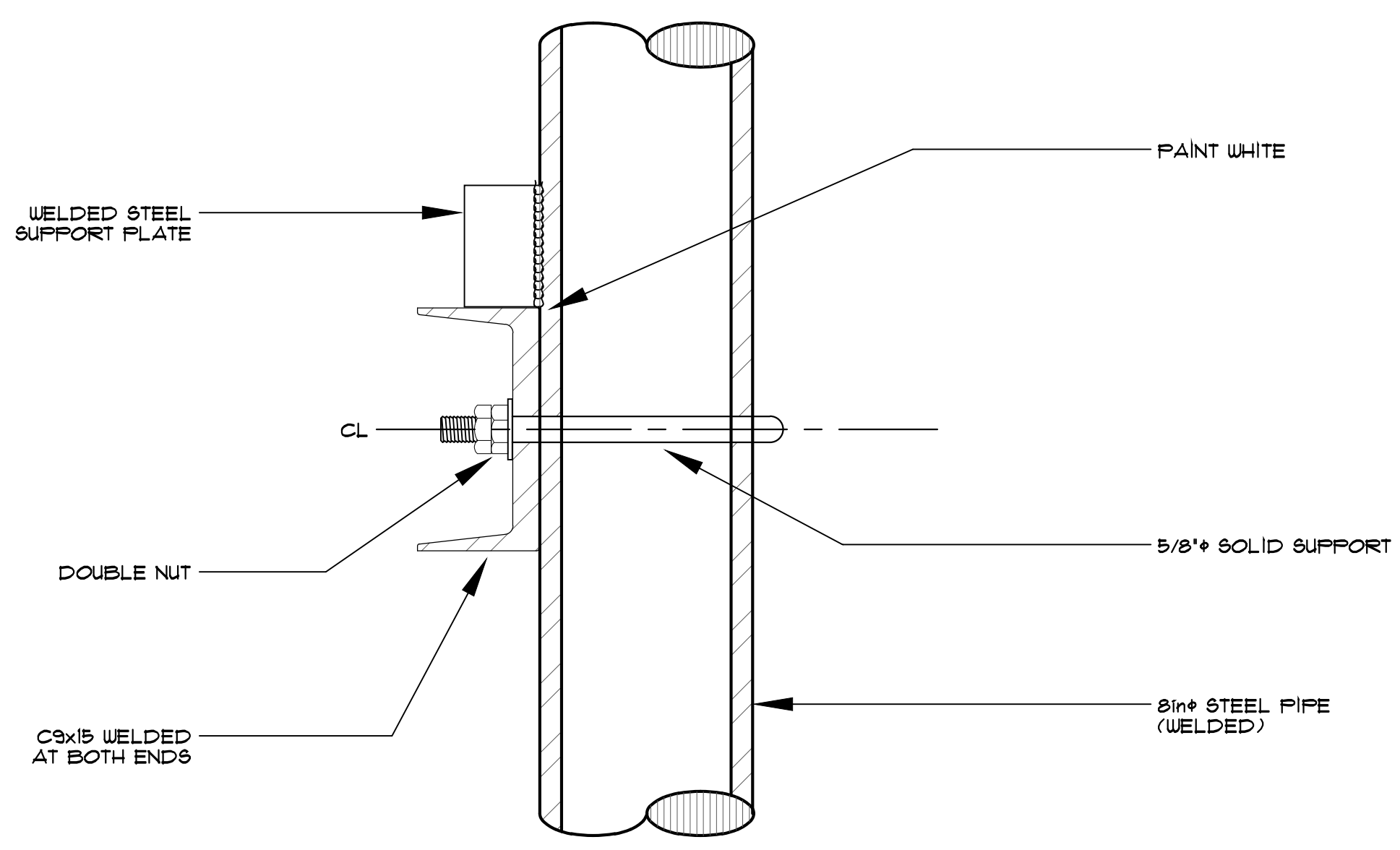
**MONTANA WATER FACILITIES
 ELEVATED TANK REPAIRS**
 GOLDFIELD DR./SALTBUSH RD. EL PASO, TX

NO.	DATE	REVISION

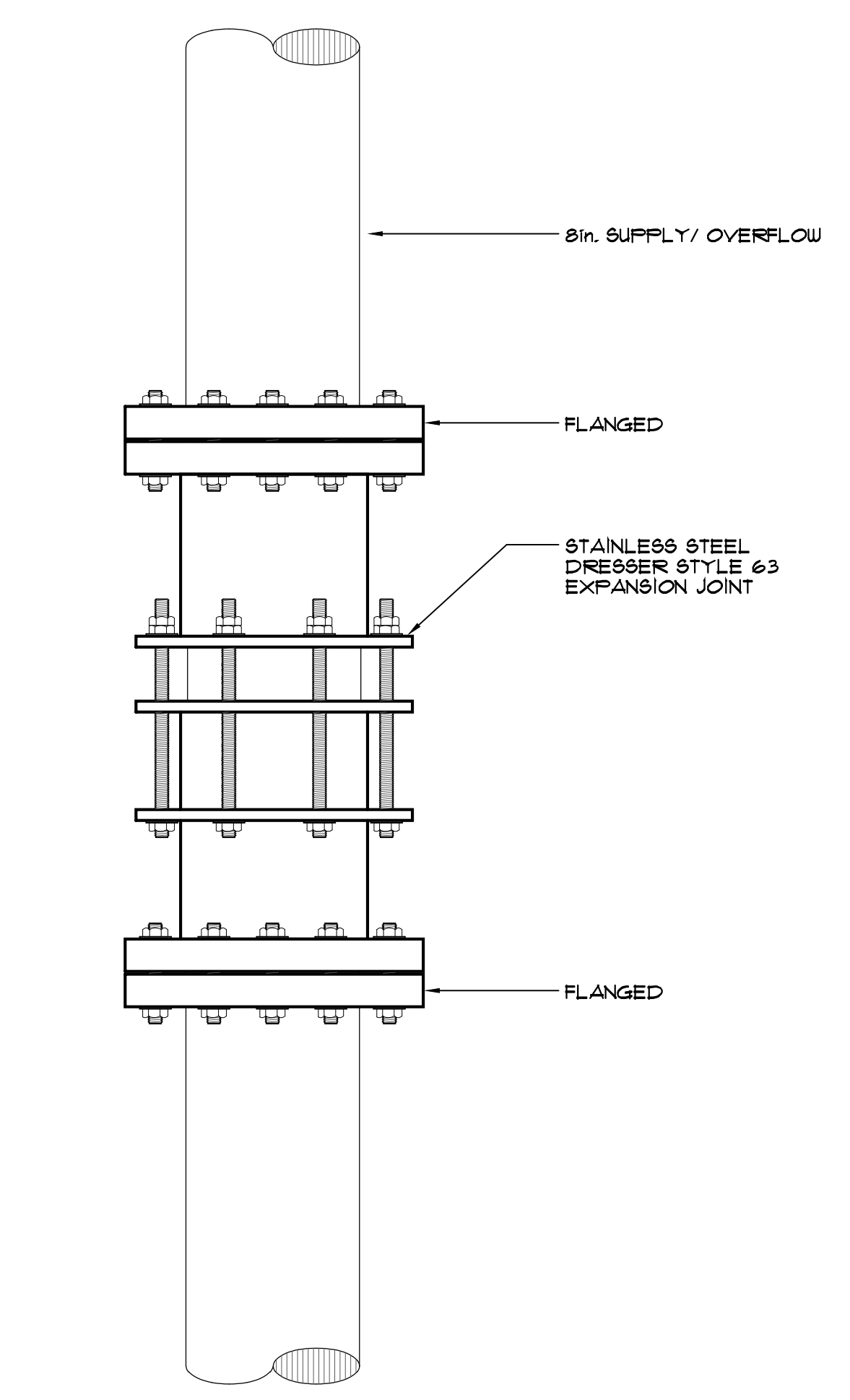
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P1.1
 DETAILS &
 SECTION



1 PIPE SUPPORT SYSTEM
 SCALE: P1.2 NTS



2 PIPE SUPPORT SECTION
 SCALE: P1.2 NTS



3 EXPANSION JOINT
 SCALE: P1.2 NTS

SCOPE
 IT IS THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS TO FURNISH A PLUMBING SYSTEM FOR THE MUNICIPALITY, COMPLETE AND READY TO USE. ALL WORK AND MATERIAL MUST CONFORM TO ALL STATE AND LOCAL CODES IN EVERY RESPECT.

PLUMBING
PIPE AND FITTINGS
 ALL METAL PIPE TO BE STRAIGHT, FREE FROM DENTS, SCARS OR BURRS WITH ENDS REAMED, CUT OR SMOOTH AND AS FURTHER SPECIFIED FOR THE INDIVIDUAL APPLICATION.

STEEL PIPE
 This section applies to all piping systems providing for welded piping, fittings, and other appurtenances.
 Pipe: Unless otherwise indicated piping shall be Schedule 40, Standard weight, Grade A or B, seamless black steel pipe conforming in all details to Standard ASTM Designation A135, A106, and A53, latest revisions.
 Fittings:
 All weld fittings shall be domestic made wrought carbon steel butt welding fittings conforming to ASTM A234 and ASME/ANSI B16.9, latest edition, as made by Weld Bend, Tube Turn, Hackney, or Ladish Company. Attach to only pipe with a hole for the entire length. Each fitting shall be stamped as specified by ASME/ANSI B16.9 and, in addition, shall have the laboratory control number stenciled on each fitting for ready reference as to physical properties required for any fittings selected at random. Fittings which have been machined, remarked, printed, or otherwise produced domestically from non-domestic forgings or materials will not be acceptable. Each fitting is to be marked in accordance with MSS SP 25. Markings shall be placed on the fittings at the farthest point from the edge to be welded to prevent disfiguring from the welding process. Submittal data for these fittings shall include a letter signed by an official of the manufacturing firm certifying compliance with these specifications.
 All screwed pattern fittings specifically called for shall be Class 150 malleable iron fittings of Grinnell Company, Crane Company or Walworth Company manufacture (300 lb. for unions).
 Machine beveling in shop is preferred. Field beveling may be done by flame cutting to recognized standards.
 Ensure complete penetration of deposited metal with base metal. Contractor shall provide filler metal suitable for use with base metal. Contractor shall keep inside of fittings free from globules of weld metal. All welded pipe joints shall be made by the fusion welding process, employing a metallic arc or gas welding process. All pipe shall have the ends beveled 37 1/2 degrees and all joints shall be aligned true before welding. Except as specified otherwise, all changes in direction, intersection of lines, reduction in pipe size and the like shall be made with factory fabricated welding fittings. Mitering of pipe to form elbows, notching of straight runs to form tees, or any similar construction will not be permitted.
 Align piping and equipment so that no part is offset more than 1/16 inch. Set all fittings and joints square and true, and preserve alignment during welding operation. Use of alignment rods inside pipe is prohibited.
 Do not permit any weld to project within the pipe so as to restrict it. Tack welds, if used, must be of the same material and made by the same procedure as the completed weld. Otherwise, remove tack welds during welding operation.
 Do not split, bend, flatten or otherwise damage piping before, during or after installation.
 Remove dirt, scale and other foreign matter from the inside of piping, by swabbing or flushing, prior to the connection of other piping sections, fittings, valves or equipment.
 In no cases shall Schedule 40 pipe be welded with less than three passes including one stringer/root, one filler and one lacer. In all cases, however, the weld must be filled before the cap weld is added.

WELD TESTING
 All welds are subject to inspection, visual and/or X-ray, for compliance with specifications. The owner will, at the owner's option, provide employees or employ a testing laboratory for the purposes of performing said inspections and/or X-ray testing. Initial visual and X-ray inspections will be provided by the owner. The contractor shall be responsible for all labor, material and travel expenses involved in the re-inspection and re-testing of any welds found to be unacceptable. In addition, the contractor shall be responsible for the costs involved in any and all additional testing required or recommended by ASME/ANSI Standards B31.1, B31.9, and B31.3 due to the discovery of poor, unacceptable, or rejected welds.
 Welds lacking penetration, containing excessive porosity or cracks, or are found to be unacceptable for any reason, must be removed and replaced with an original quality weld as specified herein. All qualifying tests, welding and stress relieving procedures shall, moreover, be in accord with Standard Qualification for Welding Procedures, Welders and Welding Operators, Appendix A, Section 6 of the Code, current edition.

FLANGES
 All 150 lb. and 300 lb. ANSI flanges shall be weld neck and shall be domestically manufactured, forged carbon steel, conforming to ANSI B16.5 and ASTM A 181 Grade I or II or A 105 71 as made by Tube Turn, Hackney or Ladish Company. Slip on flanges shall not be used. Each fitting shall be stamped as specified by ANSI B16.9 and, in addition, shall have the laboratory control number stenciled on each fitting for ready reference as to physical properties and chemical composition of the material. Complete test reports may be required for any fitting selected at random. Flanges which have been machined, remarked, painted or otherwise produced domestically from imported forges will not be acceptable. Flanges shall have the manufacturer's trademark permanently identified in accordance with MSS SP 25. Contractor shall submit data for firm certifying compliance with these Specifications. Bolts used shall be carbon steel bolts with semi finished hexagon nuts of American Standard Heavy dimensions. Allthread rods will not be an acceptable for flange bolts. Other bolts shall have a tensile strength of 80,000 psi and an elastic limit of 36,000 psi and rated at least ANSI Grade 1.

EXPANSION JOINTS
 DRESSER STYLE 63 EXPANSION JOINT, FLANGED. BODY TO BE AISI C1006, C1015, C1025 OR ASTM A513 STAINLESS STEEL.

FIXTURES AND EQUIPMENT
 FIXTURES AS INDICATED ON THE DRAWINGS SHALL BE FURNISHED AND INSTALLED IN A FIRST CLASS MANNER WITH PROPER CONNECTIONS TO THE WATER AND DRAINAGE SYSTEMS. ALL FIXTURES SHALL BE GUARANTEED BY MANUFACTURER TO BE FREE FROM FLAWS AND DEFECTS OF ANY SORT IN MATERIAL AND WORKMANSHIP AND TO OPERATE PERFECTLY WHEN INSTALLED IN ACCORDANCE WITH INSTRUCTIONS WHICH SHALL BE FURNISHED BY THE MANUFACTURER. THE MANUFACTURER SHALL AGREE TO REPLACE FREE OF CHARGE ALL OR ANY PART OF THE FIXTURE WHICH MAY SHOW FLAW OR DEFECT DUE TO FAULT IN MANUFACTURE, SHIPMENT OR STORAGE AT ANY TIME AFTER INSTALLATION.

THE ARCHITECT WILL BE THE SOLE JUDGE AS TO WHETHER THE ALTERNATE FIXTURES AND MATERIALS ARE EQUAL TO THOSE SPECIFIED IN TYPE AND QUALITY. IT SHALL BE THE SUPPLIER'S RESPONSIBILITY TO SUBMIT ANY ITEMS IN QUESTION PRIOR TO APPROVAL.

SHOP DRAWINGS
 SUBMIT SHOP DRAWINGS ON THE FOLLOWING EQUIPMENT:
 (1) STEEL PIPE AND FITTINGS
 (2) EXPANSION JOINTS, AND
 (3) VALVES.

WORKMANSHIP
 ALL WORK SHALL BE FIRST CLASS IN EVERY RESPECT AND SHALL BE DONE BY PERSONNEL SKILLED IN THE TRADE INVOLVED. CARELESS AND/OR SLOPPY WORK SHALL BE REMOVED AND REPLACED PROPERLY AT THE CONTRACTOR'S EXPENSE.

SCHEDULING OF WORK
 THE CONTRACTOR SHALL BE REQUIRED TO CONFER WITH THE ARCHITECT, FIRE MARSHALL'S OFFICE, AND OWNER TO DETERMINE A SCHEDULE OF TIMES AT WHICH THE VARIOUS ITEMS OF WORK ARE TO BE ACCOMPLISHED.

CLEANING, TESTING AND ADJUSTING
 MAKE SPECIFIC TESTS OF ALL EQUIPMENT AND MATERIALS AND PORTIONS OF THIS INSTALLATION AS REQUIRED HEREIN TO PROVE THEIR CONDITION AND PERFORMANCE AND ANY TESTS AS REQUIRED BY ANY AUTHORITY HAVING JURISDICTION OVER THIS TYPE OF INSTALLATION.

THE CONTRACTOR SHALL ADJUST ALL EQUIPMENT, AIR QUANTITIES, CONTROL DEVICES, SO THAT ALL COMPONENTS OF THE VARIOUS SYSTEM ARE LEFT IN PROPER WORKING ORDER.

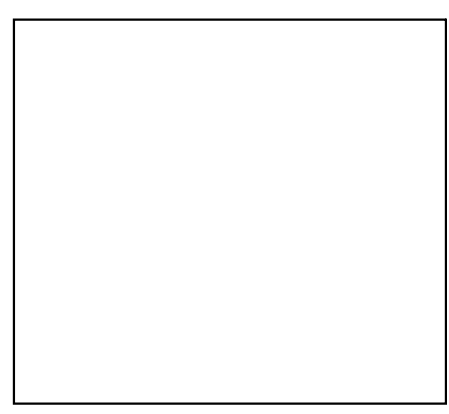
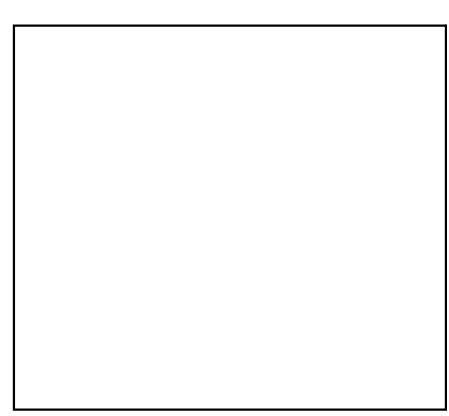
OPERATION AND MAINTENANCE
 AT THE COMPLETION OF THE INSTALLATION AND BEFORE FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE THREE (3) SETS OF OPERATION AND MAINTENANCE MANUALS, LEAFLETS, ETC., FOR ALL ITEMS OF EQUIPMENT INSTALLED UNDER THIS SECTION AS SPECIFIED IN OTHER SECTIONS.

DISINFECTION OF WATER PIPING
 Disinfection of Mains: All of the water mains installed shall be thoroughly flushed and disinfected before being placed in service. This work shall be done under the direct supervision of the County's Inspector. The Contractor shall supply all labor, equipment and materials necessary for carrying out this work. After a thorough flushing and cleaning out, sufficient chlorine compounds shall be introduced in the lines to produce a chlorine concentration of at least 50 parts per million. The chlorine solution shall be retained in the lines for at least twenty-four (24) hours. At the end of this period, the chlorine residual shall be at least 20 parts per million. The lines will then be flushed sufficiently to clear them of chlorine exceeding one part per million. Samples of water from the mains will then be taken and analyzed for bacteriological purity. If the mains fail to meet the bacteriological standard for purity, disinfecting and flushing will be repeated until such standards have been met. All analysis for chlorine and bacteriological purity will be by County Personnel.

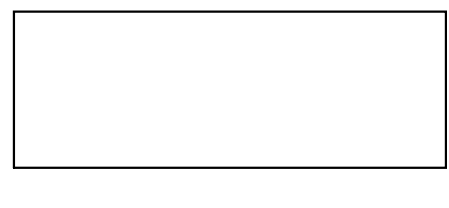
The seal appearing on this document was authorized by JOSE A. BERNAL, P.E. 90861, on 2/16/2018.



FLUID SYSTEMS, INC.
 CONSULTING MECHANICAL ENGINEERS
 REGISTRATION NUMBER: F-1161
 12244 RATHMORE DR. • EL PASO, TEXAS 79928
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**MONTANA WATER FACILITIES
 ELEVATED TANK REPAIRS**
 EL PASO, TX
 GOLDFIELD DR./SALTBUSH RD.



NO.	DATE:	REVISION:

SHEET:
P1.2
 DETAILS & SECTION