



**SAN ANTONIO WATER SYSTEM
LEON CREEK WATER RECYCLING CENTER (WRC) INTERCONNECT
TO THE SOUTHWEST BEXAR SEWER PIPELINE (SBSP) PROJECT
SAWS Job No. 10-6501
Solicitation No. B-11-051-MF**

ADDENDUM NO. 3

January 25, 2012

BID DATE: January 30, 2012

10:00 a.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 December 2011. 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. 3 consists of 60 item(s) outlined in 10 pages. In addition to these 10 pages, Addendum No. 3 includes a re-issued Bid Proposal and 20 re-issued drawings.



ADDENDUM NO. 3

A. GENERAL QUESTIONS/CLARIFICATIONS

1. Question: On plan sheets I-5 and M-2, the tag numbers for the slide gates in the FEB Drain Line Junction Structure end with "05" and "06". However, in the slide gate schedule (Spec Section 11280, Page 8), the tag numbers for the slide gates in the FEB Drain Line Junction Structure end with "05" and "01". Please clarify.

Response: Please refer to Addendum No. 3, SPECIFICATIONS, Item Nos. 2 and 4 below for resolution.

2. Question: On plan sheets I-4 and M-1, the tag number for the 30" x 30" weir/slide gate in the FEB Diversion Structure is "LC01EQGATE04". However, in the slide gate schedule (Spec Section 11280, Page 8), the tag number for the 30" x 30" slide gate in the FEB Diversion Structure is "LC01EQGATE01". Please clarify.

Response: Please refer to Addendum No. 3, SPECIFICATIONS, Item No. 2 below for resolution.

3. Question: Regarding questions 1 and 2 above, there are two gates with the identical tag number "LC01EQGATE01". It is my opinion that the gate in the Drain Line Junction Structure should be "LC01EQGATE06", and the gate in the Diversion Structure should be "LC01EQGATE04".

Response: Please refer to Addendum No. 3, SPECIFICATIONS, Item No. 2 below for resolution.

4. Question: The 42" x42" gates located in the FEB Drain Line Junction Structure are located in both the sluice gate specs and the slide gate specs. Please clarify.

Response: Please refer to Addendum No. 3, SPECIFICATIONS, Item Nos. 1 and 3 below for resolution. It is the engineer's intent that either gate type may be used in this location.

5. Question: Is the 50' permanent easement and the 30' temporary easement required to be field staked under this bid? If they need to be staked, will you or CP&Y be providing the staking information (coordinates, stationing, etc.)?

Response: Please refer to Supplementary Conditions item "Page GC 17", Section 01050 Paragraphs 1.03 and 1.04, and all other applicable information in the Contract Documents for general discussion on the Contractors survey requirements. Temporary and Permanent easements were staked as a part of the Engineers services when acquiring the properties. It is unknown if all stakes have been maintained. Contractor will be responsible for maintaining and or replacing these stakes as deemed necessary by the Owner throughout construction and at the conclusion of construction for the permanent easements, at no additional cost to the Owner. Easement parcel documents can be made available to the successful Contractor upon request.

6. Question: Will there be set days (5/6 days per week) and/or hours (8/10 hours per day) for contractors to work at this facility?

Response: Refer to GC-27 Item 5.19 WORKING HOURS.

7. Question: Please clarify how the contractor is to address the varying minority utilization goals specified in the project. In section B. – SMWB Commitments of the Bid Proposal a goal of 17% is specified. In the EPA and TWDB Supplemental Conditions, Instructions to Bidders, Item No. 1 Disadvantaged Business Enterprise Goals states that the contract is subject to the EPA established MBE / WBE “fair share” goals, which is different than the SMWB goal.

Response: TWDB SMWB goals supersede SAWS SMWB goals. For TWDB projects, SAWS will abide by the TWDB’s SMWB goals. As with the SAWS 17% goal, which becomes silent on TWDB projects, a Good Faith Effort is expected to be performed by prospective bidders in order meet (or aspire to meet) TWDB SMWB goals.

Refer to <http://www.twdb.state.tx.us/financial/programs/dbe/dbe.asp> for further requirements.

Both SAWS and TWDB SMWB Forms will be required as part of the Contractors Bid Submittal in order for the Bid to be Considered responsive.

8. Question: Please clarify how the existing bar screen channel lining will be modified to accommodate the new step screens. Reference plan sheets MD-1, MD-2, M-3 and M-4.

Response: Please refer to Addendum No. 3, DRAWINGS, Item No. 3 below for resolution. It is the engineer’s intent that the channel lining be preserved for corrosion protection.

9. Question: Please specify the materials to be used to cover the exhaust vent opening after removal. Reference plan sheets MD-7 and MD-8.

Response: Please refer to Addendum No. 3, DRAWINGS, Item Nos. 7 and 8 below for resolution.

10. Question: Please clarify if the existing electrical lighting system is all that should remain after completing the Heater House #2 demolition as shown on plan sheet MD-3.

Response: Please refer to Addendum No. 3, DRAWINGS, Item No. 5 below for resolution.

11. Question: Is any of the mechanical piping to be demolished for Heater House #2 on plan sheet MD-3 digester gas piping? If so, does the digester gas piping have any build on the interior that could result in an exothermic reaction when exposed to oxygen and start on fire?

Response: Yes, there is piping to be demolished in the Heater House #2 area that previously conveyed digester gas. Digester gas has not been conveyed through this piping in approximately ten years. The Contractor shall be responsible for taking any necessary safety precautions during demolition of this piping.

12. Question: Emerson would like to know if there are any spare fiber optic ports available on the redundant Ethernet switches located in the control panel IIS-MCP-01. The control panel is located in the Flow Equalization Basin Electrical Building. Refer to drawing I-1 which shows the fiber optic link from the screening vendor's panel to the switch. Key note 5 on the drawing actually states that the contractor should verify available fiber optic connections on the switch.

Response: SAWS has verified that there are spare fiber optic (FO) ports available on the redundant Ethernet Switches located at the Flow Equalization Electrical Building control panel IIS-MCP-01. It is the contractor's responsibility to ensure that the spare FO ports are viable for communications to the bar screen control panel as shown on contract drawing I-1.

13. Question: Please provide clarification as to which minority participation percentage the contractor is to use, the EPA or SAWS, and confirm the percentage. Similarly, please clarify the Good Faith Effort Requirements since it seems the EPA requirements differ somewhat from SAWS.

Response: Please refer to Addendum No. 3, GENERAL QUESTIONS/ CLARIFICATIONS, Item No. 7 above for resolution.

14. Question: The bid items suggest the use of liner plate or steel casing. Will the engineers provide specifications and details pertaining to the use of liner plate?

Response: Please refer to Addendum No. 3, DRAWINGS, Item No. 12 below for resolution.

15. Question: Please provide clarification that the proposed junction structure may be made of 8' x 8' pre-cast concrete riser sections? If not, please provide additional details regarding dimensional spacing and steel reinforcement.

Response: Pre-cast concrete riser sections are acceptable for the proposed FEB Drain Line Junction Structure. Please refer to Addendum No. 3, DRAWINGS, Item No. 2 below for additional resolution.

16. Question: Please provide clarification regarding the length of 27" FRP that is to be bored or tunneled. Plan view shows station 18+11 to 18+72. Profile view shows station 18+25 to 18+72. Which stationing is correct?

Response: Please refer to Addendum No. 3, DRAWINGS, Item No. 1 below for resolution.

17. Question: In addition to the above question, please provide clarification regarding discrepancies between bid item quantity and plan quantity for the boring/tunneling items.

Response: Bid item quantity presented in the Bid Documents contains contingency quantity measurements.

18. Question: Will the engineers provide the contractors a SW3P containing all necessary erosion control measures for the referenced project?

Response: Standard details for SW3P measures are included in the project documents. SW3P plan preparation will be the responsibility of the successful Contractor. Refer to Special Conditions Item SC.6 and Specification 01500, Paragraph 1.07 and other applicable portions of the Project Documents.

19. Question: Please confirm that the minimum concrete strength for "Vented Drop Manholes" (MH-17 & MH-18) is 9,000 psi.

Response: As stated on Sheet D-C-2, the minimum concrete strength for Vented Drop Manholes (MH-17 and MH-18) is 9,000 psi.

20. Question: Will the engineers provide a detail for the top slabs for Tee-Base Manholes.

Response: Due to the rural setting and likelihood of farming activities along the project alignment, Tee-Base Manholes will be constructed without top slabs. Instead gravel pads will be used around each MH. Please refer to Addendum No. 3, DRAWINGS, Item No. 11 below for resolution.

21. Question: Will the engineers entertain the idea to design the gabion layout and provide details adhering to the appropriate specifications.

Response: Gabion layout and details are provided on Sheets C-15 through C-30. Additional layout and detail will vary based upon manufacturers design and will be the responsibility of the Contractor. Refer to Sheet C-30, Gabion Baskets Note 8.

22. Question: Specification Sections 17000-11 1.05 E.2, E.3, E.4, and 17000-14 1.05 H.2. specify that the PCSS should procure the relevant existing drawings and O&M manuals in order to update them with the changes resulting from the referenced project. In what format will the drawings and O&M manuals be provided?

Response: The drawings and O&M manuals will be provided in PDF format. Please Refer to Addendum No. 3, SPECIFICATIONS, Item No. 11 below for resolution.

23. Question: Section 17000-11 1.05 E.2 (and other specification sections) states that the PCSS shall procure existing drawings. Is the intention that the PCSS buy the existing drawings from the Owner, or is the intention that the PCSS obtain the drawings free of charge from the Owner? If the intention is to buy the drawings, please provide an estimated cost for the documentation mentioned in 17000-11 1.05 E.2, E.3, E.4, and 17000-14 1.05 H.2.

Response: SAWS does not charge for providing Contractors with PDF copies of drawings and O&M manuals. Contractor shall coordinate with SAWS to obtain these PDF copies where required. Please Refer to Addendum No. 3, SPECIFICATIONS, Item Nos. 8, 9, 10 and 11 below for resolution.

24. Question: The existing equipment shown in a lighter shade on drawings I-1 through I-7 is not clearly legible. Please provide new drawings which are legible.

Response: Please refer to Addendum No. 3, DRAWINGS, Item Nos. 9, 10, and 15 through 18 below for resolution.

25. Question: Section 17000-4 1.01 AA.4 requests Ovation licenses for two workstations. Does the Owner require that the PCSS supply the two workstations as well?

Response: Please refer to Addendum No. 3, SPECIFICATIONS, Item No. 7 below for resolution.

B. BIDDING AND CONTRACT REQUIREMENTS

1. As per the Invitation to Bidders, the following companies were in attendance at the Mandatory Pre-Bid Meeting and will be allowed to bid the project:

- Archer Western Contractors
- BRH-Garver Construction, LP
- CB Marketing
- Don Kelly Construction
- DNT Construction
- Emerson Process Management
- Ferguson Waterworks
- Gajeske, Inc.
- Hanson
- HOBAS Pipe USA
- Holloman Corporation
- Joe Bland Construction, L.P.
- Keystone Construction
- KFW Surveying
- Lewis Contractors, Inc.
- Mid-Tex Valve Sales (Waterman)
- Pepper-Lawson Construction, L.P.
- Pesado Construction
- Quest Civil Constructors
- RODS Surveying, Inc.
- S.J. Louis Construction
- U.S. Composite Pipe
- Walker Engineering, Inc.
- Western Summit Constructors, Inc.
- Wright Construction Co.

C. ADDENDUM NO. 2

1. The Bid Proposal reissued with Addendum No. 2 is deleted in its entirety and replaced with the attached.

D. SPECIFICATIONS

1. SECTION 11280, replace Paragraph 1.01 B in its entirety with the following:
“CONTRACTOR, at his option, can provide sluice gates as specified in Section 11281 in lieu of fabricated stainless steel slide gates for the 42-inch x 42-inch gates.”
2. SECTION 11280, Paragraph 2.03 A, correct Junction Structure Tag No. LC01EQGATE01 in the Slide Gate Schedule to “LC01EQGATE06” and Diversion Structure Tag No. LC01EQGATE01 to “LC01EQGATE04”.
3. SECTION 11281, replace Paragraph 1.01 B in its entirety with the following:
“CONTRACTOR, at his option, can provide fabricated stainless steel slide gates as specified in Section 11280 in lieu of sluice gates for the 42-inch x 42-inch gates.”
4. SECTION 11281, Paragraph 2.03 B, correct Junction Structure Tag No. LC01EQGATE01 in the Sluice Gate Schedule to “LC01EQGATE06”.
5. SECTION 15084, replace Paragraphs 1.06 A.1 and 1.06 A.3 in their entirety with the following:
 - “1. Manufacturer specializing in manufacturing quality FRP products with a minimum of 5 years experience manufacturing large diameter (36-inch or larger) FRP for use in wastewater conveyance.”
 - “3. Manufacturer must have an operational facility with a current ISO 9001 Certification, located within the continental United States. Overseas shipment will not be allowed. All products must meet current ASTM standards.”
6. SECTION 15084, add Paragraph 2.01/J to read as follows:
“J. Tee-Base Design Criteria
 1. Manhole tee-base shall be constructed of mitered sections of FRP sewer pipe connected with fiberglass reinforced laminations. Pipes used to construct the tee-base shall have the same stiffness as the adjacent line, defaulting to the greatest of the two adjoining lines. Tee-base shall have a 48-inch neck. The tee-base shall meet the requirements of ASTM D3262. The pipe joints used for the tee-base shall meet the requirements of ASTM 4161.”
7. SECTION 17000, replace Paragraph 1.01 AA.4 with the following:
“4. Provide two DCS workstations each preloaded with an Emerson Ovation license. Also provide one DCS TCP-IP license. Details of each workstation shall be coordinated and finalized during the first coordination meeting. Coordinate with SAWS for specific versions and loading of licenses.”
8. SECTION 17000, replace/modify Paragraph 1.05 E.2 with the following:
“2. Panel Layout Drawings: The PCSS shall coordinate with the OWNER to obtain Portable Document Format (PDF) copies of existing PLC Panel Layout Drawings.”

9. SECTION 17000, replace/modify Paragraph 1.05 E.3 with the following:
“3. Panel Wiring Diagrams: The PCSS shall coordinate with the OWNER to obtain PDF copies of existing PLC Panel Wiring Diagrams.”
10. SECTION 17000, replace/modify Paragraph 1.05 E.4 with the following:
“4. ISA Loop Wiring Diagrams: The PCSS shall coordinate with the OWNER to obtain PDF copies of existing Loop Wiring Diagrams.”
11. SECTION 17000, replace/modify Paragraph 1.05 H.2 with the following:
“2. The Final System Documentation shall consist of modifications to the existing Operations and Maintenance (O&M) manuals as specified herein. The PCSS shall coordinate with the OWNER to obtain PDF copies of existing O&M manuals.”
12. SECTION 17320, delete Item 2.05 A.6 in its entirety.
13. SECTION 17320, delete Item 2.05 B.1 and replace with the following:
“1. The Modbus communication module shall be the QUCM as manufactured by Niobrara Research and Development, Inc.”
14. SECTION 17340, modify Item 2.01 B.5.c. to read as follows:
“c. Manufacturer’s recommended feed-through assembly for installation of transducers including isolation valves.”
15. SECTION 17340, modify Item 2.03 A.3 to read as follows:
“3. Level switch shall be mercury-free and suitable for use with the process medium for each application.”

E. DRAWINGS

1. DRAWING NO. C-22
 - a. Profile View, replace callout “STA 18+25 BEGIN BORE” with the following:
“STA 18+11 BEGIN BORE”
2. DRAWING NO. S-3
Delete this drawing in its entirety and replace with the attached drawing S-3.
3. DRAWING NO. MD-1 and MD-2, add the following note to these drawings:
“5. EXISTING T-LOCK LINER INSIDE STRUCTURE SHALL REMAIN IN PLACE. SHOULD LINER BE CUT OR DAMAGED DURING CONSTRUCTION, CONTRACTOR SHALL REPAIR IN ACCORDANCE WITH LINER MANUFACTURER’S RECOMMENDATIONS AT NO ADDITIONAL COST TO OWNER.”

4. DRAWING NO. M-3, add the following note to this drawing:

“5. CONTRACTOR SHALL TEE INTO THE EXISTING 2-INCH NPW LINE RUNNING NORTH-SOUTH TO THE WEST OF THE FEB DIVERSION STRUCTURE AND INSTALL APPROXIMATELY 30 LINEAR FEET OF 2-INCH NPW (SCH. 40 CPVC) WITH ASSOCIATED FITTINGS TO SUPPLY NPW TO THE WASHWATER CONNECTIONS ON THE SCREENINGS WASHER / COMPACTOR. NPW PIPING SHALL BE INSTALLED BELOW GRADE FROM TIE-IN TO AS CLOSE TO POINT OF CONNECTION AS POSSIBLE.”
5. DRAWING NO. MD-5, add the following notes to this drawing:

“2. CONTRACTOR SHALL DEMOLISH ALL PIPING, VALVES, APPURTENANCES AND EQUIPMENT IN HEATER HOUSE #2 AREA EXCEPT LIGHTING.

3. ALL CONCRETE EQUIPMENT PADS IN HEATER HOUSE #2 AREA SHALL BE DEMOLISHED TO FLOOR LEVEL.”
6. DRAWING NO. MD-7, modify Note 2 as follows:

“2. DEMOLISH 8-INCH PIPE, VALVES, AND APPURTENANCES AS SHOWN AND CAP WITH BLIND FLANGE. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING PIPE CLASS AND BOLT PATTERN.”
7. DRAWING NO. MD-7, add the following note to this drawing:

“3. FOLLOWING DEMOLITION, VENT OPENING TO TUNNEL SHALL BE COVERED WITH 1/4-INCH THICK ALUMINUM DECK PLATE FASTENED TO CONCRETE WALKWAY WITH TYPE 316 SS ANCHOR BOLTS (1/2-INCH X 4-INCH).”
8. DRAWING NO. MD-8, add the following note to this drawing:

“4. FOLLOWING DEMOLITION, OPENINGS ON ROOF FROM EXHAUST STACKS SHALL BE COVERED WITH 1/4-INCH THICK ALUMINUM DECK PLATE FASTENED TO CONCRETE WITH TYPE 316 SS ANCHOR BOLTS (1/2-INCH X 4-INCH).”
9. DRAWING NO. I-4

Modify drawing as shown on attached drawing I-4.
10. DRAWING NO. I-6

Modify drawing as shown on attached drawing I-6.
11. DRAWING NO. D-C-2

Delete this drawing in its entirety and replace with the attached drawing D-C-2.
12. DRAWING NO. D-C-7, add the following note to this drawing:

“5. IF TUNNELING IS PROPOSED, CONTRACTOR SHALL RETAIN THE SERVICES OF A STRUCTURAL ENGINEER LICENSED IN THE STATE OF TEXAS TO PROVIDE LINER PLATE DESIGN, AT NO ADDITIONAL COST TO OWNER.

DESIGN SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AT LEAST 30 DAYS BEFORE SCHEDULED START OF TUNNELING WORK.”

13. DRAWING NO. D-S-3

Delete this drawing in its entirety and replace with the attached drawing D-S-3.

14. DRAWING NOS. E-5, E-6, E-7 and E-8,

Delete these drawings in their entirety and replace with the attached drawings.

15. DRAWING NOS. G-11, G-12, I-1, I-2, I-3, I-5, I-7, and D-I-1,

Delete these drawings in their entirety and replace with the attached drawings.

16. DRAWING NO. D-I-2

Modify drawing as shown on attached drawing D-I-2.

17. DRAWING NO. D-I-3

Modify drawing as shown on attached drawing D-I-3.

18. DRAWING NO. D-I-4

Modify drawing as shown on attached drawing D-I-4.

ACKNOWLEDGEMENT BY BIDDER

Each bidder is requested to acknowledge receipt of this Addendum No. 3 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. 3 and the bid submitted herewith is in accordance with the information and stipulation set forth.

Date

Signature of Bidder

END OF ADDENDUM

BID PROPOSAL

PROPOSAL OF _____, a corporation a
 partnership consisting of _____
 an individual doing business as _____.

THE SAN ANTONIO WATER SYSTEM:

Pursuant to Instructions and Invitations to Bidders, the undersigned proposes to furnish all labor and materials as specified and perform the work required for the execution of the Leon Creek Water Recycling Center (WRC) Interconnect to the Southwest Bexar Sewer Pipeline (SBSP), San Antonio Water System Job. No. 10-6501, in accordance with the Plans and Specifications for the following prices, to wit:

BID ITEMS:

ITEM NO.	ITEM DESCRIPTION (PRICE TO BE WRITTEN IN WORDS)	UNIT	QTY.	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
1.	Erosion & Sedimentation Controls _____ Dollars and _____ Cents per lump sum	LS	1	\$ <u>XXXX.XX</u>	\$ _____
2.	Trench Excavation Safety Protection _____ Dollars and _____ Cents per linear foot	LF	9,800	\$ _____	\$ _____
3.	Revegetation _____ Dollars and _____ Cents per square yard	SY	90,000	\$ _____	\$ _____
4.	60" FRP Wastewater Line (all depths) _____ Dollars and _____ Cents per linear foot	LF	8,650	\$ _____	\$ _____
5.	54" FRP Wastewater Line (all depths) _____ Dollars and _____ Cents per linear foot	LF	200	\$ _____	\$ _____

LEON CREEK WATER RECYCLING CENTER INTERCONNECT
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 Job No. 10-6501

SAWS Solicitation No: B-11-050-MF

BID PROPOSAL

ITEM NO.	ITEM DESCRIPTION (PRICE TO BE WRITTEN IN WORDS)	UNIT	QTY.	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
6.	42" FRP Wastewater Line (all depths) _____ Dollars and _____ Cents per linear foot	LF	100	\$ _____	\$ _____
7.	27" FRP or PVC Wastewater Line (all depths) _____ Dollars and _____ Cents per linear foot Contractor Must Select Type of Pipe Used in Bid: <input type="checkbox"/> PVC <input type="checkbox"/> FRP	LF	850	\$ _____	\$ _____
8.	60" FRP Tee Base Manhole _____ Dollars and _____ Cents per each	EA	14	\$ _____	\$ _____
9.	60" FRP Tee Base Manhole, w/ 27" FRP Stub-out _____ Dollars and _____ Cents per each	EA	1	\$ _____	\$ _____
10.	60" FRP Tee Base Manhole, w/ 42" FRP Stub-out _____ Dollars and _____ Cents per each	EA	1	\$ _____	\$ _____
11.	Tee Base MH, 60" Riser, Extra Depth (>15') _____ Dollars and _____ Cents per vertical foot	VF	80	\$ _____	\$ _____
12.	Vented Drop Manholes (MH Nos. 17 & 18) _____ Dollars and _____ Cents per each	EA	2	\$ _____	\$ _____
13.	Boring or Tunneling (60" DIA. FRP) _____ Dollars and _____ Cents per linear foot	LF	165	\$ _____	\$ _____

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BID PROPOSAL

ITEM NO.	ITEM DESCRIPTION (PRICE TO BE WRITTEN IN WORDS)	UNIT	QTY.	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
14.	Boring or Tunneling (54" DIA. FRP) _____ Dollars and _____ Cents per linear foot	LF	168	\$ _____	\$ _____
15.	Boring or Tunneling (27" DIA. FRP or PVC) _____ Dollars and _____ Cents per linear foot	LF	88	\$ _____	\$ _____
16.	Carrier Pipe Installed in Steel Casing or Tunnel Liner Plate (60" DIA. FRP) _____ Dollars and _____ Cents per linear foot	LF	165	\$ _____	\$ _____
17.	Carrier Pipe Installed in Steel Casing or Tunnel Liner Plate (54" DIA. FRP) _____ Dollars and _____ Cents per linear foot	LF	168	\$ _____	\$ _____
18.	Carrier Pipe Installed in Steel Casing or Tunnel Liner Plate (27" DIA. FRP or PVC) _____ Dollars and _____ Cents per linear foot	LF	88	\$ _____	\$ _____
19.	Comanche Creek Aerial Crossing Abutments (Cradle and Headwall), Carrier Pipe(60" Dia. FRP), Steel Casing (72" Dia.), Spacers and Polyurethane Grout, Channel Grading, Armoring and Reinforcement (to include testing and design) _____ Dollars and _____ Cents per lump sum	LS	1	\$ <u>XXXX.XX</u>	\$ _____
20.	Comanche Creek Aerial Crossing 60" Piers _____ Dollars and _____ Cents per vertical foot	VF	120	\$ _____	\$ _____

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BID PROPOSAL

ITEM NO.	ITEM DESCRIPTION (PRICE TO BE WRITTEN IN WORDS)	UNIT	QTY.	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
21.	Verano Lift Station No. 5 Elimination/Abandonment _____ Dollars and _____ Cents per lump sum	LS	1	\$ <u>XXXX.XX</u>	\$ _____
22.	Connection to SBSP Segment 2 _____ Dollars and _____ Cents per lump sum	LS	1	\$ <u>XXXX.XX</u>	\$ _____
23.	Leon Creek WRC FEB Drainline Junction Structure, Leon Creek WRC Interconnect Flow Meter Vault Structure, Leon Creek WRC FEB Diversion Structure, Leon Creek WRC FEB Headworks Screening Improvements, Leon Creek WRC Primary Clarifier Flow Meter Vaults No. 1 and No. 2, Leon Creek WRC Heater House #2 Demolition, Leon Creek WRC Sulfur Dioxide System Improvements, Remove and Replace Existing Asphalt Pavement, and Concrete Encasement _____ Dollars and _____ Cents per lump sum	LS	1	\$ <u>XXXX.XX</u>	\$ _____
24.	Tree Protection _____ Dollars and _____ Cents per lump sum	LS	1	\$ <u>XXXX.XX</u>	\$ _____
25.	Gravity Sewer and MH Testing _____ Dollars and _____ Cents per linear foot	LF	10,221	\$ _____	\$ _____
26.	Subsurface Utility Investigation _____ Dollars and _____ Cents per lump sum *For Underground electrical locates, vacuum excavation (or similar non-destructive technology) shall be used.	LS	1	\$ <u>XXXX.XX</u>	\$ _____

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BID PROPOSAL

ITEM NO.	ITEM DESCRIPTION (PRICE TO BE WRITTEN IN WORDS)	UNIT	QTY.	UNIT PRICE (FIGURES)	TOTAL PRICE (FIGURES)
27.	CPS Power Pole Stabilization and Line Protection – Allowance for CPS fees associated with the temporary support of poles, adjustment/replacement of guy wires and protection of crossed wires. This shall include furnishing all labor, materials, and incidentals required to coordinate with CPS. Contractor to pay and be reimbursed actual amount by SAWS. _____ Dollars and No _____ Cents Allowance	Allowance		\$ <u>36,000.00</u>	\$ <u>36,000.00</u>
28.	Permitting Fees – Allowance for permitting fees associated with the project. This shall include furnishing all labor, materials, and incidentals required to obtain all necessary permits. Contractor to pay and be reimbursed actual amount by SAWS. Ten Thousand _____ Dollars and No _____ Cents Allowance	Allowance		\$ <u>10,000.00</u>	\$ <u>10,000.00</u>
A. SUBTOTAL BASE BID AMOUNT					
_____ Dollars and				\$ _____	
_____ Cents					
29.	Mobilization and Demobilization: this item includes project move-in and move-out of personnel and equipment, for work shall include furnishing all labor, materials, tools, equipment and incidentals required to mobilize, demobilize, bond and insure the Work for the Leon Creek WRC Interconnect to the SBSP Project, in accordance with the contract documents, complete in place. _____ Dollars and - _____ Cents per lump sum	LS	1	\$ <u>XXXX.XX</u>	\$ _____
TOTAL BID AMOUNT					
_____ Dollars and				\$ _____	
_____ Cents					

Mobilization and Demobilization lump sum bid shall be limited to a maximum 5% of the Line Item "A." Subtotal Base Bid Amount. The Line Item "A." Subtotal Base Bid Amount is defined as all bid items EXCLUDING Item 29, Mobilization and Demobilization. **In the event of a discrepancy between the written percentage and dollar amount shown for Item 29, Mobilization and Demobilization, the bid item's written percentage will govern. If the percentage written exceeds the allowable maximum stated for Mobilization and Demobilization, SAWS reserves the right to cap the amount at the percentage shown and adjust the extensions of the bid item accordingly.**

BIDDER'S SIGNATURE & TITLE

FIRM'S NAME (TYPE OR PRINT)

FIRM'S ADDRESS

FIRM'S PHONE NO./FAX NO.

The Contractor herein acknowledges receipt of the following:

Addendum Nos. _____

OWNER RESERVES THE RIGHT TO ACCEPT THE OVERALL MOST RESPONSIBLE BID.

The bidder offers to construct the Project in accordance with the Contract Documents for the contract price and to complete the Project within **Four Hundred (400) calendar days** after the start date, as set forth in the Authorization to Proceed.

A separate Substantial Completion milestone of **Three Hundred and Five (305) calendar days** after the start date, as set forth in the Authorization to Proceed, has been established for the pipeline portion of this project as further defined in Section 01015, Paragraph 3.06 A.

The Bidder understands and accepts the provisions of the Contract Documents relating to liquidated damages of the Project if not completed on time. Complete the additional requirements of the Proposal which are included on the following pages.

PROPOSAL CERTIFICATION

Accompanying this proposal is a Bid Bond or Certified or Cashier's, Check on a State or National Bank payable to the Order of the San Antonio Water System for _____ dollars (\$_____), which amount represents five percent (5%) of the total bid price. Said bond or check is to be returned to the bidder unless the proposal is accepted and the bidder fails to execute and file a contract within 10 calendar days after the award of the Contract, in which case the check shall become the property of said San Antonio Water System, and shall be considered as payment for damages due to delay and other inconveniences suffered by said San Antonio Water System due to the failure of the bidder to execute the contract. The Sun Antonio Water System reserves the right to reject any and all bids.

It is anticipated that the Owner will act on this proposal within 60 calendar days after the bid opening. Upon acceptance and award of the contract to the undersigned by the Owner, the undersigned shall execute standard San Antonio Water System Contract Documents and make Performance and Payment Bonds for the full amount of the contract within 10 calendar days after the award of the Contract to secure proper compliance with the terms and provisions of the contract, to insure and guarantee the work until final completion and acceptance, and the guarantee period stipulated, and to guarantee payment of all lawful claims for labor performed and materials furnished in the fulfillment of the contract.

It is anticipated that the Owner will provide written Authorization to Proceed within 30 days after the award of the Contract.

The Contractor hereby agrees to commence work under this Contract within seven (7) calendar days after issuance by the SAWS of the written Authorization to Proceed. Under no circumstances shall the work commence prior to Contractor's receipt of SAWS issued, written Authorization to Proceed.

The undersigned certifies that the bid prices contained in the proposal have been carefully checked and are submitted as correct and final.

In completing the work contained in this proposal the undersigned certifies that bidder's practices and policies do not discriminate on the grounds of race, color, religion, sex or national origin and that the bidder will affirmatively cooperate in the implementation of these policies and practices.

Signed:

Company Representative

Company Name

Address

Please return bidder's check to:

Company Name

Address

SCHEDULE OF MANUFACTURERS AND SUPPLIERS

The Contract Documents are based upon the equipment or products available from the manufactures/suppliers denoted as “a”, “b”, etc., below. Bidder must indicate in his Bid which manufacturer/supplier he based his bid upon and which he intends to use for each item of equipment, listed below by circling one of the listed suppliers/manufacturers. If the Bidder circles more than one listed supplier, he must use the first supplier circled (unless an alternate is approved).

Specification Number	Equipment	Manufacturer or Supplier
11149	Submersible Sump Pumps	a. ITT Flygt
		b. Goulds
		c. Hydromatic
11280	Fabricated Stainless Steel Slide Gates	a. Fontaine Industries, Ltd.
		b. Whipps
		c. Waterman Industries
		d. HydroGate Corp.
		e. Golden Harvest, Inc.
11281	Cast Iron Sluice Gates	a. Rodney Hunt
		b. Waterman Industries
		c. HydroGate Corp.
11330	Step-Type Mechanical Screens	a. WesTech MEVA
11331	Shaftless Screw Conveyor	a. WesTech
11332	Screenings Washer / Compactor	a. WesTech
15084	Fiberglass Reinforced Pipe (>27")	a. HOBAS
		b. FLOWTITE
		c. Future Pipe
	Fiberglass Reinforced Pipe (27")	a. HOBAS
		b. FLOWTITE
		c. Future Pipe
15113	Electric Valve Operators	a. AUMA
		b. EIM
16470	Panelboards	a. Square D
		b. Siemens
		c. General Electric
17340	Field Instruments - Flow Meter	a. Accusonic
17340	Field Instruments - Ultrasonic Level	a. Siemens HydroRanger 200
		b. Endress+Hauser Prosonic FMU 800
N/A	Vented Drop Manholes (MH Nos. 17 & 18)	a. US Composite Pipe
		b. HOBAS
		c. LFM

3

BIDDER'S QUESTIONNAIRE

Complete this form and return it with the Bid Proposal. Contractor (in combination with subcontractors) shall submit a record of performance on three (3) similar large diameter gravity sewer projects and three (3) similar wastewater treatment facility projects, including name of project, amount of project, project duration; and name, address, and telephone number of Owner contact person for each project. Similar sewer line project experience must have included a minimum of 8,000 linear feet of 48-inch or greater diameter sewer pipeline and 60-inch diameter or greater casing installation via tunneling or boring. Similar wastewater treatment facility projects must demonstrate experience with headworks and chemical feed system construction. If subcontractor(s) are used to achieve project experience or construction cost requirements, their Project information shall be required along with a detailed explanation of their proposed scope of work on the subject project. All questions must be answered and data given must be clear and comprehensive. If necessary, questions may be answered on separate sheets.

2

1. Bidder: _____
2. Years in business under present business name: _____
3. Attach a list of current projects. Provide the name of the Owner and Engineer for each project and include the name and telephone number of the contact person for each organization. Indicate the total value of each contract and the value of the work remaining.
4. Have you ever failed to complete any work awarded to you? () No () Yes
If yes, provide complete circumstances for each occurrence on separate sheets of paper.
5. Are you presently involved in any litigation or lawsuits involving construction work of any type? () No () Yes
If yes, provide complete circumstances for each occurrence on separate sheets of paper.
6. Has the company received an OSHA citation during the most recent 12 months?
() No () Yes
If yes, provide complete circumstances for each occurrence on separate sheets of paper.
7. Has the company experienced lost time accidents during the most recent 12 months?
() No () Yes
If yes, describe each accident and the amount of time lost. Attach a copy of the OSHA 300 logs for the past three (3) years.
8. Is the Bidder now or has the Bidder ever been involved in any bankruptcy or reorganization proceedings within the last seven (7) years? () No () Yes
If yes, provide complete circumstances for each occurrence on separate sheets of paper.

9. Has the Bidder ever failed to enter into a contract in the past 10 years when the Bid was awarded to them? () No () Yes

If yes, provide complete circumstances for each occurrence on separate sheets of paper.

10. During the last 10 years, has the Bidder even been declared in default under a contract by an Owner? () No () Yes

If yes, provide complete circumstances for each occurrence on separate sheets of paper.

2

11. Submit resumes for the proposed project manager and the proposed project superintendent detailing prior work experience and current references. The resumes must demonstrate that these individuals have worked on at least (3) similar projects during the last 10 years.

2

12. Relevant Experience (Pipeline) – List firm’s construction experience for a minimum of three (3) large diameter gravity sewer projects. Similar sewer line project experience must have included a minimum of 8,000 linear feet of 48-inch or greater diameter sewer pipeline and 60-inch diameter or greater casing installation via tunneling or boring.

Project No. 1

Project Name and Location: _____

Project Description: _____

Owner’s Name and Address: _____

Contract Price: _____

Owner’s Contact Person: _____

Phone No.: _____

Contract Start Date (date of Notice to Proceed): _____

Contract Time: () Calendar Days () Working Days

Contract Substantial Completion Date: _____

Actual Substantial Completion Date*: _____

* If contract completion time extensions exceeded three (3) percent of the total time allowed, attach a written explanation for each time extension.

Project No. 2

Project Name and Location: _____

Project Description: _____

Owner's Name and Address: _____

Contract Price: _____

Owner's Contact Person: _____

Phone No.: _____

Contract Start Date (date of Notice to Proceed): _____

Contract Time: Calendar Days Working Days

Contract Substantial Completion Date: _____

Actual Substantial Completion Date: _____

* If contract completion time extensions exceeded three (3) percent of the total time allowed,
attach a written explanation for each time extension.

Project No. 3

Project Name and Location: _____

Project Description: _____

Owner's Name and Address: _____

Contract Price: _____

Owner's Contact Person: _____

Phone No.: _____

Contract Start Date (date of Notice to Proceed): _____

Contract Time: Calendar Days Working Days

Contract Substantial Completion Date: _____

Actual Substantial Completion Date: _____

* If contract completion time extensions exceeded three (3) percent of the total time allowed,
attach a written explanation for each time extension.



13. Relevant Experience (Wastewater Treatment Facility Work) – List firm’s construction experience for a minimum of three (3) wastewater treatment facility improvements and/or modifications that demonstrate experience with headworks and chemical feed system construction.

Project No. 1

Project Name and Location: _____

Project Description: _____

Owner’s Name and Address: _____

Contract Price: _____

Owner’s Contact Person: _____

Phone No.: _____

Contract Start Date (date of Notice to Proceed): _____

Contract Time: Calendar Days Working Days

Contract Substantial Completion Date: _____

Actual Substantial Completion Date*: _____

* If contract completion time extensions exceeded three (3) percent of the total time allowed, attach a written explanation for each time extension.

Project No. 2

Project Name and Location: _____

Project Description: _____

Owner’s Name and Address: _____

Contract Price: _____

Owner’s Contact Person: _____

Phone No.: _____

Contract Start Date (date of Notice to Proceed): _____

Contract Time: Calendar Days Working Days

Contract Substantial Completion Date: _____

Actual Substantial Completion Date: _____

* If contract completion time extensions exceeded three (3) percent of the total time allowed, attach a written explanation for each time extension.

Project No. 3

Project Name and Location: _____

Project Description: _____

Owner's Name and Address: _____

Contract Price: _____

Owner's Contact Person: _____

Phone No.: _____

Contract Start Date (date of Notice to Proceed): _____

Contract Time: Calendar Days Working Days

Contract Substantial Completion Date: _____

Actual Substantial Completion Date: _____

* If contract completion time extensions exceeded three (3) percent of the total time allowed, attach a written explanation for each time extension.

THIS FORM MUST BE RETURNED WITH THE BID.

END OF SECTION

GENERAL NOTES

- THIS LEGEND APPLIES TO PM&IDS ONLY AND MAY DIFFER FROM LEGENDS FOR OTHER SHEETS.
- IN GENERAL THIS LEGEND SHEET AND THE PM&IDS ARE BASED ON THE INTERNATIONAL SOCIETY OF AUTOMATION (ISA) STANDARDS FOR PRACTICES FOR INSTRUMENTATION. SOME MODIFICATIONS, ADDITIONS AND ALTERATIONS HAVE BEEN MADE AS REQUIRED TO ACCOMMODATE PROJECT REQUIREMENTS.
- SOME PROCESS ITEMS SUCH AS EQUIPMENT ISOLATION VALVES, BYPASS LINES, ETC., WHICH ARE NOT CRITICAL FOR AN UNDERSTANDING OF THE INSTRUMENTATION FUNCTIONS ARE NOT SHOWN ON THE PM&IDS.
- SEE ELECTRICAL AND MECHANICAL SHEETS AND SPECIFICATIONS FOR ADDITIONAL CONTROL AND INTERLOCK REQUIREMENTS.
- LIGHTER WEIGHT LINES, SHOWN AS _____, INDICATE EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE EXISTING. WEIGHTED LINES, SHOWN AS OR HEAVIER _____, INDICATE EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE NEW. DASHED WEIGHTED LINES, SHOWN AS _____, INDICATED EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE GROUPED AS A PACKAGE.

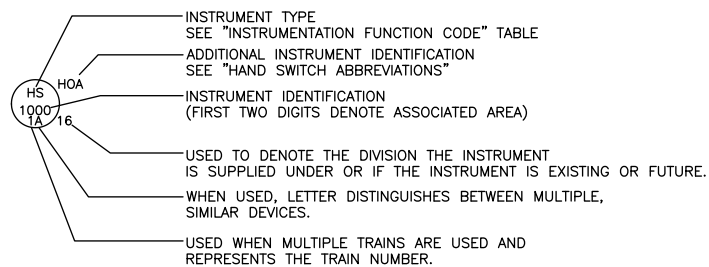
GENERAL INSTRUMENT OR FUNCTION SYMBOLS

- FIELD MOUNTED INSTRUMENT
- REAR-OF-PANEL MOUNTED INSTRUMENT
- PANEL MOUNTED INSTRUMENT
- MOTOR CONTROL CENTER MOUNTED INSTRUMENT
- CONTROL OR DISPLAY FUNCTION VIA THE OPERATOR INTERFACE WITH THE DISTRIBUTED CONTROL SYSTEM. (FUNCTION NOT NORMALLY ACCESSIBLE TO THE OPERATOR)
- CONTROL OR DISPLAY FUNCTION VIA THE OPERATOR INTERFACE WITH THE DISTRIBUTED CONTROL SYSTEM. (FUNCTION OPERATOR ACCESSIBLE)
- PILOT LIGHT
- INSTRUMENTS SHARING COMMON HOUSING

MISCELLANEOUS SYMBOLS

- MOTOR
- INDICATES INTERLOCK OR LOGIC IN A MOTOR CONTROL CENTER
- INDICATES GENERAL OR MISCELLANEOUS HARDWIRED INTERLOCK
- MOTOR STARTER
- SILICONE CONTROL RECTIFIER
- VARIABLE FREQUENCY DRIVE
- PURGE OR FLUSHING DEVICE

TYPICAL TAG NUMBERS & DESIGNATION



INSTRUMENTATION FUNCTION CODE

FIRST LETTERS		SUCCEEDING LETTERS		
COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	COLUMN 5
MEASURED/INITIATING VARIABLE	VARIABLE/MODIFIER	READOUT/PASSIVE FUNCTION	OUTPUT/ACTIVE FUNCTION	FUNCTION MODIFIER
A	ANALYSIS			
B	BURNER, COMBUSTION	ALARM		
C	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE
D	USER'S CHOICE	DIFFERENCE, DIFFERENTIAL		CLOSED
E	VOLTAGE			DEVIATION
F	FLOW, FLOW RATE			
G	USER'S CHOICE		SENSOR, PRIMARY ELEMENT	
H	HAND			HIGH
I	CURRENT			
J	POWER			
K	TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION
L	LEVEL			LOW
M	MOISTURE			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION	OPEN
P	PRESSURE		POINT (TEST CONNECTION)	
Q	QUANTITY	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD	RUN
S	SPEED, FREQUENCY	SAFETY		STOP
T	TEMPERATURE			TRANSMIT
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER
W	WEIGHT, FORCE		WELL, PROBE	
X	UNCLASSIFIED (1)	X-AXIS	ACCESSORY DEVICES, UNCLASSIFIED (1)	UNCLASSIFIED (1)
Y	EVENT, STATE, PRESENCE	Y-AXIS		AUXILIARY DEVICES
Z	POSITION, DIMENSION	Z-AXIS, SAFETY SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT

TABLE NOTES:
(1) WHEN USED SYMBOL OR SIGNAL LINE IS ANNOTATED.

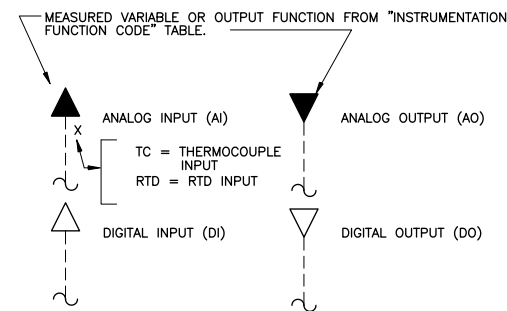
INSTRUMENT LINE SYMBOLS

- ELECTRICAL SIGNAL
- TELEPHONE SIGNAL
- ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)
- ELECTROMAGNETIC OR SONIC SIGNAL (UNGUIDED)
- PNEUMATIC SIGNAL
- CAPILLARY TUBE
- HYDRAULIC SUPPLY
- VENDOR SUPPLIED CABLE
- COMMUNICATION LINK - COPPER
- COMMUNICATION LINK - FIBER OPTIC
- SOFTWARE COMMUNICATION

HAND SWITCH ABBREVIATIONS

- AO = AUTO/OFF
- AM = AUTO/MANUAL
- CM = COMPUTER/MANUAL
- CL = COMPUTER/LOCAL
- E-STOP = EMERGENCY STOP
- FR = FORWARD/REVERSE
- FOR = FORWARD/OFF/REVERSE
- FS = FAST SLOW
- FOS = FAST/OFF/SLOW
- HOA = HAND/OFF/AUTO
- LLS = LEAD/LAG/STANDBY
- LOC = LOCAL/OFF/COMPUTER
- LOR = LOCAL/OFF/REMOTE
- LOS = LOCKOUT/STOP
- LA = LOCAL/AUTO
- LR = LOCAL/REMOTE
- OC = OPEN/CLOSE
- OCA = OPEN/CLOSE/AUTO
- OO = ON/OFF
- OOA = ON/OFF/AUTO
- OOR = ON/OFF/REMOTE
- OSC = OPEN/STOP/CLOSE
- RSL = RAISE/STOP/LOWER
- SS = START/STOP
- SOR = START/OFF/RESET

I/O SIGNALS



PRIMARY ELEMENTS

- MAGNETIC FLOW METER
- TURBINE OR PROPELLER FLOW METER
- AVERAGING PITOT TUBE
- ULTRASONIC FLOW METER
- ROTAMETER
- WEIR
- ORIFICE PLATE
- VENTURI TUBE
- FLUME
- GENERAL INSERTION FLOW METER
- THERMAL MASS FLOW METER
- FLOAT SWITCH (TILT BULB)
- DRY LEVEL SWITCH
- ULTRASONIC LEVEL SENSOR
- RADAR LEVEL SENSOR
- CAPACITANCE LEVEL SENSOR
- PRESSURE GAUGE
- DIFFERENTIAL PRESSURE GAUGE
- TEMPERATURE GAUGE
- GENERAL ANALYZER

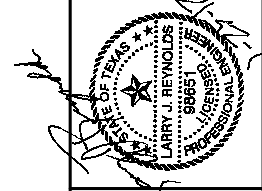
ELECTRICAL / AIR SOURCES

- UPS - - - - - UPS POWERED ELECTRICAL SOURCE
- ES - - - - - ELECTRICAL SOURCE
- 120 VAC - - - - - 120 VAC ELECTRICAL SOURCE
- 24 VDC - - - - - 24 VDC ELECTRICAL SOURCE
- IA - - - - - INSTRUMENT AIR SOURCE

SAWS Job No. 10-6501
 3 01/25/12 REVISED BY ADDENDUM NO. 3
 App. Revisions
 Date

300 E. SONTERRA BLVD. STE. 1250
 SAN ANTONIO, TEXAS 78258
 TBPE FIRM NO. 1741
 IN ASSOCIATION WITH
 1777 N.E. LOOP 410, SUITE. 500
 SAN ANTONIO, TEXAS 78217
 TBPE FIRM NO. : F-3043

Date: DECEMBER 2011
 Design by: HRR
 Drawn by: SAK
 Checked by: LJR
 Scale: NTS



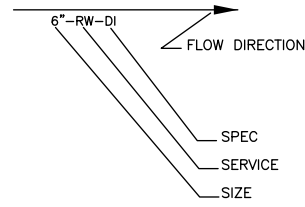
SAWANTONIO WATER SYSTEM
 INSTRUMENT LEGEND SHEET 1

SAWS Job No. 10-6501
 LEON CREEK WRC
 INTERCONNECT TO THE SBSP

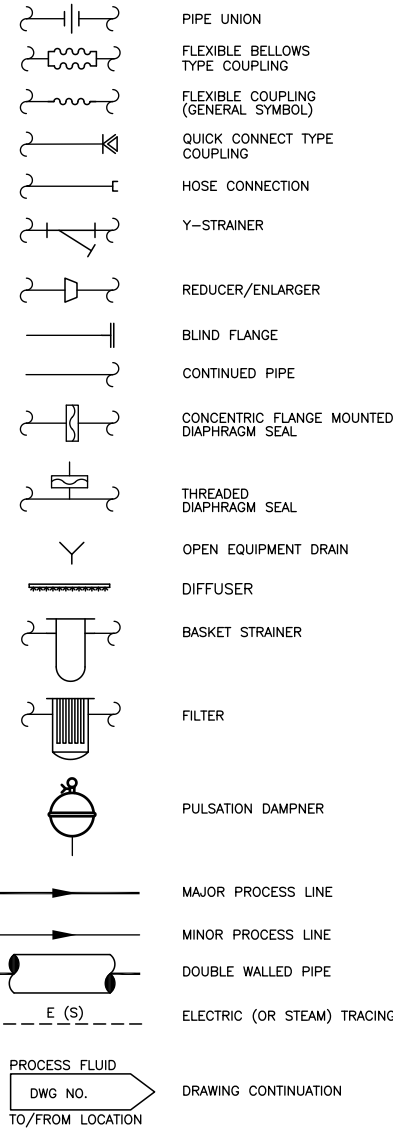
GENERAL NOTES

1. REFER TO SHEET G-11 FOR ADDITIONAL NOTES.

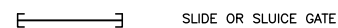
TYPICAL PIPE TAG NUMBERS & DESIGNATION



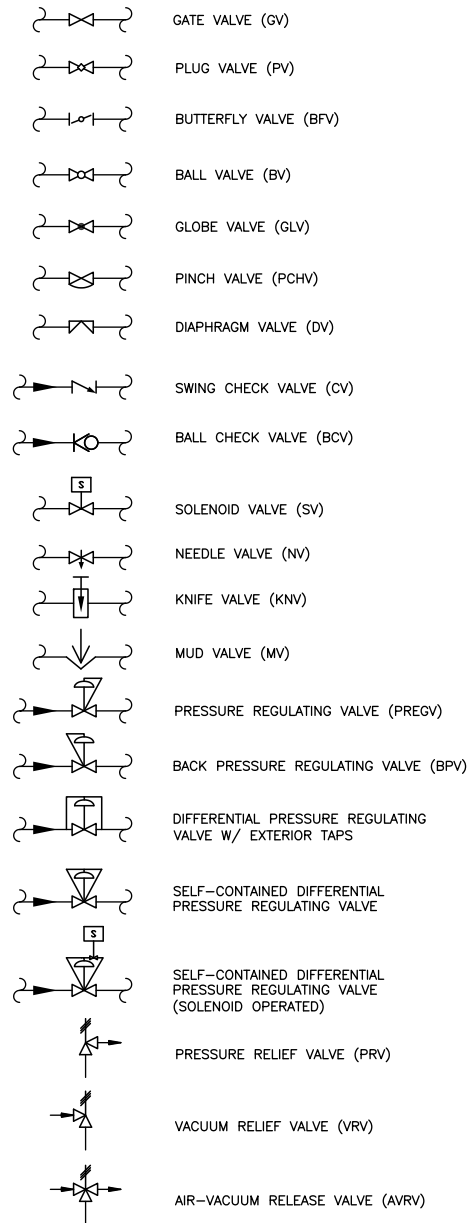
PIPE LINE SYMBOLS



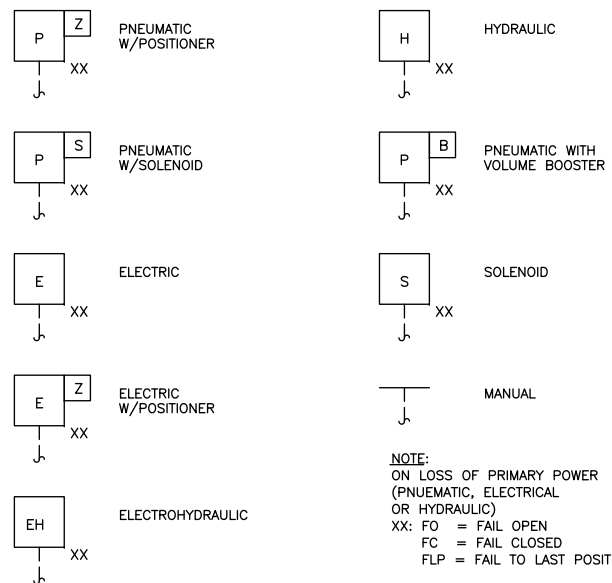
GATE SYMBOLS



VALVE SYMBOLS



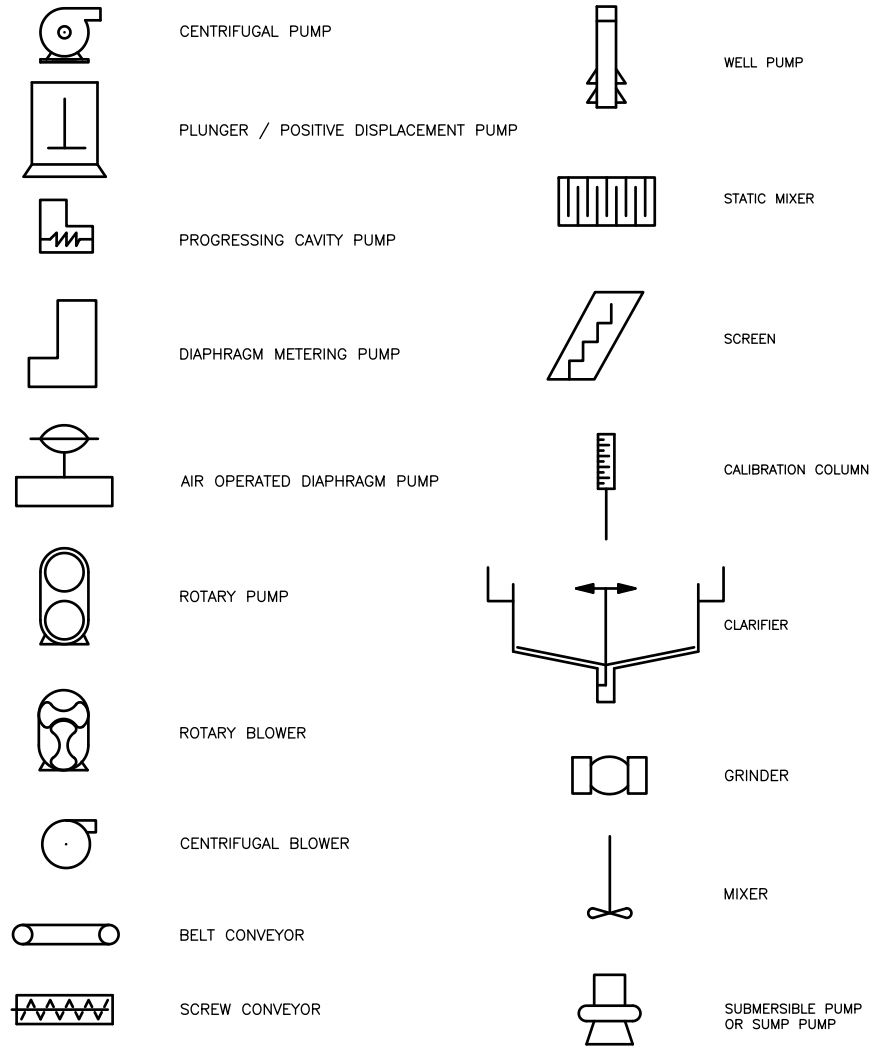
ACTUATORS SYMBOLS



NOTE:
ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL OR HYDRAULIC)
XX: FO = FAIL OPEN
FC = FAIL CLOSED
FLP = FAIL TO LAST POSITION

PROCESS EQUIPMENT

PARTIAL LIST ADDITIONAL SYMBOLS MAY BE SHOWN ON THE FLOW DIAGRAMS



GENERAL ABBREVIATIONS

AI	ANALOG IN	MH	MANHOLE
AO	ANALOG OUT	NC	NORMALLY CLOSED
BLDG	BUILDING	NPW	NON-POTABLE WATER
CONP	CONTROL PANEL	NO	NORMALLY OPEN
CONV	CONVEYOR	NTS	NOT TO SCALE
CPAC	COMPACTOR	PLC	PROGRAMMABLE LOGIC CONTROLLER
CPU	CENTRAL PROCESSING UNIT	PM&ID	PROCESS MECHANICAL AND INSTRUMENTATION DIAGRAM
DI	DIGITAL OR DISCRETE INPUT	PS	POWER SUPPLY
DO	DIGITAL OUTPUT	PW	PLANT WATER
DR	DOS RIOS	RIO	REMOTE INPUT/OUTPUT
ENET	ETHERNET	SBSP	SOUTHWEST BEXAR SEWER PIPELINE
EQ	EQUALIZATION	UPS	UNINTERRUPTIBLE POWER SUPPLY
ESW	ETHERNET SWITCH	VAC	VOLTS ALTERNATING CURRENT
FC	FAIL CLOSED	VDC	VOLTS DIRECT CURRENT
FEB	FLOW EQUALIZATION BASIN	VFD	VARIABLE FREQUENCY DRIVE
FLP	FAIL TO LAST POSITION	WRC	WATER RECYCLING CENTER
FO	FAIL OPEN OR FIBER OPTIC		
FOPP	FIBER OPTIC PATCH PANEL		
HMI	HUMAN MACHINE INTERFACE		
IC	INFLUENT CHANNEL		
I/O	INPUT/OUTPUT		
LC	LEON CREEK		
MBUS	MODBUS		
MCC	MOTOR CONTROL CENTER		
M/C	MEDIA CONVERTOR		

App.	SAWS Job No.
Revisions	10-6501
No.	3
Date	01/25/12
Revised By	ADDENDUM NO. 3

300 E. SONTERRA BLVD. STE. 1250
SAN ANTONIO, TEXAS 78258
TBPE FIRM NO. 1741
IN ASSOCIATION WITH
1777 N.E. LOOP 410, SUITE. 500
SAN ANTONIO, TEXAS 78217
TBPE FIRM NO. : F-3043

Date: DECEMBER 2011
Design by: HRR
Drawn by: SAK
Checked by: LJR
Scale: NTS



SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSP
INSTRUMENT LEGEND SHEET II

SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSP
INSTRUMENT LEGEND SHEET II

EG	App.	SAWS Job No.
3	101/23/12	10-6501
No.	Date	Revisions

300 E. SONTERRA BLVD., STE. 1250
SAN ANTONIO, TEXAS 78258
TBPE FIRM NO. 1741



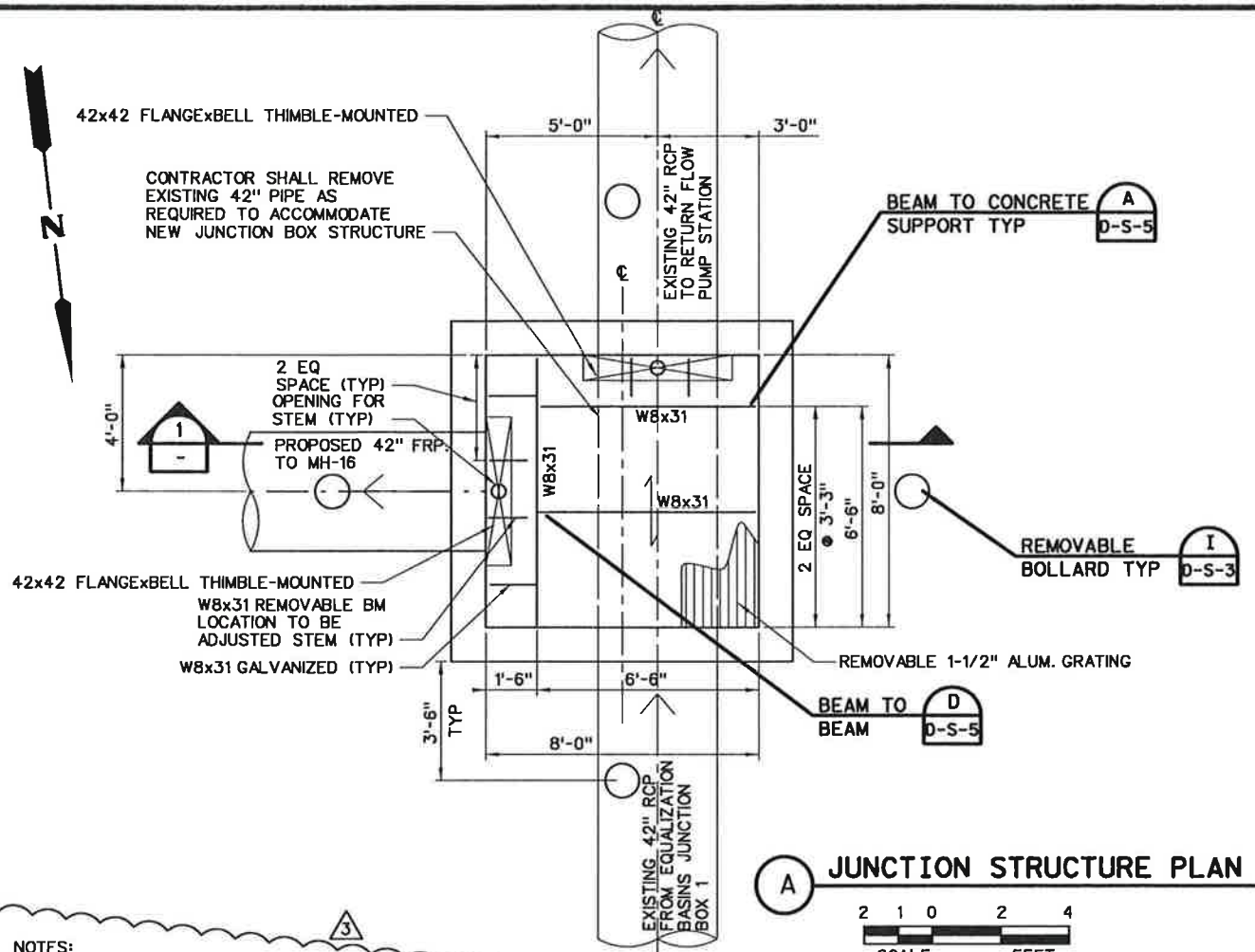
Date: DECEMBER 2011
Design by: EG
Drawn by: RG
Checked by: JIM
Soil: AS SHOWN



SAN ANTONIO WATER SYSTEM

SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSB
PROPOSED JUNCTION STRUCTURE

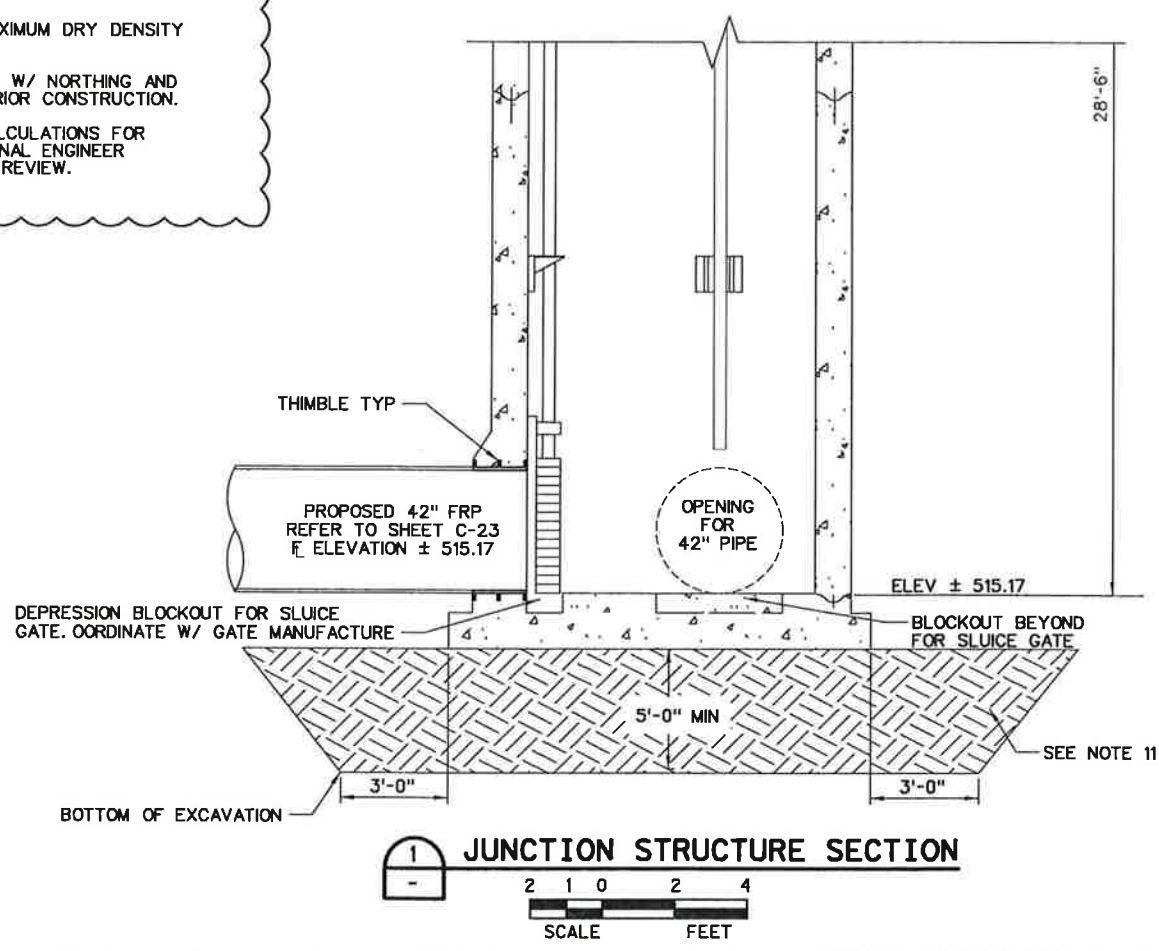
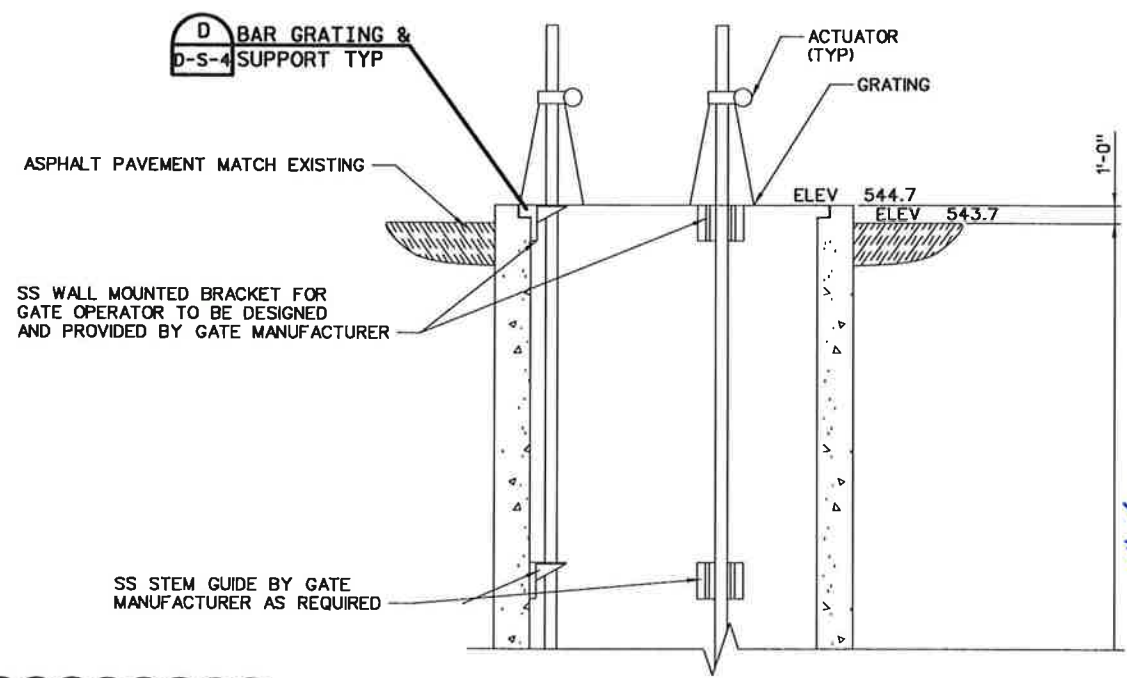
Sheet S-3
52 OF 113



A JUNCTION STRUCTURE PLAN
SCALE 2 1 0 2 4 FEET

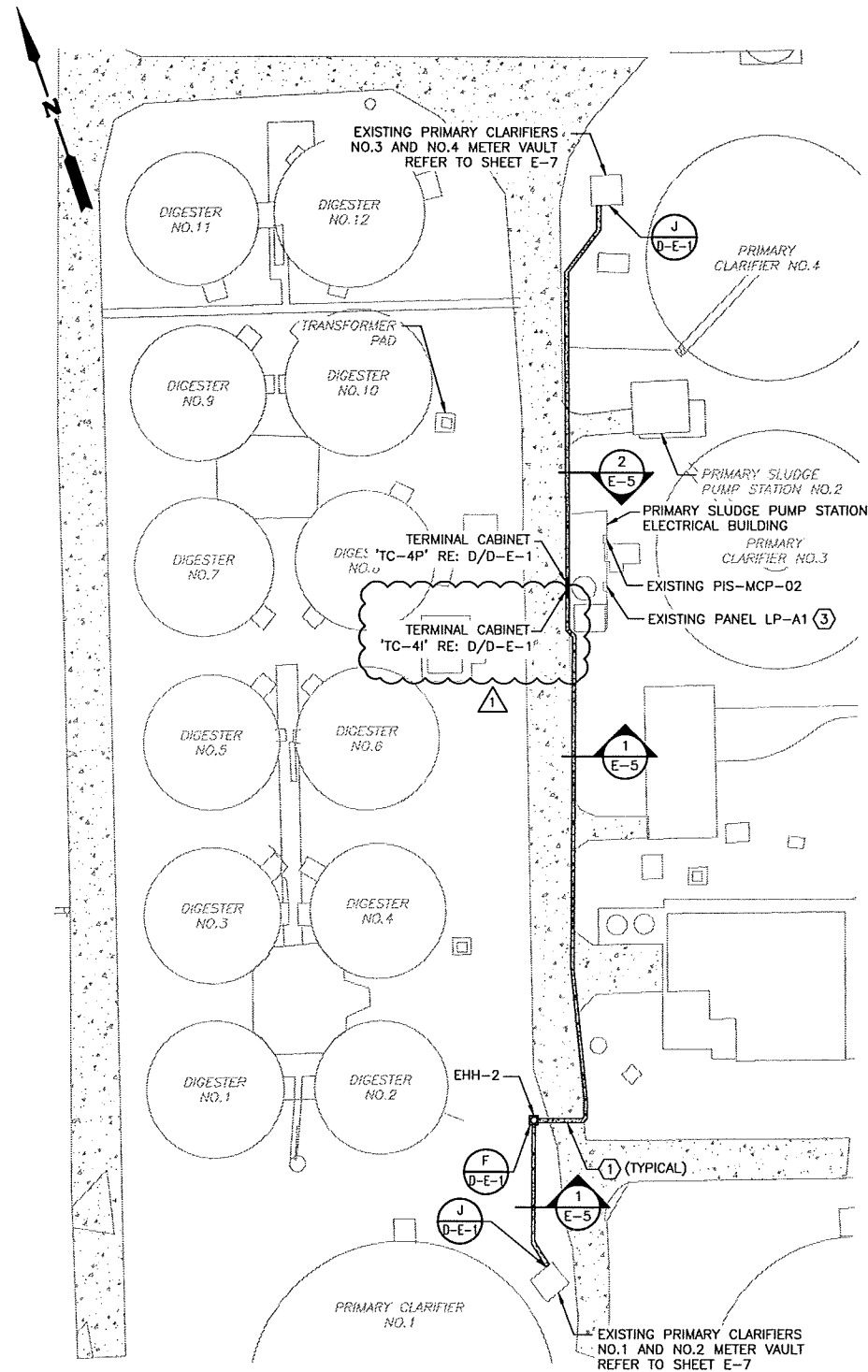
NOTES:

- CONTRACTOR SHALL FURNISH AND INSTALL PRECAST JUNCTION STRUCTURE MANUFACTURED IN ACCORDANCE WITH ASTM C-1577. CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS TO PREPARE DRAWINGS FOR THE JUNCTION STRUCTURE FOUNDATION. CONTRACTOR SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF TEXAS FOR GEOTECHNICAL INVESTIGATION FOR FOUNDATION DESIGN. CONTRACTOR SHALL SUBMIT ENGINEER SEALED FOUNDATION DRAWINGS AND GEOTECHNICAL REPORT FOR REVIEW BY ENGINEER AT LEAST 30 DAYS PRIOR TO CONSTRUCTION OF JUNCTION STRUCTURE.
CONTRACTOR SHALL SUBMIT PRECAST MANUFACTURER'S SHOP DRAWINGS MINIMUM OF 30 DAYS PRIOR TO THE MANUFACTURE OF PRECAST SECTIONS FOR ENGINEERS REVIEW. SUBMITTALS SHALL INCLUDE DETAILS TO INCLUDE WALL REINFORCEMENT AND JOINT DETAILS. JOINTS SHALL BE IN ACCORDANCE WITH ASTM C990. APPLICATION OF NON SHRINK GROUT INSIDE JOINT OPENING PER MANUFACTURE RECOMMENDATIONS. PRELIMINARY JUNCTION STRUCTURE DESIGN LOADS ARE AS FOLLOW:
A. DL-50 PSF
B. LL-150 PSF
C. JUNCTION EMPTY AND FULL W/ WATER (BOTH CONDITIONS)
D. SEE GEOTECH REPORT
E. COORDINATE W/GATE MANUFACTURED FOR WEIGHT AND THRUST LOAD.
CONTRACTOR TO COORDINATE BETWEEN PRECAST MANUFACTURER, GATE MANUFACTURER, STRUCTURAL AND GEOTECHNICAL ENGINEER, AS NECESSARY TO INCLUDE THE FOLLOWING:
A. W/GATE MANUFACTURER PRIOR TO INSTALLING EMBEDDED PLATE.
B. GRATING W/GATE MANUFACTURER PRIOR TO MANUFACTURE.
C. THIMBLE MOUNTED GATE W/PRECAST MANUFACTURER AND STRUCTURAL ENGINEER PRIOR TO BOX AND FOUNDATION DESIGN/ FABRICATION.
D. ALL FLOOR AND WALL PENETRATIONS WITH STRUCTURAL ENGINEER AND PRECAST MANUFACTURER
E. W/GATE MANUFACTURER AND PRECAST MANUFACTURER FOR BLOCKOUT REQUIREMENTS AT BOTTOM OF CONCRETE SLAB. NO ADDITIONAL COST TO OWNER.
F. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL NOT BE LESS THAN 5,000 PSI.
- ALL ANCHOR BOLTS SHALL 316 SS
- ALL STEEL SHALL BE HOT DIP GALVANIZED UNO.
- FOR STRUCTURAL GENERAL NOTES, SEE SHEET G-8.
- FOR PIPING SUPPORTS, SEE MECHANICAL SHEETS.
- FOR ADDITIONAL REINFORCING AT OPENINGS AND CORNERS, SEE STRUCTURAL STANDARD DETAIL SHEETS D-S-1 AND D-S-2.
- CONTRACTOR TO COORDINATE ALL FLOOR, ROOF AND WALL PENETRATIONS WITH MECHANICAL, ELECTRICAL, ETC. SHEETS.
- ALL INTERIOR SURFACES TO BE COATED PER SECTION 09981 AND IN ACCORDANCE WITH RECOMMENDATIONS PROVIDED BY PRECAST MANUFACTURER.
- COORDINATE W/ GATE MANUFACTURER AND PRECAST MANUFACTURER FOR BLOCKOUT REQUIREMENTS AT BOTTOM OF CONCRETE SLAB. NO ADDITIONAL COST TO OWNER.
- SELECT FILL COMPACTED TO 98% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698
- COORDINATE EXISTING 42" RCP LOCATION W/ NORTHING AND EASTING COORDINATE AND DIMENSIONS PRIOR CONSTRUCTION.
- CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS FOR CONNECTIONS PERFORMED BY PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS FOR REVIEW.

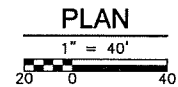


1 JUNCTION STRUCTURE SECTION
SCALE 2 1 0 2 4 FEET

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PRIMARY CLARIFIER METER VAULTS



GENERAL NOTES:

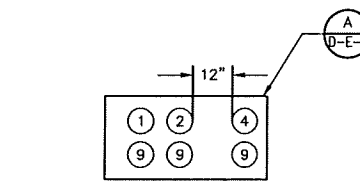
- DUCTBANK SECTIONS SHOWN ON THIS SHEET ARE FOR DIAGRAMMATICAL PURPOSES AND SHOW INTENT. DUCTBANK SECTIONS DO NOT NECESSARILY REFLECT ACTUAL CONDUIT PLACEMENT.
- ALL UNDERGROUND SCHEDULE 40 PVC CONDUIT SHALL BE ENCASED IN REINFORCED CONCRETE AS SHOWN ON DRAWINGS AND AS SPECIFIED UNLESS NOTED OTHERWISE.
- ALL 90 DEGREE ELBOWS IN THE UNDERGROUND DUCTBANK SHALL BE RIGID METAL CONDUIT. CONCRETE ENCASED PVC SCHEDULE 40 CONDUIT SHALL TRANSITION APPROXIMATELY 10'-0" FROM ALL STRUCTURES AND EQUIPMENT AND SHALL BE COMPLETED WITH PVC COATED RIGID METAL CONDUIT TO THE RESPECTIVE PIECE OF EQUIPMENT.
- REFERENCE OTHER DISCIPLINES SHEETS FOR EQUIPMENT LOCATIONS AND ELEVATIONS. FIELD VERIFY LOCATIONS OF EXISTING UTILITIES AND PIPING TO ACCOUNT FOR ANY CONFLICTS WITH THE ELECTRICAL DUCTBANKS AND CONDUITS.
- REFER TO PANELBOARD SCHEDULES AND ELECTRICAL DIAGRAMS FOR ADDITIONAL ELECTRICAL DETAILS.

NOTES BY SYMBOL 'O':

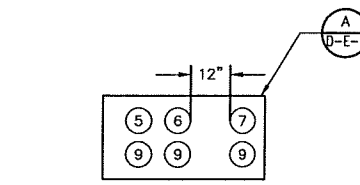
- REFER TO SHEET D-C-1 DETAIL B FOR TRENCH/PAVEMENT RESTORATION DETAILS.
- CABLE PROVIDED BY DIVISION 17 AND INSTALLED DIVISION 16.
- UTILIZE SPARE CIRCUIT BREAKERS IN EXISTING PANELBOARD. PROVIDE AND INSTALL NEW TYPED DIRECTORY.

ID NO.	FROM	TO	CONDUIT TAG	REFERENCE SHEET(S)	REMARKS
1	LSH-1020	PIS-MCP-02	3C/#14 MULTICONDUCTOR CABLE, 1"C	SHEET E-7	VIA TERMINAL CABINET 'TC-4P'
2	FIT-1020	LPA1-16	3C/#10 MULTICONDUCTOR CABLE, 1"C	SHEET E-7	VIA TERMINAL CABINET 'TC-4P'
3	NOT USED	-	-	-	-
4	FIT-1020	PIS-MCP-02	SERIAL RS485 CABLE, 1"C	SHEET E-7	VIA TERMINAL CABINET 'TC-4I'
5	LSH-1030	PIS-MCP-02	2#14, #14G, 1"C	SHEET E-7	VIA TERMINAL CABINET 'TC-4P'
6	FIT-1030	LPA1-14	2#10, #10, 1"C	SHEET E-7	VIA TERMINAL CABINET 'TC-4P'
7	FIT-1030	PIS-MCP-02	SERIAL RS485 CABLE, 1"C	SHEET E-7	VIA TERMINAL CABINET 'TC-4I'
8	NOT USED	-	-	-	-
9	EXISTING PRIMARY CLARIFIER METER VAULT	ELECTRICAL BUILDING	EMPTY 1" CONDUIT W/ PULLSTRING	SHEET E-5	TERMINATE CONDUIT AT TERMINAL CABINET(S)

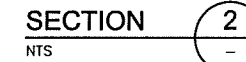
DUCTBANK AND RACEWAY SCHEDULE



DUCTBANK SCHEDULE THIS SHEET



DUCTBANK SCHEDULE THIS SHEET



No.	Date	Revisions	App.
1	01/20/12	REVISED BY ADDENDUM NO. 3	

SAWS Job No. 10-6501
300 E. SONTERRA BLVD. STE. 1250
SAN ANTONIO, TEXAS 78258
TBPE FIRM NO. 1741
IN ASSOCIATION WITH
1777 N.E. LOOP 410, SUITE. 500
SAN ANTONIO, TEXAS 78217
TBPE FIRM NO. : F-3043

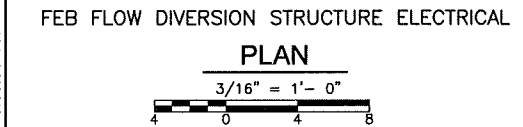


Date: DECEMBER 2011
Design by: CAG
Drawn by: CAG
Checked by: MGH
Scale:
Professional Engineer License No. 107371
Mark G. Handley
01/24/2012

SAN ANTONIO WATER SYSTEM

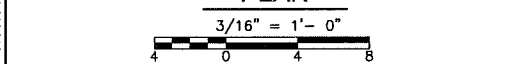
SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSB
PRIMARY CLARIFIER METER VAULTS
ELECTRICAL SITE PLAN

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1/24/2012 3:00:56 PM



FEB FLOW DIVERSION STRUCTURE ELECTRICAL

PLAN

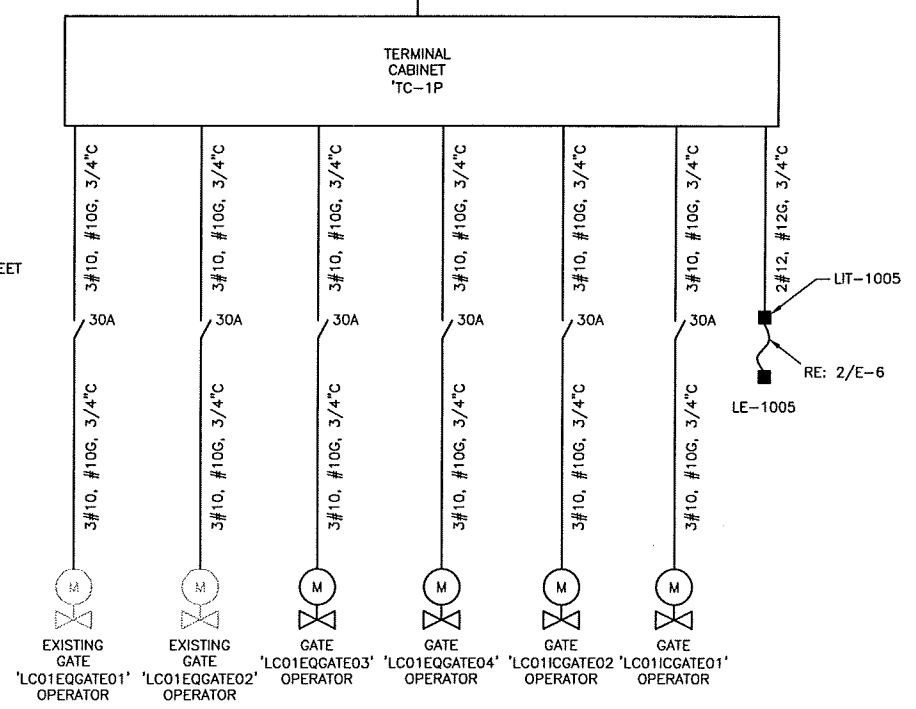


NTS

DIAGRAM 1

REFER TO SHEET E-4 FOR CONDUIT AND WIRING REQUIREMENTS

REFER TO SHEET E-4 FOR CONDUIT AND WIRING REQUIREMENTS



FEB FLOW DIVERSION STRUCTURE POWER

DIAGRAM 1

NTS

REFER TO SHEET E-4 FOR CONDUIT AND WIRING REQUIREMENTS

REFER TO SHEET E-4 FOR CONDUIT AND WIRING REQUIREMENTS

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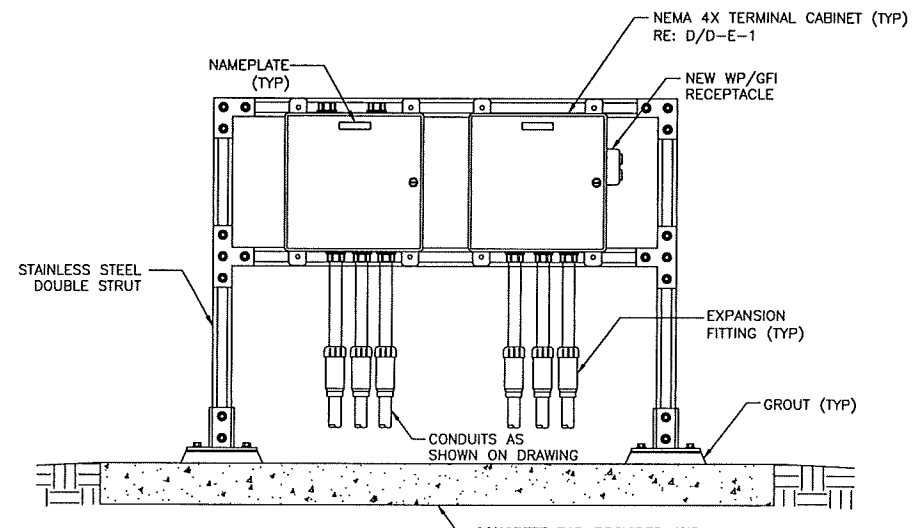
REFER TO SHEET E-4 FOR CONDUIT AND WIRING REQUIREMENTS

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REFER TO SHEET E-4 FOR CONDUIT AND WIRING REQUIREMENTS



ELECTRICAL STRUCTURE I

DETAIL A

NTS

REFER TO SHEET E-4 FOR CONDUIT AND WIRING REQUIREMENTS

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- GENERAL NOTES:
1. EACH BIDDER OR THEIR AUTHORIZED REPRESENTATIVES SHALL, BEFORE PREPARING THEIR PROPOSAL, VISIT ALL AREAS OF THE EXISTING BUILDINGS AND STRUCTURES IN WHICH WORK UNDER THIS CONTRACT IS TO BE PERFORMED AND INSPECT CAREFULLY THE PRESENT INSTALLATION.
 2. REFERENCE OTHER DISCIPLINES SHEETS FOR EQUIPMENT LOCATIONS AND ELEVATIONS. FIELD VERIFY LOCATIONS OF EXISTING UTILITIES AND PIPING TO ACCOUNT FOR ANY CONFLICTS WITH THE ELECTRICAL DUCTBANKS AND CONDUITS.
 3. REFER TO PANELBOARD SCHEDULES AND ELECTRICAL DIAGRAMS FOR ADDITIONAL ELECTRICAL DETAILS.
 4. PROVIDE SEAL-OFFS AS REQUIRED PER NEC.

- NOTES BY SYMBOL 'O':
- 1 EXISTING GATES TO BE RENAMED PER SAWS SYSTEM ID SYSTEM ON SHEET G-7.
 - 2 CABLE PROVIDED BY DIVISION 17 AND INSTALLED BY DIVISION 16.

No.	Date	Revisions	App.
1	01/20/12	REVISED BY ADDENDUM NO. 3	

SAWS Job No.
10-6501

300 E. SONTERRA BLVD. STE. 1250
SAN ANTONIO, TEXAS 78258
TEBE FIRM NO. 1741

1777 N.E. LOOP 410, SUITE. 500
SAN ANTONIO, TEXAS 78217
TEBE FIRM NO. : F-3043

CP&Y
IN ASSOCIATION WITH
CDM

Date: DECEMBER 2011
Design by: CAG
Drawn by: CAG
Checked by: MGH
Scale:

Mark G. Handley
Professional Engineer
107371
Professional License

01/24/2012

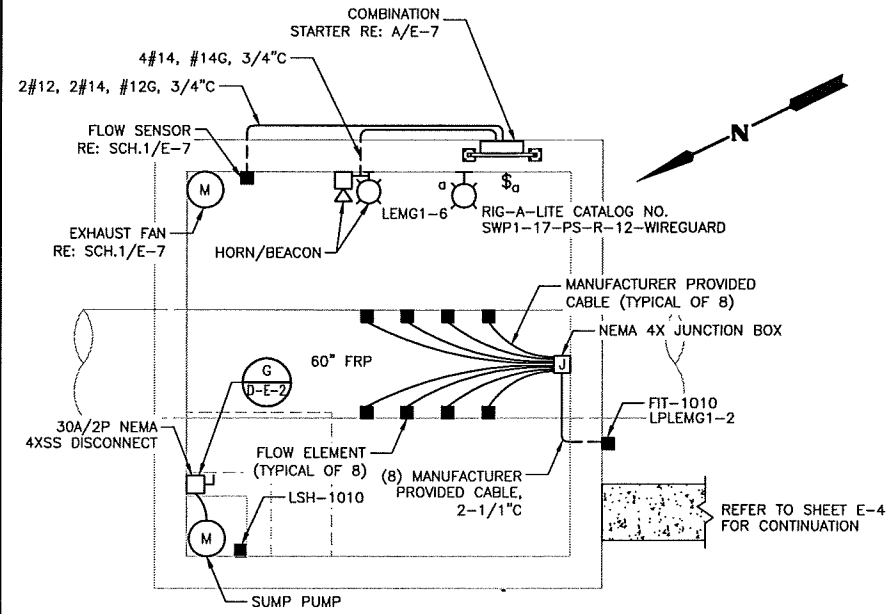
SAN ANTONIO
WATER SYSTEM

SAWS

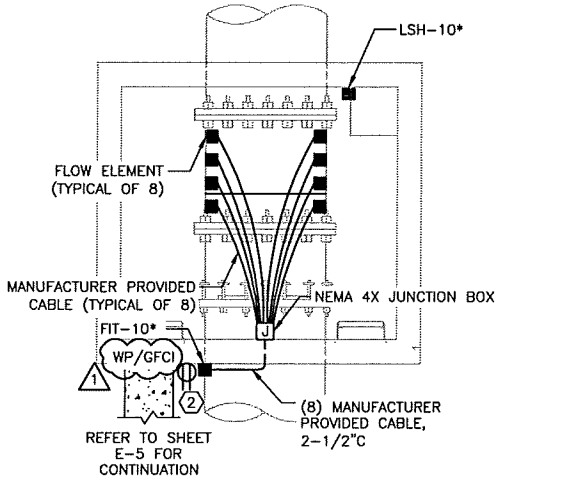
SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSP
FEB FLOW DIVERSION
STRUCTURE ELECTRICAL
PLAN AND RISERS

Sheet E-6
78 OF 113

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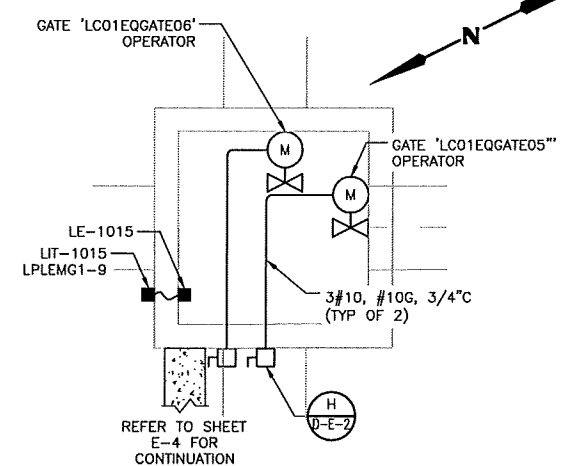


INTERCONNECT METER VAULT ELECTRICAL
PLAN
1/4" = 1'-0"
2 1 0 2 4

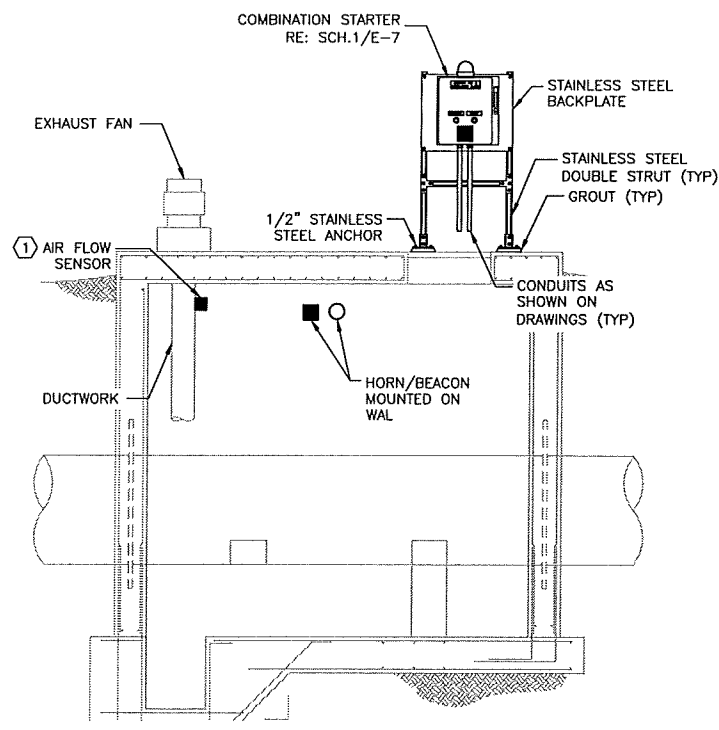


PRIMARY CLARIFIER METER VAULT (TYP. OF 2) PLAN
1/4" = 1'-0"
2 1 0 2 4

PRIMARY CLARIFIER NO. X METER VAULT	*
1 & 2	20
3 & 4	30



FEB DRAINAGE JUNCTION STRUCTURE ELECTRICAL
PLAN
1/4" = 1'-0"
2 1 0 2 4



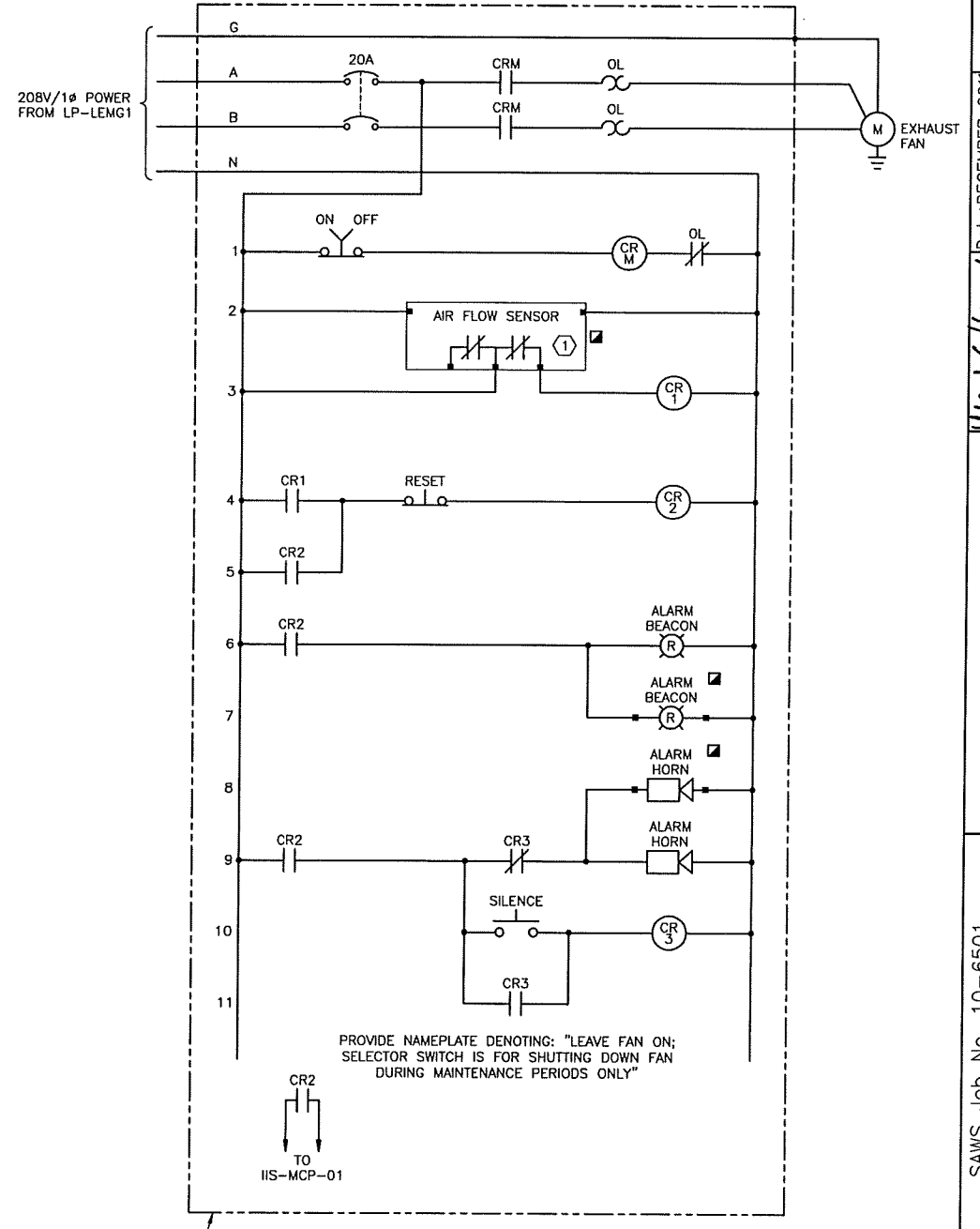
INTERCONNECT METER VAULT
DETAIL A
NTS E-7

GENERAL NOTES:

- EACH BIDDER OR THEIR AUTHORIZED REPRESENTATIVES SHALL, BEFORE PREPARING THEIR PROPOSAL, VISIT ALL AREAS OF THE EXISTING BUILDINGS AND STRUCTURES IN WHICH WORK UNDER THIS CONTRACT IS TO BE PERFORMED AND INSPECT CAREFULLY THE PRESENT INSTALLATION.
- REFERENCE OTHER DISCIPLINES SHEETS FOR EQUIPMENT LOCATIONS AND ELEVATIONS. FIELD VERIFY LOCATIONS OF EXISTING UTILITIES AND PIPING TO ACCOUNT FOR ANY CONFLICTS WITH THE ELECTRICAL DUCTBANKS AND CONDUITS.
- REFER TO PANELBOARD SCHEDULES AND ELECTRICAL DIAGRAMS FOR ADDITIONAL ELECTRICAL DETAILS.
- SEE SHEET E-2 FOR ORIENTATION OF PRIMARY CLARIFIERS METER VAULTS.
- PROVIDE SEAL-OFFS AS REQUIRED PER NEC.

NOTES BY SYMBOL:

- PROVIDED AND INSTALLED BY DIVISION 15.
- PROVIDE AND INSTALL NEW RECEPTACLE ON EXISTING 120V CIRCUITRY. MOUNT RECEPTACLE ONTO THE FIT MOUNTING STAND. REFER TO SHEET D-1-1.
- AT EACH PRIMARY CLARIFIER METER VAULT REMOVE CONDUIT, WIRE, AND SUPPORT MATERIAL ASSOCIATED WITH EXISTING FLOWMETER AND INSTRUMENT STAND.



EXHAUST FAN VENTILATION ALARM CONTROL

SCHEMATIC 1
NTS

LEGEND
■ - DEVICE LOCATED IN FIELD

No.	Date	Revisions	App.
1	01/20/12	REVISED BY ADDENDUM NO. 3	

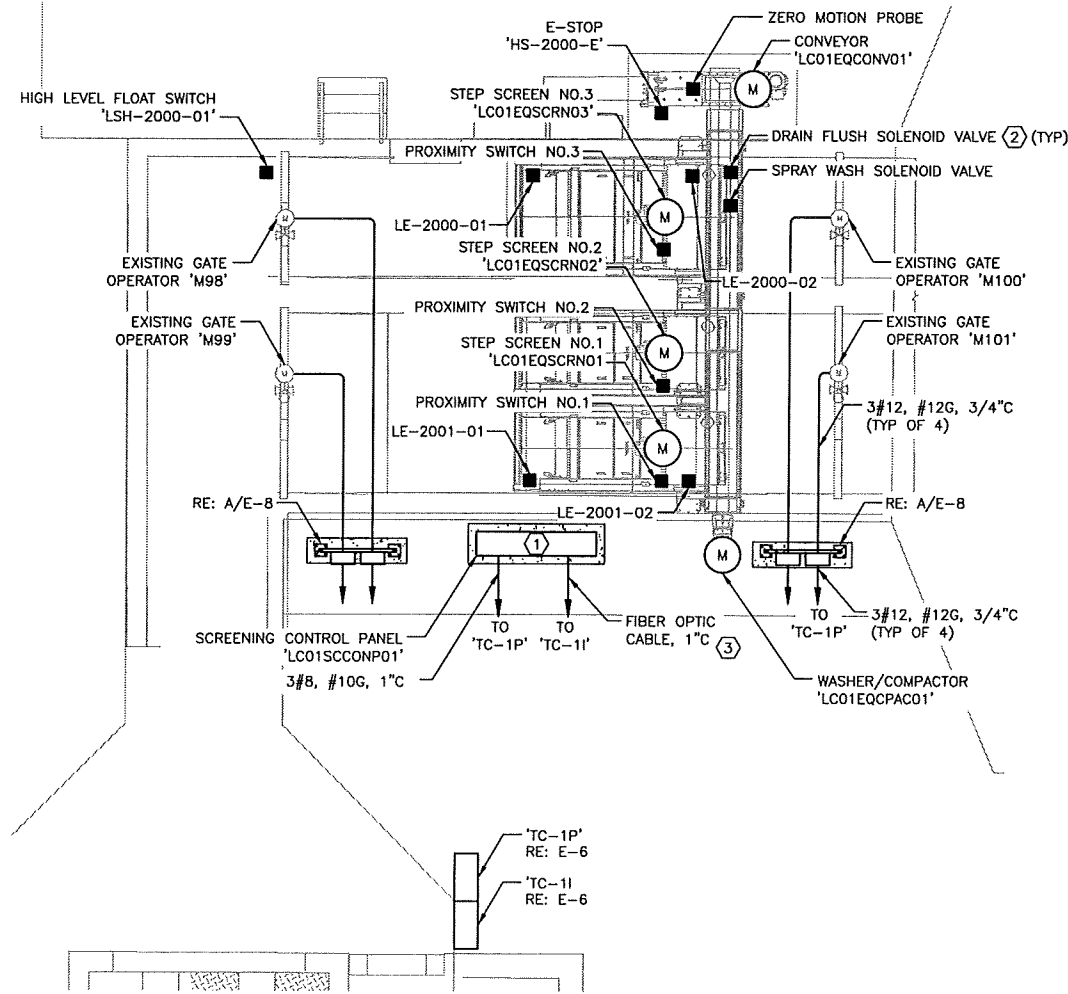
SAWS Job No. 10-6501
300 E. SONTERRA BLVD. STE. 1250
SAN ANTONIO, TEXAS 78258
TBPE FIRM NO. 1741
IN ASSOCIATION WITH
1777 N.E. LOOP 41D, SUITE 500
SAN ANTONIO, TEXAS 78217
TBPE FIRM NO. : F-3043

Date: DECEMBER 2011
Designed by: CAG
Drawn by: CAG
Checked by: MGH
Scale:
Professional Engineer
MARK G. HANDLEY
107371
01/24/2012

SAN ANTONIO WATER SYSTEM
SAS

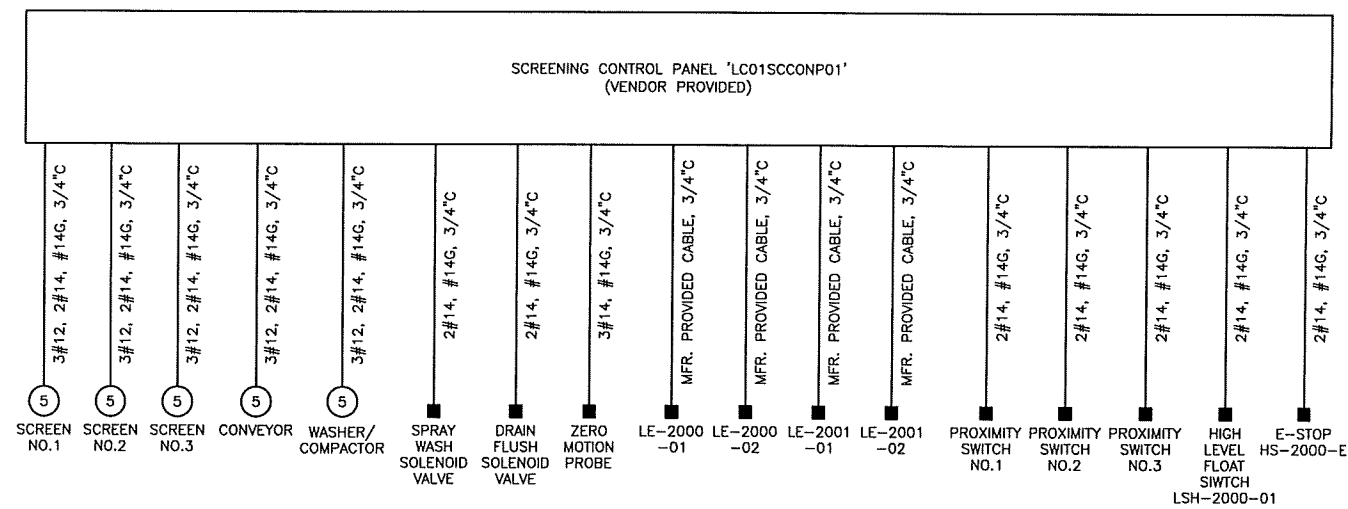
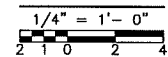
SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSF
METER AND VALVE VAULTS ELECTRICAL PLAN

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FEB SCREENING FACILITY ELECTRICAL

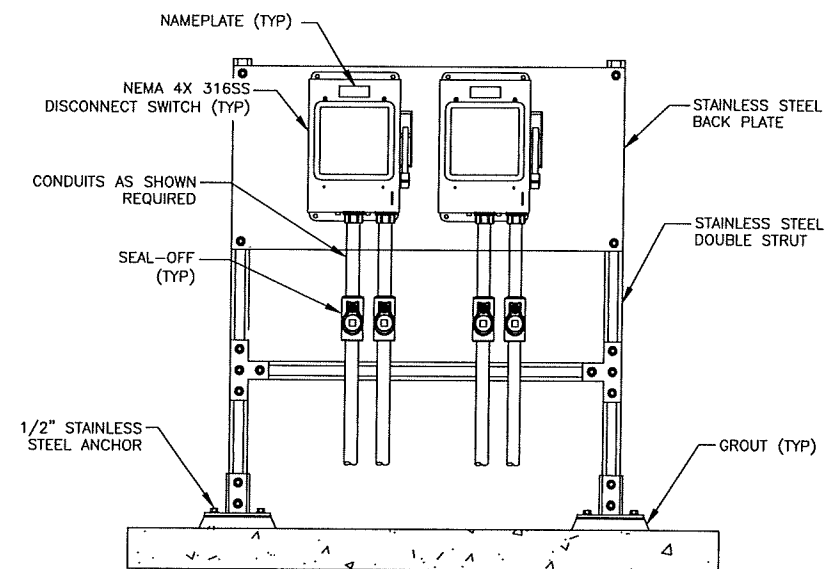
PLAN



FEB SCREENING FACILITY CONTROL

DIAGRAM

1/4" = 1'-0"



DISCONNECT MOUNTING

DETAIL

NTS



- GENERAL NOTES:**
1. EACH BIDDER OR THEIR AUTHORIZED REPRESENTATIVES SHALL, BEFORE PREPARING THEIR PROPOSAL, VISIT ALL AREAS OF THE EXISTING BUILDINGS AND STRUCTURES IN WHICH WORK UNDER THIS CONTRACT IS TO BE PERFORMED AND INSPECT CAREFULLY THE PRESENT INSTALLATION.
 2. REFERENCE OTHER DISCIPLINES SHEETS FOR EQUIPMENT LOCATIONS AND ELEVATIONS. FIELD VERIFY LOCATIONS OF EXISTING UTILITIES AND PIPING TO ACCOUNT FOR ANY CONFLICTS WITH THE ELECTRICAL DUCTBANKS AND CONDUITS.
 3. REFER TO PANELBOARD SCHEDULES AND ELECTRICAL DIAGRAMS FOR ADDITIONAL ELECTRICAL DETAILS.
 4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD CONDUIT AND WIRING BETWEEN ELECTRICAL DEVICES AND EQUIPMENT AND CONTROL PANEL AS REQUIRED BY THE VENDOR.
 5. PROVIDE SEAL-OFFS AS REQUIRED PER NEC.

NOTES BY SYMBOL 'O':

- ① FREESTANDING ENCLOSURE PROVIDED BY DIVISION 11 AND INSTALLED BY DIVISION 16. PROVIDE CONCRETE EQUIPMENT PAD PER DIVISION 3 SPECIFICATIONS.
- ② COORDINATE WITH SCREENING EQUIPMENT VENDOR ON EXACT INSTRUMENT AND EQUIPMENT LOCATIONS.
- ③ PROVIDE WIDE SWEEP ELBOWS FOR THIS CONDUIT RUN. CABLE PROVIDED BY DIVISION 17 AND INSTALLED BY DIVISION 16.

No.	Date	Revisions	App.
1	01/20/12	REVISED BY ADDENDUM NO. 3	

SAWS Job No.
10-6501

300 E. SONTERRA BLVD. STE. 1250
SAN ANTONIO, TEXAS 78258
TBPE FIRM NO. 1741
IN ASSOCIATION WITH
1777 N.E. LOOP 410, SUITE 500
SAN ANTONIO, TEXAS 78217
TBPE FIRM NO. : F-3043



Professional Engineer
MARK G. HANDLEY
107371
PROFESSIONAL ENGINEER
STATE OF TEXAS
01/24/2012

Design by: CAG
Drawn by: CAG
Checked by: MGH
Scale: NTS

SAN ANTONIO
WATER SYSTEM

SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSP
FEB SCREENING FACILITY
ELECTRICAL PLAN

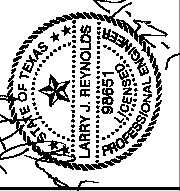
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No.	Date	Revisions	

SAWS Job No.
10-6501

300 E. SONTERRA BLVD. STE. 1250
SAN ANTONIO, TEXAS 78258
TBPE FIRM NO. 1741
IN ASSOCIATION WITH
1777 N.E. LOOP 410, SUITE. 500
SAN ANTONIO, TEXAS 78217
TBPE FIRM NO. : F-3043

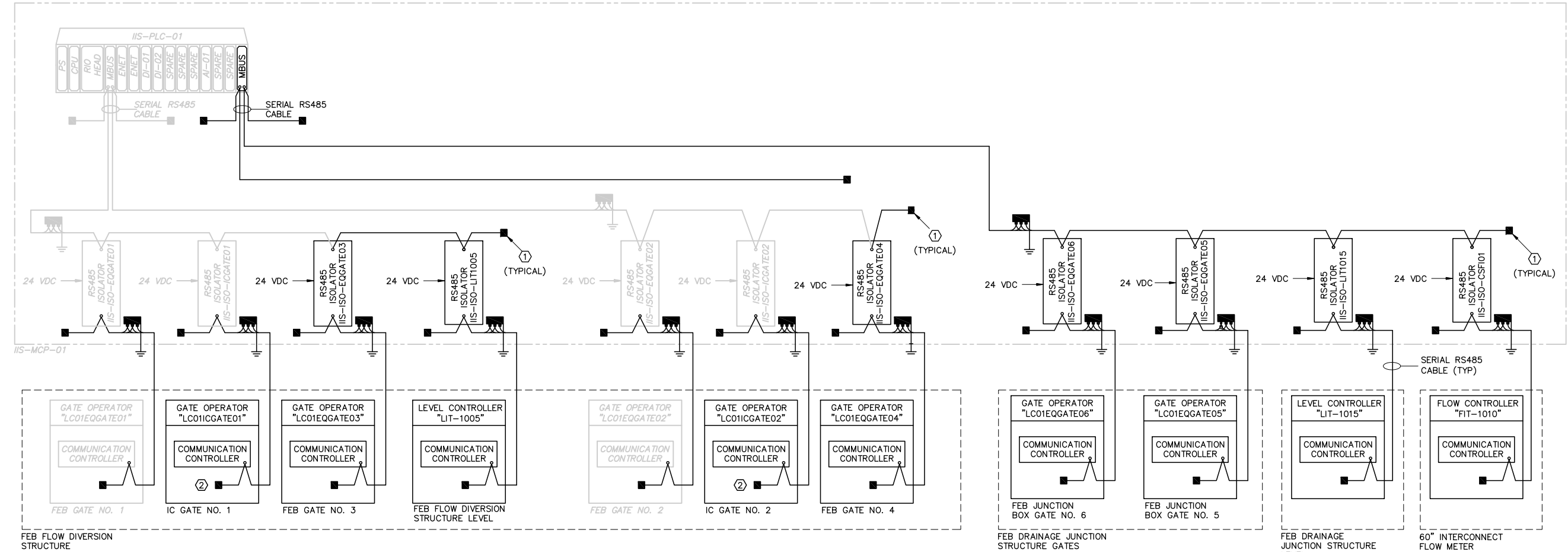


Date: DECEMBER 2011
Design by: HRR
Drawn by: SAK
Checked by: LJR
Scale: NTS



SAN ANTONIO WATER SYSTEM
FLOW EQUALIZATION BASINS NETWORK ARCHITECTURE

SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSP
FLOW EQUALIZATION BASINS NETWORK ARCHITECTURE



KEY NOTES:

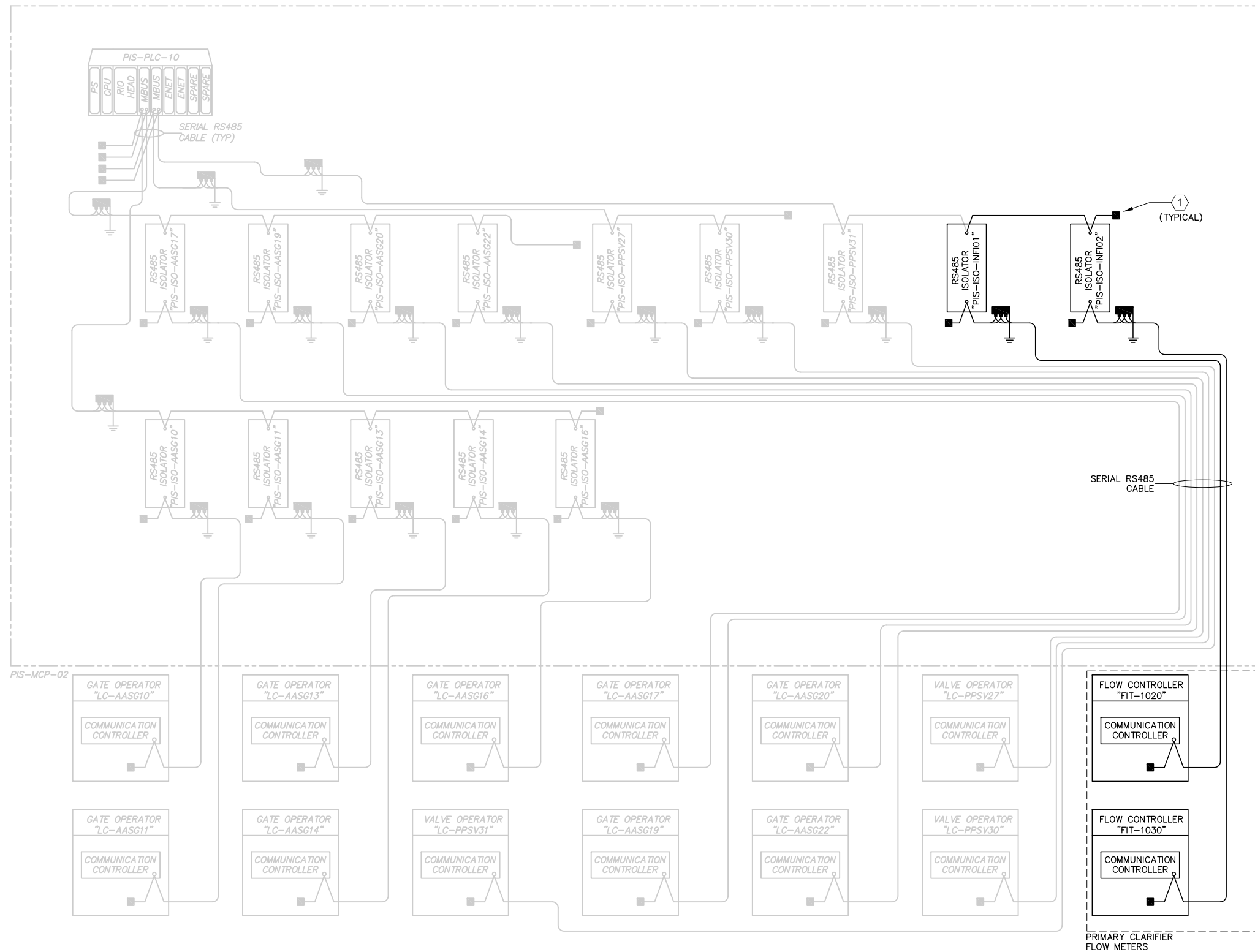
- ① RS485 TERMINATOR.
- ② INSTALL NEW GATE OPERATORS. RE-USE EXISTING WIRING AND RS485 ISOLATORS.

GENERAL NOTES:

1. DARK LINEWORK DENOTES PROPOSED EQUIPMENT. LIGHT LINEWORK DENOTES EXISTING EQUIPMENT.
2. THE CONTRACTOR SHALL BE AWARE THAT WHEN ANY EXISTING EQUIPMENT IS DISCONNECTED, REMOVED, RELOCATED OR OTHERWISE MODIFIED, THE POSSIBILITY MAY EXIST FOR SUCH ACTION TO LEAD TO INTERRUPTION OF OPERATION OF THE PLANT IF EXTREME CARE, VERIFICATION, AND VALIDATION IS NOT CAREFULLY EXERCISED PRIOR TO COMMENCEMENT OF SUCH DEMOLITION ACTIVITY. THE CONTRACTOR SHALL KNOW THAT ANY INTERRUPTION TO THE CONTINUITY OF PLANT OPERATION AT ITS FULLY RATED TREATMENT CAPACITY IS UNACCEPTABLE DURING THE CONSTRUCTION COURSE OF THIS PROJECT.

HOWEVER, SHOULD ANY INTERRUPTION TO PLANT OPERATION OCCUR FOR ANY UNFORSEEN REASON, WHETHER TOTALLY ACCIDENTAL OR DUE TO IMPROPER FIELD INVESTIGATION AND IMPROPER PLANNING PRIOR TO COMMENCEMENT OF THE ELECTRICAL/INSTRUMENTATION DEMOLITION EFFORT, THE RESPONSIBLE CONTRACTOR SHALL DETERMINE THE PROBLEM, CORRECT IT, AND START UP THE INTERRUPTED EQUIPMENT WITHIN A CERTAIN TIME PERIOD AS DETERMINED BY THE OWNER AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL PROVIDE CONTINUOUS, 24-HOUR, LABOR, EQUIPMENT, MATERIAL, AND ACCESSORIES UNTIL SUCH TIME THAT ANY EFFECTED EQUIPMENT OPERATES AS PREVIOUSLY OPERATED, AT NO ADDITIONAL COST TO THE OWNER AND TO THE OWNER'S SATISFACTION.

3. ALL EXISTING ITEMS SHOWN ON THIS DRAWING ARE IN PERFECT WORKING CONDITION. SHOULD ANY EXISTING EQUIPMENT, ITS ASSOCIATED INTERCONNECT WIRING/MOTOR/ETC., AS APPLICABLE, BE DAMAGED OR BECOME OTHERWISE UNUSABLE DURING THE CONSTRUCTION COURSE OF THIS PROJECT, THE RESPONSIBLE CONTRACTOR SHALL DETERMINE THE PROBLEM, CORRECT IT, AND FURNISH AND INSTALL ALL NECESSARY WIRING/HARDWARE/ETC., TO MATCH EXISTING AND MAKE ALL FINAL CONNECTIONS SUCH THAT ALL AFFECTED EQUIPMENT OPERATES AS PREVIOUSLY OPERATED TO THE OWNER'S SATISFACTION AT NO ADDITIONAL COST TO THE OWNER.



KEY NOTES:

- ① RS485 TERMINATOR.

GENERAL NOTES:

1. DARK LINEWORK DENOTES PROPOSED EQUIPMENT. LIGHT LINEWORK DENOTES EXISTING EQUIPMENT.
2. THE CONTRACTOR SHALL BE AWARE THAT WHEN ANY EXISTING EQUIPMENT IS DISCONNECTED, REMOVED, RELOCATED OR OTHERWISE MODIFIED, THE POSSIBILITY MAY EXIST FOR SUCH ACTION TO LEAD TO INTERRUPTION OF OPERATION OF THE PLANT IF EXTREME CARE, VERIFICATION, AND VALIDATION IS NOT CAREFULLY EXERCISED PRIOR TO COMMENCEMENT OF SUCH DEMOLITION ACTIVITY. THE CONTRACTOR SHALL KNOW THAT ANY INTERRUPTION TO THE CONTINUITY OF PLANT OPERATION AT ITS FULLY RATED TREATMENT CAPACITY IS UNACCEPTABLE DURING THE CONSTRUCTION COURSE OF THIS PROJECT. HOWEVER, SHOULD ANY INTERRUPTION TO PLANT OPERATION OCCUR FOR ANY UNFORSEEN REASON, WHETHER TOTALLY ACCIDENTAL OR DUE TO IMPROPER FIELD INVESTIGATION AND IMPROPER PLANNING PRIOR TO COMMENCEMENT OF THE ELECTRICAL/INSTRUMENTATION DEMOLITION EFFORT, THE RESPONSIBLE CONTRACTOR SHALL DETERMINE THE PROBLEM, CORRECT IT, AND START UP THE INTERRUPTED EQUIPMENT WITHIN A CERTAIN TIME PERIOD AS DETERMINED BY THE OWNER AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL PROVIDE CONTINUOUS, 24-HOUR, LABOR, EQUIPMENT, MATERIAL, AND ACCESSORIES UNTIL SUCH TIME THAT ANY EFFECTED EQUIPMENT OPERATES AS PREVIOUSLY OPERATED, AT NO ADDITIONAL COST TO THE OWNER AND TO THE OWNER'S SATISFACTION.
3. ALL EXISTING ITEMS SHOWN ON THIS DRAWING ARE IN PERFECT WORKING CONDITION. SHOULD ANY EXISTING EQUIPMENT, ITS ASSOCIATED INTERCONNECT WIRING/MOTOR/ETC., AS APPLICABLE, BE DAMAGED OR BECOME OTHERWISE UNUSABLE DURING THE CONSTRUCTION COURSE OF THIS PROJECT, THE RESPONSIBLE CONTRACTOR SHALL DETERMINE THE PROBLEM, CORRECT IT, AND FURNISH AND INSTALL ALL NECESSARY WIRING/HARDWARE/ETC., TO MATCH EXISTING AND MAKE ALL FINAL CONNECTIONS SUCH THAT ALL AFFECTED EQUIPMENT OPERATES AS PREVIOUSLY OPERATED TO THE OWNER'S SATISFACTION AT NO ADDITIONAL COST TO THE OWNER.

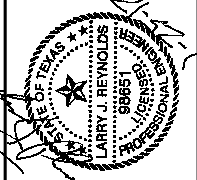
No.	Date	Revisions	App.
3	01/25/12	REVISED BY ADDENDUM NO. 3	

SAWS Job No.
10-6501

300 E. SONTERRA BLVD. STE. 1250
SAN ANTONIO, TEXAS 78258
TBPE FIRM NO. 1741
IN ASSOCIATION WITH
1777 N.E. LOOP 410, SUITE. 500
SAN ANTONIO, TEXAS 78217
TBPE FIRM NO. : F-3043



Date: DECEMBER 2011	Design by: HRR	Drawn by: SAK	Checked by: LJR	Scale: NTS
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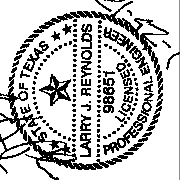


SAN ANTONIO WATER SYSTEM

SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSP
SLUDGE PUMPING NETWORK ARCHITECTURE

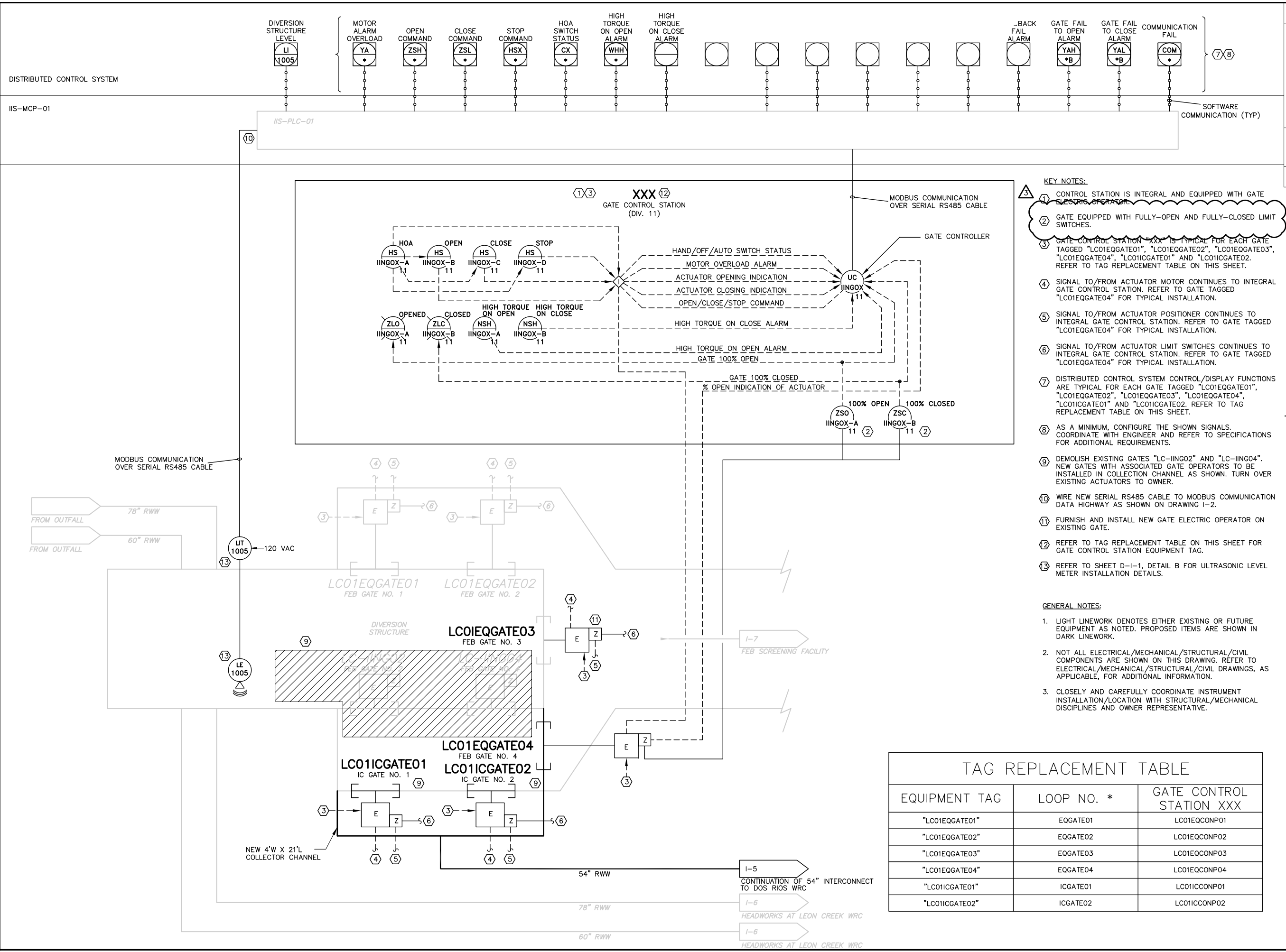


Date: DECEMBER 2011
Design by: HRR
Drawn by: SAK
Checked by: LJR
Scale: NTS



SAN ANTONIO WATER SYSTEM
FEB FLOW DIVERSION STRUCTURE PM&ID

SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSP
FEB FLOW DIVERSION STRUCTURE PM&ID



- KEY NOTES:**
- CONTROL STATION IS INTEGRAL AND EQUIPPED WITH GATE ELECTRIC OPERATOR.
 - GATE EQUIPPED WITH FULLY-OPEN AND FULLY-CLOSED LIMIT SWITCHES.
 - GATE CONTROL STATION "XXX" IS TYPICAL FOR EACH GATE TAGGED "LC01EQGATE01", "LC01EQGATE02", "LC01EQGATE03", "LC01EQGATE04", "LC01ICGATE01" AND "LC01ICGATE02". REFER TO TAG REPLACEMENT TABLE ON THIS SHEET.
 - SIGNAL TO/FROM ACTUATOR MOTOR CONTINUES TO INTEGRAL GATE CONTROL STATION. REFER TO GATE TAGGED "LC01EQGATE04" FOR TYPICAL INSTALLATION.
 - SIGNAL TO/FROM ACTUATOR POSITIONER CONTINUES TO INTEGRAL GATE CONTROL STATION. REFER TO GATE TAGGED "LC01EQGATE04" FOR TYPICAL INSTALLATION.
 - SIGNAL TO/FROM ACTUATOR LIMIT SWITCHES CONTINUES TO INTEGRAL GATE CONTROL STATION. REFER TO GATE TAGGED "LC01EQGATE04" FOR TYPICAL INSTALLATION.
 - DISTRIBUTED CONTROL SYSTEM CONTROL/DISPLAY FUNCTIONS ARE TYPICAL FOR EACH GATE TAGGED "LC01EQGATE01", "LC01EQGATE02", "LC01EQGATE03", "LC01EQGATE04", "LC01ICGATE01" AND "LC01ICGATE02". REFER TO TAG REPLACEMENT TABLE ON THIS SHEET.
 - AS A MINIMUM, CONFIGURE THE SHOWN SIGNALS. COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - DEMOLISH EXISTING GATES "LC-ING02" AND "LC-ING04". NEW GATES WITH ASSOCIATED GATE OPERATORS TO BE INSTALLED IN COLLECTION CHANNEL AS SHOWN. TURN OVER EXISTING ACTUATORS TO OWNER.
 - WIRE NEW SERIAL RS485 CABLE TO MODBUS COMMUNICATION DATA HIGHWAY AS SHOWN ON DRAWING I-2.
 - FURNISH AND INSTALL NEW GATE ELECTRIC OPERATOR ON EXISTING GATE.
 - REFER TO TAG REPLACEMENT TABLE ON THIS SHEET FOR GATE CONTROL STATION EQUIPMENT TAG.
 - REFER TO SHEET D-I-1, DETAIL B FOR ULTRASONIC LEVEL METER INSTALLATION DETAILS.
- GENERAL NOTES:**
- LIGHT LINWORK DENOTES EITHER EXISTING OR FUTURE EQUIPMENT AS NOTED. PROPOSED ITEMS ARE SHOWN IN DARK LINWORK.
 - NOT ALL ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ARE SHOWN ON THIS DRAWING. REFER TO ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL DRAWINGS, AS APPLICABLE, FOR ADDITIONAL INFORMATION.
 - CLOSELY AND CAREFULLY COORDINATE INSTRUMENT INSTALLATION/LOCATION WITH STRUCTURAL/MECHANICAL DISCIPLINES AND OWNER REPRESENTATIVE.

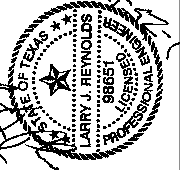
TAG REPLACEMENT TABLE		
EQUIPMENT TAG	LOOP NO. *	GATE CONTROL STATION XXX
"LC01EQGATE01"	EQGATE01	LC01EQCONP01
"LC01EQGATE02"	EQGATE02	LC01EQCONP02
"LC01EQGATE03"	EQGATE03	LC01EQCONP03
"LC01EQGATE04"	EQGATE04	LC01EQCONP04
"LC01ICGATE01"	ICGATE01	LC01ICCONP01
"LC01ICGATE02"	ICGATE02	LC01ICCONP02

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300 E. SONTERRA BLVD. STE. 1250
SAN ANTONIO, TEXAS 78258
TBE FIRM NO. 1741
IN ASSOCIATION WITH
1777 N.E. LOOP 410, SUITE. 500
SAN ANTONIO, TEXAS 78217
TBE FIRM NO. : F-3043



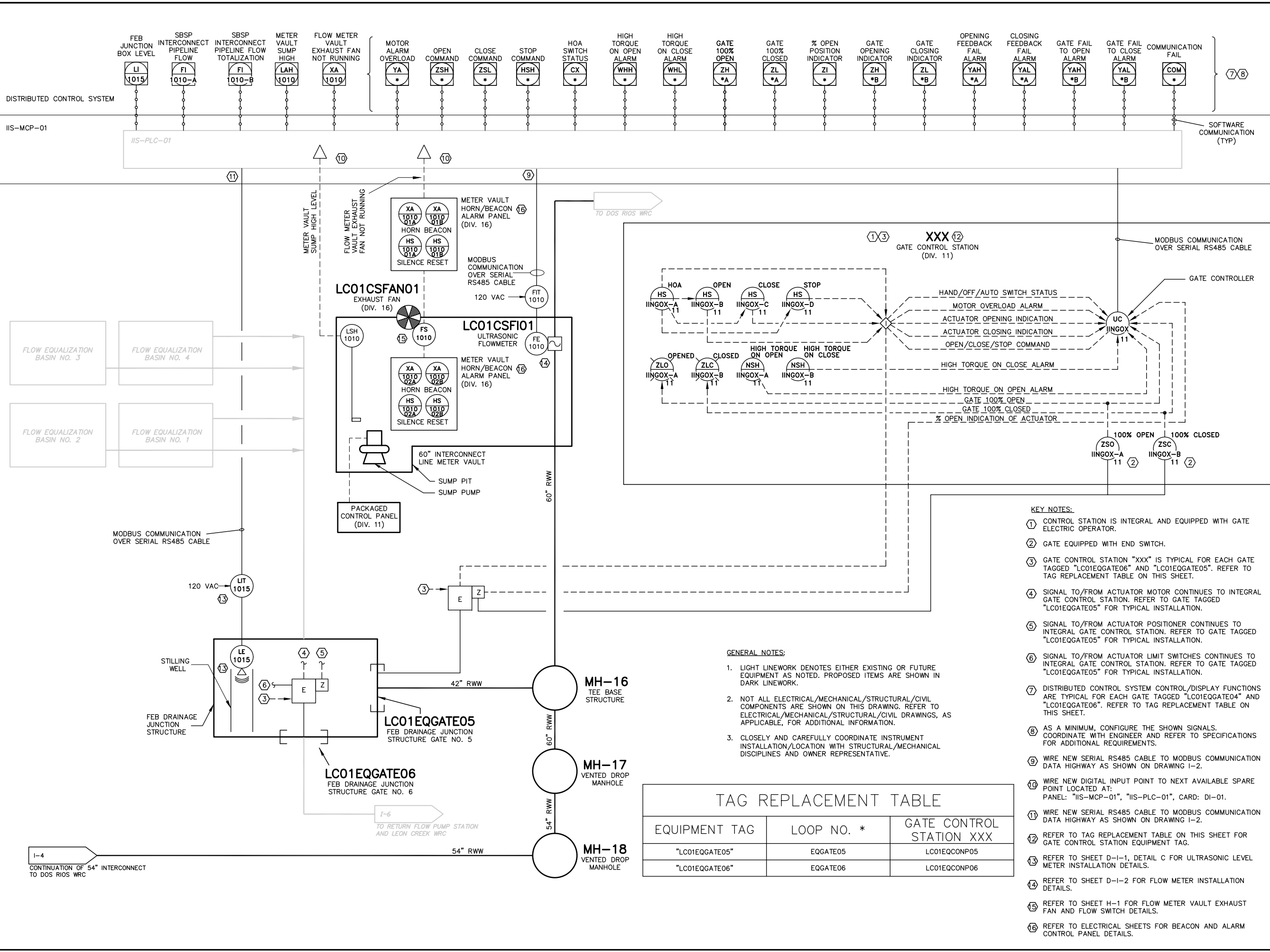
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Design by: HRR
Drawn by: SAK
Checked by: LJR
Scale: NTS



SAN ANTONIO WATER SYSTEM
SWS logo

SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSP
FLOW EQUALIZATION BASINS
AND 60" INTERCONNECT LINE
PM&ID

No.	Date	Revisions
3	01/25/12	REVISED BY ADDENDUM NO. 3



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DATE: DECEMBER 2011
DESIGN BY: EG
DRAWN BY: RC
CHECKED BY: JM
SCALE: AS SHOWN

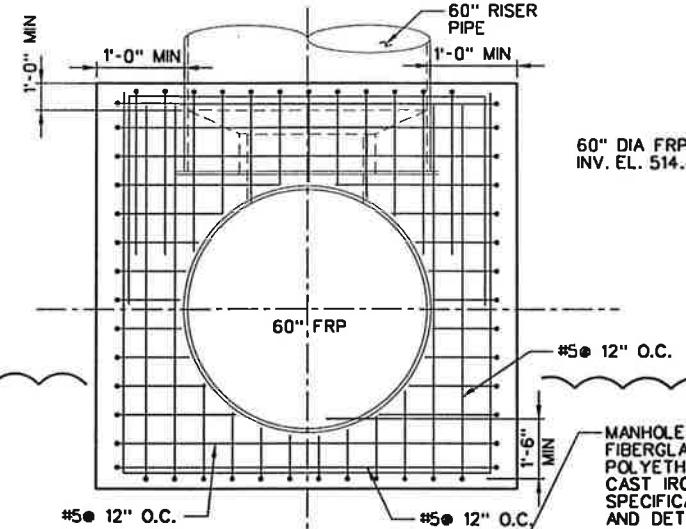


SAN ANTONIO WATER SYSTEM

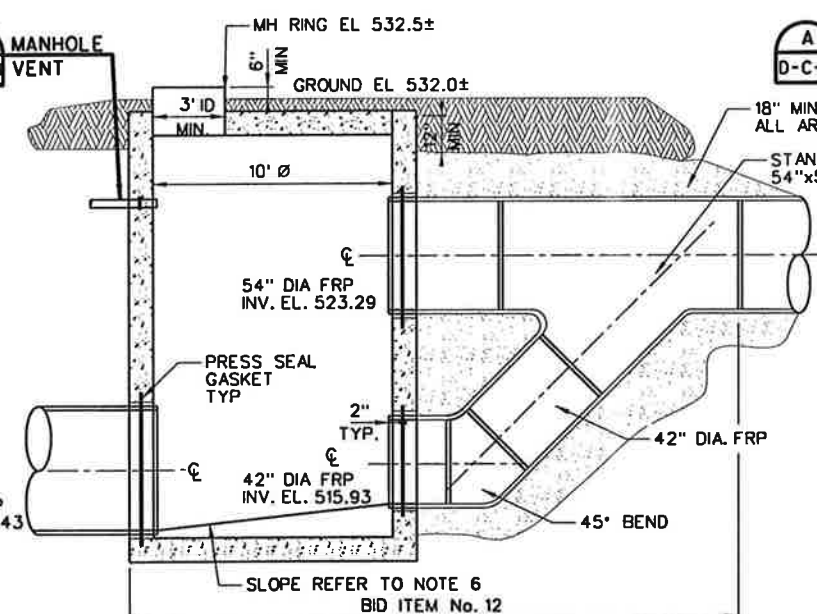
SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSB

TEE BASE FRP MH NOTES:

1. FIBERGLASS RISER MANHOLE DESIGNED, FABRICATED, INSPECTED, TESTED AND MARKED IN ACCORDANCE WITH ASTM D-3753.
2. PER PIPE MFG. RECOMMENDATION, THE TEE IS TO BE ENCASED IN CONCRETE, TROWLED AT THE LEVEL EVEN WITH THE "HOME LINE" ON THE TEE. A SECOND POUR IS TO BE MADE TO ENCASE THE ANTI-FLOTATION FLANGE ON THE RISER SECTION FOLLOWING INSTALLATION OF THE RISER.
3. DRAWING SIGNED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS SHALL BE SUBMITTED FOR REVIEW BEFORE START OF MANUFACTURING.
4. REFER TO SHEET G-6 NOTE 7 FOR GRADING REQUIREMENTS AT MH'S.
5. REFER TO SAWS SPECIFICATIONS FOR BEDDING REQUIREMENTS.
6. MIN. CONC COMPRESSIVE STRENGTH 4,000 PSI IN 28 DAYS.
7. DEFORMED REINFORCEMENT SHALL CONFORM TO ASTM A615 GRADE 60.



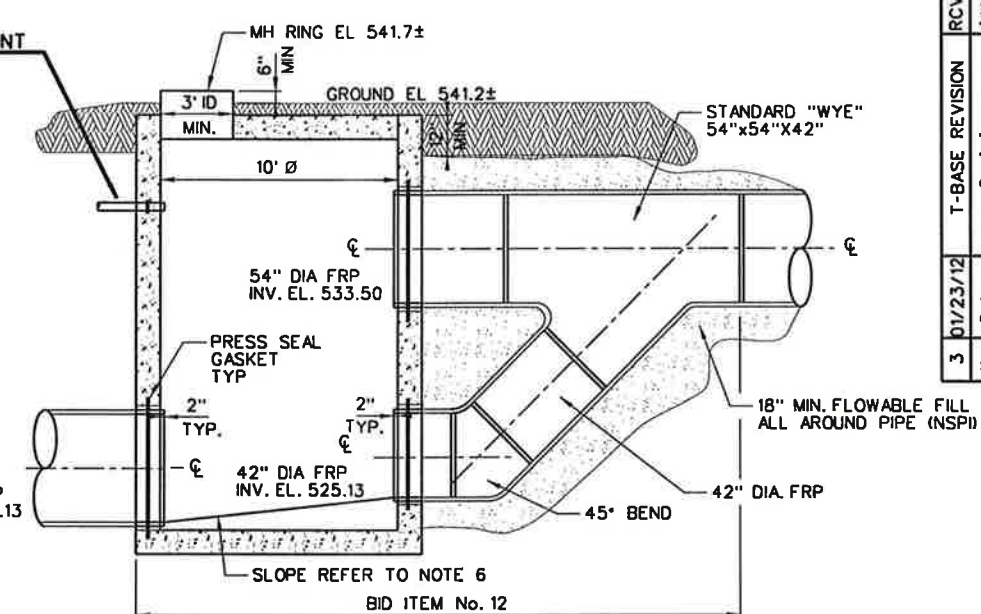
A TYPICAL T-BASE STRUCTURE
NTS



B VENTED DROP MH #17
SCALE 1/8" = 1'-0"

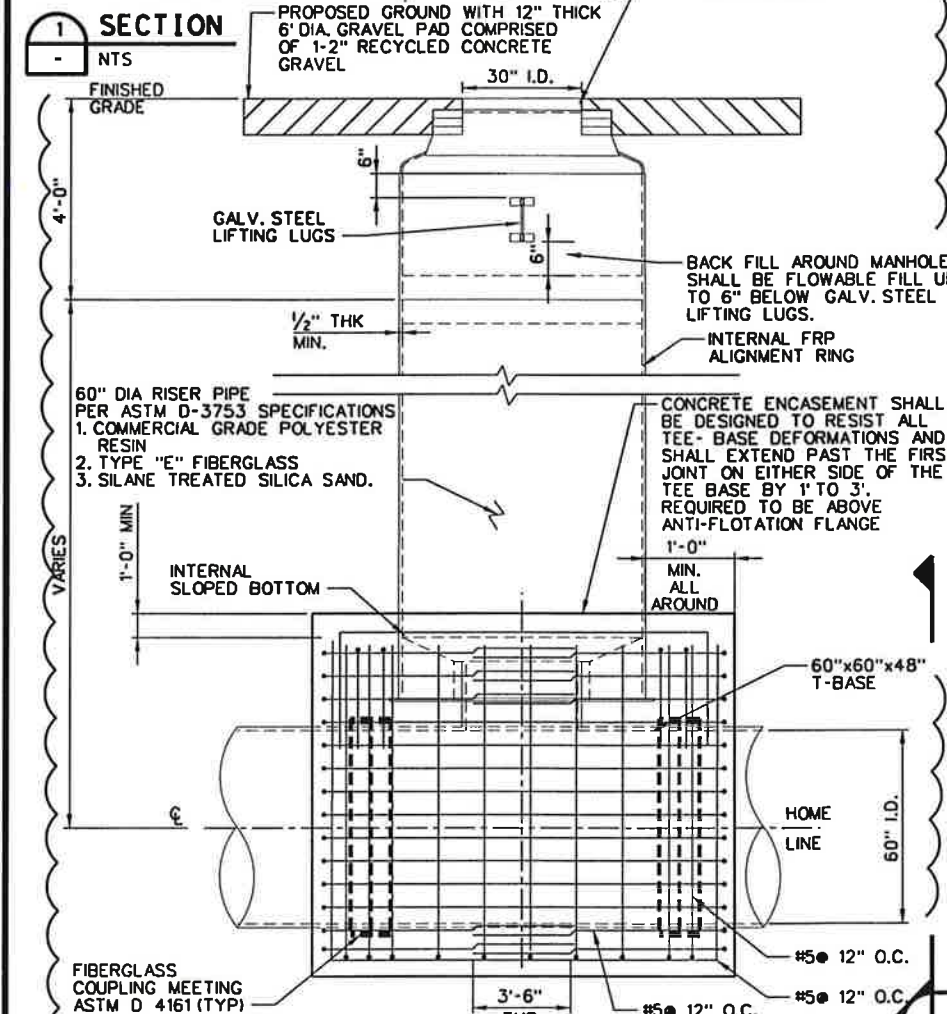
VENTED DROP MH NOTES:

1. MIN. CONCRETE STRENGTH 9,000 PSI.
2. STEEL REINFORCED PER ASTM C-478
3. TRAFFIC RATED HS-20 LOADING
4. RUBBER GASKET JOINTS PER ASTM C-443
5. PIPE TO MANHOLE CONNECTORS PER ASTM C-923
6. PROVIDE A PORTLAND CEMENT CONCRETE (3000PSI) INVERT W/BENCH, APPLY AN EPOXY COATING PER MANUFACTURE RECOMMENDATION REFER TO SPECS 09981
7. PRECAST MANHOLE SHALL BE MANUFACTURED BY U.S. COMPOSITE PIPE INC. OR FRP MANHOLE SHALL BE MANUFACTURED BY LFM INC. HOBAS PIPE OR FLOWTITE.

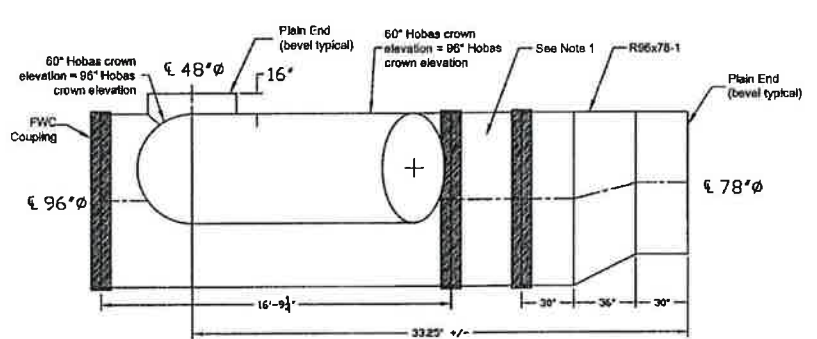


C VENTED DROP MH #18
SCALE 1/8" = 1'-0"

8. MANHOLE DRAWING SIGNED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS SHALL BE SUBMITTED FOR REVIEW BEFORE START OF MANUFACTURING.
9. REFER TO CIVIL SHEET C-19 AND C-20.
10. REFER TO SAWS SPECIFICATION FOR BEDDING REQUIREMENTS.
11. REFER TO MANHOLE VENT DETAILS AND CIVIL PLANS FOR LOCATION (NSPI)
12. MANHOLE GASKETS SHALL BE DESIGN FOR APPROVED FRP MANUFACTURES. REFER TO SPECIFICATION 15084.
13. SUBMITTED MANHOLE DRAWINGS FOR REVIEW SHALL INCLUDE CONCRETE SLAB REINFORCEMENT FOR ANTI-FLOTATION



Plan View

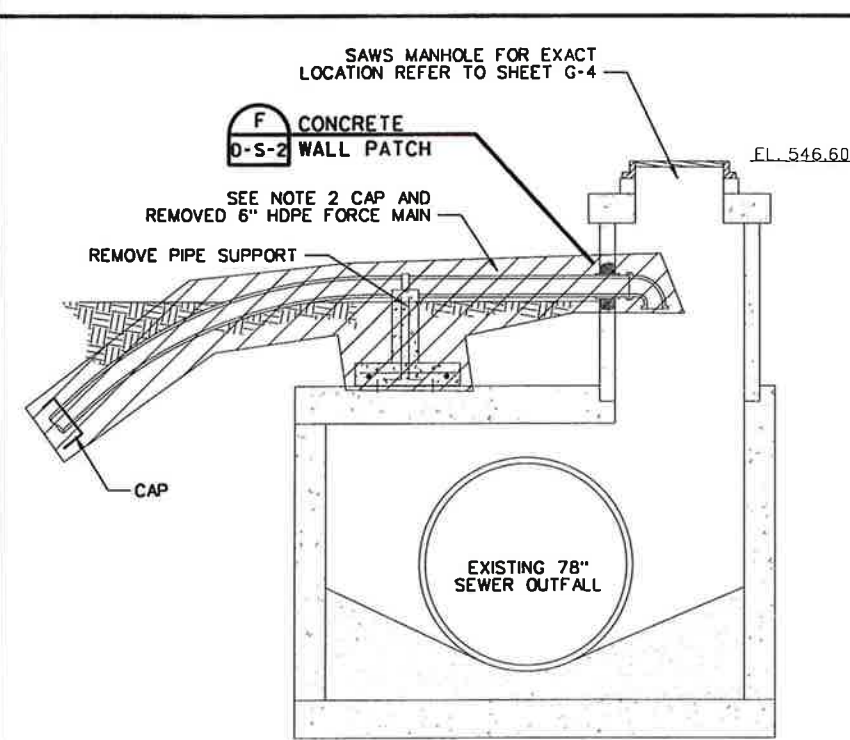


Elevation View

Notes:

1. Field cut 96" Hobas pipe section (not shown) to fit between MH-55b and R96x78-1.
2. Encasement designed by others. Encasement to be designed to resist all T-Base deformations.
3. All linear dimensions are ±1/4".

D TIE-IN DETAIL AT SBSB BY OTHERS
SAWS JOB No. 11-2503
NTS

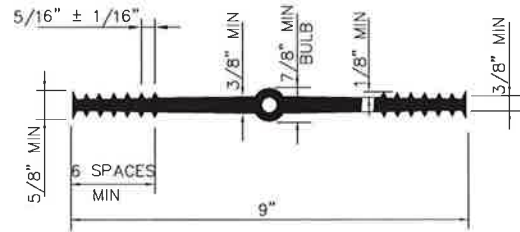


NOTES:

1. REFER TO SHEET CD-1 FOR LIFT STATION DEMOLITION NOTES.
2. CONTRACTOR SHALL REMOVE 6" FORCE MAIN FROM PENETRATION AT MANHOLE TO APPROXIMATE 3-FT BELOW GRADE, CAP AND ABANDONED IN PLACE.

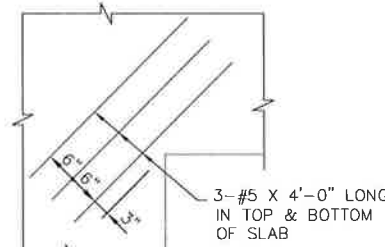
E 6" FORCE MAIN DISCHARGE AT LEON CREEK WRC SITE
NTS

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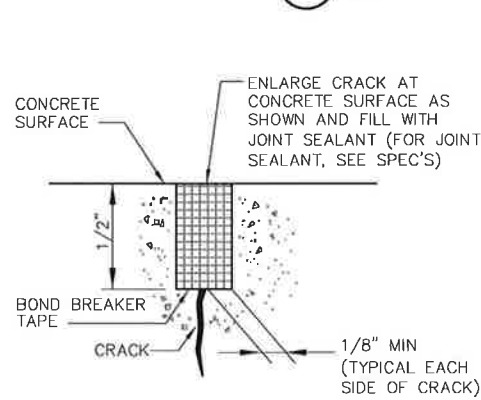
NOTE:
9" WATERSTOP SHALL BE USED FOR ALL LOCATIONS
UNLESS OTHERWISE NOTED IN THE DESIGN DWGS.

A WATERSTOP
NTS



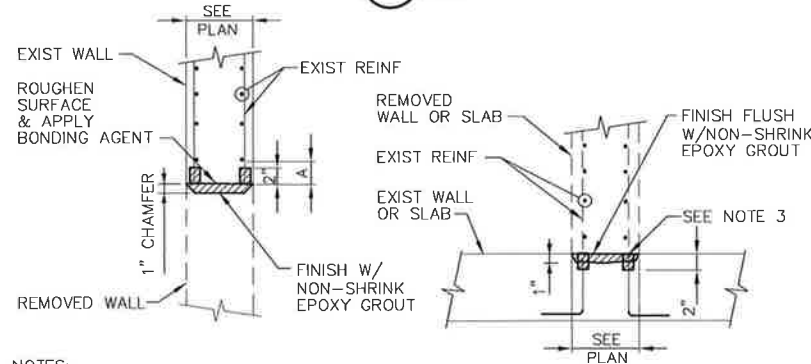
NOTE:
SPECIAL REINFORCEMENT TO BE PLACED
AT ALL INSIDE CORNERS IN SLABS OR
WALKWAYS.

B SLAB DETAIL AT
RE-ENTRANT CORNER
NTS



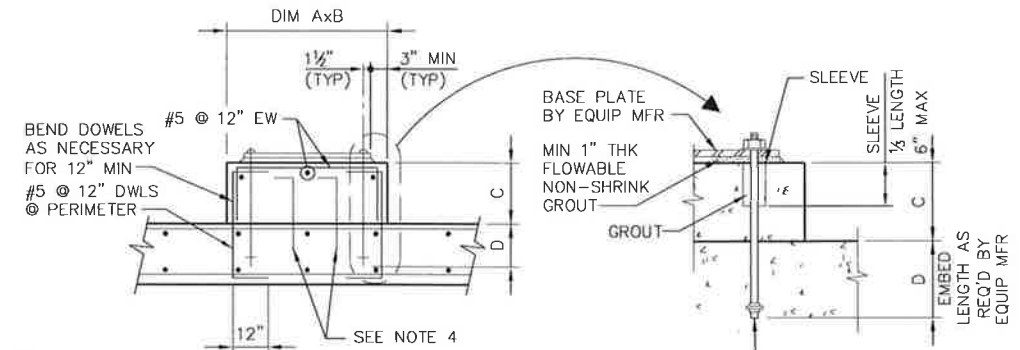
NOTE:
PRIOR TO FILLING, STRUCTURES TO CONTAIN
WATER SHALL HAVE ALL CRACKS REPAIRED
AS SHOWN IN THIS DETAIL.

D CONCRETE CRACK REPAIR
NTS



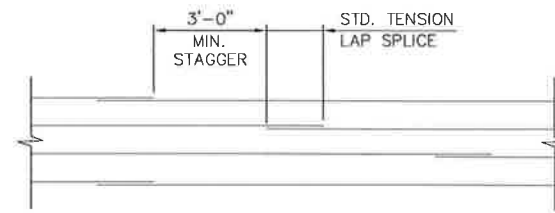
NOTES:
1. GRIND SMOOTH ALL DEMOLISHED CONCRETE SURFACES WHICH WILL REMAIN
& EXPOSED AFTER DEMOLITION.
2. DRILL TO GRIND EXPOSED EXIST REBAR TO A DISTANCE OF THE LESSER OF 2" OR
A DIMENSION.
3. CHIP OUT CONC AND CUT EXPOSED EXIST REINF OF REMOVED WALL OR SLAB 1" FROM
THE FACE OF WALL OR SLAB TO REMAIN, MAIN REINF OF EXIST WALL OR
SLAB TO REMAIN IS NOT ALLOWED TO BE CUT.

E GROUT PATCH
NTS

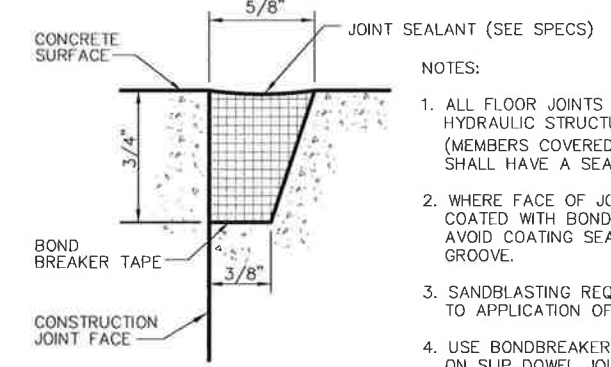


NOTES:
1. FOR ACTUAL DIMENSION A, B & C, REFER TO EQUIPMENT SUPPLIER SHOP DWGS.
2. DIMENSION C NORMALLY 4" MIN OR MATCH EXISTING PAD.
3. IF DIMENSION C IS > 4" PROVIDE #4 @ 12" HORIZ. BARS (TWO ROWS MIN. PAIR OF U BARS OR PERIMETER CLOSED TIES BAR).
4. IF DIMENSION A OR B > 5'-0" USE #4 @ 3'-0" (MAX) O.C. DOWELS (EW) WITH STANDARD HOOK. CONTRACTOR OPTION TO USE
"HILTI" HIT HY 150 INJECTION ADHESIVE.
5. ANCHOR BOLTS TO BE 316 SS.
6. CONTRACTOR TO ROUGHEN EXIST FLOOR SLAB AND APPLY BONDING AGENT PRIOR TO CONCRETE PLACEMENT.
7. DRILL #5 DOWELS @ 12" OC @ PERIMETER W/STD HOOK AT TOP W/5" MIN EMBED USE "HILTI" HVA ADHESIVE ANCHOR.
8. CONTRACTOR SHALL VERIFY THE EXIST FLOOR SLAB THICKNESS IS ADEQUATE TO ACCOMMODATE MIN DOWEL EMBED LENGTH PRIOR
TO DRILLING.

C EQUIPMENT PAD
NTS

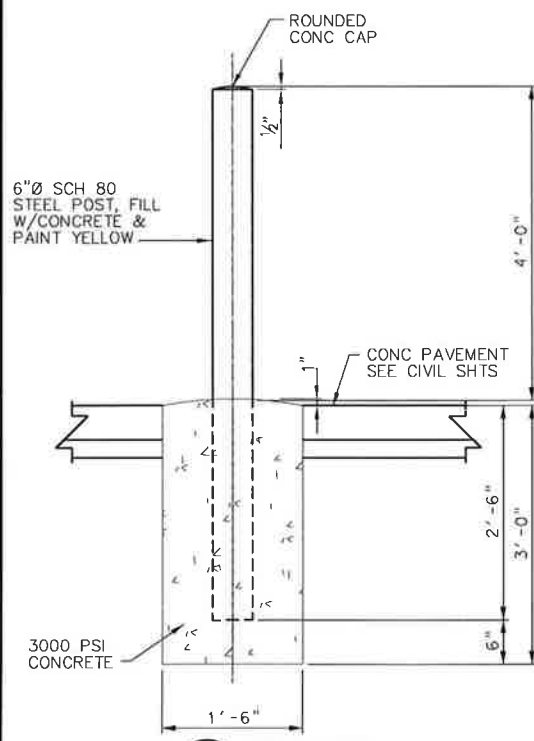


F REINFORCEMENT
STAGGER LAYOUT
NTS

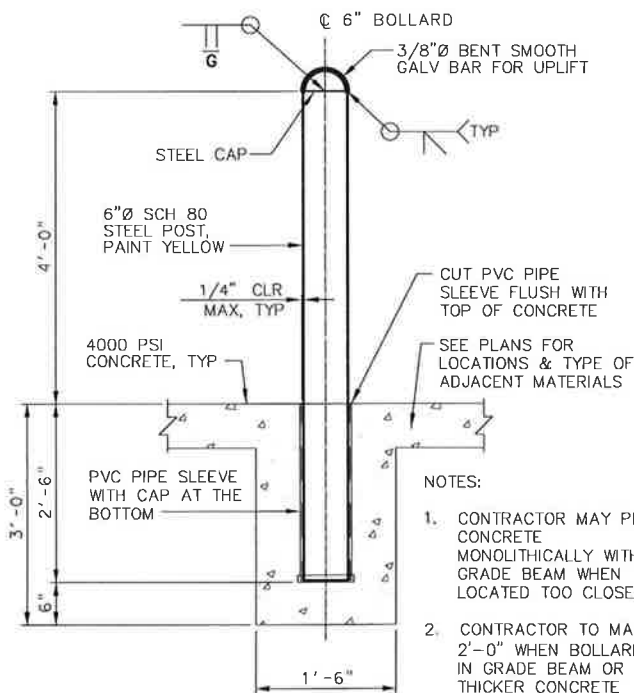


NOTES:
1. ALL FLOOR JOINTS OF
HYDRAULIC STRUCTURES
(MEMBERS COVERED WITH WATER)
SHALL HAVE A SEALANT GROOVE.
2. WHERE FACE OF JOINT IS TO BE
COATED WITH BOND BREAKER
AVOID COATING SEALANT
GROOVE.
3. SANDBLASTING REQUIRED PRIOR
TO APPLICATION OF PRIMER.
4. USE BONDBREAKER TAPE ONLY
ON SLIP DOWEL JOINTS.

G SEALANT GROOVE
NTS

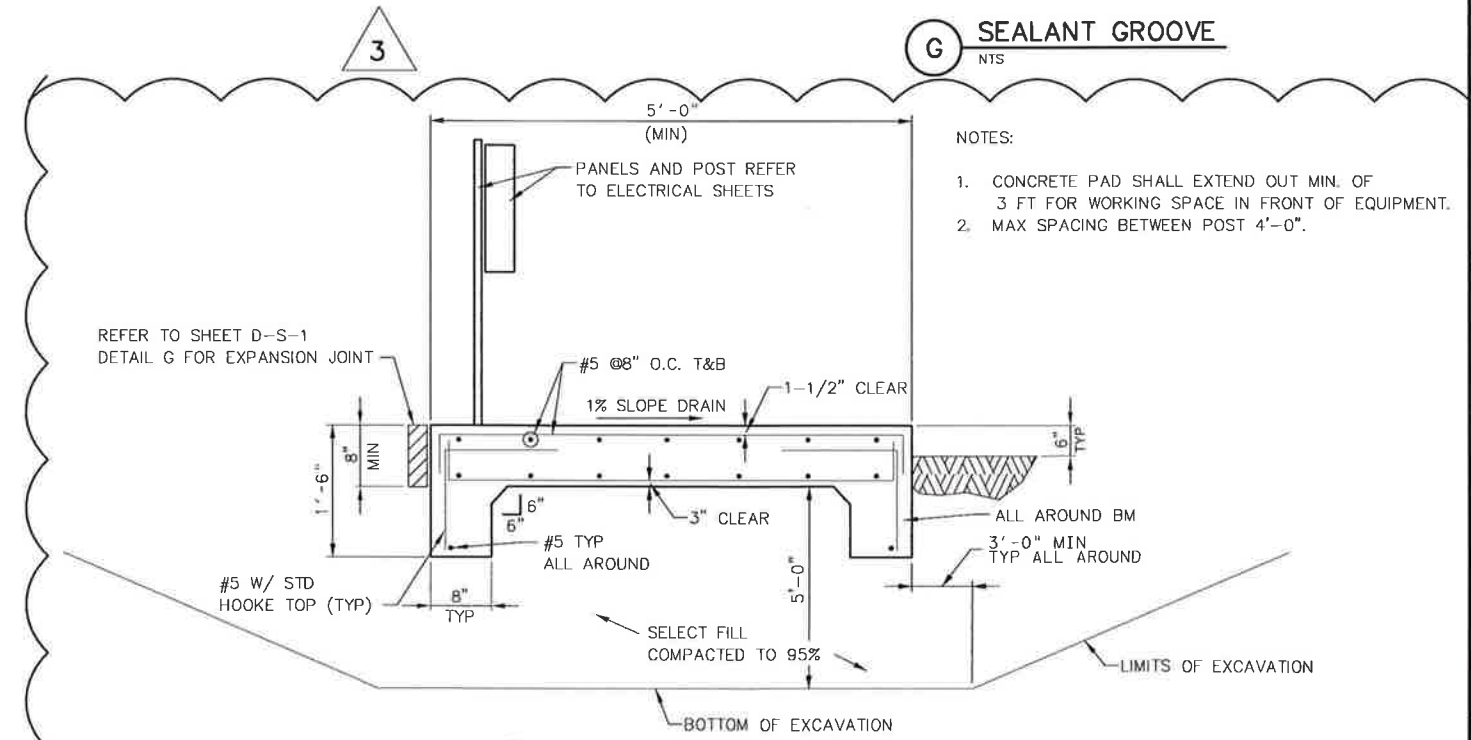


H BOLLARD
NTS



NOTES:
1. CONTRACTOR MAY PLACE
CONCRETE
MONOLITHICALLY WITH
GRADE BEAM WHEN
LOCATED TOO CLOSE.
2. CONTRACTOR TO MAINTAIN
2'-0" WHEN BOLLARD IS
IN GRADE BEAM OR IN A
THICKER CONCRETE
MEMBER.

I REMOVABLE BOLLARD
NTS



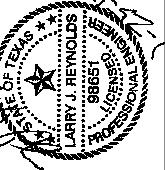
J CONCRETE SLAB DETAIL
NTS

App.	SAWS Job No.
Revisions	10-6501
No.	3
Date	01/25/12
Revised By	ADDENDUM NO. 3

300 E. SONTERRA BLVD. STE. 1250
SAN ANTONIO, TEXAS 78258
TBPE FIRM NO. 1741

CP&P
CDM
IN ASSOCIATION WITH

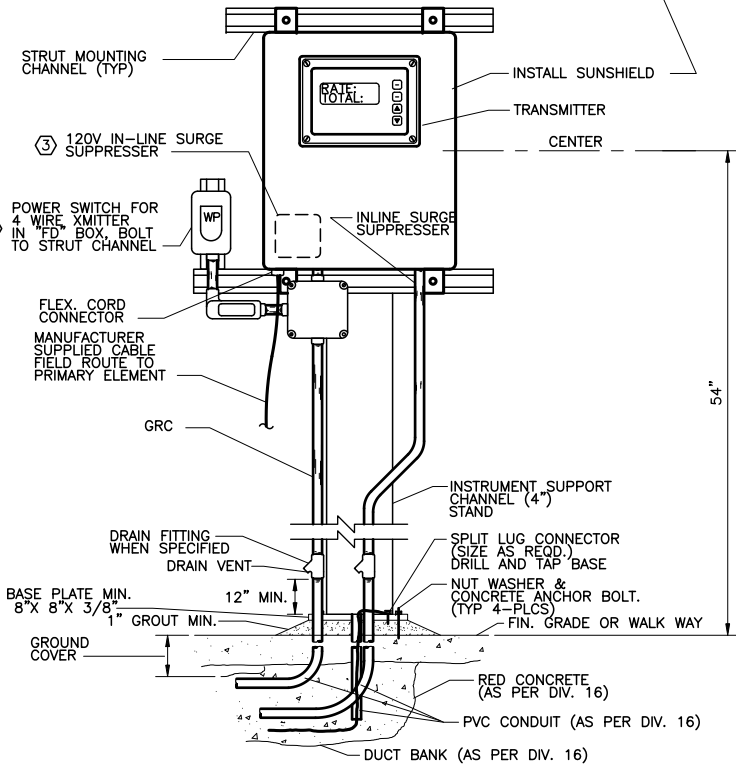
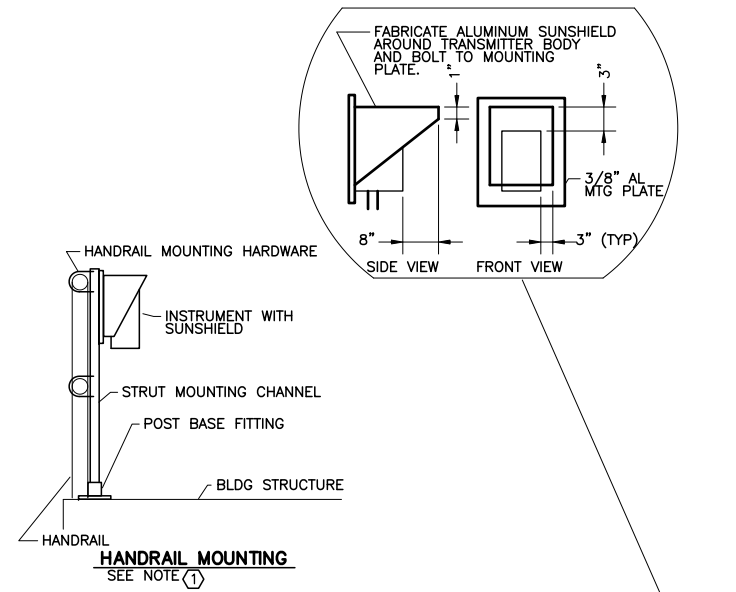
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Design by: HRR
Drawn by: SAK
Checked by: LJR
Scale: NTS



SAWS
SAN ANTONIO WATER SYSTEM

SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSP
INSTRUMENT INSTALLATION
DETAILS I

Sheet D-1-1
110 OF 113

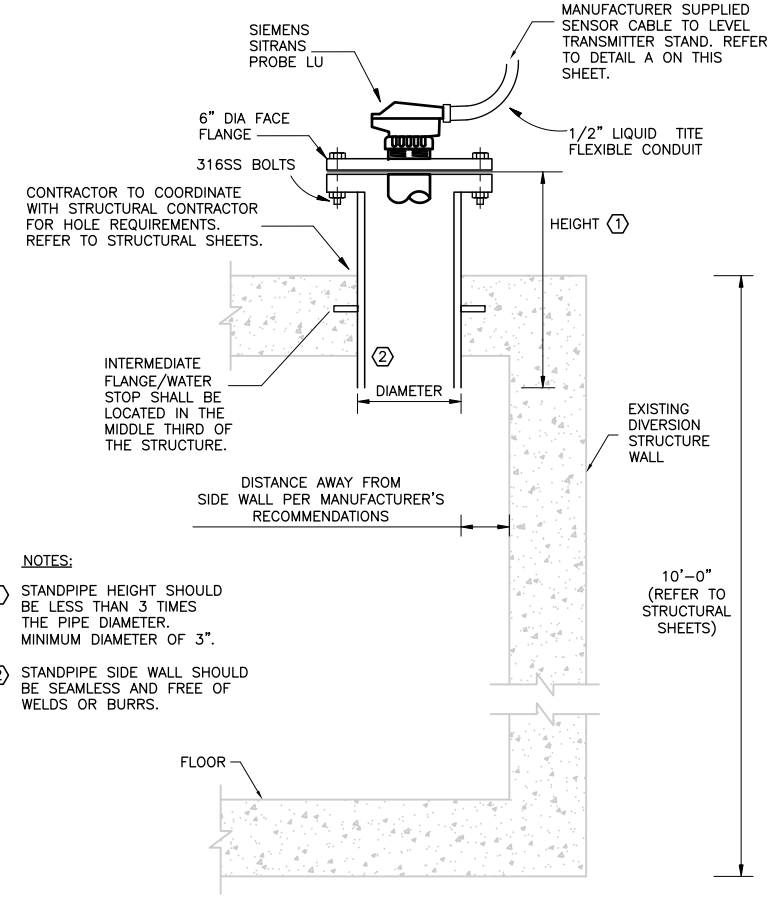


- NOTES:**
- THIS DETAIL IS APPLICABLE FOR HANDRAIL MOUNTING. CONTRACTOR TO MODIFY INSTALLATION AS REQUIRED BY SITE CONDITIONS.
 - SWITCH REQUIRED WHEN UNIT IS REMOTE MOUNTED, OUT OF SIGHT OF CONTROLLING CIRCUIT BREAKER.
 - DIN RAIL MOUNTED SILICON DIODE TYPE SUPPRESSOR FOR REMOTE UNITS MOUNTED OUTSIDE ONLY.

TYPICAL INSTRUMENT STAND INSTALLATION
DETAIL A
NTS

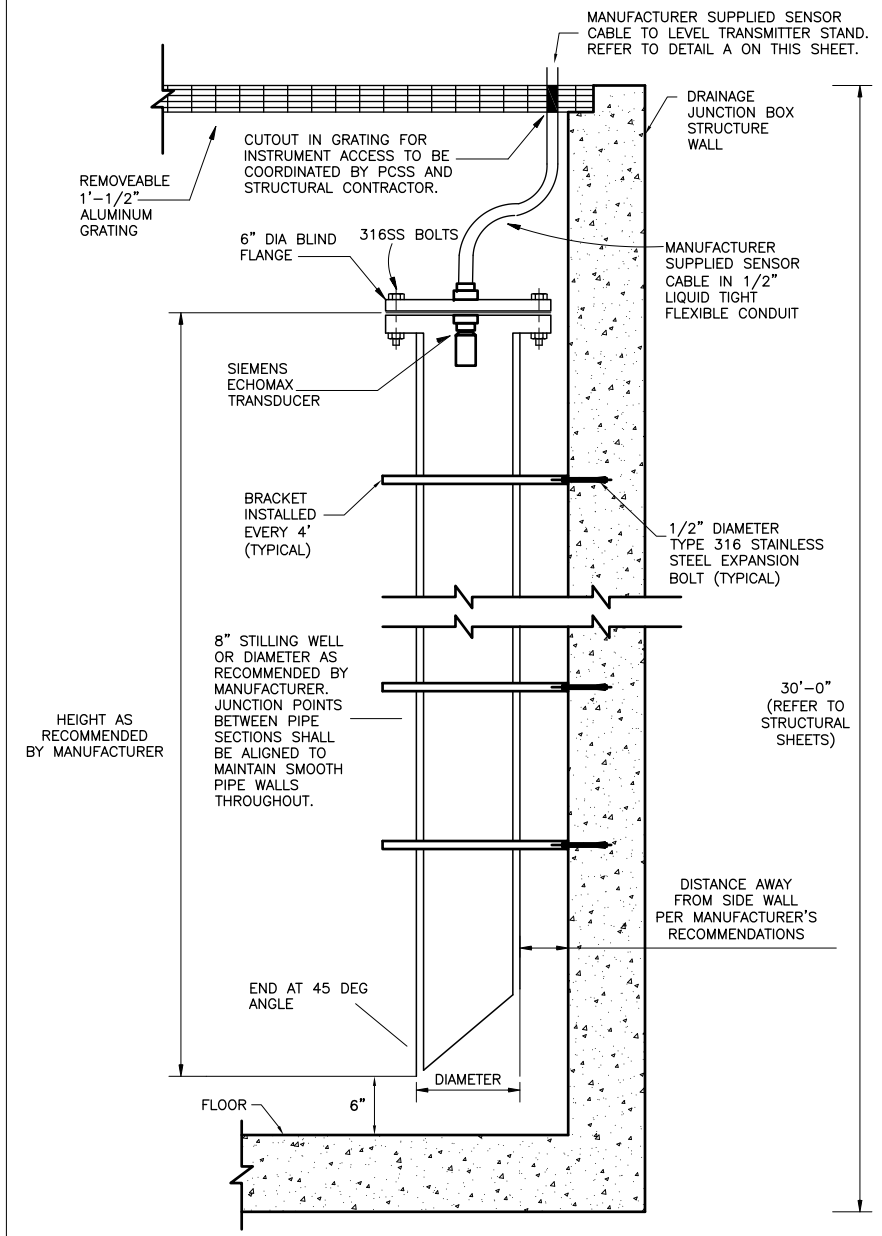


APPROXIMATE INSTALLATION LOCATION FOR DIVERSION STRUCTURE ULTRASONIC LEVEL SENSOR. CONTRACTOR TO FIELD VERIFY. BASED ON FIELD CONDITIONS, CONTRACTOR MAY CHANGE INSTALLATION LOCATION AS REQUIRED.

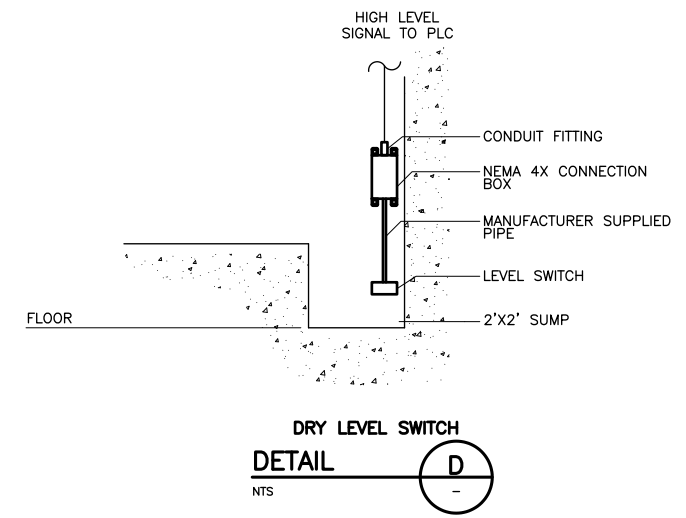


- NOTES:**
- STANDPIPE HEIGHT SHOULD BE LESS THAN 3 TIMES THE PIPE DIAMETER. MINIMUM DIAMETER OF 3".
 - STANDPIPE SIDE WALL SHOULD BE SEAMLESS AND FREE OF WELDS OR BURRS.

DIVERSION STRUCTURE ULTRASONIC LEVEL INSTRUMENT WITH STAND-PIPE (NO STILLING WELL)
DETAIL B
NTS



FEB DRAINAGE JUNCTION STRUCTURE ULTRASONIC LEVEL INSTRUMENT AND STILLING WELL UNDER GRATING INSTALLATION
DETAIL C
NTS



DRY LEVEL SWITCH
DETAIL D
NTS

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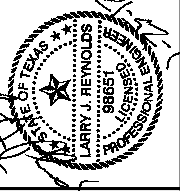
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	No.	Date	Revisions

SAWS Job No.
10-6501

300 E. SONTERRA BLVD. STE. 1250
SAN ANTONIO, TEXAS 78258
TBPE FIRM NO. 1741
IN ASSOCIATION WITH
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SAN ANTONIO, TEXAS 78217
TBPE FIRM NO. : F-3043



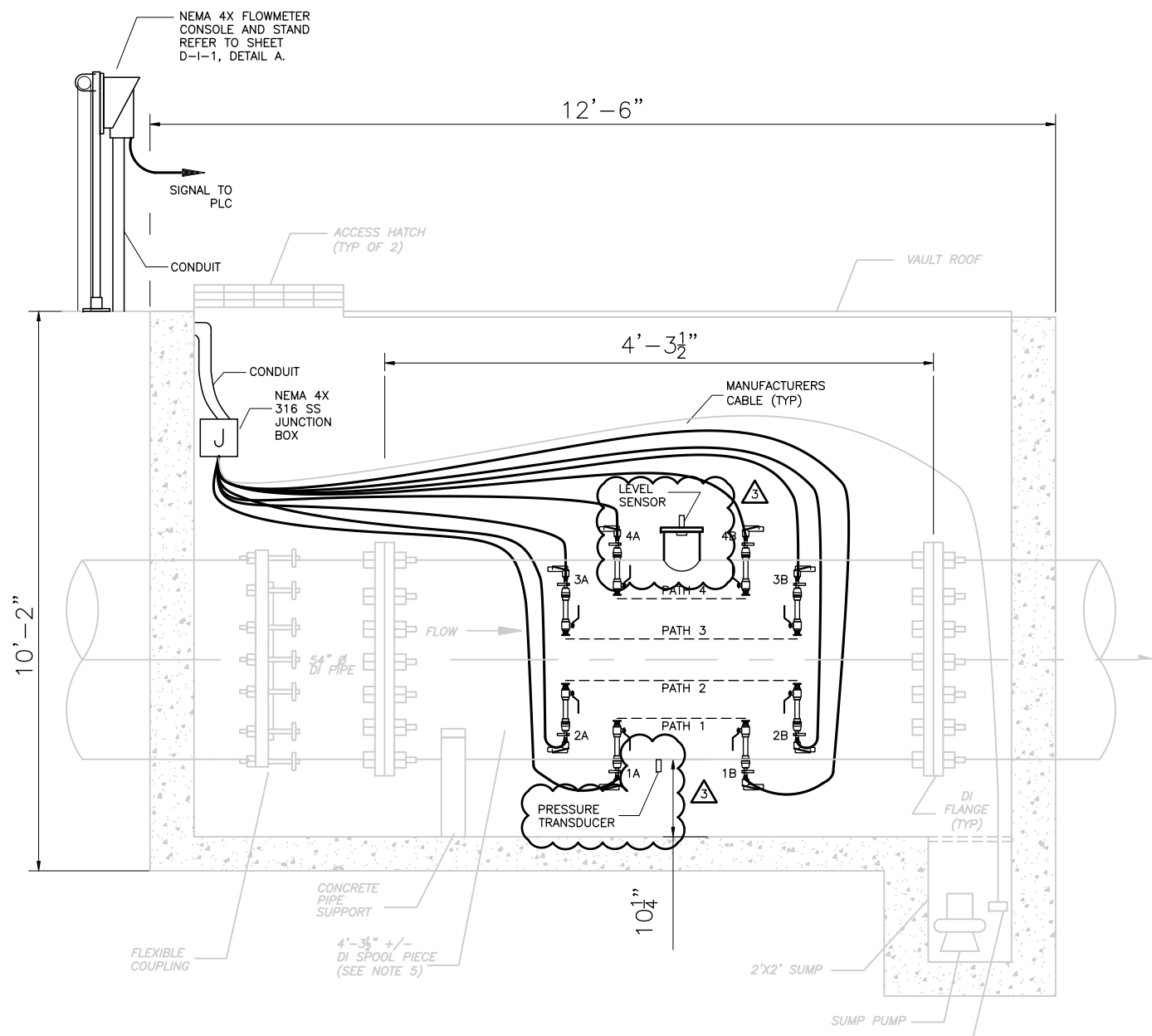
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SAN ANTONIO WATER SYSTEM

SAWS Job No. 10-6501
LEON CREEK WRC
INTERCONNECT TO THE SBSP
INSTRUMENT INSTALLATION
DETAILS IV

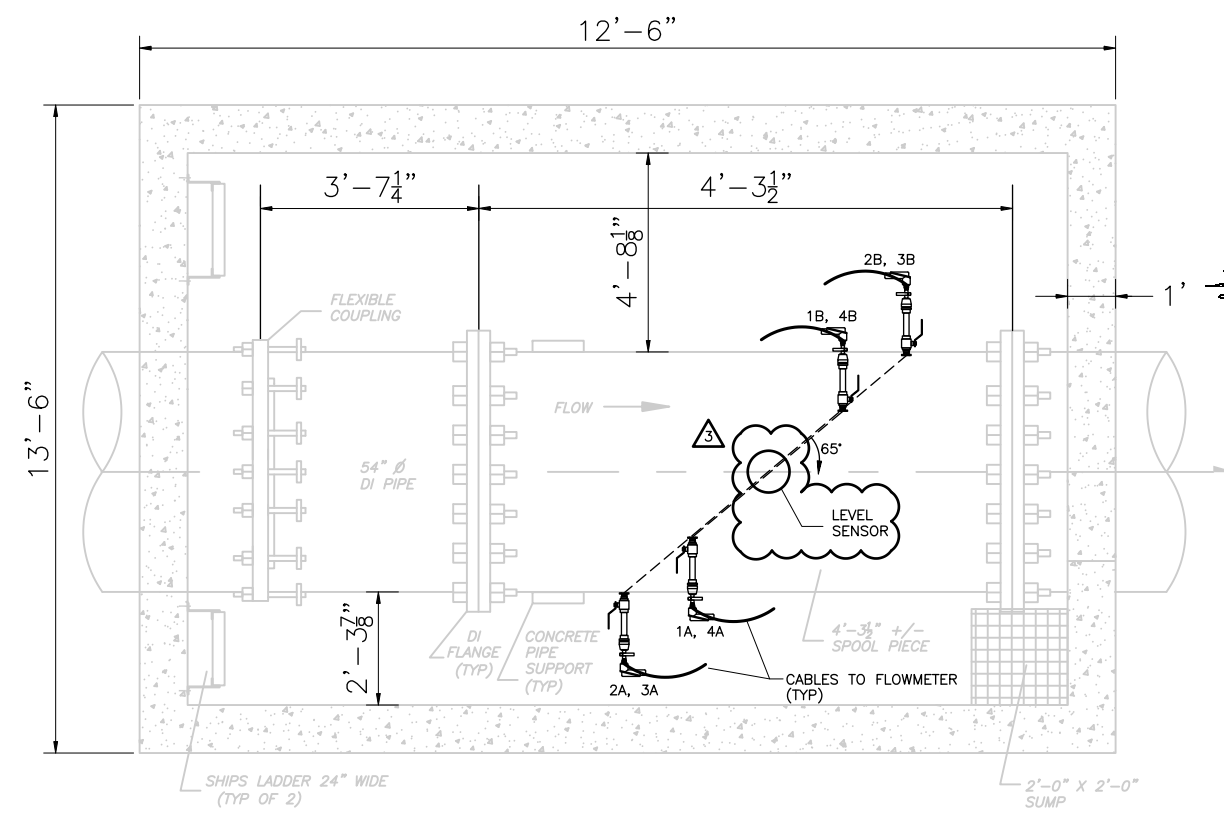
Sheet D-1-4
113 OF 113



NOTES:

1. CONTRACTOR TO INSTALL FLOWMETER PER MANUFACTURER'S REQUIREMENTS.
2. FOLLOW ALL MANUFACTURER'S RECOMMENDED PIPE RADIAL CLEARANCE MEASUREMENTS.
3. PROVIDE INTRINSICALLY SAFE INSTALLATION.
4. REMOVE GE PANAMETRICS MODEL AT868 LIQUID FLOW ULTRASONIC FLOW METER AND TURN OVER TO OWNER. INSTALL NEW ACCUSONIC ULTRASONIC FLOW METER AS SPECIFIED. REUSE EXISTING SPOOL PIECE.
5. EXISTING SPOOL PIECE SHALL BE TAPPED AND HOLE-DRILLED WITH SUPERVISION FROM THE FLOW METER MANUFACTURER. REFER TO SPECIFICATION SECTION 17340 "FIELD INSTRUMENTS" FOR DETAILS.

ELEVATION
ULTRASONIC TRANSIT TIME FLOW METER INSTALLATION
EXISTING FLOW METER BOX NO. 2
(PRIMARY CLARIFIERS NO. 3 AND 4 METER VAULT)



PLAN
ULTRASONIC TRANSIT TIME FLOW METER INSTALLATION
EXISTING FLOW METER BOX NO. 2
(PRIMARY CLARIFIERS NO. 3 AND 4 METER VAULT)



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