

**ADDENDUM NO. 1**

**WALLER COUNTY PRECINCT 4 ANNEX BUILDING WATER PLANT**

The following additional information is to be considered with the Contract Documents, Drawings and Specifications for the above referenced project and incorporated into the Proposal. Bidders shall acknowledge receipt of this addendum in the Proposal in the space provided.

**Section 00100 Invitation to Bidders**

Revise the **Bid Date** to **Tuesday, March 3, 2020, at 2:00PM CST at the WALLER COUNTY AUDITOR OFFICE.**

**Section 00200 Instructions to Bidders**

Revise Item 6 – Substantial Completion of entire water plant within 180 days.  
Revise Item 15 – Contract Security to require Performance and Payment Bonds.

**Section 00300 Proposal Form**

Remove existing Section 00300 Proposal Form and replace with revised attached Proposal Form.

**Section 01010 Summary of Work**

Revise Item 1.01.A.2 – Substantial Completion of entire water plant within 180 days.

**Section 13202 Ground Storage Tank**

Revise Item 2.03 – Vent - See detail on engineering drawings. Vent must be equipped with a 3-micron aerosol filter to prevent the intrusion of particulates into the finished water.

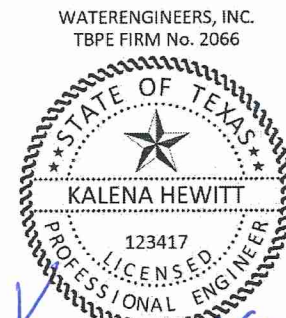
**Construction Drawings – Sheet 05 of 12**

Ground storage tank vent to include 3-inch 3.0 micron filter (Micopure Model BA 1402 or equal).

END OF ADDENDUM NO. 1

APPROVED FOR ISSUE:

 02-21-2020  
WaterEngineers, Inc.                      Date



  
02-21-2020

## INVITATION TO BIDDERS

Sealed bids addressed to Waller County on behalf of Waller County Precinct 4 Annex Building Water Plant will be received at the office of WALLER COUNTY AUDITOR OFFICE, 836 Austin Street, Suite 221, Hempstead, Texas 77445 (Tel: 979-826-7740) until March 3, 2020, at 2:00 PM. The bids will be publicly opened on Wednesday, March 4, 2020 in Commissioner's Court and read for material, equipment, labor and supervision necessary or incidental to the Construction of the Waller County Precinct 4 Annex Building Water Plant. The project consists of constructing an 5-inch SDR 17 PVC dual string cased well capable of producing 48 gpm with a 5 HP submersible pump, the installation of a ground storage tank, hydropneumatic tank, booster pumps, disinfection equipment and operations building air conditioner/heat pump; along with the associated piping, valves, site work and electrical work. A pre-bid conference will be held at the project site located at 32225 US Highway 90 Business in Brookshire, Texas on Tuesday, February 18, 2020 at 2:00 PM (attendance is not mandatory). Plans, specifications and bid documents may be obtained from the Waller County website in electronic format. Performance and Payment Bonds will be required to be furnished at the time the Agreement is executed. The Owner reserves the right to reject any or all bids.

**SECTION 00200**

**INSTRUCTIONS TO BIDDERS**

**1. DEFINITIONS**

- A. Terms used in these Instructions to Bidders which are defined in the Construction Services Agreement have the meanings assigned to them in the Construction Services Agreement. Other terms used in the Bidding Documents and not defined elsewhere have the following meanings, which are applicable to both the singular and plural thereof:
1. Bidder: One who submits a bid directly to the Owner.
  2. Successful Bidder: The most qualified, responsible and responsive bidder to whom the Owner makes an award.
  3. Bidding Documents: The Invitation to Bidders, Instructions to Bidders, Special Conditions (Underground Utilities), Special Conditions to the Agreement, Proposal and the Proposed Contract Documents (including Addenda issued prior to receipt of Bids).

**2. PREPARATION OF BIDS**

- A. Complete sets of bidding documents must be used in preparing bids. Neither the Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of bidding documents. Copies of bidding documents are made available only for the purpose of obtaining bids on the work and do not confer a license or grant for any other use.

**3. EXAMINATION OF CONTRACT DOCUMENTS AND SITE**

- A. It is the responsibility of each Bidder before submitting a Bid to (a) examine the Contract Documents thoroughly, (b) visit the site to become familiar with local conditions that may affect cost, progress, performance, or furnishing of the Work, (c) consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of the Work, (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) notify ENGINEER of all conflicts, errors, or discrepancies in the Contract Documents discovered by the Bidder.
- B. Information and data reflected in the Contract Documents with respect to Underground Facilities at or contiguous to the site is based upon information and data furnished to OWNER and ENGINEER by owners of such Underground Facilities or others, and OWNER does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Construction Services Agreement.

- C. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, underground facilities, and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in Paragraph 28 of the Construction Services Agreement.
- D. Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, and studies, and obtain any additional information and data which pertain to the physical conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the Work, and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents.
- E. On request in advance, OWNER will provide each Bidder access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall clean up and restore the site to its former condition upon completion of such explorations.
- F. Failure to perform such investigations during the Bid period shall not relieve Bidder from responsibility for investigations, interpretations and proper use of available information in preparation of Bidder's proposal.
- G. The lands upon which the Work is to be performed, rights-of-way, and easements for access there to and other lands designated for use by CONTRACTOR in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by CONTRACTOR. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by OWNER unless otherwise provided in the Contract Documents.
- H. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and such means, methods, techniques, sequences, or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

#### **4. INTERPRETATION OF DOCUMENTS AND ADDENDA**

- A. All questions about the meaning or intent of the Contract Documents must be submitted to the Engineer in writing at least five (5) days prior to the opening of bids. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda at least 48 hours prior to Bid Opening.

- B. Any interpretation of the Contract Documents will be made only by Addendum duly issued, and a copy of such addendum will be made available to each prospective bidder recorded by ENGINEER as having received a set of Contract Documents. Each Bidder is responsible for obtaining Addenda. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- C. Addenda may also be issued to modify the Contract Documents as deemed advisable by OWNER and ENGINEER.

**5. BID SECURITY**

- A. Bid Security is not required.

**6. CONTRACT TIME**

- A. The number of days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the Contract Time) within 180 days.

**7. LIQUIDATED DAMAGES**

- A. Provisions for liquidated damages, if any, are set forth in the Agreement.

**8. SUBSTITUTE OR "OR EQUAL" ITEMS**

- A. The Contract, if awarded, will be on the basis of materials and equipment described in the DRAWINGS or specified in the Specifications without consideration of possible substitute or "or equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or equal" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submission of any such application by CONTRACTOR and consideration by ENGINEER is set forth in Section 01300 - Submittals.

**9. OWNER FURNISHED EQUIPMENT AND ELECTRICAL WORK**

Not Applicable

**10. BID FORMS**

- A. All Bids shall be completely filled out on the specified bid forms without modification or provisions unless otherwise required.
- B. The Bids shall be completed in duplicate. The original shall be filed with the OWNER and the Bidder shall keep the duplicate.

- C. The Bids must be clearly and legibly filled out in ink or typed. In case of ambiguity or lack of clearness in stating the prices tendered or the condition of the Bid, the OWNER reserves the right to consider the most favorable construction thereof or to reject the Bid from further consideration.
- D. All Bids must be officially executed. Bids by Corporations must be executed in the corporate name by the president or vice president (or other corporate officer, accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or assistant secretary. The corporate address and state of incorporation must be shown below the signature. Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature, and the official address of the partnership must be shown below the signature. All business entity names must be registered with the Secretary of State of Texas and appropriate office of registration.
- E. The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

#### **11. SUBMISSION OF BIDS**

- A. Bids shall be submitted at the time and place indicated in the Notice to Bidders, and shall be enclosed in an opaque sealed envelope marked with the Project title, name and address of the Bidder. Bids will be securely kept unopened, until the specified time. The bids received after the specified time will not be considered. All incomplete Bids shall be considered non-responsive. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

#### **12. MODIFICATION AND WITHDRAWAL OF BIDS**

- A. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to opening of Bids.
- B. If, within 24 hours after Bids are opened, any Bidder files a duly signed, written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work to be provided under the Contract Documents.

#### **13. OPENING OF BIDS**

- A. Bids will be opened publicly.

**14. AWARD OF CONTRACT**

Contract will be awarded on basis of the best overall bid price **and** contract time.

- A. The Owner reserves the right to reject any and all bids, to waive any and all informalities not involving price, time or changes in the Work, to negotiate contract terms with the Successful Bidder, and to disregard all non-conforming, non-responsive, unbalanced or conditional Bids. Also, OWNER reserves the right to reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by OWNER. Discrepancies in the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
- B. In evaluating Bids, OWNER will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- C. OWNER may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Construction Services Agreement. OWNER also may consider the operating costs, maintenance requirements, performance data, and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.
- D. OWNER may conduct such investigations as OWNER deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to OWNER'S satisfaction within the prescribed time.
- E. If the Contract is to be awarded, OWNER will give the Successful Bidder a Notice of Award within 60 calendar days after the day of the Bid opening.

**15. CONTRACT SECURITY**

- A. Performance and payment Bonds are required.

**16. INSURANCE CERTIFICATES**

- A. The CONTRACTOR shall provide and maintain a minimum coverage as defined in the Contract Documents. The companies providing the coverage shall be acceptable to the OWNER (Paragraph 12 of the Section 00500 Construction Services Agreement).

**17. SIGNING OF AGREEMENT**

- A. When OWNER gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within 15 calendar days thereafter, CONTRACTOR shall sign and deliver the required number of counterparts of the Agreement, and attached documents to OWNER with the required Bonds. Within 10 calendar days thereafter, OWNER shall deliver one fully signed counterpart to CONTRACTOR. Each counterpart is to be accompanied by a complete set of the Drawings with appropriate identification.

**18. PRE-BID CONFERENCE**

- A. A pre-bid conference will be held at the time and place indicated in the Invitation to Bid (Section 00100). Representatives of OWNER and ENGINEER will be present to discuss the Project. **The Pre-Bid meeting is NOT mandatory.** ENGINEER will notify all prospective Bidders of record of any such Addenda as ENGINEER considers necessary in response to questions arising at the conference.



SECTION 00300

PROPOSAL FORM

**WALLER COUNTY PRECINCT 4 ANNEX BUILDING WATER PLANT**

To: Waller County  
Attn: Mr. Danny Rothe, Waller County Construction Manager  
836 Austin Street, Suite 221  
Hempstead, Texas 77445

From: Bidder Company Name: \_\_\_\_\_

Re: **WALLER COUNTY PRECINCT 4 ANNEX BUILDING WATER PLANT**

Having examined Bidding and Contract Documents prepared by WaterEngineers, Inc. and having examined site conditions, the undersigned proposes to furnish all labor, equipment and materials and perform all work for the completion of the above-named project. Owner will pay for the contracted improvements by making conventional progress and final payments during construction as set forth in Section 00500 – Construction Services Agreement. THE FOLLOWING ITEMS ARE TO BE PROVIDED BY OTHERS; GROUND STORAGE TANK FOUNDATION, OPERATIONS BUILDING AND FOUNDATION, ALL WEATHER PAVING, CHAIN LINK FENCE, BOLLARDS, ELECTRICAL SERVICE TO OPERATIONS BUILDING, 60 AMP DISCONNECT AND WATER DISTRIBUTION LINE AFTER 90 DEGREE BEND.

In submitting his Proposal, the undersigned agrees to the following:

- Proposer accepts the right of the Owner to reject any or all proposals, to waive formalities and to accept the proposal which Owner considers most advantageous, including best proposed contract time.
- Proposer will enter into and execute the contract, if awarded, for the Base Bid Proposal.
- Proposer will complete work in accordance with the Contract Documents within the proposed contract time.
- Proposer will mobilize to the project job site and begin work within 30 calendar days after receiving a written notice to proceed.

By signing, the undersigned affirms that, to the best of his knowledge, this Proposal has been arrived at independently and is submitted without collusion with anyone to obtain information or gain any favoritism that would in any way limit competition or give an unfair advantage over respondents in the award of this proposal.

**I. WATER WELL BASE BID PROPOSAL AND ADD/DEDUCT BID AMOUNTS:**

Bidder offers to construct the complete Waller County Precinct 4 Annex Building 5-inch SDR 17 PVC cased dual-string water well, well pump and well pump control panel as required on the Drawings and in the Specifications. Bidder agrees to provide a temporary generator to conduct a 36-hour pump test and collect and submit all well testing samples to a TCEQ accredited laboratory, including chemical and radionuclide testing, and bacterial testing within 60 days as required on the Drawings and in the Specifications for the total Base Bid amount of \_\_\_\_\_  
\_\_\_\_\_ (words) \$ \_\_\_\_\_ (figures).

- 1. 1 LF **Add/Deduct 4.5-Inch Test Hole deeper than 300 Feet**  
at \_\_\_\_\_ Dollars  
and \_\_\_\_\_ Cents \$ \_\_\_\_\_
  
- 2. 1 LF **Add/Deduct 5-Inch SDR 17 PVC Casing & Cementing that varies from the length required in Specification 13200**  
at \_\_\_\_\_ Dollars  
and \_\_\_\_\_ Cents \$ \_\_\_\_\_
  
- 3. 1 LF **Add/Deduct 3-Inch Stainless Steel Pipe Base Screen that varies from the length required in Specification 13200**  
at \_\_\_\_\_ Dollars  
and \_\_\_\_\_ Cents \$ \_\_\_\_\_
  
- 4. 1 LF **Add/Deduct 3-Inch Schedule 80 PVC Pipe Blank Liner that varies from the length required in Specification 13200**  
at \_\_\_\_\_ Dollars  
and \_\_\_\_\_ Cents \$ \_\_\_\_\_
  
- 5. 1 LF **Add/Deduct 2-Inch Sch. 40 Galv. Steel Column Pipe, Electrical Wire & Polyethylene Static Tubing that varies from the length required in Specification 13200**  
at \_\_\_\_\_ Dollars  
and \_\_\_\_\_ Cents \$ \_\_\_\_\_
  
- 6. 1 LS **Add/Deduct Electrical Resistivity / Gamma Logging**  
at \_\_\_\_\_ Dollars  
and \_\_\_\_\_ Cents \$ \_\_\_\_\_

**II. WATER PLANT BASE BID PROPOSAL:**

Bidder offers to complete the remaining work required for Waller County Precinct 4 Annex Building Water Plant (other than work included in the Water Well Bid/Base Bid Proposal) to be Substantially Complete and fully operational as required on the Drawings and in the Specifications for the total bid amount of \_\_\_\_\_ (words)  
\$ \_\_\_\_\_ (figures).

**III. AMOUNTS BID TO INCLUDE**

The amounts bid include all costs, commissions, overhead, permits and payments required and necessary for the complete work as specified. I/we acknowledge that we have read and understood the Drawings and Technical Specifications and that the bid prices include all the work described therein. I/we acknowledge that if all bid items are not fairly bid, the Owner may reject my/our bid.

**IV. CONTRACT TIME**

Undersigned agrees to begin that the contract time begins on the day after the Notice to Proceed is issued. CONTRACTOR proposes to have the water plant Substantially Complete and operational within 180 calendar days, excepting days added for delays that are not the fault of the CONTRACTOR as set out in the Construction Services Agreement.

**V. ADDENDA**

Undersigned acknowledges receipt of Addenda Nos. \_\_\_\_\_

**VI. CHANGES IN THE WORK**

Undersigned understands that changes in the work shall be performed in accordance with the Construction Services Agreement.

**VII. LIQUIDATED DAMAGES**

It is understood that the CONTRACTOR shall substantially complete the work comprehended in this agreement, within the contract time proposed in Section III and agrees to accept a penalty of **\$500.00** a day for completion beyond that time.

**VIII. GENERAL**

The amounts proposed include all costs, commissions, overhead, permits and payments required and necessary for the complete work as specified. I/we acknowledge that we have read and understood the Contract Documents, Drawings and Technical Specifications and that the Proposal prices include all the work described therein. I/we acknowledge that if all proposal items are not fairly priced, the Owner may reject my/our Proposal.

If I/we are notified of the acceptance of this Proposal, I/we will:

- Furnish Certificates of Insurance verifying all insurance carried by the Contractor which shall apply to the project.
- Furnish a construction schedule satisfactory to the Owner within ten (10) days after the date of written notice to proceed is issued.

It is understood that the Owner reserves the right to reject any and all proposals. The undersigned certifies that the prices contained in this proposal have been carefully checked and are submitted as correct and final and furthermore that these prices will remain valid for a period of sixty (60) days after the scheduled proposal opening date.

By submitting a proposal, bidder agrees to waive any claim it has or may have against the Owner, the Engineer, and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any proposal; waiver of any requirements under the Proposal Documents; or the Contract Documents; acceptance or rejection of any proposals; and award of the Contract.

BIDDER'S SIGNATURE

(Seal, if a Corporation)  
State whether Corporation,  
Partnership or Individual

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name of Contracting Firm

\_\_\_\_\_  
Address

\_\_\_\_\_  
Telephone

\_\_\_\_\_  
Date

END OF SECTION

## SECTION 01010

## SUMMARY OF WORK

## PART I GENERAL

## 1.01 DESCRIPTION OF WORK

- A. The work included in this contract for “Waller County Precinct 4 Annex Building Water Plant” includes the following work complete in place as shown on the engineering drawings (12 sheets) prepared by WaterEngineers, Inc. dated 01-23-2020.
1. One dual-string 5-inch SDR 17 PVC cased well with an estimated total depth of 290 feet with an estimated 20 feet of screen with 5 HP submersible pump;
  2. Substantial Completion of entire water plant within 180 days;
  3. Owner to furnish temporary generator for collection of required samples if permanent electrical power is unavailable;
  4. Contractor will furnish and erect a 4,512-gallon Fiberglass Ground Storage Tank (CONCRETE SLAB FOUNDATION CONSTRUCTED BY OTHERS) (See Attachment B-1);
  5. Contractor shall furnish and install one 2,535-gallon Hydropneumatic tank and associated slab (See Attachment B-2);
  6. Two booster pumps with associated intake and discharge headers;
  7. Disinfection chemical storage tank and pumping equipment;
  8. Installation of yard piping and valves;
  9. Electrical and control work to operate the well and booster pumps;
  10. Sitework;
  11. Pressure testing of all piping;
  12. Disinfection and bacterial testing of all new tanks, piping and equipment prior to placing in service; and
  13. All other ancillary tasks or items which are required to complete the project and provide a fully operational and functional system shall be included in the bid.

## 1.02 CONTRACTS AND USE OF SITE

- A. Confine operations at site to areas permitted by:
1. Law
  2. Ordinances
  3. Permits
  4. Contract Documents

- B. Do not unreasonably encumber site with materials or equipment.
- C. Assume full responsibility for protection and safekeeping of products stored on premises.
- D. Obtain written permission for use of additional storage or work areas as needed for operations.
- E. Confine construction activities and the location of employees to areas not in use unless specifically authorized by Owner.

**PART 2      P R O D U C T S**

**2.01    M A T E R I A L S**

- A. Refer to Specification Sections.

**PART 3      E X E C U T I O N**

- A. Schedule
  - 1. The Contractor shall, prior to notice to proceed, prepare and submit a construction schedule to the Owner for approval. The scope of work shall be scheduled by the Contractor and coordinated with the Owner/Operator to maintain operation of the facilities.
  - 2. The Work shall commence within 10 days of issuance of the Owner's Authorization to Proceed and be Substantially Complete within the calendar days stated in the Proposal.

END OF SECTION

SECTION 13203

FIBERGLASS GROUND STORAGE TANKS

PART I GENERAL

1.01 SECTION INCLUDES

- A. Fiberglass ground storage tank, complete with accessories as specified and shown on the Drawings, to be furnished and erected on Owner’s site. Tank shall be used for the storage of chlorinated ground water.

1.02 REFERENCES

- A. AWWA D120 – Fiberglass Reinforced Plastic.
- B. ASTM D3299 – Standard Specification for Filament-Wound Glass-Fiber-Reinforced Thermoset Resin Corrosion-Resistant Tanks
- C. NSF 61 - Standard for tank disinfection
- D. TCEQ RG-195 - Rules and Regulations for Public Water Systems

1.03 QUALITY ASSURANCE

- A. Manufacturer’s Qualifications: Tank manufacturer shall be a specialist in the design and fabrication of fiberglass ground storage tanks. The manufacturer shall be quality certified, having an active API-Q1 certification.

1.04 DESIGN CRITERIA

|                  |   |
|------------------|---|
| Product          | Chlorinated Ground Water                      |
| pH               | 6 to 9  |
| Temperature      | Ambient (33 to 100 degrees Fahrenheit)        |
| Nominal Capacity | 4,512 gallons                                 |
| Diameter         | 8 ft. 0 inches                                |
| Height           | 12 ft. 0 inches                               |
| Roof Deck Slope  | 1-inch vertical drop per 12 inches horizontal |
| Deck Live Load   | 15 PSF  |
| Wind Speed       | 100 miles per hour (when completely erected)  |

1.05 OPERATION AND MAINTENANCE DATA

Submit operation and maintenance data as requested.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Tank Structure: The materials, design fabrication and erection of the fiberglass tank shall conform to the AWWA D120.
  - a. Fiberglass
    - i. Minimum Wall Thickness – 0.375 inches
  - b. Bolts
    - i. Equal to 304 Stainless Steel
- B. Coating: ANSI/NSF Standard 61 approved white epoxy liner, field coating except for touch-up will not be permitted.

**2.02 ACCEPTABLE MANUFACTURERS**

- A. The steel tank and accessories furnished under this section shall be manufactured by one of the following:
  - 1. L.F. Manufacturing, Inc., Giddings, Texas
  - 2. Nationwide Tank and Pipe, LLC, New Braunfels, Texas

**2.03 ACCESSORIES**

- A. The Contractor shall furnish and install the appurtenances as shown on the Drawings, specified herein and/or as required by the TCEQ Chapter 290 Rules and Regulations for Public Water Systems, revised January 2019.
  - 1. Inlet Connections: Provide one 2-inch threaded flange in the location shown on the Drawings.
  - 2. Outlet Connection: Provide one 4-inch threaded flange outlet with interior in the location shown on the Drawings.
  - 3. Overflow: Provide one 3-inch overflow connection in the location shown on the Drawings
  - 4. Drain: Provide one 2-inch drain connection in the location shown on the Drawings.
  - 5. Vent: See detail on engineering drawings. Vent must be equipped with a 3-micron aerosol filter to prevent the intrusion of particulates into the finished water.



6. Tank bottom: the tank shall have a fiberglass bottom.
7. Recirculation, Pressure Sensing, Level Gauge and Sample Tap: Provide two 1-inch threaded half couplings in the locations shown on the Drawings.
8. Outside Tank Ladder: An outside OSHA compliant ladder with lockable security cover shall be furnished at the location designated on the Drawings.
9. Cleanout Manway: Provide one 30-inch ISO cleanout manway in the location shown in the Drawings
10. Access Manway: Provide one 30-inch ISO access manway at top in the location shown in the Drawings with raised curbing at least 4 inches in height, blinds, hinges, and hasp for locking on cover that overlaps curbing at least 2-inches in a downward direction.

### **PART 3 EXECUTION**

#### **3.01 FACTORY COATING**

- A. Interior Coating- ANSI/NSF standard 61 approved white epoxy.

#### **3.02 TESTING**

- A. Following completion of erection and cleaning of the tank, the tank shall be tested for liquid-tightness by filling the tank to its overflow elevation.
- B. Any leaks disclosed by this tank test shall be corrected by the Contractor in accordance with the tank manufacturer's recommendations.
- C. Clean water required for testing shall be furnished by Owner without charge at the time of erection completion. Filling the tank is the responsibility of the Contractor.

#### **3.03 DISINFECTION**

- A. Disinfection must be performed in accordance with AWWA requirements and water samples must be submitted to a laboratory approved by the Texas Department of Health. The sample results must indicate that the facility is free of microbiological contamination before it is placed into service.
- B. Fill the tank with a 50 mg/l chlorine solution made using potable water. Allow the solution to remain in the tank for 24 hours, then flush and refill with potable water and monitor. When the residual in the tank is reduced to 1-2 mg/l total residual chlorine, the sampling and testing of samples for bacteriological contamination may begin.

3.04 WARRANTY

- A. The tank manufacturer shall warrant the tank against any defects in workmanship and materials for a period of one (1) year from the date of acceptance.

END OF SECTION

| REVISION          | DATE     |
|-------------------|----------|
| GST VENT REVISION | 02/20/20 |
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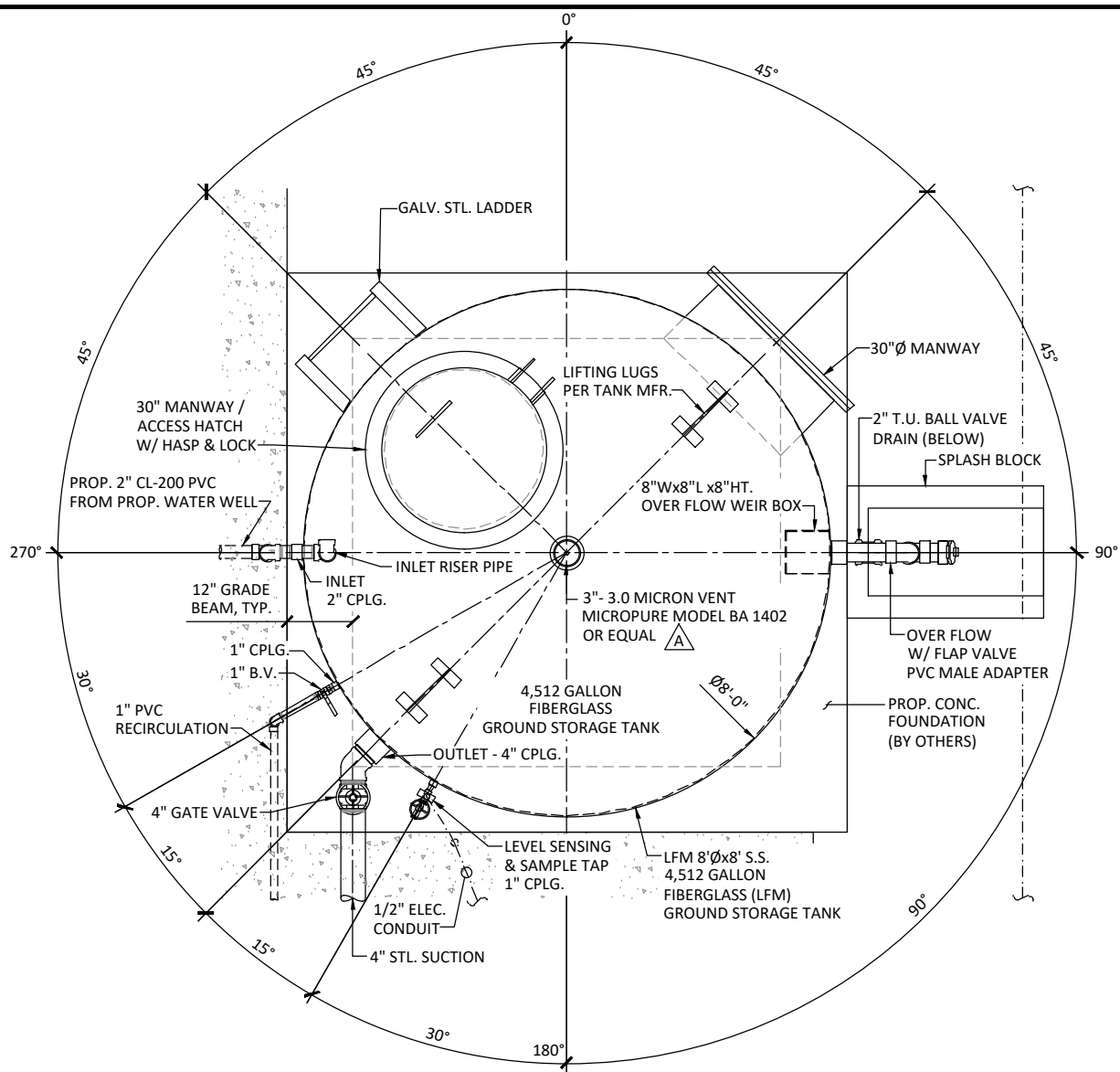
**WATER ENGINEERS, INC.**  
*Water & Wastewater Treatment Consultants*  
 TEXAS BOARD OF PROFESSIONAL ENGINEERS FIRM No. 2066  
 17230 HUFFMEISTER ROAD  
 CYPRESS, TEXAS 77429  
 TEL: 281-373-0500  
 FAX: 281-373-1113

THIS DRAWING CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION AND MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION FROM WATER ENGINEERS, INC.

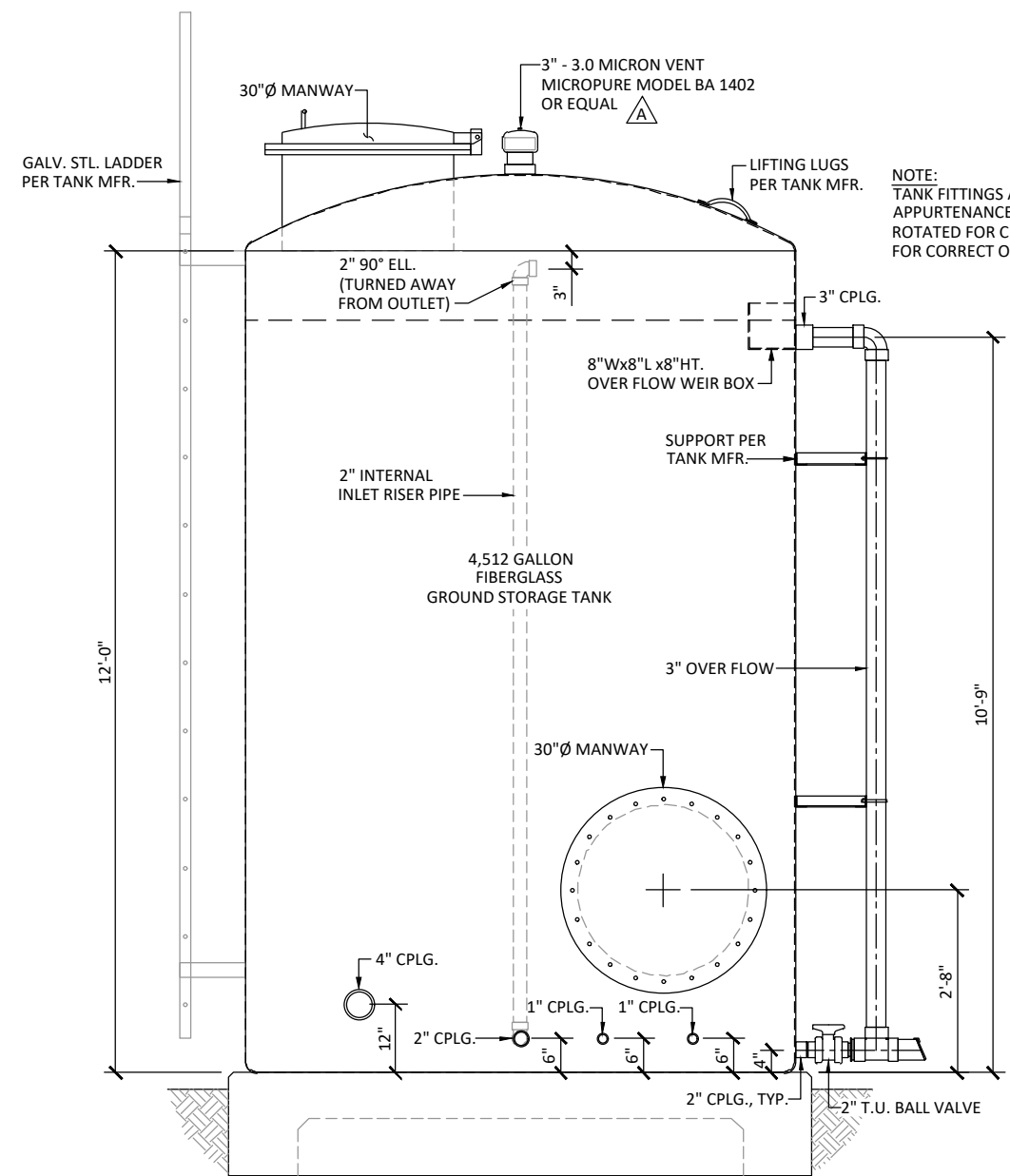
**WALLER COUNTY PRECINCT 4 ANNEX BUILDING  
 WATER SYSTEM**  
 32225 U.S. HWY 90 BUS  
 BROOKSHIRE, TEXAS 77423

SHEET NAME:  
**GROUND STORAGE TANK  
 PLAN & DETAILS**

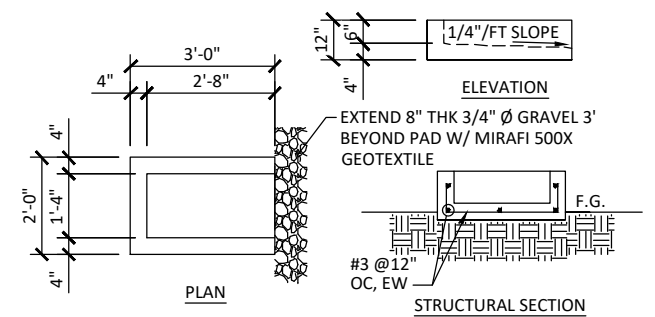
DRAWN BY: JLW  
 CHECKED BY: DRY  
 PJT No.: 5996-19234  
 DATE: 1/23/2020  
 SHEET No.:



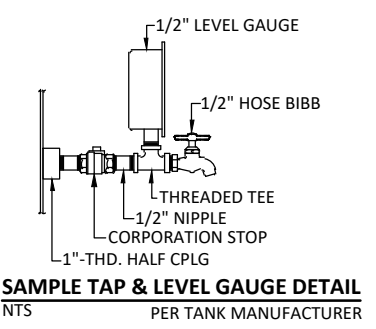
**PLAN**  
 SCALE: 3/4" = 1'-0" (24"x36")  
 3/8" = 1'-0" (11"x17" 8.5"x11")



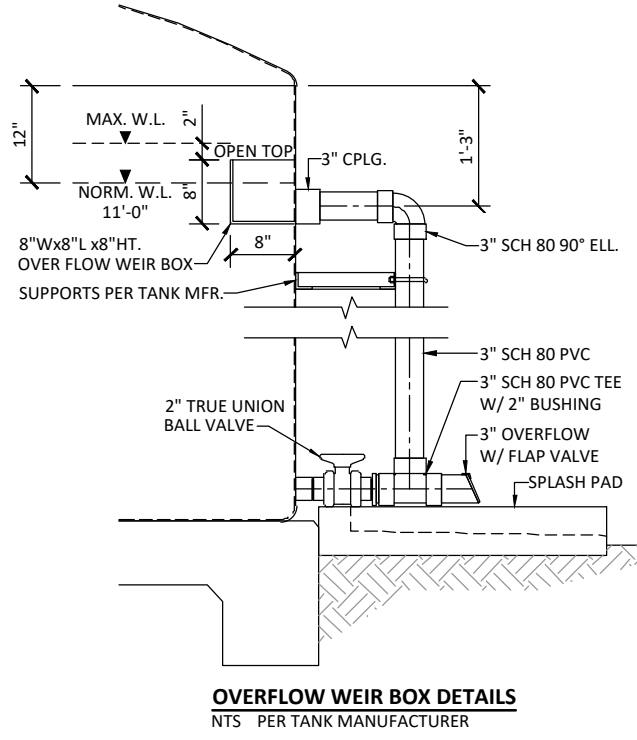
**ELEVATION**  
 SCALE: 1/2" = 1'-0" (24"x36")  
 1/4" = 1'-0" (11"x17" 8.5" X 11")



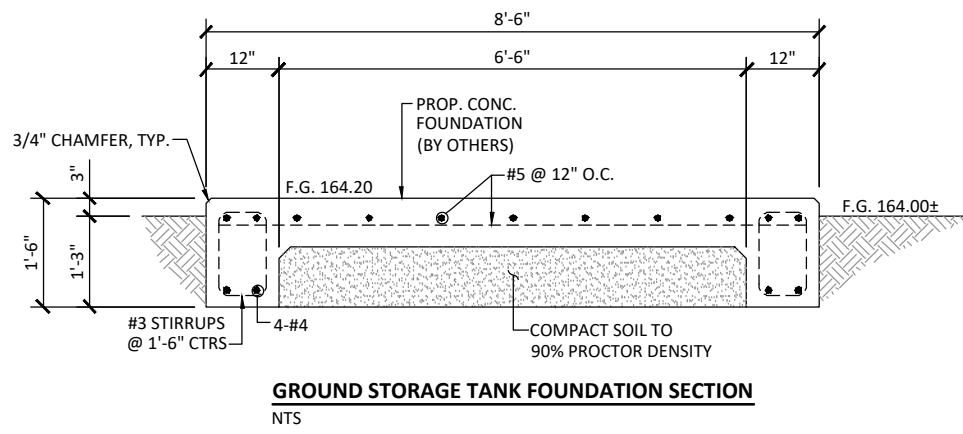
**SPLASH PAD DETAIL**  
 NTS



**SAMPLE TAP & LEVEL GAUGE DETAIL**  
 NTS PER TANK MANUFACTURER



**OVERFLOW WEIR BOX DETAILS**  
 NTS PER TANK MANUFACTURER



**GROUND STORAGE TANK FOUNDATION SECTION**  
 NTS



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