Bid Proposal, General Conditions, Plans & Technical Specifications for:

ITB 2020-001 La Presa Water Dispenser Station

WEBB COUNTY, TEXAS

Webb County Judge
Honorable, Tano E. Tijerina

Commissioner, Pct 1
Jesse Gonzalez

Commissioner, Pct. 2
Rosaura "Wawi" Tijerina

Commissioner, Pct 3
John Galo

Commissioner, Pct. 4
Cindy Liendo

STATE OF TEXAS
WAYNE NANCE
87006
LICENSED
PROFESSIONAL ENGINEER
1-13-20

Prepared by:

PORRAS NANCE ENGINEERING
TEXAS REG. F-6205
304 E. CALTON
LAREDO, TEXAS 78041
OFFICE (956) 724-3097
www.porrasnance.com

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Project: "La Presa Water Dispenser Station"

CONSTRUCTION PLANS

BID SCHEDULE

Activity	Time	Date	Responsible Party
Public Notice/Newspaper	N/A	Jan 25th , Feb 1st	Webb County
Posted RFP on Website	N/A	Jan 23rd - until awarded	Webb County
Pre-proposal Site Visit	N/A	N/A	Webb Co./Proposer
Deadline for Questions	No later than 5pm	Jan 29th	Proposer
Posting of Answers	No later than 5pm	Jan 30th	Webb County
Sealed RFP Public Opening	10am	Feb 6th	Webb County
Evaluation of Proposals	TBD	TBD	Scoring Committee
Award by Governing Body	TBD	TBD	Commissioners Court
Project Start Date	TBD	TBD	Webb County/Proposer

Footnote: *County reserves the right to adjust time and dates on above projected schedule if it is in the best interest for Webb County.*

BID PROPOSAL

To: Webb County, Texas

Honorable Tano E. Tijerina, County Judge

From: _____
Contractor

Address: _____
Phone: _____
Fax: _____

PROJECT: "ITB 2020-001 La Presa Water Dispenser Station"

Pursuant to Notice to Bidders, the undersigned bidder hereby proposes to furnish the labor, materials, and equipment in accordance with the plans and specifications, general conditions of the agreement, special provisions of the Agreement, and Addenda, if any. The bidder binds himself upon acceptance of his proposal to execute a contract and bonds accompanying form of performing and completing the said work within the time stated as required by the detailed specifications at the following unit prices. The quantities shown below are based on the Engineer's estimate of quantities and it is agreed that the quantities may be increased or diminished, and may be considered necessary in the opinion of Webb County, Texas to complete the work fully as planned and contemplated, and that all quantities of work, either increased or decreased, are to be performed at the unit prices set forth below (except as provided in the General Conditions of the Agreement or the specifications, the contract documents).

Acknowledgment of Addenda: (Please initial and date):

Addendum No. 1: _____
Addendum No. 2: _____
Addendum No. 3: _____
Addendum No. 4: _____
Addendum No. 5: _____

WEBB COUNTY PURCHASING DEPT.
QUALIFIED PARTICIPATING VENDOR CODE OF ETHICS
AFFIDAVIT FORM

STATE OF TEXAS *

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF WEBB *

BEFORE ME the undersigned Notary Public, appeared _____, the herein-named "Affiant", who is a resident of _____ County, State of _____, and upon his/her respective oath, either individually and/or behalf of their respective company/entity, do hereby state that I have personal knowledge of the following facts, statements, matters, and/or other matters set forth herein are true and correct to the best of my knowledge.

I personally, and/or in my respective authority/capacity on behalf of my company/entity do hereby confirm that I have reviewed and agree to fully comply with all the terms, duties, ethical policy obligations and/or conditions as required to be a qualified participating vendor with Webb County, Texas as set forth in the Webb County Purchasing Code of Ethics Policy posted at the following address: http://www.webbcountytx.gov/PurchasingAgent/PurchasingEthicsPolicy.pdf

I personally, and/or in my respective authority/capacity on behalf of my company/entity do hereby further acknowledge, agree and understand that as a participating vendor with Webb County, Texas on any active solicitation/proposal/qualification that I and/or my company/entity failure to comply with the Code of Ethics policy may result in my and/or my company/entity disqualification, debarment or make void my contract awarded to me, my company/entity by Webb County. I agree to communicate with the Purchasing Agent or his designees should I have questions or concerns regarding this policy to ensure full compliance by contacting the Webb County Purchasing Dept. via telephone at (956) 523-4125 or e-mail to the Webb County Purchasing Agent to joel@webbcountytx.gov .

Executed and dated this _____ day of _____, 20 20 .

_____
Signature of Affiant

_____
Printed Name of Affiant/Company/Entity

SWORN to and subscribed before me, this _____ day _____, 20_____

_____
NOTARY PUBLIC, STATE OF TEXAS

WEBB COUNTY - LA PRESA WATER DISPENSER STATION - BID SCHEDULE

ITEM NO.	ITEM DESCRIPTION (1)	UNIT	EST. QTY.	UNIT PRICE	TOTAL AMOUNT BID
Schedule of Unit Price Work - BASE BID					
1	Site Clearing, Grubbing, Fence Removal with Disposal at _____Dollars and _____Cents Per Lump Sum	LS	1	$	$
2	Furnish and Install a 43,000 Gallon Capacity Bolted Steel Ground Storage Tank, Complete with Concrete Foundation, Coating, Accessories and all Incidentals, Complete in Place at _____Dollars and _____Cents Per Lump Sum	L.S.	1	$	$
3	Furnish and Install All Materials, Equipment and Labor for "High Service Pump Skid #1" with Foundation, Enclosu Interconnections and Incidentals, Complete in Place at _____Dollars and _____Cents Per Lump Sum	L.S.	1	$	$
4	Furnish and Install All Materials, Equipment and Labor for "High Service Pump Skid #2" with Foundation, Enclosu Interconnections and Incidentals, Complete in Place at _____Dollars and _____Cents Per Lump Sum	L.S.	1	$	$
5	Furnish and Install All Materials, Equipment and Labor for "AquaFlow Water Dispenser Station" with Foundation, Enclosure, Interconnections and Incidentals, Complete in Place at _____Dollars and _____Cents Per Lump Sum	L.S.	1	$	$
6	Furnish and Install "Pressure Tank" with Foundation, Comp at _____Dollars and _____Cents Per Lump Sum	LS	1	$	$

ITEM NO.	ITEM DESCRIPTION (1)	UNIT	EST. QTY.	UNIT PRICE	TOTAL AMOUNT BID
7	Furnish and Install All Materials, Equipment and Labor for "Plant Piping & Valves" with Associated Fittings Interconnections and Incidentals, Complete in Place at _____Dollars and _____Cents Per Lump Sum	L.S.	1	$	$
8	Furnish, Deliver, Grade and Compact Off-Site Earthen Fill at _____Dollars and _____Cents Per Cubic Yard	CY	3500	$	$
9	Furnish & Install Reinforced Concrete Pavement (6" Thick) with Subgrade Compaction and Preparation at _____Dollars and _____Cents Per Square Yard	SY	1560	$	$
10	Furnish and Install 4" Compacted Caliche Base Course at _____Dollars and _____Cents Per Linear Foot	SY	1560	$	$
11	Furnish and Install 18" Corrugated Metal Pipe Culverts at _____Dollars and _____Cents Per Linear Foot	LF	96	$	$
12	Furnish and Install Chain Link Fence, Barb Wire & Gates at _____Dollars and _____Cents Per Linear Foot	LF	386	$	$
13	Quality Control Testing Allowance at **Twelve Thousand** Dollars and **Zero** Cents Per Lump Sum	LS	1	$ 12,000.00	**$ 12,000.00**
TOTAL BASE BID ITEMS				**$**	

TOTAL BASE BID - PRICE IN WORDS: $

ITEM NO.	ITEM DESCRIPTION (1)	UNIT	EST. QTY.	UNIT PRICE	TOTAL AMOUNT BID
Schedule of Unit Price Work - ADDITIVE ALTERNATE BID					
14	Furnish and Install a 43,000 Gallon Capacity Bolted Steel Ground Storage Tank, Complete with Concrete Foundation, Coating, Accessories and all Incidentals, Complete in Place at _____Dollars and _____Cents Per Lump Sum	L.S.	1	$	$
15	Furnish and Install Barb Wire Fence with Gates at _____Dollars and _____Cents Per Linear Foot	LF	520	$	$
ADDITIVE ALTERNATE BID SUBTOTAL			**$**		

SUBTOTAL ADDITIVE ALTERNATE BID, PRICE IN WORDS:

$ _____

TOTAL BASE BID + ADDITIVE ALTERNATE BID	**$**

TOTAL BASE BID + ADDITIVE ALTERNATE BID, PRICE IN WORDS:

$ _____

Notes:

1. In the event of a discrepancy, this amount shall govern.

2. Project will be and evaluated by the independent BASE BID and ADDITIVE ALTERNATE BID. Bidders shall submit BOTH the BASE BID and ADDITIVE ALTERNATE BID Award will be made to the lowest responsive and responsible BASE BID with option to include the ADDITIVE ALTERNATE BID.

3. The Owner has the right to reject any or all bids, or otherwise award in its best interest.

PROJECT: La Presa Water Dispenser Station

Contractor: _____ Bidder's Signature: _____

_____

Address: _____ Name: _____

_____ Title: _____

City State Zip Code

Telephone Number: _____ Date: _____

Fax Number: _____

INFORMATION FROM BIDDERS
MUST BE FULLY COMPLETED AND SUBMITTED WITH BID PROPOSAL

PROJECT: ***"ITB 2020-001 La Presa Water Dispenser Station"***

Statement of Qualifications: (Similar **WATER PUMP STATION** Projects Completed by Bidder)

1. Name of Project: _____ Date Completed: _____
   Tank Capacity: _____ Tank Style: _____
   Location: _____ Owner Name & Phone: _____
   Value of Contract: _____ Engineer Name & Phone: _____
2. Name of Project: _____ Date Completed: _____
   Tank Capacity: _____ Tank Style: _____
   Location: _____ Owner Name & Phone: _____
   Value of Contract: _____ Engineer Name & Phone: _____
3. Name of Project: _____ Date Completed: _____
   Tank Capacity: _____ Tank Style: _____
   Location: _____ Owner Name & Phone: _____
   Value of Contract: _____ Engineer Name & Phone: _____
4. Name of Project: _____ Date Completed: _____
   Tank Capacity: _____ Tank Style: _____
   Location: _____ Owner Name & Phone: _____
   Value of Contract: _____ Engineer Name & Phone: _____
5. Name of Project: _____ Date Completed: _____
   Tank Capacity: _____ Tank Style: _____
   Location: _____ Owner Name & Phone: _____
   Value of Contract: _____ Engineer Name & Phone: _____

Bidders shall verify all References listed above are current Names and direct Phone No.

Financial Status: A confidential financial statement will be submitted by the apparent successful low Bidder if the Owner deems it necessary.

NOTE: Failure to provide the requested information shall be cause for bid rejection.
"TO BE SUBMITTED UPON REQUEST", etc. is NOT an acceptable answer.

PROJECT: "La Presa Water Dispenser Station"

Subcontractors: (Submit a list of **ALL** proposed Subcontractors. List sources, types and manufacturers of **ALL** proposed construction materials).

Ground StorageTank: _____ Firm Written Offer?____Yes, ____No

High Service Pumps: _____ Firm Written Offer?____Yes, ____No

Pipeline & Fittings: _____ Firm Written Offer?____Yes, ____No

Concrete : _____ Firm Written Offer?____Yes, ____No

ALL Others:

Statement of **Ground Storage Tank Subcontractor** Qualifications:

1. Name/size of Tank Project:_____ Location:_____
   Date Completed: _____ Contact Name & Phone:_____
2. Name/size of Tank Project:_____ Location:_____
   Date Completed: _____ Contact Name & Phone:_____
3. Name/size of Tank Project:_____ Location:_____
   Date Completed: _____ Contact Name & Phone:_____
4. Name/size of Tank Project:_____ Location:_____
   Date Completed: _____ Contact Name & Phone:_____
5. Name/size of Tank Project:_____ Location:_____
   Date Completed: _____ Contact Name & Phone:_____

Experience Data: (Include name and experience record of the Tank Superintendent)

NOTE: Failure to provide the requested information shall be cause for bid rejection. "TO BE SUBMITTED UPON REQUEST" , etc. is NOT an acceptable answer.

PROJECT:"ITB 2020-001 **La Presa Water Dispenser Station"**

List of projects that your business currently has under

contract: Contract Amount Type of Work % Owner Name & Number.

Complete

(Attach additional projects on separate sheets)

Data on Equipment to be used on the Work: (Include the number of machines, the type, capacity, age and conditions and location) (Attach separately as required; include subcontractor's equipment list, if subcontracting major work items)

No.	Type	Model	Age	Condition	Location

List the number of years in business under your present business name: _____years

Have firm offers from suppliers and/or manufacturers been used to determine the unit bid prices for all major items of work listed in your signed Bid Proposal?____Yes, ____No

Have you ever failed to complete any work awarded to you? ___Yes ___No; If "Yes" state where and why:_____

Are there any current lawsuits pending against your company related to construction? ___Yes ___No; If "Yes" explain:_____

NOTE: Failure to provide the requested information shall be cause for bid rejection. "TO BE SUBMITTED UPON REQUEST" , etc. is NOT an acceptable answer.

BID BOND

PROJECT: "La Presa Water Dispenser Station"

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned

_____

_____

as Principal, and _____ as Surety, are hereby held and firmly bound unto_____
as Owner in the penal sum of _____
for payment of which, well and truly to be made, we hereby jointly an severally bid ourselves, our heirs, executors, administrations, successors and assigns.

Signed, this _____ day of _____, 20___.

The condition of the above obligation is such that whereas the Principal has submitted to _____ a certain Bid, attached hereto and hereby made a part hereof to enter into a Contract in writing for the

_____

_____

NOW, THEREFORE,

(a) If said Bid shall be rejected, or in the alternate,
(b) If said Bid shall be accepted and the Principal shall execute and deliver a Contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish a bond for his faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the Agreement created by the acceptance of said Bid,

then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that he obligations of said Surety, and its bonds shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set fourth herein.

_____ (L.S.)
Principal

_____
Surety

By: _____

DRAFT

INDEPENDENT CONTRACTOR AGREEMENT
"LA PRESA WATER DISPENSER STATION"

This Agreement is made and entered into by and between **WEBB COUNTY, TEXAS,** a Political Subdivision of the State of Texas (hereinafter "Owner") and _____, (hereinafter "Contractor").

For and in consideration of the mutual covenants herein set forth, and other good and valuable consideration, the Parties do hereby agree as follows:

1. DESCRIPTION OF PROJECT: "Invitation To Bid **(ITB 2020-001 LA PRESA WATER DISPENSER STATION), Bid Proposal, Plans & Technical Specifications**."

2. PREMISES DEFINED: As used herein, "Premises" is defined as the site where the work specified will be performed which shall be located on the Webb County/El Cenizo Water/Sewer Treatment Plant facility located off of U.S. Highway 83 South.

3. SCOPE OF WORK: Contractor agrees to perform the following work for Owner: As set forth in the "**La Presa Water Dispenser Station, Invitation to Bid (RFP 2020-006), Bid Proposal, Plans & Technical Specifications**." document attached hereto and which is hereby incorporated by reference as if fully herein as described on the public notice issued by the County of Webb, Texas. Contractor agrees that all work shall be performed in a good and workmanlike manner.

4. CONTRACT SUM: In exchange for Contractor's performance of services under this Agreement, Owner shall pay to Contractor the following amount(s): _____ AND 00/100 DOLLARS (**$ .00**). Disbursements will be made to Contractor in accordance with the Schedule of Values based on percentage of completion agreed to and made by Contractor to Owner, as approved by both **Wayne Nance, P.E./Porras Nance Engineering, the Project Engineer**, and Owner after inspecting the progress of completed work and materials on site at the Premises. Said approvals shall not be unduly withheld or delayed. Said Schedule of Values is attached hereto and incorporated by reference as if fully herein as Exhibit "___". Owner shall make final payment (including the costs and expenses incurred due to change order(s) completed during this project and completion of the Work and the release of each of the 5% retainage that Owner previously retained) to Contractor on the day the Project is completed and approved by **Wayne Nance, P.E./Porras Nance Engineering, the Project Engineer**, or its designated and authorized representative; and **Luis Perez Garcia, Webb County Engineer**, or his designated and authorized representative, on behalf of Owner. Said approvals shall not be unreasonably withheld or delayed.

It is hereby expressly acknowledged, consented and agreed to by Contractor that the final payment due for the services rendered pursuant to this Agreement shall not be issued to Contractor until Contractor has signed and sworn to the Final Bills Paid Affidavit confirming payment to each of its subcontractors, laborers, suppliers, and materialmen in full for all labor and materials to Contractor for or in connection, renovation, or repair of improvements on or relating to the subject project/property or any portion thereof, pursuant to and in accordance

with Sections 53.085 and 53.259 of the Texas Property Code, and that the intentional, knowing, or reckless making of a false or misleading statement in the Affidavit constitutes a criminal offense under said sections cited herein-above and is a Class A Misdemeanor.

5. RETAINAGE: OWNER shall withhold from each installment payment to CONTRACTOR a retainage of five percent (5%). The retainage shall be paid to CONTRACTOR upon final completion of the work. Completion of the work shall be considered final upon written approval by OWNER's designated representative.

6. CHANGE ORDERS - In the event either party requests a change from the agreed Scope of Work or Quote in this Agreement, a written change order making such a request shall be prepared by Contractor in accordance with the proposed change. If the Owner or Third-Party Inspector ("Inspector") requests a change be executed, Owner or Inspector shall, in a timely manner, inform Contractor (via email) of the request. Contractor shall then prepare a written change order in accordance with said request and submit to Owner for Owner's approval and signature. As soon as Owner signs the change order approving the proposed change, Owner shall submit, via email, the approved/signed order to Contractor. Contractor shall begin performance in accordance with change order only after Contractor receives the written and approved/signed change order. If Contractor requests a change order, Contractor shall prepare a written change order, submit it to Owner for its approval and signature, and the resultant change only will begin on the approved change after Contractor receives the signed change order. Change orders may increase the payment the Owner must pay to Contractor. **IN NO EVENT MAY THE TOTAL COST OF CHANGE ORDERS EXCEED TWENTY-FIVE PERCENT (25%) OF THE TOTAL AMOUNT OF THIS AGREEMENT.**

7. NOTICES/CONTACT PERSONS: Any notice of communication required or permitted hereunder shall be sufficiently given if sent via electronic transmission to the contact persons for CONTRACTOR and/or OWNER as follows:

To Contractor at: CONSTRUCTION COMPANY

Ph.
Fax
EMail

Name, Project Manager
C e l l P h .
email

To Owner at: WEBB COUNTY, TEXAS
Luis Perez Garcia
(956) 523-5590
lperezgarcia@webbcountytx.gov

8. **INCORPORATION OF BID/QUOTE:** The terms, project specifications, requirements and/or any and all conditions contained in the "**ITB 2020-001 La Presa Water Dispenser Station, Bid Proposal, Plans & Technical Specifications**" are hereby incorporated herein by reference as fully written out as set forth and attached hereto.

9. **DATE OF COMMENCEMENT:** Within FIVE (5) working days of being issued a Notice to Proceed from the County.

10. **SUBSTANTIAL COMPLETION:** Substantial Completion is the stage in the progress of the completion of the work covered by this Agreement where the work at the Premises is sufficiently complete in accordance with the work specified in "**ITB 2020-001 La Presa Water Dispenser Station, Bid Proposal, Plans & Technical Specifications**" including completion of all post-construction clean-up on and about the Premises, which shall be required to be confirmed in writing as being substantially completed, by the execution and issuance of a Certificate of Substantial Completion that is dated and signed by both the Project Engineer and Owner, so that the Owner (or Owner's tenant) can occupy and/or utilize the Premises for the intended use.

11. **DATE FOR SUBSTANTIAL COMPLETION:** The date of substantial completion of this construction project shall be **TWO HUNDRED TEN (210) DAYS** after the date of commencement of construction as set forth the written and dated notice to proceed issued by Owner to Contractor.

The time set forth in the proposal for the completion of the Work is an essential element of the Agreement. For each working day under the conditions described in the preceding Paragraph that any work shall remain uncompleted after the expiration of the working days specified in the Agreement, together with any additional working days allowed, the amount per day given in the following schedule will be deducted from the money due or to become due the Contractor, not as a penalty but as liquidated damages.

Said Contractor further agrees to begin the work on or before the tenth day following the date set by the Owner written notice to proceed and to complete the work within **TWO HUNDRED TEN (210) DAYS**.

The Contractor further agrees to pay, as liquidated damages, the sum of FOUR HUNDRED DOLLARS ($400.00) for each consecutive working day there-in-after the date of substantial completion, as herein provided above in Section 11.

12. **OWNER'S RIGHT TO TERMINATE:** Owner may terminate this Agreement upon thirty (30) days prior written notice. If Owner terminates this Agreement, then Contractor shall only be paid for the work performed or expenses incurred prior to the receipt of the notice of termination.

13. **INSURANCE:** **Contractor and Subcontractor Insurance:** The financial integrity of Contractor is of interest to the Owner, therefore, subject to the right of Contractor to maintain reasonable deductibles in such amounts as are approved by the Owner. Contractor shall obtain and maintain in full force and effect for the entire duration of this agreement, and any extension

hereof, at Contractor's sole expense, insurance coverage written on an occurrence basis, by companies authorized and admitted to do business in the State of Texas and rated A or better by A.M. Best Company (Best's Key Rating Guide, current edition and/or as amended) and/or otherwise acceptable to Webb County/Webb County Risk Manager, the following types and amounts:

The Contractor shall not commence work under this Agreement until it has obtained all the insurance required under this paragraph and such insurance has been approved by the Owner, or shall the Contractor allow any subcontractor to commence work on its Subcontract until the insurance required of the Subcontractor has been so obtained and approved.

a. Compensation Insurance: The Contractor shall procure and shall maintain during the life of this Contract Workers' Compensation Insurance as required by applicable State or Territorial law for all of his/her employees to be engaged in work at the site of the project under this Contract and, in case of any such work sublet, the Contractor shall require the Subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workers' Compensation Insurance. In the case where any class of employees engaged in hazardous work on the project under this Contract and is not protected under the Workers' Compensation Statute, The Contractor shall provide and shall cause each Subcontractor to provide adequate employee's liability insurance for the protection of such of his/her employee as are not otherwise protected.

b. Contractor's Public Liability Insurance, Contractor's Property Damage Insurance and Vehicle Liability Insurance in the amount of not less than $1,000,000 for bodily injury, including accidental death, to any one person and an amount not less than $1,000,000 on account of any one occurrence: Property Damage in the amount not less than $100,000 per occurrence and $200,000 aggregate; and Vehicle Liability of $100,000 for any one person or $200,000 for each occurrence.

c. The Contractor shall procure and shall maintain during the life of his Contract, insurance in the amounts listed in Subparagraphs a and b.

d. Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance: The Contractor shall either (1) require each of his/her Subcontractor to procure and shall maintain during the life of his /her Subcontractor, Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance of the type and in the amount specified in Subparagraph b. above or, (2) insure the activities of his/her Subcontractors in his/her policy specified in Subparagraph b, above.

e. Scope of Insurance and Special Hazards: The insurance required under Subparagraph a and b, above, shall provide adequate protection for the Contractor and his/her Subcontractor's, respectively, against damage claims which may arise from operations under this Contract, whether such operations be by the insured or by any one directly or indirectly employed by him/her and also against any of the special hazard which may be encountered in the performance of this Contract.

f. Builder's Risk Insurance (Fire and Extended Coverage): The Contractor shall procure and shall maintain during the life of this Contract Builder's Risk Insurance (Fire and Extended Coverage on a 100 percent (100%) completed value basis on the insurable portion of the project. The Owner, the Contractor, and Subcontractor (as their interests may appear), shall be named as the Insured.

g. Proof of Carriage of Insurance: The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially the following statement: "The Insurance covered by this certificate will not be cancelled or materially altered, except after ten (10) days written notice has been received by the Owner."

The Owner, the Contractor, and Subcontractor (as their interests may appear), shall be named as Insureds or Additional Insureds.

h. Webb County, Texas, a political subdivision of the State of Texas shall be named as an additional name insured party with respect to General Liability, Builder's Risk, Fire and/or Automobile Liability. A blanket waiver of subrogation in favor of Webb County, Texas, a political subdivision of the State of Texas shall be contained in the Workers' Compensation, and all liability policies.

14. PAYMENT AND PERFORMANCE BONDS: A performance bond is required for construction work if the contract is in excess of $100,000 and a payment bond is required if a construction contract is in excess of $25,000. Contractor shall supply the required bonds to the Webb County Purchasing Agent within ten days of execution of this Agreement. Bonds must be issued by companies authorized and admitted to do business in the State of Texas and rated B+ or better by A.M. Best Company (Best's Key Rating Guide, current Edition, and as amended) and/or otherwise acceptable to the Owner. ***FAILURE TO PROVIDE SAID BONDS SHALL CONSTITUTE A DEFAULT AND WEBB COUNTY MAY AWARD THE CONTRACT TO THE NEXT LOWEST BIDDER OR RE-ADVERTISE FOR BIDS/PROPOSALS.***

15. RELATIONSHIP OF PARTIES: Contractor is engaged under this Agreement as an ***"INDEPENDENT CONTRACTOR"*** and not as an agent or employee of Owner. Contractor is not entitled to benefits of any kind to which Owner's employees are entitled, including but not limited to unemployment compensation, workers' compensation, health insurance, or retirement benefits. Contractor assumes full responsibility for payment of all federal, state and local taxes or contributions, including but not limited to, unemployment insurance, social security, Medicare, and income taxes with respect to Contractor and Contractor's employees. This Agreement does not create a partnership or a joint venture between the parties hereto, nor does it authorize either party to serve as the legal representative or agent of the other. Neither party has any right or authority to assume, create, or incur any liability or any obligation of any kind, express or implied, against, or in the name of, or on behalf of the other party.

16. SUCCESSORS AND ASSIGNS: This Agreement may not be assigned or subcontracted, in full or in part, by either party without first obtaining written consent of the other party. The parties shall not be relieved of its full responsibility for completion of work because of subletting of

any portion of the work. This Agreement shall be binding upon and shall ensue to the benefit of the parties hereto and their respective successors, transferees, and assigns.

17. INDEMNITY: CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD OWNER HARMLESS FROM ANY AND ALL LOSS, EXPENSE, COST, OR LIABILITY (INCLUDING REASONABLE LEGAL FEES AND EXPENSES), ARISING FROM ANY CLAIM OR CAUSE OF ACTION FOR ANY LOSS OR DAMAGE CAUSED BY OR ARISING FROM THE PERFORMANCE OF CONTRACTOR'S OBLIGATIONS UNDER THIS AGREEMENT, INCLUDING, BUT NOT LIMITED TO, THE CONDUCT OF CONTRACTOR'S EMPLOYEES AND/OR ANY ACTS PERFORMED UNDER THIS CONTRACT AND THAT RESULT FROM ANY NEGLIGENT ACT, ERROR, OR OMISSION OF THE CONTRACTOR OR OF ANY PERSON EMPLOYED BY THE CONTRACTOR. IN CASE OF ANY SUCH CLAIM, CONTRACTOR, UPON NOTICE FROM OWNER, COVENANTS TO DEFEND ANY SUCH ACTION OR PROCEEDING. THE CONTRACTOR SHALL ALSO SAVE AND HOLD HARMLESS THE OWNER FROM AND AGAINST ANY AND ALL EXPENSES, COURT COSTS, INCLUDING, BUT NOT LIMITED TO, ATTORNEY'S FEES THAT MIGHT BE INCURRED IN LITIGATION OR OTHERWISE DEFENDING OR PROSECUTING THE CLAIMS.

18. COMPLIANCE WITH LAWS: Contractor agrees that it will, in its performance of its obligations hereunder, fully comply with all applicable laws, regulations and ordinances of all relevant authorities, including, but not limited to, those pertaining to safety, and shall obtain all licenses, registrations, or other approvals required in order to fully perform its obligations hereunder. Contractor represents and warrants that all improvements made to the property shall comply with the Americans with Disabilities Act and all other applicable codes, regulations, and laws.

19. SEVERABILITY: Should any part of this Agreement be rendered or declared invalid by a court of competent jurisdiction of the State of Texas, such invalidation of such part or portion of this Agreement shall not invalidate the remaining portions thereof, and they shall remain in full force and effect.

20. GOVERNING LAW: This agreement shall be governed by and construed and interpreted in accordance with the laws of the State of Texas, without regard to choice of law rules of any jurisdiction. The parties agree that for any litigation regarding this agreement that venue lies exclusively in Webb County, Texas.

21. DEFAULT AND TERMINATION: In the event either party interferes with the general progress of this Project intentionally, or by negligence, or intentional or negligent delay, the non-defaulting party may complete the same or cause the same to be completed and charge all sums of money so expended for the completion of this Agreement against the defaulting party, and the defaulting party shall reimburse the non-defaulting Party for any loss sustained thereby.

22. ATTORNEY'S FEES: In the event either party breaches any of the terms of this Agreement whereby the party not in default employs attorneys to protect or enforce its rights hereunder and prevails, then the defaulting party agrees to pay the other party reasonable attorney's fees incurred by such other party.

23. **ENTIRE AGREEMENT:** This Agreement and its Exhibits shall constitute the complete and exclusive written expression of the intentions of the parties hereto and shall supersede all previous communications, representations, agreements, promises or statements, either oral or written, by and between the parties. Any modifications to this Agreement must be in writing and signed by the party sought to be bound.

24. **EXHIBITS:** The following documents are attached hereto and fully incorporated herein by reference and made a part of this :

1. La Presa Water Dispenser Station, Invitation To Bid (ITB 2020-001), **Bid Proposal, Plans & Technical Specifications**"."
2. Contractor's Bid Proposal & Schedule (pages ___ to ___, inclusive)
3. Schedule of Values
4. Bid Bond
5. Performance Bond
6. Payment Bond
7. Insurance Coverages, Liability, Worker's Comp., Builder's Risk, etc.
8. General Conditions (pages 1 to __, inclusive)
9. Supplementary Conditions (pages 1 to _, inclusive)
10. Specifications as listed in the table of contents of the Project Manual
11. Drawings consisting of __ sheets with each sheet bearing the following general title: _____
12. Addenda (numbers _____ to _____, inclusive)
13. Contractor's Application for Payment
14. Notice to Proceed
15. Change Order form
16. Work Change Directive form
17. Minor Change in the Work form
18. Request for Information form
19. Form 1295-Texas Ethics Commission Disclosure of Interested Parties

20. Webb County Ethics Policy

25. **OMISSIONS:** If any punctuation, word, clause, sentence, or provision necessary to give meaning, validity, or effect to any portion of this Agreement shall be omitted here-from, then it is hereby declared that such omission was unintentional and that the omitted element shall be included in order to give meaning, validity, and/or effect to any portion of this Agreement.

26. **MATERIALMEN/SUPPLIERS:** Contractor within 10 days from the date of the execution of this agreement shall provide an updated and current listing of all Subcontractors and/or Materialmen or Suppliers, and all laborers, used by the Contactor to Webb County and Contractor shall notify the Owner in writing whenever changes occur, and Contractor shall provide the Owner with an updated listing within FIVE (5) working days of upon request for an updated listing. Contractor will immediately notify the Owner in writing of any Subcontractors and/or Materialmen or Suppliers, and all laborers, independent contractors, and/or other such materialmen and/or suppliers services that are discontinued and/or that have been added to their workforce.

27. **REQUEST FOR PAYMENT SUBMISSION**: All request for payments are to be made payable to Contractor by dated and signed invoice(s). Said invoice and/or request for progress payments shall be submitted in writing to both **Wayne Nance, P.E./Porras Nance Engineering, the Project Engineer**, or its designated and authorized representative; and **Luis Perez Garcia, Webb County Engineer**, or his designated and authorized representative, on behalf of Owner for review and approval of same. Upon review and approval of the request for payment by both **Wayne Nance, P.E./Porras Nance Engineering, the Project Engineer**, and **Luis Perez Garcia, Webb County Engineer**, the Webb County Utilities Director shall then forward the approved request for the payment amount less 5% retainage to the Webb County Business Office to process the progress payment request. Payment will be mailed to Contractor or made available for pick up at the Webb County Business Office.

28. **COMPLIANCE WITH APPLICABLE LAWS AND ORDINANCES:** Contractor agrees to comply at all times with all federal, state, county, and/or City of Laredo building, development codes, city building permits, rules, regulations, ordinances and laws, and Contractor shall not permit the Premises or any part thereof to be used for (a) any offensive, noisy, or dangerous activity that would pose a health or safety risk; (b) the creation or maintenance of a public nuisance, (c) anything which is against public regulations or rules of any public authority at any time applicable to the Premises; or (d) any purpose or any manner which will obstruct, interfere with, or infringe on the rights of other tenants or adjoining properties.

29. **LEGAL CONSTRUCTION:** In case any one or more of the provisions contained in the Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision thereof and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

30. **AMENDMENT:** No amendment, modification, or alteration of the terms of this Agreement hereof shall be binding unless the same be in writing, dated subsequent to the date hereof, and duly executed by both of the parties hereto.

31. **TIME OF ESSENCE:** Time is of the essence of this Agreement and each and every covenant, condition, and provision herein contained.

IN WITNESS WHEREOF, the parties aforesaid have duly executed the foregoing instrument, or caused the same to be executed in duplicate originals on this ____ day of _____, 2020.

CONTRACTOR: **CONSTRUCTION**
Company

By: _____
NAME
Title: Managing Member
Date: _____, 2020

WEBB COUNTY, TEXAS

_____
Tano E. Tijerina
Webb County Judge
Date:

ATTESTED:

_____
Margie Ramirez-Ibarra
Webb County Clerk

APPROVED AS TO FORM:

_____
Nathan Bratton, Director
Webb County Civil Legal Division

*By law, this office may only advise or approve contracts or legal documents on behalf of its clients. It may not advise or approve a contract or legal document on behalf of other parties. Our review of this document was conducted solely from the legal perspective of our client. Our approval of this document was offered solely for the benefit of our client. Other parties should not rely on this approval, and should seek review and approval of their own respective attorney(s).

Passed and approved by the Webb County Commissioners Court
On _____

SECTION A-8
PERFORMANCE BOND

(As required by Chapter 2253, Texas Government Code)

THE STATE OF {}
COUNTY OF {}

KNOW ALL MEN BY THESE PRESENTS: That we (1) _____ a (2) _____of hereafter called Principal and (3) _____of _____, State of _____, hereinafter called the Surety, are held and firmly bound unto (4) _____ of _____ hereinafter called Owner, in the penal sum of _____ ($ _____) Dollars in lawful money of the United Stated, to be paid in (5)

WEBB COUNTY, TEXAS

_____ for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain Contract with (6) _____
the Owner, dated the _____ day of _____ a copy of which is hereto attached and made a part hereof for the Construction of:

_____

_____

_____

_____

(hereinafter called the "Work")

These notes refer to the numbers in body of Contract above:

Date of Bond must not be prior to Date of Contract.

(1) Correct name of Contractor.

(2) A Corporation, or Partnership or an Individual, as case may be.
(3) Correct name of Surety.
(4) Correct name of Owner.
(5) County and State.
(6) Owner.

NOW THEREFORE, if the Principals shall well, truly and faithfully perform the work in accordance with the Plans, Specifications and Contract Documents during the original term thereof, and any extensions thereof which may be granted by the Owner with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED FURTHER, that if any legal action be filed upon this Bond, venue shall lie WEBB County, State of Texas, and that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed there under or the Specifications accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

IN WITNESS WHEREOF, this Instrument is executed in six counterparts, each one of which shall be deemed an original, this the _____ day of _____.

ATTEST:

_____ _____
(Principal) Secretary PRINCIPAL

By: _____

(SEAL)

_____
Address (State and Zip Code)

_____ _____
Witness as to Principal Telephone Number

_____
Address (State and Zip Code)

ATTEST:

SURETY: (Surety)

Secretary

By: _____

(SEAL)

(Surety) Secretary

Address (State and Zip Code)

Telephone No. (Area Code)

(SEAL)

Witness as to Surety

Address (State and Zip Code)

PAYMENT BOND

(As required by Chapter 2253, Texas Government Code)

THE STATE OF {}
COUNTY OF {}

KNOW ALL MEN BY THESE PRESENTS: That we (1) _____
_____(2) _____
of _____hereinafter called Principal and (3) _____
of _____, State of _____, hereinafter called the Surety, are held and firmly bound unto (4) _____of _____ hereinafter called Owner, and unto all Persons, Firms, and Corporations who may furnish materials for, or perform labor upon the building or improvements hereinafter referred to in the penal sum of _____ _____ ($_____) Dollars in lawful money of the United Stated, to be paid in (5) WEBB COUNTY, TEXAS for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain Contract with (6) _____the Owner, dated the _____ day of _____ a copy of which is hereto attached and made a part hereof for the construction of:

_____

_____
(hereinafter called the "Work")

These footnotes refer to the numbers in body of contract above:

Date of Bond must not be prior to Date of Contract.

(1) Correct name of Contractor.
(2) A Corporation, or Partnership or an Individual, as case may be.
(3) Correct name of Surety.
(4) Correct name of Owner.
(5) County and State.
(6) Owner.

NOW THEREFORE, if the Principals shall well, truly and faithfully perform the work in accordance with the Plans, Specifications and Contract Documents during the original term thereof, and any extensions thereof which may be granted by the Owner with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such Contract, then this obligation shall be null and void; otherwise to remain in full force and effect.

This Bond is made and entered into solely for the protection of all claimants supplying labor and material in the prosecution of the work provided for in said Contract, and all such claimants shall have a direct right of action under the Bond as provided in Section 2253.073, Texas Government Code.

PROVIDED FURTHER, that if any legal action be filed upon this Bond, venue shall lie WEBB County, State of Texas, and that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the Specifications.

PROVIDED FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six counterparts, each one of which shall be deemed an original, this the _____ day of _____.

ATTEST:

_____ _____

(Principal) Secretary PRINCIPAL

By: _____

(SEAL)

_____

Address (State and Zip Code)

_____ _____

Witness as to Principal Telephone Number

_____

(SEAL)

_____

Surety

ATTEST:

_____

(Surety Secretary) By:_____

(SEAL)

_____

Address (State and Zip Code)

_____

Telephone Number

NOTE: If Contractor is Partnership, all Partners should execute Bond.

PERFORMANCE - PAYMENT BOND FORM
M-24, 25, Attach. Sa

	(SEAL)
	Individual Principal
Address (State and Zip Code)	Business - Address
Telephone Number (Area Code)	Telephone Number (Area Code)
ATTEST:	Corporate Principal
(State and Zip Code)	Business Address Name
	Telephone Number (Area Code)
Address (State and Zip Code)	(Affix Corporate Seal)
	By:
ATTEST:	Address (State and Zip Code)
	Corporate Surety
	Business Address
	(Affix Corporate Seal)
	Telephone:

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the _____,
Secretary of the Corporation named as Principal in the within Bond; that _____
_____,who signed the said Bond on behalf of the Principal was then
_____, of said Corporation; that I know his signature thereof is genuine; and that said Bond was duly signed, sealed, an attested for and in behalf of said Corporation by authority of its governing body.

_____
Title

_____ _____

Date: _____ (Affix Corporate Seal)

_____
Telephone No.

The rate of premium on this Bond is _____ per thousand. Total of premium charge

$_____

NOTE: The above must be filled in by Corporate Surety. Power-of-Attorney of person signed for Surety company must be attached.

CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE

The Contractor shall not commence work under this Contract unit he/she has obtained all the insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his/her Sub-Contract until the insurance required of the Subcontractor has been so obtained and approved.

a. Compensation Insurance: The Contractor shall procure and shall maintain during the life of this Contract Workmen's Compensation Insurance as required by applicable State or Territorial law for all of his/her employees to be engaged in work at the site of the project under this Contract and, in case of any such work sublet, the Contractor shall require the Subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's Compensation Insurance. In the case where any class of employees engaged in hazardous work on the project under this Contract and is not protected under the Workmen's Compensation Statute, the Contractor shall provide and shall cause each Subcontractor to provide adequate employee's liability insurance for the protection of such of his/her employee as are not otherwise protected.

b. Contractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance: The Contractor shall procure and shall maintain during the life of his Contract: Contractor's Public Liability Insurance, Contractor's Property Damage Insurance and Vehicle Liability Insurance in the amount of not less than $1,000,000 for bodily injury, including accidental death, to any one person and an amount not less than $1,000,000 on account of any one occurrence: Property Damage in the amount not less than $1,000,000 per occurrence and $1,000,000 aggregate; and Vehicle Liability of $1,000,000 for any one person or $1,000,000 for each occurrence.

c. Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance: The Contractor shall either (1) require each of his/her Subcontractor to procure and shall maintain during the life of his/her Subcontractor, Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance of the type and in the amount specified in Subparagraph b. above or, (2) insure the activities of his/her Subcontractors in his/her policy specified in Subparagraph b. above.

d. Scope of Insurance and Special Hazards: The insurance required under Subparagraph b.and c. above shall provide adequate protection for the Contractor and his/her Subcontractor's, respectively, against damage claims which may arise from operations under this Contract, whether such operations be by the insured or by any one directly or indirectly employed by him/her and also against any of the special hazard which may be encountered in the performance of this Contract.

e. Builder's Risk Insurance (Fire and Extended Coverage): Unless otherwise provided by the Owner, the Contractor shall procure and shall maintain during the life of this Contract Builder's Risk Insurance (Fire and Extended Coverage on a 100 percent (100%) completed value basis on the insurable portion of the project. The Owner, the Contractor, and Subcontractor (as their interests may appear), shall be named as the Insured.

f. Proof of Carriage of Insurance: The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially the following statement: "The Insurance covered by this certificate will not be canceled or materially altered, except after ten (10) days written notice has been received by the Owner."

CERTIFICATE OF INSURANCE

To: Webb County Date: _____
Owner

Attn: Joe Lopez, Webb County Purchasing Agent 1110
Washington St.
Laredo, Texas 78040.

Project: "**ITB 2020-001 La Presa Water Dispenser Station"**

This is to certify that _____

_____
Name and Address of Insured and telephone number

is at the date of this certificate, insured by this Company with respect to the business operations hereinafter described for the types of insurance and in accordance with the provisions of the standard policies used by this company, and further, hereinafter described. Exceptions to standard policies used by this company, and further, hereinafter described. Exceptions to standard policy noted on reverse side hereof.

TYPE OF INSURANCE
(Insurance Company shall be Rated A- or better by A.M. Key Best Rating Guide)

_____
Policy No. _____ Effective _____
Expires: _____
Limits of availability: _____

_____
Workman's Compensation: _____

Public Liability: _____ 1 Person: $ _____
1 Accident: $ _____

Contingent Liability: _____

Property Damage: _____

Builder's Risk: _____

Automobile: _____

Other: _____

The foregoing policies (do) (do not) cover all subcontractors

Locations covered: _____

Descriptions of Operations covered: _____

_____

_____

The above policies either in the body thereof or by appropriate endorsement provide that they may not be changed or canceled by the insurer in less than five days after the insured has received written notice of such change or cancellation.

WITNESS: _____

_____
Contractor/Firm (Typed)

_____ _____
Name Signature

_____ _____
Address Signature (Typed)

Title: _____

_____
Address

_____
City/State/Zip Code

_____
Telephone Number

_____
Fax Number

NOTICE:

All persons providing services on this construction project shall abide by new rule 110.110 to the TEXAS LABOR CODE concerning workman's compensation insurance coverage.

This rule is applicable for building or construction contracts advertised for bid by a governmental entity on or after September 1, 1994.

(copy of rule 110.110 is attached)

Rule 110.110 Reporting Requirements for Building or Construction Projects for Governmental Entities

(a) The following words and terms, when used in this rule, shall have the following meanings, unless the context clearly indicates otherwise. Terms not defined in this rule shall have the meaning defined in the Texas Labor Code, if so defined.

(1) Certificate of coverage ("certificate"). A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees (including those subject to a coverage agreement) providing services on a project, for the duration of the project.

(2) Building or construction - Has the meaning defined in the Texas Labor Code, §406.096(e)(1).

(3) Contractor - A person bidding for or awarded a building or construction project by a governmental entity.

(4) Coverage - Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, §401.011(44).

(5) Coverage agreement - A written agreement on form TWCC-81, form TWCC-82, form TWCC-83, or form TWCC-84, filed with the Texas Workers' Compensation Commission which establishes a relationship between the parties for purposes of the Workers' Compensation Act, pursuant to the Texas Labor Code, Chapter 406, Subchapters F and G as one of employer/employee and establishes who will be responsible for providing workers' compensation coverage for persons providing services on the project.

(6) Duration of the project - Includes the time from the beginning of work on the project until the work on the project has been completed and accepted by the governmental entity.

(7) Persons providing services on the project ("subcontractor" in §406.096 of the Act) - Includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes but is not limited to independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity furnishing persons to perform services on the project. "Services includes but is not limited to providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as foot/beverage vendors, office supply deliveries, and delivery of portable toilets.

(8) Project - Includes the provision of all services related to a building or construction contract for a governmental entity.

(b) Providing or causing to be provided a certificate of coverage pursuant to this rule is representation by the insured that all employees of the insured who are providing services on the project are covered by workers' compensation coverage, that the coverage is based on proper reporting of classification codes and payroll amounts, and that all coverage agreements have been filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading certificates of coverage, or failing to provide or maintain required coverage, or failing to report any change that materially affects the provision of coverage may subject the contractor or other person providing services on the project to administrative penalties, criminal penalties, civil penalties, or other civil actions.

(c) A governmental entity that enters into a building or construction contract on a project shall:

(1) include in the bid specifications, all the provisions of subsection (d) of this rule, using the language required by paragraph (7) of this subsection;

(2) as part of the contract, using the language required by paragraph (7) of this subsection, require the contractor to perform as required in subsection (d) of this rule;

(3) obtain from the contractor a certificate of coverage for each person providing services of the project, prior to that person beginning work on the project;

(4) obtain from the contractor a new certificate of coverage showing extension of coverage:

(A) before the end of the current coverage period, if the contractor's current certificate of coverage shows that the coverage period ends during the duration of the project; and

(B) no later than seven days after the expiration of the coverage for each other person providing services on the project whose current certificate shows that the coverage period ends during the duration of the project;

(5) retain certificates of coverage on file for the duration of the project and for three years thereafter;

(6) provide a copy of the certificates of coverage to the commission upon request and to any person entitled to them by law; and

(7) use the following language for bid specifications and contracts, without any additional words or changes, except those required to accommodate the specific document in which they are contained or to impose stricter standards of documentation:

Workers' Compensation Insurance Coverage.

A. Definitions:

Certificate of coverage ("certificate"). A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or

TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

Duration of the project - includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.

Persons providing services on the project ("subcontractor" in §406.096) - includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other services related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

B. The contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.

C. The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.

D. If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.

E. The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

(1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

(2) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

F. The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.

G. The contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

H. The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that

they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

I. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:

(1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;

(2) provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;

(3) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(4) obtain from each other person with whom it contracts, and provide to the contractor:

(a) a certificate of coverage, prior to the other person beginning work on the project; and

(b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(6) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

(7) contractually require each person with whom it contracts, to perform as required by paragraphs (1) - (7), with the certificates of coverage to be provided to the person for whom they are providing services.

J. By signing this contract or providing or causing to be provided a certificate of coverage, the contractor is representing to the governmental entity that all employees of the contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

K. The contractor's failure to comply with any of these provisions is a breach of contract by the contractor which entitles the governmental entity to declare the contract void if the contractor does not remedy the breach within ten days after receipt of notice of breach from the governmental entity.

(d) A contractor shall:

(1) provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;

(2) provide a certificate of coverage showing workers' compensation coverage to the governmental entity prior to beginning work on the project;

(3) provide the governmental entity, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project;

(4) obtain from each person providing services on a project, and provide to the governmental entity:

(A) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

(B) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(6) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project;

(7) post a notice on each project site informing all persons providing services on the project that they are required to be covered, and stating how a person may verify current coverage and report failure to provide coverage. This notice does not satisfy other posting requirements imposed by the Act or other commission rules. This notice must be printed with a title in at least 30 point bold type and text in at least 19 point normal type, and shall be in both English and Spanish and any other language common to the worker population. The text for the notices shall be the following text provided by the commission on the sample notice, without any additional words or changes:

REQUIRED WORKERS' COMPENSATION COVERAGE

"The law requires that each person working on this site or providing services related to this construction project must be covered by workers' compensation insurance. This includes persons providing, hauling, or delivering equipment or materials or providing labor or transportation of other services related to the project, regardless of the identity of their employer or status as an employee."

"Call the Texas Workers' Compensation Commission at 512-440-3789 to receive information on the legal requirement for coverage, to verify whether your employer has provided the required coverage, or to report an employer's failure to provide coverage." and

(8) contractually require each person with whom it contracts to provide services on a project, to:

(A) provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements for all of its employees providing services on the project, for the duration of the project;

(B) provide a certificate of coverage to the contractor prior to that person beginning work on the project;

(C) include in all contracts to provide services on the project the language in subsection (e)(3) of this rule;

(D) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(E) obtain from each other person with whom it contracts, and provide to the contractor:
(i) a certificate of coverage, prior to the other person beginning work on the project; and

(ii) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(F) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(G) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

(H) contractually require each other person with whom it contracts, to perform as required by paragraphs (A) - (H), with the certificate of coverage to be provided to the person for whom they are providing services.

(e) A person providing services on a project, other than a contractor, shall:

(1) provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;

(2) provide a certificate of coverage as required by its contract to provide services on the project, prior to beginning work on the project;

(3) have the following language in its contract to provide services on the project:

"By signing this contract or providing or causing to be provided a certificate of coverage, the person signing this contract is representing to the governmental entity that all employees of the person signing this contract who will provide services on the project will be covered by workers' compensations coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions."

(4) provide the person for whom it is providing services on the project, prior to the end of the coverage period shown on its current certificate of coverage, a new certificate showing extension of coverage, if the coverage period shown on the certificate of coverage ends during the duration of the project;

(5) obtain from each person providing services on a project under contract to it, and provide as required by its contract:

(A) a certificate of coverage, prior to the other person beginning work on the project; and

(B) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(6) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(7) notify the governmental entity in writing by certified mail or personal delivery, of any change that materially affects the provision of coverage of any person providing services on the project and send the notice within 10 days after the person knew or should have known of the change; and

(8) contractually require each other person with whom it contracts to:

(A) provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements for all of its employees providing services on the project, for the duration of the project;

(B) provide a certificate of coverage to it prior to that other person beginning work on the project;

(C) include in all contracts to provide services on the project the language in subsection (e)(3) of this rule;

(D) provide, prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(E) obtain from each other person under contract to it to provide services on the project, and provide as required by its contract;

(i) a certificate of coverage, prior to the other person beginning work on the project; and

(ii) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the contract;

(F) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(G) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

(H) contractually require each person with whom it contracts, to perform as required by paragraphs (A) - (H), with the certificate of coverage to be provided to the person for whom they are providing services.

(f) If any provision of this rule or its application to any person or circumstance is held invalid, the invalidity does not affect other provisions or applications of this rule that can be given effect without the invalid provision or application, and to this end the provisions of this rule are declared to be severable.

(g) This rule is applicable for building or construction contracts advertised for bid by a governmental entity on or after September 1, 1994.

DRAFT

NOTICE OF AWARD

To: _____

_____

_____

Project: "ITB 2020-001 La Presa Water Dispenser Station"

The Webb County has considered the bids submitted for the above described project in response to its advertisement for bids dated _____**,** and related information to Bidders.

You are hereby notified that your **Bid** in the net amount of **$**_____ has been favorable considered for the project by the Webb County Commissioner's Court at its regular meeting on _____. Pursuant to the information to Bidders you are asked to sign the proposed Contract (in five duplicate originals) and to return the same, along with the required Certificate of Insurance, and Payment Bond and Performance Bond within ten (10) days of your receipt of this Notice, for the approval and signature of the County Judge.

For the purpose of effective date of the required Certificate of Insurance, and the Performance Bond and the Payment Bond, the date of _____**,** may be considered the date of the contract, if the Documents are approved by the County Judge.

If you fail to submit the signed Contract Performance and Payment Bonds, and the Certificate of Insurance within ten (10) days from your receipt of this Notice, your bid will be considered as withdrawn and your bid bond will be forfeited, unless an extension for submittals has been requested in writing and approved by the City.

The Construction Contract time of **210 calendar days** is to be strictly adhered to per Division B, Section 1 and the contractor aggress to pay liquidated damages as penalty for late completion an amount of **$400 for each consecutive day** exceeding the contract time allotted.

You are asked to acknowledge receipt of this Notice by signing in the appropriate place below.

Dated this the _____ day of _____ **2020.**

WEBB COUNTY ENGINEERING DEPT.

_____
Luis Perez Garcia, PE, CFM
County Engineer

ACKNOWLEDGMENT:

Receipt of this Notice is hereby acknowledged

Dated this _____day of _____

_____
Authorized Signature

Title:_____

DRAFT

NOTICE TO PROCEED

Date: _____

To: _____

Project: "La Presa Water Dispenser Station"

In accordance with the construction contract dated _____ you are hereby notified to commence work on _____. Contract time is:
Two Hundred Ten (210) calendar days.

WEBB COUNTY ENGINEERING DEPT.

_____
Luis Perez Garcia, PE, CFM
County Engineer

The above NOTICE TO PROCEED is hereby acknowledged by

_____

on this the _____ day of _____.

_____
Authorized Signature

_____
Typed Name:

Title: _____

CERTIFICATE OF OWNER'S ATTORNEY

Project Description: "La Presa Water Dispenser Station"

Awarded by the County Commissioner's Court: Pursuant to the Invitation for Bids (ITB _____), the undersigned, Nathan R. Bratton, Director, Webb County Civil Legal Division, the duly authorized and acting legal representative of WEBB COUNTY, does hereby certify as follows:

I have examined the attached Contract(s) and Surety bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid Agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said Agreements on behalf of the respective parties named thereon; and that the foregoing Agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions, and provisions thereof.

Date: _____

_____

Nathan R. Bratton
Webb County Civil Legal Division-Director
*By law this office may only advise or approve contracts or legal documents on behalf of its clients. It may not advise or approve a contract or legal document on behalf of other parties. Our review of this document was conducted solely from the legal perspective of our client. Other parties should not rely on this approval, and should seek review and approval of their own respective attorney(s).

Passed and approved by the Webb County Commissioner's Court on _____, Item No. ____.

DIVISION B
SECTION 1

CONTRACT TIME & LIQUIDATED DAMAGES

PROJECT: "La Presa Water Dispenser Station"

The Contract Performance for this project shall be **210 calendar days** as defined in the Specifications under General Conditions, Division C, Section 1.

The time set forth in the proposal for the completion of the work is an essential element of the Contract. For each day under the conditions described in the preceding Paragraph that any work shall remain uncompleted after the expiration of the days specified in the Contract, together with any additional days allowed, the amount of liquidated damages per day given in the following schedule will be deducted from the money due or to become due the Contractor, as a penalty for late completion of the specified work.

FOR AMOUNT OF CONTRACT		
From More Than	**To and Including**	**Amount of Liquidated Damages Per Working Days**
$0	$100,000	$200
100,000	500,000	400
500,000	1,000,000	550
1,000,000	2,000,000	700
2,000,000	5,000,000	850
5,000,000	10,000,000	1,200
10,000,000	15,000,000	1,500
15,000,000	20,000,000	1,700
20,000,000	Over 20,000,000	2,500

DIVISION B
SECTION 2
EQUAL OPPORTUNITY CLAUSE

PROJECT: "ITB 2020-001 La Presa Water Dispenser Station"

1. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex or natural origin. The Contractor will take Affirmative action to insure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color or national origin. Such action shall include, but not limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection of training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the non-discrimination clause.

2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex or natural origin.

3. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or worker's representative of the Contractor's commitments under Section 202 of Executive Order No. 11246, as amended (3CFR 169 (1974) and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

4. The Contractor will comply with all provisions of Executive Order No. 11246, as amended, and of the rules, regulations and relevant orders of the Secretary of Labor.

5. The Contractor will furnish all information and reports required by Executive Order No. 11246, as amended, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in

accordance with procedures authorized in Executive Order No. 11246, as amended, and such other sanctions may be imposed and remedies invoke as provided in Executive Order No. 11246, as amended or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.

7. The Contractor will include the Provisions of Paragraph 1 through 7 in every Subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246, as amended, so that such provisions will be binding upon each Subcontractor or Vendor. The Contractor will take such action with respect to any Subcontract or Purchase Order, as the contracting may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a Subcontractor or Vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

DIVISION B
SECTION 3
INSPECTION BY COUNTY

PROJECT: "ITB 2020-001 La Presa Water Dispenser Station"

The work covered by these Specifications shall at all times be subject to inspection by the Webb County (County) authorized inspectors.

The Contractor shall furnish the County Inspector with every reasonable facility for ascertaining whether the work performed is substandard and deviates from the requirements of the plans and specifications. The County Inspector shall have the authority to halt the construction of any portion of the work not meeting requirements until such time as said work has been corrected to the satisfaction of the Inspector and the Engineer.

County's normal working hours are Monday through Friday**, not including Saturdays, Sundays, or legal holidays observed by the County** from 8:00 A.M. to 5:00 P.M. The contractor shall notify the County at least twenty-four (24) hours in advance for any work that is to be scheduled beyond the limits of the County's working hours, and the Contractor shall not begin any such work scheduled unless proper inspection and/or testing has been pre-arranged with the County, with the cost for such inspection beyond the County's working hours borne by the Contractor**.** One (1) extra hour for arrival and one (1) hour for departure will be added to the actual, on site hours calculated for overtime inspection services.

DIVISION C – GENERAL CONDITIONS

DEFINITION OF TERMS

C-1.01 DEFINITION OF TERMS:

Whenever the terms defined herein occur on the Plans, in any other documents or instrument herein contemplated or to which the Specifications apply, the intent and meaning shall be as follows:

C-1.02 OWNER: (Or Party of the First Party):

The individual, firm corporation or the political subdivision for whom the facilities covered by these Plans and Specifications are to be constructed.

C-1.03 CONTRACTOR: (Or Party of the Second Part):

The individual, firm or corporation with whom the Contract is made by the Owner.

C-1.04 COUNTY ENGINEER:

County Engineer employed by the Owner, or such other Engineer, or Supervisor authorized by the County Engineer or the Owner to act on their behalf. The decisions by the County Engineer are final.

C-1.05 ENGINEER:

Licensed Engineer Consultant selected and assigned by the Owner, and authorized by the County Engineer or the Owner to act on their behalf.

C-1.06 BIDDER:

An individual, firm or corporation submitting a proposal.

C-1.07 SUPERINTENDENT:

An authorized representative of the Contractor.

C-1.08 INSPECTOR:

An authorized representative of the Owner and Engineer

C-1.09 LABORATORY:

A testing laboratory approved by the Owner and Engineer.

C-1.10 CONTRACT:

The Agreement between the Owner and the Contractor covering the furnishing of all materials and labor necessary to complete the work and consisting of the Plans and Specifications, together with such supplemental agreements as may be made from time to time.

C-1.11 WORKING DAY:

A "Working Day" is defined as any day not including Saturdays, Sundays, or any legal holidays, observed by the Webb County, in which weather or other conditions, not under the control of the Contractor, will permit construction of the principal units of work for a continuous period of not less than seven (7) hours. If the contractor opts to work on Saturday, Sunday, or legal holiday requiring construction inspection, said days are considered working days and charged to the contract time, **and the cost for such inspection borne by the contractor.**

C-1.12 WORK:

All structures, services, machinery, equipment, or other facilities that are described in the Plans and Specifications together with such additions or modifications as may be ordered by the Owner from time to time.

C-1.13 WORK, ORDER, OR NOTICE TO PROCEED:

A document authorized by the Owner and issued by the County Engineer directing the Contractor to proceed on all or part of the work and a specified date.

C-1.14 CHANGE ORDER:

A supplemental agreement adding to or modifying the Contract, including such additional Plans and Specifications as necessary to properly describe the required change.

C-1.15 SURETY:

The corporate body which is bound with the Contractor for the faithful performance of the work covered by the Contract.

C-1.16 PLANS:

The drawings published by the Engineer showing the locations, character, dimensions and details of the work which are part of the Contract.

C-1.17 SPECIFICATIONS:

The directions, provisions and requirements contained herein pertaining to the method and manner of performing the work, or to the quantities, or to the qualities of materials to be furnished under the Contract. The term "Specifications" shall be deemed to include the Contract Documents, the Special Provisions, the General Provision, and the Technical Provisions as contained herein, together with all supplemental agreements and change orders. Specifications are part of the Contract. Plans take precedence over Specifications if in conflict.

C-1.18 CALENDAR DAYS:

A "Calendar Day" is defined as any day of the week inclusive of Saturdays, Sundays, and legal holidays.

C-1.19 INSPECTION:

The periodic on site review of the progress of project construction, may be referred to as progress, pre-final, or final inspection, but in each case of inspection a "punch-list" of items requiring varying degrees of further work is prepared.

C-1.20 PROJECT ACCEPTANCE:

Condition resulting when all items of construction are complete, inspected for completion by inspector and engineering staff and approved by County Commissioner's Court.

Note: Items of construction may be approved by inspector and engineering staff as constructed in place for contractor progress payment purposes, but final acceptance of project is by County Commissioner's Court action.

DEFINITION OF ABBREVIATIONS

C-2.01 DEFINITION OF ABBREVIATIONS:

Whenever the abbreviations defined herein occur on the Plans, in the Specifications, Contract, Bond, advertisement, Proposal, or in any other Instrument herein contemplated or to which the Specifications apply or may apply, the intent and meaning shall be as follows:

A.S.H.O	American Association of State Highways Official
HP	Horsepower
K.W.	Kilowatt
Am. or Amp.	Ampere
KVA	Kilovolt
A.S.T.M.	American Society for Testing Materials
In. or "	Inch or Inches
Lin.	Linear
Asph.	Asphalt
Lb. or #	Pound
Ave.	Avenue
A.W.W.A.	American Waterworks Association
Max.	Maximum
Min.	Minimum
MH	Manhole
I.P.	Iron Pin
B & S.	Bell and Spigot
Mono.	Monolithic
Blvd.	Boulevard
No.	Number
B.T.U.	British Thermal Unit
%	Percent
B.M.	Bench Mark
PL	Property Line
C.I.	Cast Iron
R.	Radius
C.C.C.	Center to Center
Rein.	Reinforced or reinforcing
C/G	Curb & Gutter
C.L.	Center Line
V.G.	Valley Gutter
Con. or Conc.	Concrete
Rem.	Remove
C.S.P.	Concrete Sewer Pipe
Rep.	Replace
C.M.	Circular Mil

R.C.S.D.P.	Reinforced Concrete Storm Drain Pipe
C.F.M.	Cubic Feet per Minute
C.O.	Cleanout
R.P.M.	Revolutions per minute
Cond.	Conduit Minute
Corr.	Corrugated
ROW or R of W	Right of Way
Cu.	Cubic
Vol.	Volume
Culv.	Culvert
S.S.	Sanitary Sewer
Dia.	Diameter
S.D.	Storm Drain
D.S.	Double Strength
Sq.	Square
Dr.	Driveway
Std.	Standard
Elev. or El.	Elevation
T.H.D.	Texas Highway Department
F.	Fahrenheit
V.C.P.	Vitrified Clay Pipe
Ft. or '	Foot or Feet
V	Volt
Gal.	Gallon
Yd.	Yard
S.O.P .	Secretaria de Obras Publicas (Mexican Secretaries of Public Works)
Tex. D.O.T., or TxDOT	Texas Department of Transportation

INSTRUCTION TO BIDDERS

C-3.01 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND SITE OF WORK:

Submission of a Proposal shall constitute prima facie evidence that the Bidder has carefully examined the site of the proposed work, the Proposal, Contract Forms, Plans and Specifications, and has satisfied himself as to the character, quality, and quantity of work to be performed, materials to be furnished, and as to the requirements of these Specifications, Special Provisions, and Contract.

Any information on the Plans or in the Specifications as to the soil, or material borings, or tests of existing materials, or location of existing utilities is for the convenience of the Bidder. The accuracy of the information is not guaranteed, and no claims for extra work or damages will be considered if it is found during construction that the actual conditions or locations vary from those indicated on the Plans or in the Specifications.

C-3.02 INTERPRETATION OF ESTIMATES:

Any estimate of quantities of work to be done and materials to be furnished in the proposal or on the Plans is given only as a basis of comparison of Proposals and the Award of the Contract. Such estimate is the result of careful calculation and is believed to be correct, but the Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith, nor shall the Bidder plead misunderstanding or deception because of such estimate of quantities, or of the character, location or other conditions pertaining to the work. Payment to the Contractor under unit price contracts will be made only for the actual quantities of work performed or materials furnished in accordance with the Plans and Specifications, and it is understood that the quantities may be increased or diminished as hereinafter provided without in any way invalidating the unit bid prices.

C-3.03 PREPARATION OF PROPOSAL:

The Bidder shall submit his proposal on the forms furnished by the Owner. All blank space in the proposal form shall be filled in for each and every item for which quantity is given, and the Bidder shall state the price (typed, or written in ink, both in words and numerals for which he proposed to do each item of work. In case of conflict between words and numerals, the words will govern.

The Proposal shall be signed in ink by the person or persons making, or authorized to make the bid. If the Proposal is offered by an individual, his name and post office address shall be given. If the proposal is offered by a firm or partnership, the name and post office address of each member of the firm or partnership shall be given. If the Proposal is offered by a corporation, the name

and title of the person signing the Proposal, and the post office address of the corporation shall be given.

Any person signing a Proposal as agent must file with the Owner legal evidence that he has the authority to do so, and that the signature is binding upon the firm or corporation.

C-3.04 REJECTION OF PROPOSAL:

A Proposal showing any alterations or of words or figures, erasures, additions not called for, alternate bids not called for, incomplete bids, condition bids, or proposals not accompanied by proposal guaranty as required, will be considered as an irregular, non-responsive bid and may be rejected. The Owner reserves the right to waive technicalities as to changes, alterations, or reservations, and to make the award to the best interest of the Owner.

C-3.05 PROPOSAL GUARANTY:

Each Proposal shall be accompanied a certified check, cashier's check or bid bond in the amount of five (5%) percent of the total amount bid. Checks shall be made payable unconditionally to the Owner.

C-3.06 DELIVERY OF PROPOSAL:

Each Proposal must be an <u>original</u> and must be sealed, together with the proposal guaranty, in an envelope plainly marked with the name of the project as shown on the Notice to Bidders, and the name and address of the Bidder. When submitted by mail, this envelope shall be placed in another envelope addressed as indicated in the Notice to Bidders.

Only those proposals actually in the hands of the designated official at the time set in the Notice to Bidders shall be considered. Proposals submitted by telephone, telegraph or fax, will **<u>NOT</u>** be considered.

C-3.07 WITHDRAWAL OF PROPOSAL:

A Bidder may withdraw his proposal provided he submits to the official designated to receive bids his request in writing to do so prior to the time set for opening of proposals.

C-3.08 PUBLIC OPENING OF PROPOSALS:

Proposals will be publicly opened and read aloud at the time and place set in the Notice to Bidders.

C-3.09 COMPETENCY OF BIDDERS:

Before any Contract is awarded, the Owner may require the Bidder to furnish a complete statement of his financial resources. His experience in similar work, his equipment available for the work proposed, or any other information necessary to establish his competency and reliability as a Contractor.

C-3.10 DISQUALIFICATION OF BIDDER:

Any of the following causes may be considered as sufficient for the disqualification of the Bidder and the rejection of his Proposal:

More than one proposal for the same work from an individual or corporation under the same or different name.

Evidence of collusion among Bidders.

An unbalanced Proposal.

Failure to submit a unit price for each item of work shown on the Proposal.

Lack of competency as revealed by the financial statement, experience record, or plant and equipment statement furnished.

Lack of responsibility as shown by past work judged from the standpoint of workmanship and progress.

Uncompleted work which, in the judgment of the Owner, might hinder or prevent the prompt completion of additional work if awarded.

Being in arrears on existing Contracts.

Having defaulted on a previous Contract.

C-3.11 MATERIALS GUARANTY:

Before any Contract is awarded, the Owner may require the Bidder to furnish a complete statement of the origin, composition or manufacturer of any and all materials proposed to be used in the work, together with samples, which may be subjected to tests to determined their quality and fitness for the work.

AWARD AND EXECUTION OF CONTRACT

C-4.01 CONSIDERATION OF PROPOSALS:

For the purpose of award, after the proposals are opened and read, the bids considered the most advantageous to the Owner will be carefully studied. The bids will then be compared and the results made public. Until the award of the Contract is made, the Owner reserves the right to reject any or all proposals, to waiver technicalities, to advertise for new proposals, or to proceed to do the work otherwise when the best interests of the Owner will be thereby promoted.

C-4.02 AWARD TO CONTRACT:

Contract will not be awarded until the necessary investigations as to the competency of the low bidder are made. Award of Contract will be made by the Owner, upon recommendation by the Engineer, to the lowest responsive and responsible bidder meeting the requirements of the Owner. Award of Contract will be made within sixty (60) days after the opening of proposals, unless stated otherwise in the Notice to Bidders.

C-4.03 RETURN OF PROPOSAL GUARANTIES:

As soon as the proposal price has been compared the Engineer may, at his discretion, return the proposal guaranties accompanying in those proposals which, in his judgment, will not be considered in making the award. When award is made, the successful bidder's proposal guaranty only will be retained until after Contract and Bond have been executed.

C-4.04 PERFORMANCE AND PAYMENT BOND:

With ten (10) days after Notification of Award of Contract, the successful bidder shall execute and file with the Owner a separate surety and payment bond as required by Chapter 93 of the Acts of the Regular Session of the 56th Legislature of Texas, in the full amount of the contract price as a guarantee of the faithful performance of the Contract and payment of all obligations which may be incurred for material and labor used in the work. Bonds shall be executed by a surety company authorized to do business in the State of Texas on the bond forms provided in these Documents. Any surety shall be subject to the approval of the Owner.

C-4.05 EXECUTION OF CONTRACT:

Within ten (10) days after Notification of Award of contract, the successful bidder shall sign and place in the hands of the Owner the necessary agreement entering into a Contract with the Owner.

C-4.06 NOTICE TO PROCEED:

The Notice to Proceed shall be issued within ten (10) days of the execution of the Agreement by the County Engineer provided that the Contractor has properly executed and submitted all Documents required by the Webb County within the same period of time. Should there be reasons why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the County and Contractor. If the Contractor has submitted all Documents required and the Notice to Proceed has not been issued within the ten (10) day period or within the time extension, the Contractor may terminate the Agreement without further liability on the part of either party. Furthermore, should the Contractor fail to execute all the requirements within this same ten (10) days period or within the time extension, the County may terminate the Agreement.

C-4.07 BIDDER INVESTIGATIONS

Webb County may make such investigations as he deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the County all such information and data for this purpose as the County may request.

C-4.08 APPROVAL OF CONTRACT:

No Contract shall be binding upon the Owner until it has been signed and dated by both the Owner and the Contractor and returned to the Contractor.

C-4.09 FAILURE TO EXECUTE CONTRACT:

Failure to comply with any of the requirements of these Specifications, to execute Contract within ten (10) days after notification of work, or to furnish surety as required, shall be just cause for the annulment of the award. In case of annulment of award, the proposal guaranty shall become the property of the Owner, not as penalty, but as a liquidated damage.

C-4.10 PLAN ISSUANCE

After the Notice to Proceed is issued, the Owner shall provide the Contractor with three (3) complete sets of Plans and Specifications for Contractor’s use during

construction. In the case that additional sets are required, the Contractor shall make arrangements to obtain the extra sets at his own expense.

C-4.11 RESPONSE TIME DURING THE PROSECUTION OF THE PROJECT:

The contractor shall furnish the owner with three (3) local telephone numbers and three (3) e-mail addresses where contractor or a responsible representative of contractor can be reached at any and all time during the prosecution of this project, and especially during weekends or holidays, and/or in the event of an emergency.

Failure of contractor to respond to any such emergency which causes County personnel, equipment and materials to be used in such emergency will result in the contractor being charged an amount which shall be twice the cost incurred by the County in using personnel, equipment and materials to handle such emergency due to failure of the contractor to do so, and, in addition, the contractor will be charged a penalty of $500.00 for each emergency to which it does not respond. In this connection, "failure to respond" means the failure of the contractor to respond to telephone calls and/or e-mails from the relevant Webb County Engineering Dept. staff, the Engineer and/or owner.

NOTICES: Any notice of communication required or permitted hereunder shall be sufficiently given if sent by electronic transmission as follows:

To Contractor at: _____.

To Owner at: leperezgarcia@webbcountytx.gov
Luis Perez-Garcia, P.E.
County Engineer

To Project Engineer at: wayne@porrasnance.com- Wayne Nance, P.E.
Licensed Engineering Consultant for Webb County

SCOPE OF WORK

C-5.01 INTENT OF PLANS AND SPECIFICATIONS:

It is the intent of the Plans and Specifications to describe the complete work to be performed under the Contract. Except as provided on the Plans or in the Specifications, it is also the intent that the Contractor shall furnish all materials, supplies, tools, equipment, labor and incidentals necessary to complete the work.

C-5.02 CHANGES AND INCREASED OR DECREASED QUANTITIES OF WORK:

The Owner has the right to make such changes and alterations in the Plans or in the quantities of work as he may consider necessary or desirable, and such changes and alterations shall not be considered as a waiver of any condition of the Contract, nor shall they invalidate any provision thereof. The Contractor shall perform the work as increased or decreased, and no allowance will be made for anticipated profits.

Payment to the contractor will be made for the actual quantities of work done and materials furnished at the unit prices as set forth in the Contract, except as follows:

When the total cost of work to be done, or of materials to be furnished, is more than one hundred and twenty-five 125 percent of the total contract price for the item stated in the Proposal, then either party to the Contract, upon demand, shall be entitled to a revised consideration on that portion of the work above one hundred and twenty-five (125%) percent of the total contract price for the item stated in the Proposal.

The original contract price may not be increased by more than 25% percent unless the change order is necessary to comply with a federal or state statute, rule, regulation, or judicial decision enacted, adopted, or rendered after the contract was made.

When the total cost of work to be done, or of materials to be furnished, is less than seventy-five (75%) percent on the total contract price for the item stated in the Proposal, then either party to the Contract, upon demand, shall be entitled to a revised consideration on the work actually done.

Revised consideration shall be determined by supplemental agreement between the parties, which supplemental agreement shall be included with, and shall become a party of, the Contract.

C-5.03 OMITTED ITEMS:

The Owner may, in writing, order the omission from the work of any item found unnecessary to the project. Such omission shall be subject to all provisions of Par. C-5.02.

C-5.04 EXTRA WORK:

When the proper completion of the project requires work for which no quantities or prices were shown in the Proposal, such work shall be called "EXTRA WORK" and shall be performed by the Contractor when so directed in writing by the Owner. "EXTRA WORK" shall be performed in accordance with these Specifications and as may be directed by the Engineer.

Prices for extra work shall be itemized and covered by a supplement agreement submitted by the Contractor and approved by the Owner prior to the starting of such work.

Claims for extra work not authorized in writing by the Owner prior to the performance thereof will be rejected.

C-5.05 MAINTENANCE OF TRAFFIC:

When the work requires partial or complete closing of any driveway, alley, street, or roadway, the Contractor shall so schedule and prosecute his work that traffic will be hindered to a minimum.

C-5.06 REMOVAL AND DISPOSAL OF STRUCTURES AND OBSTRUCTIONS:

All structures and/or obstructions on the site of the work, which are not to remain in place or which are not to be used in the new construction shall be removed as directed by the Engineer. Such items of removal are not listed in the Proposal will not be paid for as separate items; the cost of doing such work shall be included in the unit price bid for other items.

C-5.07 TOOLS AND ACCESSORIES:

When special wrenches, gauges, or other special tools or accessories are required to properly maintain and operate any machine or equipment furnished under this Contract, the furnishing of such tools and accessories shall be deemed to have been included in the Contract and they shall be furnished by the Contractor without extra cost to the Owner.

C-5.08 GUARANTEES:

All structural, mechanical and electrical equipment or instrument shall be guaranteed against mechanical and physical defects, leakage, breakage, or other damage occurring during normal operation for a period of one (1) year after such equipment or instruments have been accepted by the Owner. The Contractor shall promptly repair or make good, at his own expense, any defect in such equipment or instruments.

C-5.09 GENERAL GUARANTEE:

All work included in the Contract shall be guaranteed against faulty material or workmanship for a period of one (1) year after the work has been accepted by the Owner.

Neither final acceptance of the work, nor final payment thereof, nor occupancy and use of the work by the Owner shall constitute a waiver of the Owner's right to require the Contractor to repair or make good any such faulty materials or workmanship.

C-5.10 FINAL CLEANING UP:

Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, tools, and materials and shall dispose of all rubbish, temporary structures, and surplus backfill. The site shall be left in a neat and presentable condition throughout. Any land area, driveway, sidewalk, alley, street or road (concrete or asphalt) which has been cut or disturbed during the prosecution of the work shall be repaired at the Contractor's expense to a condition at least as good or better as originally existed.

C-5.11 EXISTING STRUCTURES:

The Plans show the locations of all known surfaces and subsurface structures. However, the exact location of gas mains, water mains, conduits, sewer etc., is unknown and the Owner assumes no responsibility for failure to show any of these structures on the Plans or to show them in their exact location. It is mutually agreed such failure will not be considered sufficient basis for claims for additional compensation for extra work or for increasing the pay quantities in any manner whatsoever, unless the obstruction encountered is such as necessitates, or requires the building of special work, provision for which is not made in the Plans and Proposal, in which case the provisions in these Specifications for extra work shall apply.

CONTROL OF WORK AND MATERIALS

C-6.01 AUTHORITY OF ENGINEER:

The work will be observed, tested and inspected by the Engineer, and performed to his satisfaction, in accordance with the Contract, Plans and Specifications. The Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed, as to the manner of performance and rate of progress of said work, as to the interpretation of the Plans or Specifications relating to the work, as to the fulfillment of the Contract on the part of the Contractor and to the rights of different Contractors on the project.

Neither Engineer's authority or responsibility under this section or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required by this contract will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

C-6.02 COUNTY ENGINEER AS REFEREE:

The County Engineer will act as referee in all questions, arising under the terms of the Contract between the parties thereto, and his decisions shall be final and binding.

C-6.03 ADEQUACY OF DESIGN:

It is understood that the Owner selected the Engineer named herein to prepare the Plans and Specifications, and all supplements thereto, and it is agreed that the Owner will be responsible for the adequacy of the design, sufficiency of the Plans and Specifications, and safety of structures, provided the Contractor has complied with said Plans and Specifications, all modifications thereof, and additions and alterations thereto approved by the Engineer The burden of proof shall be upon the contractor to show that he has fully complied with the Plans and Specifications, all modifications thereof, and all additions and alterations thereof.

C-6.04 PLANS:

Plans will show the lines, grades, cross sections, details and general features of the work. Where shop drawings or working drawings are required, they shall be furnished by the Contractor and approved by the Engineer. Authorized alterations to the Plans will be endorsed on approved copies of the Plans or shown on supplementary sheets.

The approval by the Engineer of the Contractor's shop drawings or working drawings will not relieve the Contractor of any responsibility under the Contract.

The Contractor shall furnish the Engineer with such blue print copies of shop drawings or working drawings as may be required for approval and for the purposes of supervision.

The contract price shall include the cost of furnishing all such prints.

C-6.05 CONFORMITY WITH PLANS:

The finished work shall conform with the lines, grades, cross sections, details and dimensions shown on the Plans. Such deviations from the Plans as may be required will, in all cases, be determined by the Engineer and authorized in wiring.

C-6.06 COORDINATION OF PLANS AND SPECIFICATIONS AND SUPPLEMENTAL AGREEMENTS:

The Plans, Specifications, and supplemental agreements are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. In case of disagreement, Plans shall govern over "Technical Provisions," and "Special Provisions" shall govern over "Technical Provisions." The Contractor shall not take advantage of any apparent error or omission on the Plans or Specifications. In the event the Contractor discovers any apparent error or

discrepancy, he shall immediately call upon the Engineer for his interpretation and decision, and such decision shall be final.

C-6.07 COOPERATION OF CONTRACTOR:

The Contractor shall give the work the constant attention necessary to facilitate the progress thereof and shall cooperate with the Engineer and with other Contractors in every way possible.

The Contractor shall have on the work at all times, a satisfactory and competent English-speaking Superintendent, authorized to receive order, and act for him as his agent. The Contractor shall designate to the Engineer in writing the name of such Superintendent, and the designated Superintendent may not be removed from the work without the written permission of the Engineer.

C-6.08 CONSTRUCTION STAKES:

The Contractor shall furnish and set at his own expense any and all construction stakes and blue tops as seems necessary for the satisfactory prosecution of the work.

Any missing construction stakes which have been destroyed by the different utility companies, vandals and/or the contractor at the time of construction will be replaced by the contractor at this own expense.

The Engineer may, at his option, make spot or complete checks on all construction alignment and grades to determine the accuracy of the contractor's survey work. These checks, however, will not relieve the Contractor of his responsibility of constructing the work to the lines and grades as shown on the plans or approved change orders. Computations, sketches, and other drawings used in the design and layout of this project will be made available to the Contractor, however these items will not relieve the contractor of his responsibility.

C-6.09 QUANTITIES OF MATERIALS:

It shall be the responsibility of the Contractor to verify all quantities of materials shown on the Plans before ordering such materials. Payment is provided for acceptable materials, and materials rejected due to improper fabrication or excess quantity or other reasons within the control of the Contractor will not be paid for regardless of the quantities or dimension shown on the Plans.

C-6.10 APPROVAL OF MATERIALS:

The sources of supply of materials shall be subject to the approval of the Engineer. Representative samples of materials proposed for use shall be

submitted, if required, for examination and testing by an independent testing laboratory selected by the County.

Results obtained from testing such samples may be used for preliminary approval, but will not be used as final acceptance of materials. All materials proposed for use may be inspected or tested at any time during their preparation or use.

If at any time, it is found that sources of supply which have been approved do not furnish a product of uniform quality, or if the product becomes unacceptable at any time, the Contractor shall furnish approved material from another source.

Any material, which after approval has for any reason become unfit for use, shall not be incorporated into the work.

C-6.11 SAMPLES AND TESTS:

Samples and testing procedures shall conform to the requirements of appropriate designations of the American Association of State Highway Officials or the American Society for Testing Materials.

Test for determining the fitness of materials; tests for the purpose of obtaining preliminary approval of materials; tests for determining concrete mixes will be at the expense of the Contractor. Tests for the actual control of the work, such as soil compacting tests and concrete compressive strength test, will be at the expense of the Owner. Any and all retesting because of failure in soil compaction or concrete compressive strength tests shall be done at the expense of the Contractor. Tested and accepted subgrade shall be covered and protected with the flexible base within a maximum of seven (7) days. Tested and accepted flexible base shall be primed and cured a minimum of seventy two (72) hours and shall be cured with asphalt within seven (7) days. Failure to comply with the seven (7) days limitations may result in the need for re-testing at the Contractors expense depending on weather conditions and at the discretion of the Engineer. The Contractor shall provide such facilities as the Engineer may require for conducting field tests and collecting and forwarding samples. All sampling and testing shall be under the control of the Engineer and shall be done in laboratories approved by him.

C-6.12 STORAGE:

Materials shall be stored as to insure the preservation of the quality and fitness for the work. Material which is not, in the opinion of the Engineer, properly stored and protected will not be included as material in hand in the estimates.

C-6.13 AUTHORITY AND DUTIES OF INSPECTORS:

Inspectors employed by the Owner shall be authorized to inspect all work done in any part of the project and all preparation, fabrication, or manufacturer of the materials to be used.

The Inspector shall be authorized to call to the attention of the Contractor any failure of the work or materials to conform to the Specifications or the Plans. He will in no case act as foreman or perform other duties for the Contractor, nor shall he interfere with the management of the work. In the event the Contractor does not comply with the requirements of the Owner and the Engineer, he may stop all work until the non-compliance is corrected.

If the progress of the work becomes unduly delayed because of negligence on the part of the Contractor, the Inspector shall notify the Owner and the Engineer, who may require the Contractor to give reasons for the delay. If it is found that the Contractor is at fault, then it is the prerogative of the Owner to demand correction.

Inspection as provided herein shall not relieve the Contractor from any obligation to perform the work in conformity with the requirements of the Plan and Specifications. No Inspector shall be authorized to revoke, alter, enlarge or release any requirements of the Plans and Specifications, or to issue instructions contrary to the Plans and Specifications, or to approve or accept any portion of the work.

The Contractor shall furnish every reasonable facility for ascertaining whether or not the work is performed in accordance with the Plans and Specifications.

No backfill shall be made unless inspected by the Engineer or the County's representative designated in writing and verbal approval of field Engineer is given to such work; if the Contractor should backfill any work without such inspection and approval, the Contractor shall remove or uncover such portions of the finished work as may be directed. After examinations, the Contractor shall restore said portion of the work to the standard required by the Plans and Specifications. Should the work thus exposed and examined prove acceptable or unacceptable, the uncovering or removing and the replacing of the covering or making good of the parts removed shall be done at the Contractor's expense.

C-6.14 SUSPENSION OF WORK:

In case of any dispute arising between the Contractor and the Inspector as to materials furnished or the manner of performing the work, the Inspector shall have authority to reject materials or suspend work until the question at issue can be referred to and decided by the Engineer.

If the Contractor refuses to suspend work on verbal order, the Inspector shall issue a written order to suspend work giving the reason for such suspension. After placing the order in the hands of the Contractor's man in charge, the Inspector

shall immediately leave the job. Work done during the absence of the Inspector shall not be paid for.

C-6.15 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK:

All work which has been rejected or condemned shall be repaired or removed and replaced as the Engineer may direct, at the expense of the Contractor. Materials not conforming to the requirements of the Plans and Specifications shall be removed immediately from the site of the work and replaced with satisfactory material at the expense of the Contractor.

Work done without lines and grades, work done beyond the lines and grade shown on the Plans, work done without inspection, or any extra or unclassified work done without written authority and prior agreement in writing as to the prices will be done at the Contractor's risk and will be considered unauthorized. At the option of the Engineer, such work may not be measured and paid for, or may be ordered removed and replaced at the expense of the Contractor.

Upon the failure of the Contractor to repair satisfactorily or to remove and replace rejected, unauthorized, or condemned work or materials immediately after receiving formal notice from the Engineer, the Owner may at his own option:

a. Recover for such defective work or materials on the Contractor's bond, or;

b. Recover from such defective work or materials by action in a court having proper jurisdiction in such matter, or;

c. Employ labor and equipment and satisfactorily repair, or remove and replace, such defective work or materials and charge the cost of same to the Contractor, which cost will be deducted from any money due him.

C-6.16 DISPUTED CLAIMS FOR EXTRA WORK:

In case the Contractor deems extra compensation is due him for work or materials not clearly covered in the Contract, or not ordered by the Engineer as "EXTRA WORK", the Contractor shall notify the Engineer in writing of his intention to make claim for such extra compensation before he begins the work on which he bases the claim and shall afford the Engineer every facility for keeping actual cost of the work.

Failure on the part of the Contractor to give such notice or to afford the Engineer every facility for keeping account of actual cost of the work shall constitute waiver of the claim for extra compensation. The filing of such notice by the Contractor and the keeping of cost by the Engineer shall not in any way be

construed to prove the validity of the claim. Extra work of any kind should only be performed by Contractor upon receipt of an approved Change Order issued by Owner. When the work has been completed, the Contractor shall within ten (10) day file claim for extra compensation with the Engineer, who will present it to the Owner for consideration.

C-6.17 FINAL INSPECTION

Whenever the work provided for under the Contract has been satisfactorily completed and the final cleaning up performed, the Contractor shall notify the Engineer to make the "Final Inspection". Such inspection will be made within ten (10) days of such notification. After such final inspection, if the work is found to be satisfactory, the Contractor will be notified in writing of the acceptance of same. No time charge will be made against the Contractor between the date of notification of the Engineer and the date of the final inspection.

LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

C-7.01 LAWS TO BE OBSERVED:

This contract shall be construed in accordance with the laws of the State of Texas. The Contractor shall make himself familiar with and shall observe and comply with, all Federal, State, and local laws, ordinances and regulations which in any manner affect the conduct of the work, and shall indemnify and save harmless the Owner and the Owner's representative against any claim arising from the violation of any such law, ordinance, or regulation whether by himself or by his employees.

C-7.02 PERMITS AND LICENSES:

The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary to the due and lawful prosecution of the work.

C-7.03 PATENTED DEVICES, MATERIALS AND PROCESSES:

If the Contractor is required or desires, to use any design, device, material or process covered by letters, patent, or copyright, he shall provide for such use by suitable legal agreement with the patentee or Owner of such patent. The Contractor and his surety shall indemnify and save harmless the Owner from any and all claims for infringement by reason of the use of any such patented design, device, material, or process, or any trademark or copyright in connection with the work agreed to be performed under this Contract, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay for reasons of any such infringement at any time during the prosecution, or after the completion of the work.

C-7.04 PUBLIC, SAFETY AND CONVENIENCE:

The safety of the public and the convenience of traffic shall be regarded as of prime importance during construction and provisions thereof, made necessary by the work, shall be the direct responsibility of the Contractor, and shall be performed at his own expense.

Where the Contractor is required to construct temporary crossings for streams, culverts, ditches or trenches, his responsibility for accidents shall include the approaches as well as the structures of such crossing.

C-7.05 SANITARY PROVISIONS:

The Contractor shall, at his own expense, provide and maintain in a neat, sanitary condition such accommodations for the use of his employees as may be necessary

to comply with the requirements or the State Department of Health and of other authorities having jurisdiction.

C-7.06 BARRICADES AND WARNING SIGNS:

The Contractor shall furnish and maintain adequate barricades, warning and directing signs, red flags, lights and other traffic control devices as are necessary to comply with the latest edition of the TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS.

All provisions of barricades and warning signs shall be considered an incidental and necessary part of the work and no direct payment will be made therefore. All costs of providing such safe guards shall be included in the prices bid for other parts of the work.

C-7.07 USE OF EXPLOSIVES:

When the use of explosives is necessary in the prosecution of the work, the Contractor shall use the utmost care not to endanger life or property. All explosives shall be stored in a secured manner and all storage places shall be marked clearly with the words "DANGEROUS EXPLOSIVES". The method of storing and handling explosives and highly inflammable materials shall conform to the requirements of Federal and State laws and regulations. The Contractor shall not use explosives until he has taken the legal precautions necessary to save harmless the Owner from any claims arising from such use of explosives.

C-7.08 PROTECTION AND RESTORATION OF PROPERTY:

The Contractor shall take all measures necessary to protect public or private property which might be injured by any process of construction, and in case of any injury or damage to said property, he shall restore at his own expense the damaged property to a condition similar or equal to the existing before such injury damage was done, or he shall make good such injury or damage in an acceptable manner.

Where the work involves excavation any public or private driveway, alley street or roadway, the Contractor shall do any work necessary to restore such driveway, alley, street or roadway to a condition similar or equal to that existing before such work was done. The Contractor shall be responsible for any subsidence of backfill or pavement failure due to such excavation, and shall promptly repair any such subsidence or failure.

C-7.09 PROTECTION OF EXISTING UTILITIES:

The Contractor shall contact the utility company for exact location prior to doing any work that might interfere with or damage present utilities.

The Contractor shall take all measures necessary to protect existing surface drains, seers, underdrains, conduits, utilities, or similar underground structures, and to provide temporary service when service in any of these is interrupted.

When such facilities are encountered, the Contractor shall notify the Engineer who will arrange for their removal, if necessary. Any utility lines cut or damaged shall be repaired and restored to working conditions as determined by the Engineer.

C-7.10 RESPONSIBILITY FOR DAMAGE CLAIMS:

The Contractor shall save harmless the Owner from all suits, action in or claims brought on account of any injuries or damages sustained by any person or property in consequence of any neglect in safeguarding the work by the Contractor; or on account of any claim or amount recovered for any infringement of patent or reward under the "Workmen's Compensation Laws" or any other laws. He shall be held responsible for all damage or injury to property of any character occurring during the prosecution of the work resulting from any omission, neglect, or misconduct on his part in the manner or method executing the work, or from defective work or materials.

C-7.11 RESPONSIBILITY FOR THE WORK:

Until acceptance of the work by the Engineer, in writing, it shall be under the charges and care of the Contractor. The Contractor shall rebuild and make good at his own expense all injuries and damage to the work occurring before its completion and acceptance. In case of suspension of work for any cause, the Contractor shall be responsible for all the preservation of all materials.

C-7.12 USE OF COMPLETED WORK:

Whenever, in the opinion of the Engineer, any portion of the work is in acceptable conditions, it may be entered upon and used by the Owner upon the written order of the Engineer. Such use shall be held an acceptance of that portion of the work, but not into be considered as a waiver of any of the provisions of these Specifications. Pending final completion and acceptance of the entire work, all necessary repairs and renewal of any part of the work so used, due to defective material or work, to natural causes other than wear and tear, or to the operations of the Contractor, shall be performed by the Contractor at his own expense.

C-7.13 NO WAIVER OF LEGAL RIGHT:

Inspection by the Engineer or by any of his duly representatives, any order, measurement, or certificate by the Engineer; any order by the Owner for the payment of money, any payment for or acceptance of any of work, or extension of

time; or any possession taken by the Owner shall not operate as a waiver of any provision of the Contract, or any power therein preserved to the Owner, or of any right to damages therein provided. An waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach.

The Owner reserves the right to correct any error that may be discovered in any estimate that may have been paid, and to adjust that or any subsequent estimate to meet the requirements of the Contract. The Owner reserves the right to claim and recover sums as may be sufficient to correct any error or make good any deficit in the work resulting from error, dishonesty, or collusion in the work after the final payment has been made.

C-7.14 RESPONSIBILITIES OF PARTIES AS TO UTILITY WORK:

It shall be the responsibility of the Contractor to check and coordinate his work with the public and private utility companies which have authority from Webb County to own and operate lines, pipes, conduits, or other means of conveyance within the streets Right-of-Way. The Contractor shall contact the Engineer concerning any and all utility relocation work needed, and it shall be the responsibility of the Contractor to advise the Engineer of any lines or utility poles to be relocated. The Engineer shall assist in coordinating the various utility relocation activities but shall not be responsible for any delays occasioned by this work, although appropriate allowance for additional contract time will be made by the Engineer if warranted. The Owner shall not be responsible for any acts of the Contractor or any damages resulting from work done by the Contractor relating to the removal, alteration, or other activity concerning utilities.

PROSECUTION AND PROGRESS

C-8.01 RIGHT-OF-WAY:

The Owner will furnish all and or right-of-way necessary for the performance of the contract and will use due diligence in acquiring land or right-of-way. Should all necessary land or right-of-way not be acquired prior to the beginning of construction, the Contractor shall begin with work upon such land or right-of-way as the Owner may have acquired.

C-8.02 DELAYS DUE TO OWNER:

Should the Owner be prevented or enjoined from proceeding with the work or authorizing its prosecution, either before or after its commencement, by reason of any litigation or by reason of the Owner's inability to acquire necessary land or right-of-way, the Contractor shall not entitled to make or assert any claim for damage by reason of such delay, or to withdraw from the contract except by consent of Owner.

The time for completion of the work will be extended by such time as determined by the Engineer as will compensate for the time lost by reason of said delay.

C-8.03 SUBLETTING OR ASSIGNING OF CONTRACT:

The "County" does not allow, permit, negotiate, authorize nor approve any assignment of contract proceeds between the "County", the "Contractor", and/or with a bank, lending institution or any type of financial institution either before, during or after a contract award.

The "County" agrees to pay the "Contractor" for specified services as stated in the agreed contract. The "County" does not agree to pay any additional party either jointly or separately for the contract under discussion.

C-8.04 SUBCONTRACTING:

The Owner will not recognize any subcontractor on the work. The Contractor shall be fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them.

C-8.05 PROSECUTION OF WORK:

Prior to beginning of the work, the Contractor shall submit to the Engineer such schedules, charts, or briefs as may be required, outlining the manner of prosecution of the work. The contractor shall begin the work within ten (10) calendar days after the date set in the "Work Order" or notice to proceed and shall continuously prosecute same with such diligence as will enable him to complete

the work within the time specified. Upon completion of work submit forms of Affidavit of Payment of Debts and Claims and Release of Liens and Letter for Certificate of Warranty.

The contractor shall notify the Engineer at least twenty-four (24) hours prior to the beginning at any point. He shall not begin new portions of the work to the detriment of portions already begun.

Owner's normal working hours are Monday through Friday from 8:00 AM to 5:00 PM. The contractor shall notify the owner at least twenty-four (24) hours in advance for any work that is to be scheduled beyond the limits of the owner's working hours, and he shall not begin any such work schedule unless proper inspection by the Contractor has been pre-arranged with the Owner, with the cost for such work beyond the owner's working hours borne by the Contractor. <u>For Clarification, See Division B - Section 4 "Inspection by County".</u>

If at any time the methods, equipment, or sequence of operations sued by the Contractor are found to be inadequate to secure the quality of the work or rate of progress required by the contract, the Engineer may in writing order such modifications in the Contractor's methods, equipment, or sequence of operations as he may deem necessary and the contractor shall comply with such order.

C-8.06 WORKMEN AND EQUIPMENT:

All workmen employed by the Contractor shall be skilled and competent. Any person employed by the Contractor who in the opinion of the Engineer does not perform his work in a proper and skillful manner or who is disrespectful, intemperate, disorderly, or otherwise objectionable shall at the written order of the Engineer be immediately removed from the work and shall not be employed again on any part of the work without written consent from the Engineer.

The Contractor shall furnish and use such suitable machinery and equipment as may be required in the opinion of the Engineer to properly prosecute the work. The Contractor shall at the written order of the Engineer remove from the work any equipment found unsuited to properly perform the work.

Upon failure of the Contractor remove the work any person or equipment as ordered by the Engineer, the Engineer may withhold all estimates which have or may become due, or may suspend the work until such orders are complied with.

C-8.07 TEMPORARY SUSPENSION OF WORK:

The Engineer shall have the authority to suspend the work wholly or in part for such period or periods as he may deem necessary due to unsuitable weather, or such other conditions as are considered unfavorable for the prosecution of the

work or for such time as is necessary due to failure on the part of the Contractor to comply with orders given or to perform any or all provisions of the contract.

If work is stopped for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way, and he shall take every precaution to prevent damage or deterioration of the work performed.

The Contractor shall not suspend the work without written authority from the Engineer and shall proceed with the work promptly when notified by the Engineer to resume operations.

C-8.08 COMPUTATION OF CONTRACT TIME:

The Contractor shall complete the work within the number of days stated in the contract. The number of days used shall be the number of days from the first day of actual commencement of operations or the 10th day after the date set in the Work Order or Notice to Proceed whichever comes first, and counting that day as the first elapsed day of contract time.

If the completion of the contract requires unforeseen work, or work and materials in greater quantities than those set forth in the proposal, then additional days or suspension of time charge will be allowed the Contractor equal to the time which in the opinion of the Engineers the work as a whole is delayed.

C-8.09 FAILURE TO COMPLETE THE WORK ON TIME:

The time set forth in the proposal for the completion of the work is an essential element of the contract. If the contractor fails to complete the work in the number of contract days specified, a time charge will be made for each day thereafter until the work has been satisfactorily completed.

An amount per day is set forth in the Division B Section 1, and said amount is to be deducted from the amount due the Contractor for each day charged in excess of the number specified, the time charge shall be based on the total days of such delay. Such deductions shall be considered liquidated damages and may be used as compensation to the Owner for the added expenses for engineering supervision, testing, inspection, and other costs.

C-8.10 ABANDONMENT OF WORK OR DEFAULT OF CONTRACT:

The Engineer may give notice in writing to the Contractor and his surety of delay, neglect, or default stating which if the Contractor:

- Fails to begin work within the time specified, or fails to perform the work with sufficient workmen and equipment;

- Fails to provide materials of sufficient quantity to insure the completion of the work within the contract time; or

- Performs the work unsuitable; or

- Neglects or refuses to remove materials or perform new work such as may have been rejected; or

- Discontinues the work without authority; or

- Refuses to suspend or resume operations when so directed by the Engineer; or

- Becomes insolvent or is declared bankrupt; or

- Commits any act of bankruptcy insolvency; or

- Makes an authorized assignment for the benefit of any creditor; or

- Fails from any other cause whatsoever to carry out the work in an acceptable manner.

The ten (10) days after such notice if given, if a satisfactory effort has not been made by the Contractor or his surety to correct such delay, neglect, or default, the Owner may declare the work abandoned and so notify the Contractor and his surety.

After receiving such notification of abandonment, the Contractor shall not remove from the work any machinery, equipment, tools, materials or supplies then on the site. The Owner shall have the power and authority without violating the contract to take prosecution of the work out of the hands of the contractor and to appropriate or use any or all materials and equipment on the site as may be suitable and acceptable and enter into an agreement for the completion of the contract according to the terms and provisions thereof, or use such other methods as he may elect for the completion of the contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under the contract shall be deducted from any money due or which may become due to the contractor. In the case the cost to the Owner is less than the amount which would have been payable under the contract if it had been completed by the Contractor, then the Contractor shall be entitled to receive the difference. In case the cost to the Owner exceeds the amount which would have been payable under the contract, if it had been completed by the Contractor, the Contractor and his surety shall be liable and shall pay the Owner the amount of such excess.

MEASUREMENT AND PAYMENT

C-9.01 MEASUREMENT OF QUANTITIES:

All work completed under the Contract will be measured in United States standard measures. Linear and surface measurements will be taken horizontally unless otherwise shown on the Plans. Structures will be measured to the neat lines shown on the Plans.

When any material is cubic yards in the vehicle, such measurement will be made at the point of delivery. The capacity of each vehicle shall be plainly marked on said vehicle and the capacity of marking shall not be changed without written permission of the Engineer. The Engineer shall have authority to require all vehicles to have uniform capacity.

C-9.02 SCOPE OF PAYMENT:

The Contractor shall accept the payment as provided in this Contract as full compensation for furnishing all materials, equipment, tools, labor and incidentals necessary to complete the work and for performing all work contemplated and embraced under this contract, as full compensation for loss or damage arising from the nature of the work, or from action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the work; as full compensation for all expenses incurred in consequence of the suspension or discontinuance of the work; as full compensation for all expenses incurred in consequence of the suspension or discontinuance of the work herein specified; as full compensation for expenses incurred in any infringement of patent, trade-mark, or copyright; and as full compensation for completing the work in conformity with the requirements of the Plans and Specifications. Payment will be made only on items which are complete, in place, tested and accepted by the owner. Materials on hand shall be considered for payment ONLY when proper PAID invoices are submitted with Contractor's pay estimates. Materials on hand must be placed in a secured area designed for the project under this contract and be available for inspection by County Engineers at all times. The Contractor must provide an inventory of all materials on a form acceptable to the County Engineer and which must accompany each pay request. The payment of any partial or current estimate shall in no way affect the obligation of the Contractor at his own cost to repair or renew any defective parts of the construction or to replace any defective materials used in the construction and to be responsible for all damages due to such defects. Any items to complete the work indicated on plan shall be considered subsidiary to include positions of work and no further compensation will be made.

No monies payable under this contract, except the estimate for he first month or period, shall become due and payable until the Contractor shall satisfy the Owner that he has fully settled and paid for all materials and equipment used in or upon

the work and labor done in connection therewith and the Owner may if he so elects pay any or all bills wholly or in part, and deduct the amount or amounts paid from any estimate(s) except the first estimate.

In event the surety on any bond given by the Contractor becomes insolvent or is placed in the hands of a receiver or has its right to do business in the State revoked by Law, the Owner may if he so elects withhold payment of any or all estimates until the Contractor shall give a good and sufficient bond in lieu of the bond so executed by said surety.

C-9.03 PAYMENT FOR ALTERED QUANTITIES:

When alterations in the Plans or quantities of work not requiring supplemental agreements are ordered and performed, the Contractor shall accept payment in full at the contract price for the actual quantities of work done. No allowance for anticipated profits will be made. Increased or decreased work involving supplemental agreements will be paid for as stipulated in such agreements.

C-9.04 PAYMENT FOR OMITTED ITEMS:

When any item ordered omitted from the Contract, the Contractor shall accept payment in full at the contract price for any work actually performed on such item prior to the date of issuance of such order. No allowance will be made for anticipated profits on work ordered omitted. Acceptable materials ordered by the Contractor, or delivered on the work prior to the date of issuance of such order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner. The Contractor shall submit immediately certified statements covering all money expended in the preparation for any item ordered omitted and shall be entitle to reimbursement for any money expended in preparation for any items when such preparation is of no value to the remaining items of the Contract.

C-9.05 PAYMENT FOR EXTRA WORK:

Extra work performed under a supplemental agreement will be paid for according to the terms of such supplemental agreement.
Extra work if performed on a force account basis will be paid for as follows:

For all labor and foreman, the Contractor will receive the wage paid on the project for each hour that said labor and foremen are actually engaged on such work to which shall be added the actual cost of premiums for public liability and workmen’s compensation insurance and social security taxes for the actual amount of such payroll.

For all materials used on such work the Contractor will receive the actual cost of such materials including freight charges.

For machinery and equipment used on such work the Contractor will receive an agreed rental price for each hour that such machinery and equipment is actually used on such work. The agreed price shall include the cost of fuel, lubrication and repairs.

To the sum of the foregoing an amount equal to fifteen (15) percent thereof will be added, as compensation for the use of small tools, Superintendent's services, timekeeper's services.

Premium on bond and all other overhead expenses incurred in the prosecution of the extra work including Contractor's profit.

The sum of such payments provided for shall be accepted by the Contractor's as full compensation as provided in C-9.02.

C-9.06 PARTIAL PAYMENTS:

Once a month and within the thirty (30) days after submittal of a correct and complete estimate, the Owner shall make a progress payment to the basis of a duly certified and approved estimate of the work performed during the preceding calendar month under this Contract. To insure the proper performance of the Contract, the Owner shall retain ten (10) percent ** of the amount of each estimate until final completion and acceptance of all work covered by this Contract.

**NOTE Retainage for construction contracts over four hundred thousand ($400,000) shall be five (5) percent.

In the event that the base bid is less than twenty-five thousand ($25,000) the total contract price will be paid in one payment upon completion and acceptance of the project.

Should any defective material or work be discovered or should a reasonable doubt arise as to the integrity of any part of the work completed prior to final acceptance and payment, there will be deducted from the first estimate presented after the discovery of such work, an amount equal to the value of the defective or questionable work. Such defective work will be made from all subsequent estimates until the defects have been remedied or the cause for doubt removed.

C-9.07 TERMINATION OF THE CONTRACT BY THE CONTRACTOR:

If the work is stopped for a period of thirty (30) days under an order of any court of other public authority having jurisdiction, or as a result of an act of government, such as declaration of a national emergency making materials unavailable, through no act or fault of the Contractor or subcontractor or their agents or employees or any other persons performing any of the work under a

Contract with the Contractor, or if the work should be stopped for a period of thirty (30) days by the Contractor because the Engineer has not issued a Certificate for payment as provided in C-9.06 or because the Owner has not made payment within the ten(10) days after such stopping of work, then the Contractor may, upon seven (7) additional days written notice to the Owner and the Engineer, terminated the Contract and recover from the Owner payment for all work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment and machinery, including reasonable profit and damages.

C-9.08 TERMINATION OF THE CONTRACT BY THE OWNER:

If the Contractor is adjudged a bankrupt, or if he makes a general assignment for the benefit of his creditors, or if a receiver is appointed on account of his insolvency, or if he persistently or repeatedly refused or fails, except in cases for which extension of time is provided, to supply enough properly skilled workmen, or proper materials, or if he fails to make prompt payment to Subcontractors or for materials or labor, or persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a substantial violation of a provision of the Contracts Documents, then the Owner, upon certification by the Engineer that sufficient cause exists to justify such action, may without prejudice to any right or remedy and after giving the Contractor and his surety, if any, seven (7) days written notice, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and may finish the work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished.

C-9.09 UNPAID BALANCES

If the unpaid balance of the Contract Sum exceeds the costs of finishing the work, including compensation for the Engineer's additional services made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or to the Owner, as the case may be, shall be certified by the Engineer, upon application, and this obligation for payment shall survive the termination of the Contract.

C-9.10 ACCEPTANCE OF FINAL PAYMENT:

When the work provided for in the contract has been completed and the final inspection has been made by the Engineer, and all parts of the work have been approved and accepted, the final estimate showing all sums due the Contractor shall be prepared. All prior partial estimates and payments shall be subject to correction in the final estimate and payment. No payment on the final estimate

will be made until the Contractor furnishes satisfactory evidence that all claims growing out of lawful demands of laborers, work, men, mechanics, subcontractors, material, men, furnishers of machinery and parts thereof, and suppliers of all kinds have been satisfied. Upon final payment the Contractor shall execute a certificate and release upon the Owner on the form specified.

C-9.11 AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS AND RELEASE OF LIENS:

Each and every pay estimate must be accompanied by an "Affidavit of Payment of Debts and Claims and Release of Liens" form (sample of which follows this Section).

C-9.12 MATERIALS ON HAND INVENTORY:

When materials on hand payment is requested, and "Inventory of Materials on Hand" is required and must be included with Contractor's Pay Estimate. Proof of payment for materials on hand is also to be included with the Materials Inventory. A sample form follows this section.

C-9.13 PHOTOGRAPHS:

The Contractor shall submit with each monthly progress pay estimate four (4) each 3 ½" x 5" color photographs depicting generally the work done during that month, and each photograph properly identified and dated.

WEBB COUNTY CONTRACTOR'S APPLICATION FOR PAYMENT FORM

Project: **La Presa Water Dispenser Station**

Estimate # _____
From: _____
To: _____

Original Amount:	$_____	Total Amt. To Date:	$_____
Change Orders:	$_____	Materials on Hand:	$_____
	_____	% Retainage:	$_____
Total to Date:	$_____	Previous Payments:	$_____
% Complete:	$_____	Amount Due:	$_____

CERTIFICATE OF CONTRACTOR:
I certify that all items and amounts shown on this request for partial payment are correct, and that all work has been performed and/or materials supplied in full in accordance with the requirements of the contract documents:

CONTRACTOR: By:_____
(Signature) Date

_____
Type Name of Company

_____
Type name

CERTIFICATE OF FIELD REPRESENTATIVE:
I have checked this request for partial payment against the notes and reports of my inspections of the project and in my opinion, the statement of work performed and/or materials supplied is accurate and that the contractor is observing the requirements of the contract documents.

WEBB COUNTY By:_____
INSPECTOR (Signature) Date

_____
Type name

CERTIFICATE OF ARCHITECT/ENGINEER:
I certify that I have checked and verified the above and foregoing request for partial payment and that it is a true and correct statement of work performed and/or materials supplied by the contractor and that same has been performed and/or supplied in full accordance with the requirements of the contract documents.

ENGINEER: By:_____
Porras Nance Engineering Wayne Nance, PE Date

Type name

RECOMMENDED FOR PAYMENT:

_____
Signature Date
Luis Perez Garcia, PE, CFM
County Engineer

APPROVED FOR PAYMENT:

_____
Signature Date

AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS
AND RELEASE OF LIENS

STATE OF TEXAS *

COUNTY OF WEBB *

TO: WEBB COUNTY

PROJECT: "**La Presa Water Dispenser Station"**

By this instrument the undersigned Contractor engaged in the construction of the above project hereby certifies that on this date, or any time prior thereto, except listed below, the Contractor has paid the full or has otherwise satisfied all obligations for all materials and for all known indebtedness and claims against the project, its land, improvements and equipment of every kind.

The undersigned hereby certified that he has received all payments currently due under his Contract for work on the above referred. Therefore, the undersigned does hereby waive and/or release any and all liens against the property, project and as of the _____ day of _____, 20___.

_____

_____
Contractor

_____
Authorized Signature

_____
Typed Signature and Title

STATE OF _____

COUNTY OF _____

Before me, Notary Public for and in _____ County, State of _____ on this day personally appeared _____ known to me to be the person whose name is subscribed to the foregoing affidavit and acknowledge to me that he/she executed the same for the purpose and consideration expressed therein.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS _____ DAY OF _____, 20_____.

_____
Signature - Notary Public for the State of Texas

_____
Notary Public's Typed Signature

My Commission expires: _____

MATERIALS ON HAND INVENTORY

Project: "**La Presa Water Dispenser Station"**

Contractor: _____

Estimate No. _____ Dates: From _____ to _____

No.	Invoice No.	Vendor	Balance Last Period	Received Current	Placed Current	Balance

FORM LETTER FOR CERTIFICATE OF WARRANTY

DATE: _____.

Luis Perez Garcia, PE, CFM
County Engineer
1620 Santa Ursula, 2nd Floor
Laredo, Texas 78040

RE: "**La Presa Water Dispenser Station"**

Dear Mr. Perez Garcia:

_____, guaranties all material and workmanship on the above referred project to be free of defects for a period of one (1) year from the date of acceptance by the Owner. Upon notice, any defective materials or faulty workmanship developing within this period will be replaced at no cost to the Owner.

Sincerely,

_____

Company Name & Authorized Signature

_____

Type In Name of Corporate Officer

ACKNOWLEDGEMENT

STATE OF _____

COUNTY OF _____

Before me, the undersigned authority, on this day personally appeared _____ that he/she executed the same for the purpose and consideration therein expressed and declared to me that the statements contained herein are true.

SWORN AND SUBSCRIBED TO before me this _____ day of _____, 20____.

_____

Signature - Notary Public for the State of Texas

_____

Notary Public's Typed Signature

My Commission expires:: _____

PORRAS NANCE ENGINEERING
304 E. CALTON
LAREDO, TEXAS 78041
TBPE F-6205
TBPLS F-10188600
OFFICE (956) 724-3097
www.porrasnance.com

SECTION D
LA PRESA WATER DISPENSER STATION
TECHNICAL SPECIFICATIONS

Contractor shall adhere to all technical specifications as therein called for by The City of Laredo Specification Manual for the City of Laredo according to Ordinances # 2004-0-018, dated 2/2/04, adopted by The City of Laredo City Council, and all other specifications as hereto added or forming part of this project.

A copy of the document can be viewed at the City's website at:

http://www.cityoflaredo.com/Building/images/StandardTechnicalSpecificationsManual.pdf

Texas Department of Transportation Specification, where referenced by City specifications can be viewed at:

http://ftp.dot.state.tx.us/pub/txdot-info/des/specs/spec-book-jan-june-15-letting.pdf

The Special Technical Specifications included herein shall supplement the above referenced Standard Specifications and do not encompass all technical specifications involved with the work.

WORK TO BE DONE

The work shall consist of furnishing and installing all materials and doing all the work required to install and complete the water dispenser station fully functional as intended and as indicated on the plans and specifications herein.

GENERAL

The work to be done under this item will be separated into separate bid pay items. The Contractor is responsible for furnishing all labor, tools, materials, and equipment including connection to such items as listed in the specifications or shown on the plans and shall include the furnishing of all services, appliances, incidentals, and superintendence needed for the construction of the water dispenser station.

Construction includes the following principal items, plus appurtenances:

a. Mobilization, site clearing, furnishing, transporting and installing acceptable earthen fill from an outside source, excavation, compaction, site grading and drainage pipes.
b. 43,000 gallon welded steel ground storage tanks with foundations and accessories (Base Bid and Additive Alternate)
c. 2 – Duplex Premanufactured Pump Skids with controls, foundations and enclosures
d. Water Dispensing Station manufactured by AquaFlow Int'l Inc. complete with foundation, enclosure, master arm and accessories.
e. 660 gallon steel, pre-charge Pressure Tank for a Booster Station
f. Reinforced Concrete Pavement
g. All piping, valves, fittings and interconnections
h. All electrical controls, including fixtures, power distribution, instrumentation, conduits, wiring, lighting, and connection to power supply meter with all accessories and appurtenances.
i. Chain Link Fence, and Gates
j. Assembly, Installation and testing all equipment
k. Final clean up and grading.

BID METHOD

Contractors are requested to submit unit price bids. The Owner will consider a Base Bid that includes items outlined above with a single 43,000 gallon capacity ground storage tank. As an option, the Owner will consider an independent Additive Alternate Bid for a second 43,000 gallon capacity ground storage tank to be installed and interconnected to the base bid facilities as shown in the plans. Bidders must bid on BOTH the Base Bid AND the Additive Alternate Bid. Award will be made to the lowest responsive and responsible Base Bid with an option to include the Additive Alternate Bid with the project award. The Owner reserves the right to reject all bids and to otherwise award the project in its own best interest.

AFFIDAVIT

Prior to final acceptance of this project by the Owner, the Contractor shall execute an affidavit stating that all bills for labor, materials, and incidentals incurred in the construction of these improvements have been paid full, and that there are no claims pending.

TIME ALLOWED FOR COMPLETION

The project is to be completed within 210 calendar days. Contractor must aggressively and continuously pursue the work to completion. Liquidated damages may be assessed if the Contractor fails to pursue the work. Inclement weather which prohibits the Contractor from proceeding with the work in accordance with the specifications will be justification for a time extension. Time will be allowed for any day in which weather conditions prohibit the Contractor from working at least six hours. The Contractor must document and claim each such weather delay within ten (10) days of occurrence. The Engineers and/or Owner's on-site representative will determine the validity of any such claims after the completion of the contract.

COMPLIANCE WITH TACB & TCEQ REQUIREMENTS

The Contractor shall fully comply with all Texas Air Control Board (TACB) requirements. The Contractor shall give all notices and secure all permits therein required.

As shown in the site plans, existing residential and community structures lie within 300 feet of the proposed site. The Contractor shall comply with all sections of the Texas Commission on Environmental Quality (TCEQ), Sections 111.131 – 111.139, relating to abrasive blasting of water storage tanks.

All paints incorporated into this project shall be lead free. Where required by TCEQ rules, exterior blasting and paint system application shall incorporate special techniques including but not limited to rolling, shrouding, partial shrouding, vapor blasting, etc.

CONDITION OF THE SITE

Site of the proposed work will be pointed out to the prospective bidders by appointment with the Owner. The Contractor will be permitted the use of the site for his operations and for storage of materials, but such use shall be in conformity with regulations prescribed by the Owner. Upon completion of the work, all materials shall be removed from the site by the Contractor and the site returned to its original condition. Disposal sites will be a responsibility of the Contractor.

EXISTING UTILITIES

The approximate locations of existing underground utilities are shown on the plans. The Contractor shall determine the location of all existing utilities before commencing work. He agrees to be fully responsible for any and all damages which might be occasioned by his failure to locate and preserve any and all underground utilities. In the event that any of the existing utilities are damaged by the Contractor, they will be repaired by the Owner of the utility at the Contractor's expense.

The Contractor is advised that the depths shown on the plans of the various existing underground utilities crossing proposed water main construction are approximate. The Contractor shall verify the depth of the utility prior to commencing excavation activities in these areas, and shall immediately notify the Engineer if the actual depth condition differs substantially from that shown on the plans.

CONSTRUCTION OBSERVATION

The work will be observed by the Owner's Representative and all change orders or communication concerning the work shall be directed to the Owner through the Engineer.

SUPERINTENDENCE

The Contractor shall provide at the project site at all times during construction a competent resident superintendent, satisfactory to the Owner and Engineer, with full authority to act on behalf of the Contractor.

DELAYS CAUSED BY UTILITY ADJUSTMENTS

The Contractor is required to notify each utility company which has poles or underground facilities in conflict with the work. Delays caused by utility work shall be justification for time extensions, but not for extra compensation.

DRAWINGS

The Contractor shall furnish the engineer with structural calculations, six (6) sets of detailed drawings of the tank and foundation prior to any construction work. These calculations and drawings must be signed and sealed by a professional engineer licensed in the State of Texas.

Contractor will be required to submit to the Engineer detailed shop drawings on all manufactured equipment and materials, including reinforced steel, prior to the construction of the various items of equipment including the following:

a. Booster Pump Skids and Controls
b. Site piping, valve, and fitting arrangements
c. Electrical and instrumentation arrangements.

Each submittal shall bear a stamp or specific written certification that the Contractor has satisfied the contract requirements based their review and approval of that submittal. Any variations to the contract requirements shall be clearly noted and labeled on each submittal in addition to a written explanation.

Engineer's review of submittals shall not release Contractor from the Contractor's responsibility for performance of Contract requirements, from fulfilling the purpose of the installation, nor from Contractor's liability to replace defective work.

The purpose of submittals is to demonstrate how the Contractor intends to conform to the design concepts. Engineer's review does not extend to:

a. Accuracy of dimensions, quantities, or performance of equipment and systems designed by Contractor.

b. Contractor's means, methods, techniques, sequences, or procedures except when specified, or required by Contract Documents.

c. Safety precautions or programs related to safety which shall remain the sole responsibility of the Contractor.

Bidders are advised that the specified submittals, shop drawings, record drawings, etc., are an integral and vital part of the Owner's use of the project. Final payment will not be made to the Contractor until all required data has been furnished to the Engineer.

The Contractor will be required to maintain in a safe place at the project site one copy of record drawings, specifications, addenda and change orders in good order.

FEDERAL REQUIREMENTS

Federal requirements, including wage rates, submittals of payrolls, etc. pertain to this work.

TRENCH BACKFILL REQUIREMENTS

The excavated ditch material is to be used for backfill for pipe installed on this contract, as shown in the plans. Backfill shall be placed to a density equal to the natural bank density, but the means to secure this compaction shall be the Contractors responsibility. The Contractor shall repair any settlement of the ditch cut which may occur within one year from the date of acceptance of this project.

SOIL AND FOUNDATION INVESTIGATION

A soil and foundation investigation report has been prepared for use on this project for the Contractors information. Copies of the report are included in these specifications. If any further testing is deemed necessary by the Contractor, it will be accomplished at his/her own expense.

INSURANCE

Contractor's & Subcontractor's Insurance. The Contractor shall also maintain Additional Professional Liability Insurance with a minimum limit of $1 million each occurrence and aggregate.

In the submission of the certificate of insurance, the insurance company in every case must agree to provide the following statement: "The insurance covered by this certificate will not be canceled or materially altered, except after 10 day written notice has been received by the Owner."

Contractor shall purchase and maintain the above insurance (except Workmen's Compensation) as will protect and name as additional named insured Webb County and Porras Nance Engineering, their officers, agents and employees, against claims which may arise from operations under the Contract Documents and shall furnish the Porras Nance Engineering an original certificate evidencing the is insurance coverage.

Additionally, the Contractor shall maintain in place sufficient insurance to protect and replace the equipment being used to accomplish the work and shall indemnify the Owner and Engineer against any claims for loss of his equipment while pursuing the work. This shall include an equipment floater for owned or rental equipment.

LIQUIDATED DAMAGES

For each calendar day in excess of the 210 calendar days allowed to complete the work, liquidated damages shall be deducted from the money due to the Contractor, as is explained in other parts of these contract documents.

LOCAL HIRING

The maximum feasible employment of locals shall be made in the construction of this project. Accordingly, every contractor and subcontractor undertaking to do work on this project shall employ qualified persons who regularly reside in the project area. The Contractor shall provide the local Texas Employment Commission office with a list of all positions which could be filled with local requirements. The Contractor shall give full consideration to all qualified job applicants referred by the local employment service but

is not required to employ any job applicants referred whom the Contractor does not consider qualified to perform the classification of work required.

MATERIAL SUPPLIERS

The Contractor will supply, when requested to do so by the Owner, the brand names of major materials and the names and addresses of major materials suppliers and subcontractors.

MATERIAL TO BE REMOVED

Material to be removed from existing facilities shall be removed by the Contractor and shall become the property of the Contractor for proper and legal disposal or disposition.

NOTIFICATION

It shall be the Contractors responsibility to notify all utility companies and all property owners adjacent to the project 72 hours prior to construction. The notice to property owners shall be in writing in a form acceptable to the Owner.

PAYMENT SCHEDULE

Payment of this work will be made in partial payments for completed work in accordance with the General Condtions if Performance/Payment bonds are furnished. The Contractor shall submit for approval by the Engineer and Owner a Schedule of Values within fifteen calendar days of receiving Notice of Award. This schedule must list in detail all substantial components of the bid items and the cost associated with each component.

PROTECTION OF ADJACENT PROPERTY

It is the Contractors obligation to protect the adjacent property from any damages resulting from his operations. Thus, the Contractor may be required to use special techniques, including but not limited to shrouding, partial shrouding, painting by roller, etc. as required to accomplish this at no further cost to the Owner.

PROTECTION OF FENCES

All fences, yards and drainage features shall be protected by the Contractor against damage from construction. Any fences, yards or drainage features damaged by the Contractor shall be repaired at his expense. All fencing shall be restored in kind.

PERMITS AND LICENSES

The Contractor shall comply with any permit and license requirements of the Owner. The license and/or permits for the work will be issued to the Contractor prior to construction. The Contractor may be required to obtain, at his own expense, and comply with the Texas Pollution Discharge Elimination System Permit (TPDES General Permit TXR 150000) and any other applicable permits.

POWER FOR CONSTRUCTION

The Contractor shall make his own arrangements for electric service and shall purchase all power required for his operation. The contractor shall pay all fees required by the electric company regarding arrangements for temporary power. Contact American Electric Power at (866) 797-4839 for information and charges. .

PRECONSTRUCTION CONFERENCE

The Contractor will be required to attend a preconstruction conference prior to initiation of the work. The Contractor's project superintendent must be in attendance at this conference.

PRIORITY OF DOCUMENTS

The contract documents are meant to be read, understood, and implemented cumulatively, but where any conflicts are found between the Special Conditions or the General Conditions, Supplemental General Conditions or the Plans, the most stringent requirement or data, in the opinion of the Engineer, shall govern.

PROJECT FOREMAN

The Contractor shall keep on his work during its progress a competent Project Foreman and any necessary assistants. The Project Foreman shall represent the Contractor in his absence and all directions given him shall be binding as if given to the Contractor. Important directions shall be immediately confirmed in writing to the Contractor. Other directions shall be confirmed on written request in each case. The Contractor shall give sufficient supervision to the work, using his best skill and attention.

If the Contractor, in the course of the work, finds any discrepancies between the plans and the physical conditions of the locality, or any errors or omissions in the plans or the layout as given by survey points and instructions, he shall immediately inform the Engineer, in writing, and the Engineer shall promptly verify the same. Any work done after such discovery, until authorized, will be done at the Contractors risk.

PROTECTION OF WORK, PROPERTY AND PERSONS

The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this Contract. He shall at all times safely guard and protect his own work and that of adjacent property from damage. The Contractor shall replace or make good any such damage, loss or injury unless such is caused directly by errors contained in the Contract, or by the Owner or his duly authorized representatives.

The Contractor shall take all necessary precautions for the safety of employees on the work and shall comply with all applicable provisions of Federal, State and Municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the work is being performed. He shall erect and properly maintain at all times, as required by the conditions and progress of the work, all necessary safeguards for the protection of workmen and the public, and shall post danger signs warning against the hazards created by such features of construction as protruding nails, hoists, well holes, elevator hatchways, scaffolding, window openings, stairways, trenches and other excavations, and falling materials, and he shall designate a responsible member of his organization on the work site whose duty shall be the prevention of accidents. The name and position of any person so designated shall be reported to the Owner by the Contractor. The person so designated shall be available by phone during non-working hours.

In case of an emergency which threatens loss or injury of property and/or safety of life, the Contractor will be allowed to act without previous instructions from the Owner in a diligent manner. He shall notify the Owner immediately thereafter.

The Contractor expressly undertakes at his own expense:

To store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or the work of any other contractor;

To provide suitable storage facilities for all materials which are liable to injury by exposure to weather, theft, breakage or otherwise;

To place upon the work, or any part thereof, only such loads as are consistent with safety of that portion of the work;

To clean up frequently all refuse, rubbish, scrap materials and debris caused by his operations to the end that at all times the site of the work shall present a neat, orderly and workmanlike appearance;

To remove all surplus material, false work, temporary structures, including foundations thereof, plant of any description and debris of every nature resulting from his operations

and to put the site in a neat, orderly condition before final payment; to effect all cutting, fitting or patching of his work required to make the same conform to the plans and specifications and, except with the consent of the Owner, not to cut or otherwise alter the work of any other contractor.

The Contractor shall not, except after written consent from proper parties, enter or occupy with men, tools, materials or equipment, any privately owned land except on easements provided herein.

ROCK EXCAVATION

Contractors are advised that there is no separate pay item for encountering rock. Any rock or rock-like material encountered by the Contractor shall be processed without any extra charge or claim against Owner.

SAFETY STANDARDS AND ACCIDENT PREVENTION

With respect to all work performed under this contract, the Contractor shall:

1. Comply with the safety standards provision of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1979 (Public Law 91-596), and the requirements of Title 20 of the Code of Federal Regulations, Section 1518 as published in the "Federal Register," Volume 36, No. 75, Saturday, April 17, 1971.
2. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.
3. Maintain at his office or other well known place at the job site, all articles necessary for giving first aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or a doctors care of persons (including employees), who may be injured on the job site. In no case shall employees be permitted to work at a job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.
4. The Contractor shall have a competent person or persons, as required under the Occupational Safety and Health Act, on the site to inspect the work and to supervise the conformance of the Contractor's operations with the regulations of the Act.
5. This project is subject to all of the Safety and Health Regulations (CFR 29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974, and CFR 29, Part 1910 and all subsequent amendments of General Industry Safety and Health Regulations identified as applicable to construction. Contractors are urged to become familiar with the requirements of these regulations.

SANITARY FACILITIES

Contractor shall provide on-site restroom facilities for workers.

SCHEDULE OF WORK

At the Preconstruction Conference, a detailed sequence of work will be submitted by the Contractor to the Owner and is subject to Owner approval. This sequence of work shall be in barchart form and identify all significant dates of construction completion.

STAKING FOR CONSTRUCTION

The Engineer will provide a center point and an orientation stake for the tank location and a bench mark. The Contractor shall provide all other staking or transfer as needed for his operation. Any restaking shall be the Contractor's responsibility.

STATE SALES TAX

The Owner is an exempt entity for the purposes of sales taxes.

The purchase of tangible personal property or a taxable service for this project is exempt from sales tax to the extent allowed by the House Bill No. 85.

Bidders must include all applicable taxes in the cost of his work.

TESTING

All bacteriological and hydrostatic testing must be conducted in the presence of the Owner's representative who will be provided 48 hour notice prior to need. Testing will only be conducted during regular working hours (8-5 weekdays, no holidays). Flushing of lines will be conducted only upon authorization. Bacteriological samples will be delivered by the Contractor to an approved laboratory. The Contractor shall install temporary blow-off assemblies as required to load, flush and test the water main and tank at no additional cost to the Owner. All such temporary flush points shall be sealed water tight after construction completion.

The Contractor will be responsible for providing quality control testing for this project. An allowance for these costs has been provided in the bid forms. Prior to construction the Contractor shall select an Owner approved, licensed testing company to perform field testing. A testing cost schedule shall be submitted by the laboratory for approval. The Owner will reimburse the Contractor according to this schedule for tests required by the Owner’s inspector during the course of construction. Reports shall be submitted to the Owner and the Engineer. The Owner may elect to do other testing.

Concrete:

Take four cylinders per sample for compression strength testing of all placed concrete as follows:

1 at 3 days
1 at 7 days
1 at 28 days
1 Hold

Two (2) samples for strength tests of each mix design of concrete placed each day shall be taken not less than once a day, nor less than once for each 50 cubic yards of concrete. Each sample shall be taken at different times during the pour and from separate batches of concrete.

Embankment/Subgrade:

Take at least one (1) proctor (moisture, density relationship) per site. Subgrade shall be tested in 6-inch lifts at a rate of 1 per 150 LF of street pavement, or as otherwise determined by the Owner's inspector.

WARRANTY

The Contractor shall warrant the work performed against defect in materials and workmanship for a period of one year after acceptance by the Owner. Warranty work will be performed by the Contractor within a reasonable Time of Notice given by the Owner. Failure to respond in a timely fashion will be cause for the Owner to perform the warranty work at the Contractors expense. Contractor repairs under the warranty will carry an additional 90 day warranty period, unless otherwise noted.

WATER FOR CONSTRUCTION

There is not an existing water source at the project site. All water required by the Contractor for his operation will be furnished without charge by the Owner at the Rio Bravo Water Treatment Plant, which is approximately 7 miles southwest of the project site. The Contractor shall make arrangement with the Water Superintendent, Tomas Sanchez at (956) 523-5590. The Contractor shall make all necessary connections and shall transport all water at his/her own expense. Some non-compensable delay in furnishing water may be experienced by the Contractor if the water supply is being curtailed by the Owner for some reason. In this event, the Contractor agrees that he will need to procure water from some alternate source at his sole expense. The Owner reserves the right to terminate this water privilege for excessive use, or for any other misuse.

The Contractor may be required to pay a deposit for a fire hydrant meter, which deposit will be returned when the fire hydrant meter is returned in good condition.

WORKING HOURS

Work on Sundays or accepted holidays is prohibited unless authorized by the Owner three working days in advance of the day requested. Work on Saturday may be pursued if it does not require the Owner's inspector to be present. Work will be accomplished during daylight hours unless authorized for emergency situations by the Owner.

Performance of this work is not payable directly but shall be considered as a subsidiary obligation of the Contractor.

WORK PERIODS

Work may be pursued on the contract during daylight hours except when such work will interfere with the production of water from the existing facilities. This work, which will curtail water production, will be pursued during the night when demand is the least. All such work will be coordinated with the water superintendent.

OPERATING AND MAINTENANCE INSTRUCTIONS

The Contractor will submit three copies of operating and maintenance instructions for all equipment installed in this project. The instructions will include detailed procedures for making adjustments and/or settings that may be required for maintenance, recommended schedule for each maintenance, item, and recommended repair parts (with stock numbers) that should be maintained by the Owner.

SCOPE OF WORK

The work to be done under these specifications includes furnishing all supervision, materials, equipment, tools and labor necessary for the design, manufacture, and erection of a 43,000 gallon ground storage tank, complete with foundation, coating, piping, appurtenances, and all incidentals required to complete the work.

STANDARD WATER STORAGE TANK SPECIFICATIONS

The materials, design, fabrication and erection of the tank shall conform to current Standards for Factory Coated Bolted Carbon Steel Tanks for Water Storage, "AWWA D-103," of the American Water Works Association, and/or governing insurance specifications.

TANK

The tank shall be a new 43,000 gallon, factory powder coated, bolted steel ground storage tank as shown on the plan drawings. A cone roof, sloped to drain toward the shell, shall be provided. The tank shall be in accordance with the shape, dimensions and details required by these specifications and the drawings.

Operating Parameters

Nominal Capacity		43,000 gallon
Inside Diameter		20 - 23 feet
Tank Height		16 -18 feet
Maximum fill rate		300 gpm
Elevation	- overflow/top capacity level	535.00 feet
	-top concrete foundation	520.00 feet
	-final ground	519.50 feet

PROPOSAL

Submit the following with the bid proposal:

1. Tank Drawing - A preliminary section view drawing of the tank and foundation proposed for this project. The drawing shall include sufficient detail to illustrate tank and foundation geometry, materials of construction, primary dimensions, the elevation of low and high water levels and other information required to show compliance with the specification.

2. Experience - Bids will be received only from experienced tank contractors who have furnished and erected at least five (5) bolted steel ground storage tanks of equal or greater capacity within the last five (5) years. A letter shall accompany his bid listing five (5) such examples. Provide location, contact name and phone number, and year completed. Acceptable manufacturers are: Superior Tank Co., Inc.; Other manufacturers must submit a written request to the Engineer ten (10) working days prior to the bid opening in order for their bids to be considered.

   Failure to provide this information shall be cause for bid rejection.

DRAWINGS

The Contractor shall furnish the Engineer, prior to any construction work, structural calculations, six sets of detailed drawings of the tank and of the foundation. These calculations and drawings must be signed and sealed by a professional engineer licensed in the State of Texas. The Contractor's engineer shall certify that the elevated tank & foundation have been designed in accordance with the requirements and specifications.

The Contractor shall not subcontract the design or construction of the steel tank or concrete support structure.

The Contractor shall directly employ a full time professional Engineer with a minimum five (5) years cumulative experience in the design and construction of bolted steel tanks. The Engineer shall be licensed in the State of Texas and shall be the responsible engineer in charge of the work.

A qualified supervisor directly employed by the Contractor shall be on site at all times during construction of the foundation and steel tank.

WELDER QUALIFICATIONS

All welders shall be qualified by ASME requirements in all positions.

MATERIALS

Plates and Sheets. Plates and sheets shall conform to appropriate ASTM designation as set forth in Section 4.4, AWWA D103-09, and shall have a minimum yield strength of 30,000 psi.

Structural Shapes. Structural shapes shall conform to the requirements and ASTM designations of AWWA D103-09 section 4.5

Bolts. Tank joint bolting shall be minimum ½" diameter, shall meet the requirements of AWWA D103-09 section 4.2.1. and have tensile strength of at least 120,000 pounds per square inch.

Gaskets and Sealant. All gaskets and sealants used on this tank shall conform to the requirements of AWWA D103-09 section 4.10.

CONSTRUCTION

Field erection of Factory Powder Coated bolted steel tanks shall be in strict compliance with manufacturer's recommendations and performed by manufacturer's employees or certified erection crew to alleviate any potential disputes in coating quality or erection thereof. Particular care shall be exercised in handling and bolting of the tank plates, supports, and members to avoid abrasion or scratching the coating. Prior to placing water in the tank, a "holiday" inspection of the entire tank, corners included, will be provided and performed by the manufacturer in the presence of the owner. Touch-up coating shall be done per the manufacturer's recommendations where needed and as directed to achieve 100% holiday-free surface.

APPURTENANCES & ACCESSORIES

Ladders

Provide a galvanized steel welded exterior ladder with backguard as shown on the plans. The ladder shall have a lockable closure at the bottom.

Tank Vent

A 20 inch screened vent shall be provided on the roof. The vent shall be fabricated to provide removable screened openings between the vertical support members of the vent. The screened openings of the vent shall be sized by the manufacturer to all venting of a 3,000 gpm pumping rate. An effective area of 75% of screen opening shall be assumed. The screen shall consist of one layer of Type 316 stainless steel: 16 x 16 x 0.018 wire mesh insect screen.

Roof Openings

The tank roof shall have a curbed, upward opening 30-inches square, minimum hatch located near the ladder. The curb shall extend at least 4 inches above the tank. The hatch cover shall be hinged and shall have locking provisions. The hatch cover lip shall extend for a distance of 2-inches down on the outside of the curb.

Inlet/Outlet Piping

Provide inlet nozzle, outlet nozzle with antivortex plate, and overflow and drain outlets as shown on the plans.

Provide a 1-inch NPT tank connection with a 4 inch gauge, hose bibb, and ball valve as shown on the plans for sampling connection. This assembly shall include an electronic level transducer capable of sending a pump lockout signal when the tank level is less than 30 inches from the tank floor.

Overflow

Provide steel external overflow pipe, internal weir box, if required, and supports as shown on the plans. Overflow pipe assembly shall be powder epoxy lined and coated for corrosion protection. The overflow pipe shall be designed to carry the maximum design flow rate of 300 GPM. A suitable weir shall be provided inside the tank with the crest located at High Water Level. The overflow shall be routed from the weir to closely match the roof contour and extend down the low grade side column and terminate approximately 1 to 2 feet above grade The point of discharge shall have a 45 to 90 degree elbow to and be equipped with a flap valve.

TANK FOUNDATION

The concrete foundation is included in the tank contract and shall be designed by the tank contractor for the soil bearing value specified in AWWA Standard D103-09, based upon recommendations in the attached soil report. Appropriate adjustments to construction schedule and price will be negotiated if, during excavation, soil conditions are encountered which differ significantly from those given in the soil report.

Concrete for foundation shall be proportioned to develop a minimum compressive strength of not less than 4,000 pounds per square inch in 28 days. The maximum size of coarse aggregate shall be one and one-half inches (1 ½”). Concrete cylinders shall be collected and submitted by the contractor to a licensed testing laboratory. A copy of all certified test results must be submitted to the Engineer. See specifications entitled "General Scope of the Project" for testing requirements.

INSPECTION

The contractor will be required to advise the engineer 24 hours in advance of any concrete pour or painting so that he may inspect the job. Any concrete placed or poured without prior approval of the engineer will be subject to removal.

PROTECTIVE COATING

All metal plates, supports, members and miscellaneous parts, except bolts, shall be Factory Powder Coated in accordance with AWWA D103, Section 12.6 and this Section. Field coating, other than touch-up, will not be permitted.

Surface Preparation:

All steel surfaces shall be shot blasted to equivalent of a SP 10 or better near white metal finish. The surface anchor pattern shall be no less than 1.5 mils.

Spray a final Deionized water rinse with Silica-Zirconium (Si-Zr) sealer to prevent rusting prior to the powder coating application and provide additional level of corrosion protection

All steel surfaces shall drip dry for seven (7) minutes prior to entering the dry off oven for eight (8) minutes at 425 degrees F.

Coating:

All interior steel surfaces, support members and miscellaneous parts shall receive 5 mils minimum average dry film thickness using *Dupont/Axalta* "Tank Tan" (An NSF 61 Approved, Thermal Set Epoxy Powder Coating).

All exterior steel surfaces, support members and miscellaneous parts shall receive minimum 2 mils average dry film thickness “Tank Tan” primer under 3 mils minimum average dry film thickness using *Dupont* "Superior Sand" (A Thermal Set TGIC-Polyester Powder Coating), for a total of 5 mils.

Painted, uncoated, or glass lined bolted tanks and FRP tanks are not acceptable.

DISINFECTION

After completion of the painting of the structure, the contractor shall disinfect the tank in conformity with the procedure recommended by the latest revision of AWWA Specification C652. The contractor shall furnish all labor and materials except water for the disinfection.

OPERATION & MAINTENANCE

Provide operating instructions and maintenance procedures for the ground storage tank and applicable appurtenant equipment, mechanical components and accessories.

TESTING FOR LEAKS

Upon completion of the tank, the tank shall be filled with water to the maximum working level for at least 24-hours. Water for this purpose will be furnished by the Owner and hauled by the Contractor. Any leaks which are disclosed in this test shall be repaired by the Contractor.

GUARANTEE

The tank contractor shall guarantee his work for a period of one year from the date of final acceptance of his work, to the extent that he will repair any defects, which may appear because of faulty design, workmanship, or material furnished under the specifications. The Contractor will guarantee the coating system for a period of one year. Approximately 10 months into the warranty period, the Contractor will request a joint inspection of the tank with the Owner. Any defects noted during the inspection shall be corrected by the Contractor. The Contractor shall then warrant the corrected areas for an additional year. Another joint inspection will be requested approximately 10 months into this warranty period and any deficiencies noted shall be corrected by the Contractor. All such inspections and remedial work will be at the Contractor's expense. The Contractor shall provide any necessary temporary rigging etc. needed for this purpose.

CLEAN UP

The contractor shall clean up the entire construction site removing all debris, unused construction materials, surplus materials and scraps, equipment, waste materials, concrete transit-mixer washings and dumps, and other materials as directed by the Engineer.

MEASUREMENT AND PAYMENT

The work performed under this item shall be paid for at the lump sum price bid for each ground storage tank which price shall be considered full compensation for all labor, materials, tools, equipment, excavation, site grading, tank, reinforced concrete foundation, temporary electrical, coating, and all incidentals necessary to complete the work as described in the plans and specifications.

The Owner will consider with the Base Bid a complete 43,000 gallon capacity tank and an independent Additive Alternate Bid for a second, complete 43,000 gallon capacity tank. Bidders shall bid on BOTH the Base Bid AND the Additive Alternate Bid. Award will be made to the lowest responsive and responsible Base Bid with the Owner’s option to include the Additive Alternate Bid in the contract. All work, materials, specifications, requirements, accessories, etc. listed on the plans and included herein for the Base Bid 43,000 gallon tank are equally required for the Additive Alternate Bid 43,000 gallon tank.

SCOPE OF WORK

The work to be done under these specifications includes furnishing all supervision, materials, equipment, tools and labor necessary furnish and install factory built duplex pump stations as indicated on the project drawings, complete with foundation, enclosures, piping, electrical, instrumentation, appurtenances, and all incidentals required to complete the work.

STANDARDS

Publications listed below form part of this specification to extent referenced in the text by basic designation only. Consult latest edition of publication unless otherwise noted.

American National Std. Institute (ANSI) / American Water Works Assoc. (AWWA)

1. ANSI B16.1 Cast iron pipe flanges and flanged fittings.
2. ANSI/AWWA C115/A21.51 Cast/ductile iron pipe with threaded flanges.
3. ANSI 253.1 Safety Color Code for Marking Physical Hazards.
4. ANSI B40.1 Gages, Pressure and Vacuum.
5. AWWA C508 Single Swing Check Valves.

American Society for Testing and Materials (ASTM)

1. ASTM A48 Gray Iron Castings.
2. ASTM A126 Valves, Flanges, and Pipe Fittings.
3. ASTM A307 Carbon Steel Bolts and Studs.
4. ASTM A36 Structural Steel.

Institute of Electrical and Electronics Engineers (IEEE)

1. IEEE Std 100 Standard Dictionary of Electrical Terms.
2. IEEE Std 112 Test Procedure for Polyphase Induction Motors.
3. IEEE Std 242 Protection of Industrial and Control Power Systems.

National Electric Code (NEC) / National Electrical Manufacturers' Assoc. (NEMA)

1. NEC National Electrical Code.
2. NEMA Std MG1 Motors and Generators.

Miscellaneous References

1. Ten-State Standards Recommended Standards for Sewage Works.
2. Hydraulic Institute Std for Centrifugal, Rotary and Reciprocating Pumps.
3. ISO 9001 International Organization for Standardization.
4. ISO 14001 International Organization for Standardization.

PUMP CHARACTERISTICS

Design requirements consist of factory-built pump station design, including materials of construction, pump features, valves and piping, and motor controls shall be in accordance with requirements specified herein. Pumps must be designed to handle

Municipal Potable Water. Each pump in the duplex station shall be selected to perform under following operating conditions:

Pump Skid #1 – Ground Tank Fill Station:

Patterson Model 4X3 VIP, capable of producing 250 gpm against 40 feet of TDH with 82% minimum efficiency or approved equivalent.

Maximum NPSHR (FT): 3.77
Motor Size (HP): 5
Maximum Pump Speed (RPM): 1750
Suction Connection (IN): 4
Discharge Connection (IN): 3

Pump Skid #1 shall be manually operated.

Pump Skid #2 – Dispenser Fill Station:

Patterson Model 2x1.5x6A HES, capable of producing 90 gpm against 120 feet of TDH with 65% minimum efficiency or approved equivalent.

Maximum NPSHR (FT): 11.8
Motor Size (HP): 5
Maximum Pump Speed (RPM): 3600
Suction Connection (IN): 2
Discharge Connection (IN): 1.5

Pump Skid #2 shall be activated and deactivated by a signal from a pressure sensor installed on the discharge pipeline by the contractor (ON=40psi, OFF=55psi). The pump controls shall be programmed to alternate use. The pumps shall provide automatic low water level cutoff devices based on tank level to prevent damage to the pumps. The service pump circuitry shall also resume pumping automatically once the minimum water level is reached in the tank

Utility Power Requirements

Site power furnished to pump station shall be 3 phase, 60 hertz, 230 volts, 4 wire, maintained within industry standards. Voltage tolerance shall be plus or minus 10 percent. Phase-to-phase unbalance shall not exceed 1% average voltage as set forth in NEMA Standard MG-1. Control voltage shall not exceed 132 volts.

SERVICE

The Pump Supplier shall furnish the services of a competent service man to advise the Contractor in the proper installation of pumping equipment and also to instruct the operating personnel in the proper care and maintenance of the equipment after it is

placed in operation. The cost of such manufacturer's service shall be included in with price of pumps and motors proposed to be furnished. The site visit must be coordinated with the Owner.

A. Performance Guarantees. The following items of performance shall be stated and guaranteed for each pump.

1. Capacity at design point (gpm)

2. Total head at design point (feet).

3. Minimum submergence required at design point and at run-out (feet).

4. Efficiency at design point (percent).

5. Required horsepower input to shaft at design point with specified specific gravity.

6. Maximum shut-off head (feet)

7. Continuous operation at minimum required flow, specified by the manufacturer, without damage.

B. Field Testing. Pumps may be tested by the Owner after installation to determine whether guarantees have been met. The methods of testing shall meet the requirements of the Hydraulic Institute Standards, Centrifugal Pump Section, Test Code, Thirteenth Edition.

SUBMITTALS

A. Furnish shop drawings and product data described below.

B. Submittals Required (for substitute equipment approval after award).

1. Technical bulletins and brochures on pumping unit.

2. Preliminary outline dimensions of pumping unit.

3. Performance curves (head-capacity, BHP, NSPH, wire to water efficiency) covering full operating range from shut-off to run- out.

4. Statement of equipment warranty.

5. Statement of guarantee of wire to water efficiency at design point.

6. Statement of full compliance with Specifications. Any deviations shall be listed.

7. Completed Questionnaire.

8. Motor information.

C. Submittals Required after Award of Contract and Prior to Equipment Construction.

1. Performance curves (head-capacity, BHP, NPSH, wire to water efficiency) covering full operating range from shut-off to run- out.

2. Complete specifications for each part of unit to be furnished to show compliance with these Specifications.

3. Weight of pump, weight of motor and assembled weight.

4. Construction drawings showing anchor bolt size and locations, piping details, harness lug details and other pertinent information.

5. Motor information.

6. Operating and Maintenance Data for pump and motor as specified by other specifications herein.

7. Manufacturer recommendations for care and maintenance of pump and motor during storage.

8. All anchor bolts with templates shall be furnished prior to the General Contractor's need for such.

FACTORY FIELD SERVICE

The pump supplier shall furnish the services of a factory representative in the installation, testing and initial operation of the pumping units including motors. Cost of this service shall be included in the price bid for this item.

PRODUCT

UNITARY RESPONSIBILITY

In order to unify responsibility for proper operation of the complete pumping station, it is the intent of these Specifications that all system components be furnished by a single supplier (unitary source). The pumping station must be of standard catalog design, totally warranted by the manufacturer. Under no circumstances will a system consisting of parts compiled and assembled by a manufacturer's representative or distributor be accepted.

MANUFACTURER

Each duplex pump station system integrator must be ISO 9001:2000 revision certified, with scope of registration including design control and service after sales activities, as manufactured by The Gorman-Rupp Company, or approved equivalent.

STATION ENCLOSURE

The station enclosure shall contain and protect all pumps, interior piping, valves and associated controls. Enclosure shall incorporate the following design and service features:

Access panels must be supplied on all sides. Location and size shall permit access for routine maintenance functions such as pump and motor inspection, drive belt adjustment, and pump clean out. Non-hinged panels shall be secured with stainless steel tamper-proof hardware.

A continuous hinge and latch shall be installed on at least two access panels. The hinged panels shall allow easy access to the electrical controls for frequent adjustments and inspections. A two-point mechanical latch assembly shall secure the panel at top and bottom. Latch handle locks shall be match keyed, requiring only one key to open all access panels.

A vent in one access panel shall allow free air flow for enclosure ventilation.

The complete station enclosure, less base, must be completely removable after disengaging reusable hardware. After disassembly, no portion of the enclosure (except electrical service entrance) shall project above the base surface to interfere with maintenance or endanger personnel.

Disassembly and removal of the enclosure shall require no more than two people working without assistance of lifting equipment.

Station enclosure shall be manufactured of molded reinforced orthophthalic polyester resins with a minimum of 30% fiberglass, and a maximum of 70% resin. Resin fillers or extenders shall not be used.

Chopped glass fibers of 1 1/4 inch average length shall be sprayed and rolled. Major design consideration shall be given to structural stability, corrosion resistance, and watertight integrity. The polyester laminates shall provide a balance of mechanical, chemical, and electrical properties to insure long life. They must be impervious to micro organisms, mildew, mold, fungus, corrosive liquids, and gases which are expected to be present in the environment surrounding the wet well.

All interior surfaces of the housing shall be coated with a polyester resin rich finish providing maintenance free service, abrasion resistance, and protection from sewage, greases, oils, gasoline, and other common chemicals.

Outside surfaces of the enclosure shall be coated with gel-coat pigmented resin to insure long maintenance free life and UV protection. Color used shall de emphasize the presence of dirt, grease, etc.

Station base shall be constructed of pre-cast, reinforced concrete encapsulated in a fiberglass mold. The design shall resist deformation of the structure during shipping, lifting, or handling. Base shall incorporate drainage provisions, and an opening sized to permit installation of piping and service connections to the wet well. After installation, the opening shall serve as a grout dam to be utilized by the contractor. The base shall incorporate anchor bolt recesses for securing the complete station to a concrete pad (supplied by the contractor) in accordance with the project plans.

A blower mounted in the station roof shall be sized to exchange station air volume at least once every two minutes. Blower motor shall energize automatically at approximately 70 degrees F, and turn off at 55 degrees F. The blower motor control circuit shall incorporate a thermal magnetic circuit breaker providing overcurrent and overload protection. Exhaust and inlet locations shall prevent the entrance of rain, snow, or debris.

PUMPS

Pump casing

Casing shall be cast iron Class 30 with integral volute scroll. Casing shall incorporate following features:

Pump casing shall be of close grain cast iron type ASTM 48, class 40, designed for heavy-duty service. The casing shall be horizontally split, (dual) (single) volute type of the back pull-out design with the suction and discharge flanges cast integrally with the lower half in order that the upper part may be removed for inspection of the rotating element without disturbing pipe connections. The joint between halves of the casing shall be heavily flanged and bolted, and provided with dowel pins to insure accurate alignment.

The upper half-casing flange shall have tapped holes for jackscrews. The interior shall be smooth and free from surface defects.

Thickness, diameter and drilling dimensions of suction flanges shall be Class (125) (250) ANSI standard. Discharge flanges shall be Class (125) (250) ANSI standard. Suction and discharge connections shall be displaced 180 degrees with centerlines concentric on the same horizontal plane. Casings shall be drilled and tapped for

priming, gauge, and drain connections. Suitable lifting lugs or eyebolts shall be provided.

The bottom of the volute shall be drilled to accept a standard 125-lb. pipe flange arrangement, which shall allow the use of common pipe and flanges to support the pump at any desired elevation with elaborate fabrication of support structures.

Impeller

Impeller shall be of the single suction enclosed type made entirely of ASTM B584-836, die cast bronze finished smooth all over and of ample strength and stiffness for maintaining the maximum capacity of the unit.

It shall be statically and dynamically balanced and shall be keyed to the shaft and securely held in axial position on the shaft by means of an impeller nut.

Balance holes on the backside of the impeller shall be provided to reduce thrust with the hydraulic balancing of pressures.

Wear Rings

The volute and volute cover shall be fitted with a replaceable wear ring of ASTM B505-927 bronze, positioned in the volute and locked against rotation.Adjustment of the impeller face clearance (distance between impeller and wear plate) shall be accomplished by external means.

Pump / Motor Shaft

The shaft shall be made of AISI 1045 alloy steel.

The shaft shall be accurately machined over its entire length. The first critical speed of the rotating assembly shall occur at not less than 150% of the rated speed.

The shaft shall be protected by a 304 stainless steel shaft sleeve, which shall be keyed to the shaft with a stainless steel key and shall be sealed with an o-ring to prevent leakage between the shaft and shaft sleeve.

Stuffing Boxes (Mechanically Sealed)

The stuffing boxes shall be provided with mechanical seals having incorporated the following features:

Stuffing boxes shall accept packing or mechanical seals without modification to the stuffing box.

Mechanical seals shall be furnished with a carbon seal ring, ceramic mating ring, viton elastomers and 316 stainless steel metal parts.

Mechanical seals shall be rated for 250 PSIG pressure. The elastomers shall be rated for temperatures ranging from –20 □F to 400□F.

Pump shaft sleeves shall be furnished with a pre-machined groove designed to accept a setting ring that shall eliminate the need for set collars or stop collars. Seals requiring stop or set collars are not acceptable.

The rotating seal ring shall be provided with a 360-degree rubber encasement to provide a positive drive for the seal face without the need for metal drive notches which may cause face distortion or notch wear. The seal rings shall be permanently fixed in place and full flatness maintained by a precision crimp in the outer seal case.

The mechanical seal shall be of a convoluted design, which permit free movement providing constant adjustment for shaft endplay and seal face-wear. Positive face contact with the stationary seat shall be maintained at all times.

To ensure positive sealing by free movement of the seal head, the seal shall feature a hex style outer shell and drive band, which shall absorb start-up and running torque and shall eliminate stress on the diaphragm. Metal components shall freely engage and shall not be subject to lock down due to friction wear.

The stuffing box shall have a removable gland, which shall permit inspection of the mechanical seal faces. The gland shall be provided with a 1/4" NPT flush water connection.

Suitably valved connecting lines or passages shall be provided on the upper half casing leading from the discharge volute to the stuffing box for lubricating the stuffing boxes with the liquid being pumped.

Motors

The pump shall be driven by a JP shaft, close-coupled pump motor.

Motors shall be (TEFC), squirrel cage induction motors.

Motors shall be furnished with class F insulation; however, they shall be limited to a class B temperature rise at rated load.

Motors shall be furnished with a 1.15 service factor.

Motors shall be tested in accordance with provisions of ANSI/IEEE Std. 112, Method B.

The bearings are part of the motor. Standard JP frame motors are designed for this service by NEMA and Hydraulic Institute. The integral drive system insures uniformity of tolerances, bearings sized for the job and minimum shaft deflection for long packing and pump life.

Serviceability

The pump manufacturer shall demonstrate to the engineer's satisfaction that consideration has been given to reducing maintenance costs. No special tools shall be required for replacement of any components within the pump.

Valves

Check Valve: Each pump shall be equipped with a full flow type check valve. Valve shall be constructed with flanged ends and fitted with an external lever and torsional spring. Valve seat shall be constructed of stainless steel, secured to the body to ensure concentricity, sealed by an O ring, and shall be replaceable. The valve body shall be cast iron incorporating a clean out port large enough to allow removal and/or replacement of the valve clapper without removing valve or piping from the line. Valve clapper shall have a molded neoprene seating surface incorporating low pressure sealing rings. Valve hinge pin and internal hinge arm shall be stainless steel supported on each end in brass bushings. Shaft nut shall have double O rings which shall be easily replaceable without requiring access to interior of valve body. All internal hardware shall be stainless steel. Valve shall be rated at 175 PSI water working pressure, 350 PSI hydrostatic test pressure. Valves other than full flow type or valves mounted in such a manner that prevents the passage of a 3" spherical solid shall not be acceptable.

Piping

Flanged header pipe shall be centrifugally cast, ductile iron, complying with ANSI/AWWA A21.51/C115 and class 53 thickness.

Flanges shall be cast iron class 125 and Comply with ANSI B16.1.

Pipe and flanges shall be threaded and suitable thread sealant applied before assembling flange to pipe.

Bolt holes shall be in angular alignment within 1/2 degree between flanges. Flanges shall be faced with a gasket finish having concentric grooves a minimum of 0.01 inch deep by approximately 0.03 inch wide, with a minimum of three grooves on any given surface spaced a maximum of 1/4 inch apart.

Supports and Thrust Blocks: Contractor must insure all pipes connected to the pump station are supported to prevent piping loads from being transmitted to pumps or station piping. Pump station discharge force main piping shall be anchored with thrust blocks where shown on the contract drawings.

Drive Unit

Pump motors shall be Premium Efficient, TEFC, 1,800 RPM, NEMA design B with cast iron frame with copper windings, induction type, with class F insulation and 1.15 Service Factor for normal starting torque and low starting current characteristics, suitable for continuous service. The motors shall not overload at the design condition or at any head in the operating range as specified. Motors shall be suitable for operation using the utility power available specified in part 1 of this section. Motors shall be tested in accordance with provisions of ANSI/IEEE Std. 112, Method B.

Finish

Pumps, piping and exposed steel framework shall be cleaned prior to coating using an approved solvent wipe or phosphatizing cleaner. The part must thoroughly dry before paint application. Open joints shall be caulked with an approved polyurethane sealant. Exposed surfaces to be coated with two coats of a semi gloss white 2-component epoxy/polyamide to a dry film thickness of a minimum of 10 mils (5 mils minimum per coat). Coating shall be a high solids, 2 component epoxy/polyamide semi-gloss white coating for optimum illumination enhancement. The coating shall be corrosion, moisture, oil, and solvent resistant when completely dry. The factory finish shall allow for over-coating and touch-up for 6 months after coating. Thereafter, it will generally require sanding to accept a topcoat or touch-up coating. See Product Data Sheet for additional information.

ELECTRICAL CONTROL COMPONENTS

The pump station control panel will be tested as an integral unit by the pump station manufacturer. The control panel shall also be tested with the pump station as a complete working system at the pump station manufacturer's facility.

Panel Enclosure

Electrical control equipment shall be mounted within a common NEMA 1 stainless steel, dead front type control enclosures. Doors shall be hinged and sealed with a neoprene gasket and equipped with captive closing hardware. Control components shall be mounted on removable steel back panels secured to enclosure with collar studs.

All control devices and instruments shall be secured to the sub-plate with machine screws and lockwashers. Mounting holes shall be drilled and tapped; self-tapping screws shall not be used to mount and component. All control devices shall be clearly labeled to indicate function.

UL Label Requirement

Pump station controls shall conform to third party safety certification. The panel shall bear a serialized UL label listed for "Enclosed Industrial Control Panels". The enclosure, and all components mounted on the sub panel or control cover shall conform to UL descriptions and procedures.

Branch Components

All motor branch and power circuit components shall be of highest industrial quality. The short circuit current rating of all power circuit devices shall be a tested combination or evaluated per the National Electrical Code Article 409. the lowest rated power circuit component shall be the overall control panel short circuit rating and shall not be less than the fault current available. The minimum control panel rating shall not be less than 10 kA, rms symmetrical. Control assemblies operating at 120 volts nominal or less may be provided with transformers which limit the fault current and may be rated less than the minimum required short circuit rating.

Circuit Breakers and Operating Mechanisms

A properly sized heavy duty circuit breaker shall be furnished for each pump motor. The circuit breakers must be sealed by the manufacturer after calibration to prevent tampering.

An operating mechanism installed on each motor circuit breaker shall penetrate the control panel door. A padlockable operator handle shall be secured on the exterior surface. Interlocks must prevent opening the door until circuit breakers are in "OFF" position. An additional mechanism(s) shall be provided on the circuit breaker permitting the breaker to be operated and/or locked with the control panel door in the open position.

Motor Starters

An open frame, across the line, NEMA rated magnetic starter with under voltage release, and overload protection on all three phases, shall be furnished for each pump motor. Starters of NEMA size 1 and above shall allow addition of at least two auxiliary contacts. Starters rated "O", "OO", or fractional size are not acceptable. Power contacts to be double break type made of cadmium oxide silver. Coils to be epoxy molded for protection from moisture and corrosive atmospheres. Contacts and coils shall be easily replaceable without removing the starter from its mounted position. Each starter shall have a metal mounting plate for durability.

Overload Relays

Overload relays shall be solid state block type, having visual trip indication with trip-free operation. Electrically resetting the overload will cause one (1) normally open and one (1) normally closed isolated alarm/control contact to reset, thus re establishing a control circuit. Trip setting shall be governed by solid state circuitry and adjustable current

setting. Trip classes shall be 10, 15 and 20. Additional features to include phase loss protection, selectable jam/stall protection and selectable ground fault protection.

A reset pushbutton, mounted through the control panel door, shall permit resetting the overload relays without opening the door.

Phase Monitor

The control panel shall be equipped to monitor the incoming power and shut down the pump motors when required to protect the motor(s) from damage caused by phase reversal, phase loss, voltage unbalance, high voltage, and low voltage. An adjustable time delay shall be provided to minimize nuisance trips. The motor(s) shall automatically restart, following an adjustable time delay, when power conditions return to normal.

Control Circuit

A normal duty thermal magnetic circuit breaker shall protect all control circuits by interrupting control power.

Pump mode selector switches shall permit manual start or stop of each pump individually, or permit automatic operation under control of the liquid level control system. Manual operation shall override all shutdown systems, except the motor overload relays. Selector switches to be oil tight design with contacts rated NEMA A300 minimum.

Pump alternation shall be integral to the liquid level controller. Provisions for automatic alternation or manual selection shall also be integral to the liquid level controller.

Six-digit elapsed time meter (non reset type) shall be connected to each motor starter to indicate total running time of each pump in "hours" and "tenths of hours". An integral pilot light shall be wired in parallel to indicate that the motor is energized and should be running.

A duplex ground fault receptacle providing 115 VAC, 60 Hz, single phase current, will be mounted on the side of the control enclosure. Receptacle circuit shall be protected by a 15 ampere thermal magnetic circuit breaker.

The lift station shall be equipped with a 3 KVA stepdown transformer to supply 115 volt, AC, single phase for the control and auxiliary equipment. The primary and secondary side of the transformer to be protected by a thermal magnetic circuit breaker, sized to meet the power requirements of the transformer. An operating mechanism shall penetrate the control panel door. and a padlockable operator handle shall be secured on the exterior surface. Interlocks must prevent opening the door until circuit breakers are in "OFF" position. An additional mechanism(s) shall be provided on the circuit breaker permitting the breaker to be operated and/or locked with the control panel door in the open position.

Wiring

The pump station, as furnished by the manufacturer, shall be completely wired, except for power feed lines to the branch circuit breakers and final connections to remote alarm devices.

All wiring, workmanship, and schematic wiring diagrams shall comply with applicable standards and specifications of the National Electric Code (NEC).

All user serviceable wiring shall be type MTW or THW, 600 volts, color coded as follows:

1) Line and Load Circuits, AC or DC power.....Black
2) AC Control Circuit Less Than Line Voltage.....Red
3) DC Control Circuit.....Blue
4) Interlock Control Circuit, from External Source.....Yellow
5) Equipment Grounding Conductor.....Green
6) Current Carrying Ground.....White
7) Hot With Circuit Breaker Open.....Orange

Control circuit wiring inside the panel, with exception of internal wiring of individual components, shall be 16 gauge minimum, type MTW or THW, 600 volts. Power wiring to be 14 gauge minimum. Motor branch wiring shall be 10 gauge minimum.

Motor branch and other power conductors shall not be loaded above the temperature rating of the connected termination. Wires must be clearly numbered at each end in conformance with applicable standards. All wire connectors in the control panel shall be ring tongue type with nylon insulated shanks. All wires on the sub-plate shall be bundled and tied. All wires extending from components mounted on door shall terminate at a terminal block mounted on the back panel. All wiring outside the panel shall be routed through conduit.

Control wires connected to door mounted components must be tied and bundled in accordance with good commercial practice. Bundles shall be made flexible at the hinged side of the enclosure. Adequate length and flex shall allow the door to swing full open without undue stress or abrasion. Bundles shall be held on each side of hinge by mechanical fastening devices.

Conduit

Factory installed conduit shall conform to following requirements:

1) All conduit and fittings to be UL listed.

2) Liquid tight flexible metal conduit to be constructed of smooth, flexible galvanized steel core with smooth abrasion resistant, liquid tight polyvinyl chloride cover.
3) Conduit to be supported in accordance with articles 346, 347, and 350 of the National Electric Code.
4) Conduit shall be sized according to the National Electric Code.

Grounding

Station manufacturer shall ground all electrical equipment inside the pump station to the control panel back plate. All paint must be removed from the grounding mounting surface before making final connection.

The contractor shall provide an earth driven ground connection to the pump station at the main grounding lug in accordance with the National Electric Code (NEC).

Equipment Marking

Permanent corrosion resistant name plate(s) shall be attached to the control and include following information:

1) Equipment serial number
2) Control panel short circuit rating
3) Supply voltage, phase and frequency
4) Current rating of the minimum main conductor
5) Electrical wiring diagram number
6) Motor horsepower and full load current
7) Motor overload heater element
8) Motor circuit breaker trip current rating
9) Name and location of equipment manufacturer

Control components shall be permanently marked using the same identification keys shown on the electrical diagram. Labels shall be mounted adjacent to device being identified.

Switches, indicators, and instruments mounted through the control panel door shall be labeled to indicate function, position, etc. Labels shall be mounted adjacent to, or above the device.

CONTROL

The manufacturer of the control system must be ISO 9001:2000 revision certified, with scope of registration including design control and service after sales activities.

The control system shall start and stop the pump motors in response either a Hand or Automatic system.

The control system shall utilize alternation to select first one pump, then the second pump, then the third pump (if required), to run as lead pump for a pumping cycle. Alternation shall occur at the end of a pumping cycle, or in the event of excessive run time.

The electronic pressure switch shall include integral components to perform all pressure sensing, signal conditioning, EMI and RFI suppression, DC power supply and 120 volt outputs. Comparators shall be solid state, and shall be integrated with other components to perform as described below.

The electronic pressure switch shall be capable of operating on a supply voltage of 12-24Vdc in an ambient temperature range of 10 degrees C (14 degrees F) through 55 degrees C (131 degrees F). Ingress Protection of IP56 for indoor use with closed cell neoprene blend gasket material. Evaluated by Underwriters Laboratories for Pollution Degree 2 device for U.L. and cU.L. Control range shall be 0 to 33.3 feet of water with an overall repeat accuracy of (plus/minus) 0.1 feet of water. Memory shall be non volatile. A Battery backed real time clock shall be standard.

Eleven optically isolated, user defined digital inputs for pump and alarm status. Rated at 10mA at 24Vdc. Eight digital output relays (mechanical contacts), configurable for pump start/stop or alarms. Three relays rated at 12 Amp @ 28Vdc and 120Vac, five relays rated at 3 Amp @ 30Vdc and 120Vac. The electronic pressure switch shall consist of the following integral components: pressure sensor, display, electronic comparators, digital inputs and digital output relays.

The electronic pressure switch shall incorporate a digital back lighted LCD panel display which, upon operator selection, shall indicate liquid level in the wet well, and pump status indication for up to 3 pumps. The display shall include a 128 x 64 bit resolution LCD to read out directly in feet of water, accurate to within one tenth foot (0.1 foot), with a full scale indication of not less than 12 feet. The display shall be easily convertible to indicate English or metric units.

Each digital input can be programmed as pump run, pump HOA, pump high temp, pump moisture/thermal, starter failure (FVNR, RVSS, VFD), and phase failure. Inputs are used for status and alarm indication.

Each output relay in the electronic pressure switch shall be hard contact mechanical style. Each relay input shall be optically isolated from its output and shall incorporate zero crossover switching to provide high immunity to electrical noise. Each output relay shall have an inductive load rating equivalent to one NEMA size 3 contactor. A pilot relay shall be incorporated for loads greater than a size 3 contactor.

The electronic pressure switch shall be equipped with alarm banners with time and date history for displaying alarm input notification. Alarm history will retain a 16 of the most recent alarm events.

The electronic pressure switch shall be equipped with pump start/stop and alarm input delay(s) that have an adjustable delay set points.

The electronic pressure switch shall be capable of jumping to next available pump if current pump is out of service due to pump failure or manual selection. Circuit design in which application of power to the lag pump motor starter is contingent upon completion of the lead pump circuit shall not be acceptable.

The electronic pressure switch shall be capable of calculating and displaying pump elapse run time. The elapse run time is resettable and adjustable.

The electronic pressure switch shall have internal capability of providing automatic simplex, duplex, alternation, manual selection of pump sequence operation, and alternation in the event of 1-24 hours of excessive run time.

The electronic pressure switch shall be equipped with a security access code to prevent accidental set up changes and provide liquid level set point lock out. The supervisor access code is adjustable.

The electronic pressure switch shall be equipped with one (1) 0 33 ft. W.C. input, one (1) scalable analog input of either 0 5Vdc, or 4 20mA, and one (1) scalable analog output of either 0-5Vdc, 0-10Vdc or 4-20mA. Output is powered by 10-24Vdc supply. Load resistance for 4 20mA output shall be 100 1000 ohms.

The electronic pressure switch shall include a DC power supply to convert 120Vac control power to 12 or 24Vdc power. The power supply shall be 500 mA (6W) minimum and be UL listed Class II power limited power supply.

The electronic pressure switch shall be equipped with an electronic comparator and mechanical output relay to alert maintenance personnel to a high or low system pressure. An alarm banner, visible on the front of the controller, shall indicate that a high or low system pressure exists. The alarm signal shall be maintained until the circuit has been manually reset.

CONSTRUCTION METHODS

The Contractor will receive and unload all materials and will thereafter safeguard these materials stored on-site.

The Contractor shall install the pump motor, and appurtenances in accordance with the manufacturer’s recommendations connecting these to the piping and valves and electrical.

CONNECTING PIPE: Piping shall be made up to the suction and discharge flanges in such a manner that final bolting up will impose no unbalanced stresses on the pump.

During installation and at start up, the Contractor will arrange for the attendance and assistance of the pump equipment supplier service representative who will assist in the installation. At start up, the following tests are to be conducted and demonstrated:

1. GPM and Amperage at all heads which the unit is expected to function.

2. Amplitude of vibration.

3. Voltage of operating current at unit.

The Contractor will provide the Owner with a certified report of these tests upon completion.

In the event the units do not perform as intended, the equipment supplier representative will advise the Owner as to the cause and direct the General Contractor's action until the unit is functioning as intended.

RUNNING IN: No pump installation will be accepted until it has first been run-in and has been tested by the Engineer. The Contractor shall furnish any lubricant required for such running-in and shall have on the job such tools as may be required for adjustment of the pumps and appurtenances.

MANUFACTURER'S WARRANTY

The pump station manufacturer shall warrant all equipment to be of quality construction, free of defects in material and workmanship. A written warranty shall be 5-years at 100 % and include specific details described below. Prorated or 3rd party warranties shall not be acceptable.

In addition to defects in material and workmanship, fiberglass reinforced polyester station enclosures are 100% warranted for sixty (60) months to be resistant to rust, corrosion, corrosive soils, effects of airborne contamination or physical failures occurring in normal service for the period of the pump station warranty.

All other equipment, apparatus, and parts furnished shall be warranted 100% for sixty (60) months, excepting only those items that are normally consumed in service, such as light bulbs, oils, grease, packing, gaskets, O-rings, etc. The pump station manufacturer shall be solely responsible for warranty of the station and all components.

Components failing to perform as specified by the engineer, or as represented by the manufacturer, or as proven defective in service during the warranty period, shall be replaced, repaired, or satisfactorily modified by the manufacturer.

It is not intended that the station manufacturer assume liability for consequential damages or contingent liabilities arising from failure of any vendor supplied product or part which fails to properly operate, however caused. Consequential damages resulting

from defects in design, or delays in delivery are also beyond the manufacturer's scope of liability.

Equipment supplied by others and incorporated into a pump station or enclosure is not covered by this limited warranty. Any warranty applicable to equipment selected or supplied by others will be limited solely to the warranty, if any, provided by the manufacturer of the equipment.

This limited warranty shall be valid only when installation is made and maintenance is performed in accordance with manufacturer recommendations.

MEASUREMENT AND PAYMENT

The work performed under this item shall be paid for at the lump sum unit price Bid for each "High Service Pump Skid " which price shall be considered full compensation for all labor, materials, tools, equipment and all incidentals necessary to complete the work, as shown in the plans and specified herein, including start up assistance.

TECHNICAL SPECIFICATION

WATER DISPENSING STATION

DESCRIPTION

This item covers the furnishing and installation of a single sided 2-inch overhead water loading station with enclosure, piping, backflow preventor, overhead dispensing arm, foundation and associated electrical and instrumentation.

MATERIALS

Water loading station shall be a turnkey 2" overhead water loading station. The station shall be run by the AquaTrack Internet based system. The system shall activate a separate booster pump on/off during customer filling operations by providing 24vdc signal to the pumps and an opening valve.

Water Loading Station shall be manufactured and supplied by AquaFlow Int'l Inc., PO Box 2841, Flagstaff, AZ 86003, to maintain consistency with existing dispenser stations in Webb County. Contact Jon Keller 928-380-6164.

Enclosure

24" x 48" x 72" with 2"x2" square steel tubing frame. Powder coated shell in aluminum sheeting, polar white in color with 2" ridged insulation. Inside coated in white FRP panels. Unit shall have a roof mounted A/C unit, 60 amp sub panel electric box, light, switch, one outlet, and a thermostatically controlled heater.

The enclosure shall be mounted to a concrete foundation, as shown in the plans. Provide protective pipe bollards.

Enclosure shall have a pre-installed water system. 2" water components for the AquaFlow or AquaTrack water systems with a Zurn/Wilkins 975 XL2 or equivalent backflow device, flow sensor, electric controlled valve and drain valve. Piping shall be inside the enclosure.

Enclosure piping shall include a 2" adjustable pressure reducing valve as manufactured by ClaVal or approved equivalent to control the dispenser discharge flow rate.

2" Overhead Mast Arm

The 2" water line overhead support post shall be 4" wide, 11 gage square steel tubing, powder coated to prevent rust. Provide post rings or clamps to hold the water pipe. The post shall be 14' 6" tall with an 8' arm mounted to a concrete foundation, and LED flood light as shown in the plans.

TECHNICAL SPECIFICATION

WATER DISPENSING STATION

CONSTRUCTION METHODS

The Contractor shall coordinate all material delivery and installation oversight by Aqua Flow Int'l including necessary lifting devices, water connections, electrical and instrumentation connections, and all other equipment and accessories required to make the dispensing station function as intended.

MEASUREMENT AND PAYMENT

Water Disperser Station will be measured and paid for at the lump sum unit price bid for "AquaFlow Water Dispenser Station". Payment shall be considered full compensation for furnishing all materials, equipment, and labor to install the enclosure, mast arm, concrete foundations, bollards, piping, drains, electrical, instrumentation, and all incidentals necessary to complete the work and make the unit function as intended.

TECHNICAL SPECIFICATION

PRESSURE TANK

DESCRIPTION

This item covers the furnishing and installation of a bladder type pre-charged pressure tank for water booster stations with concrete foundation, associated piping and gauges.

MATERIALS

The shell and heads shall be welded carbon steel constructed in accordance with the most recent addendum of Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code. Maximum design pressure shall be at least 125 psi. The exterior shall be painted with an epoxy coating.

The replaceable bladder shall be constructed of heavy duty butyl material that is FDA approved and complies with NSF/ANSI Standard 61. The unit shall be factory pre-charge at 40 psig and field adjustable. The unit shall have an integrated pressure gauge.

The vertically installed tank shall have a 660 gallon volume, as manufactured by Wessels Company, Model FXA -2500, or approved equivalent.

The tank shall be installed on a concrete foundation, as shown in the plans and fastened or bolted to the foundation to prevent theft or tipping.

CONSTRUCTION METHODS

The Contractor shall coordinate all material delivery and necessary lifting devices, water connections, and all other equipment and accessories required to make the dispensing station function as intended.

MEASUREMENT AND PAYMENT

The Pressure Tank will be measured and paid for at the lump sum unit price bid for “Pressure Tank”. Payment shall be considered full compensation for furnishing all materials, equipment, and labor to install the tank, concrete foundation, fasteners, piping, and all incidentals necessary to complete the work and make the unit function as intended.

TECHNICAL SPECIFICATION

PLANT PIPING AND VALVES

DESCRIPTION

This item covers the furnishing and installation of all underground and exposed piping, fittings, couplings, and valves that are used in this project that is not specified as a component for equipment.

MATERIALS

PLASTIC PIPE

Pipe and fittings shall be made from clean, virgin, NSF approved Type I Grade 1 polyvinyl chloride conforming to ASTM resin specification D1784-60T.

All 2-inch through 4-inch pipes shall be IPS, Pressure Rated SDR-21, ASTM D2241.

The pipe marking shall include:

(A) Nominal size and O.D. base (e.g., 8” and 12” CIS).
(B) Material code designation (PVC 1120).
(C) Pressure Class and Dimension Ratio (DR)
(D) AWWA C900 or AWWA C905
(E) Manufacturer’s name or trademark and production code.
(F) Seal of the testing agency that verified the suitability of the pipe material for potable water service (NSF).

Plastic fittings (SCH 40) for 3” PVC and smaller pipe shall be used. No direct measurement or payment will be made for plastic fittings, but shall be considered subsidiary to the cost of the pipe.

GATE VALVES:

A. Gate valves for the system shall conform to the latest edition of AWWA STANDARD FOR RESILIENT SEATED GATE VALVES FOR WATER SYSTEM, AWWA C-509.

B. Valves shall have push-on, mechanical joint, flanged or any other combination of ends as required or specified on the Plans. Hubs and mechanical joints shall be sized for PVC or D.I. pipe, as applicable.

C. All 2-inch and 3-inch gate valves shall be iron body, bronze-mounted, double-disc, parallel seat, non-rising stem, internal welding type. Seals shall be “o” ring type.

D. All 4-inch and larger gate valves shall be iron body, bronze stem nut, two “o” ring seals in stuffing box, modified wedge disc with resilient replaceable internally reinforced molded disc seat ring, epoxy-coated disc and valve body inside.

Gate valves shall turn to the left to open, and shall be fitted with either hand wheel (if exposed) or operating nut (if buried). Gate valves shall be Kennedy, Mueller, Clow, or approved equivalent. If below grade, they shall be equipped with cast iron valve covers.

COUPLINGS: Couplings shall be Dresser Style 38, 53, 153, 127 or 128 couplings with ALCLAD fusion bonded casting or approved equivalent.

DUCTILE IRON FITTINGS: Each ductile iron compact fitting shall conform to the American Water Works Association Specifications (latest edition) C-110/153 Class 150/350. Fittings shall be mechanical joint with retainer glands or flanged as shown. Compact fittings will be allowed. All fittings shall be wrapped in polyethylene and shall be furnished complete with bolts, nuts, gaskets and glands and PVC adapters as needed. All fittings shall have concrete thrust bracing or joint restraint, as specified herein.

POLYETHYLENE: All polyethylene shall be furnished by the Contractor and shall be 8 mil thickness, black. Polyethylene shall have a minimum of 50% overlap.

PIPE SUPPORTS: All above ground piping shall be provided with concrete supports, as shown on the plans.

GALVANIZED PIPE: Shall meet current AWWA Standard Specification 7A.3 (1) and 7A.4 (2) Schedule 40 (ASA B-36-10) steel pipe and shall be heavily zinc coated by the Hot-Dip process in accordance with the latest ASTM Specifications.

COPPER PIPE: Shall conform to the requirements of Federal Specification WW-T-799, Type “K”

CONCRETE THRUST BLOCKING: Concrete Thrust Blocking with plastic polyethylene wrap shall be provided at each fitting and valve installed underground, as shown in the plans. Concrete for thrust blocks shall be proportioned to develop a compressive strength of 2500 pounds per square inch in twenty-eight (28) days.

JOINT RESTRAINTS: At the contractor’s sole discretion, joint restrainer glands may be used at all fitting and valves in lieu of concrete thrust blocks. If so exercised, a detailed joint and bell restraint plan showing restraint lengths along each pipe branch and related shop drawings must be submitted to the Engineer for advanced approval prior to placement. All joint restraint shall be EBAA Iron or approved equivalent.

JOINTS: All exposed pipe shall have flanged joints. All underground pipe shall have slip joint fittings.

TECHNICAL SPECIFICATION

PLANT PIPING AND VALVES

FLANGES: Flanges on ductile iron pipe or pipe nipples shall conform to ASA Specification B 16.1, Class 125, complete with bolts, nuts, and gaskets. Gaskets shall be red rubber, full faced. Flanged joints shall be used above grade.

STEEL PIPE: Above ground API-SL steel pipe may be used with welded steel headers provided suitable dresser couplings are installed. Below ground steel pipe shall be Epoxy painted prior to installation.

PIPE COUPLINGS: Couplings for pipe nipples shall be Smith-Blair, Dresser, or approved equivalent. Couplings installed on vertical bends shall be provided with bolted connections to pipe flanges (stainless steel and all threaded tie rods) on each side of the coupling or as shown on the plans.

CHECK VALVES: Check valves shall be swing check valve with weighted, external lever arm, as manufactured by GA Industries, are approved equivalent.

PRESSURE AND LEVEL GUAGES: Pressure Gauges shall be 4” diameter glycerin filled faces with brass or stainless steel levered shut off valves and associated piping, taps, and threading.

VALVES BOXES: Each valve installed below ground surface shall be furnished with a cast iron valve box, Mueller H-10357 or equivalent, 3 piece assembly, and concrete collars.

PAINTING: All above ground piping, motors and valves shall be cleaned, primed and painted with epoxy or enamel paint, 3 to 6 mils minimum thickness.

CONSTRUCTION METHODS

BACKFILL: All underground pipe will have a minimum of 36” cover within the plant yard and 48” cover outside of the plant yard. After 6” of select material (sand or 3/8” gravel) has been placed over and around the pipe, excavated material can be placed in the trench and compacted. Special compacting in 6” lifts by mechanical means is required where piping is under concrete foundations or in roadways.

PIPE CUTTING AND JOINTING, SLIP JOINT PIPE: The cutting of all pipe shall be done with standard wheel pipe cutters. Pipe may be cut in the field and field machined for coupling purposes. Standard adapters and pre-machined sections may be used where required.

Jointing Pipe: (1) Cleaning Before Jointing: The machined ends of pipe to be jointed, the coupling grooves and rubber rings shall be cleaned immediately before assembling. (2) Assembly of the Coupling: The assembly shall be made as recommended by the manufacturer. (3) Checking Rubber Ring Locations: The location of field assembled rings shall be checked with a suitable gauge to verify that rubber rings are in the

required position. (4) Deflection of Pipe at Joints: Pipe shall not be deflected either vertically or horizontally in excess of that recommended by the manufacturer.

PIPE JOINTING, MECHANICL JOINT PIPE: Plain end, stuffing box and gasket shall be thoroughly cleaned by brushing with wire brush before the joint is made up. Pipe and fitting shall be laid up true to line so that the plain end fully enters the stuffing box. Gasket shall be moved into the stuffing box and seated by hand before the gland is moved into position. Gland nuts shall be tightened on alternate sides of the joint until a uniform turning effort is required on all nuts.

Torque applied in final tightening of nuts shall be from forty (40) to sixty (60) foot-pounds for 5/8 inch bolts, and from sixty (60) to ninety (90) foot-pounds for ¾ inch bolts. A torque wrench shall be used for all tightening operations.

PIPE AND VALVE PLACEMENT: Piping and vales will be placed according to the manufacturer's recommendations and with good workmanship. Valves are to be placed vertically. Horizontal piping will be level. Stainless steel tie rods shall be used across all dresser couplings, as shown in the plans. Provide steel adjustable braces as required.

ROCK EXCAVATION: All excavation work will be unclassified, no separate payment will be made for rock excavation, sand backfill, or trench dewatering, if encountered. Blasting of rock is prohibited.

TIE INTO EXISTING MAINS: The Contractor shall make all ties to existing mains required by the plans as soon as pipe laying reaches the designated location, after the new main has been released for service by the Owner. Ties to existing mains shall consist of wet and dry connections. "Wet connection" is a connection to a water main under pressure and is made by a pipe tapping machine without interrupting service to customers. A "dry connection" is a connection to a water main, while the main is empty. The cost of materials used in making the tie-ins, such as ductile iron pipe, AC, MOE or MOA pipe, couplings, silica sand, capping, plugs, etc., will not be paid for separately, but shall be included in the various bid items involved. Relaying of existing lines to achieve grade or alignment will not be paid for separately.

Tapping sleeves shall be lead joint type or mechanical joint type as specified. Tapping valves shall be mechanical joint type conforming to the requirements of the specification for "Gate Valves". Tapping valves and sleeves shall be furnished with glands, bolts and gaskets. Tapping sleeves made of steel shall have a coat of baked-on vinyl coating, or epoxy coated. In place of this, tapping sleeves may be manufactured of stainless steel. All bolts shall be high strength stainless steel meeting requirements of AWWA Standard C 111.

The Contractor will confer with the Owner as to the time for making interconnections or wet connections, and the Owner's representative shall be present when any

interconnections are made. The Contractor will not operate existing valves except as authorized by the Owner.

In general, interconnections will not be paid for separately when new lines are being constructed in accordance with the plans.

Where necessary, the Contractor shall provide necessary “jumpers”, taps and temporary blow-offs needed to test and flush new mains prior to connection to existing lines at no extra cost the Owner.

TESTING AND DISINFECTION: All pipe will be tested at 150 psi for 4 hours with no leakage. Contractor to furnish all materials and labor to test, disinfect and flush, including temporary flush valves. There will be no separate pay item for testing and disinfection.

FLUSHING AND DISINFECTION: After pipe and fittings have been laid, and prior to testing, chlorine (either liquid, gaseous or powdered) shall be applied inside the line and the line filled with water in accordance with the State (TCEQ) Specifications.

FREEZE PROTECTION: Furnish and install freeze protection on all exposed piping.

MEASUREMENT AND PAYMENT

Plant piping and valves will be measured and paid for at the lump sum unit price bid for “Plant Piping and Valves”. Where no bid item is provided, the work will be considered subsidiary to the “Plant Piping and Valves” bid item. Payment shall be considered full compensation for furnishing and installing all pipe, valves, fittings, concrete thrusts bracing, restraints, etc., including excavation, bedding, painting, backfill, compaction, rock removal, disinfecting and pressure testing all mains, connection to existing mains and other items shown in the plans and required to complete the work as intended.

DESCRIPTION

This item covers the furnishing and installation of all underground and exposed electrical, control, instrumentation, wiring, conduits and other incidentals that are not specified as a component for equipment.

PERMITS, CODES AND UTILITIES

Secure all permits, licenses, and inspections as required by all authorities having jurisdiction. Give all notices and comply with all laws, ordinances, rules, regulations and contract requirements bearing on the work.

The minimum requirements of the electrical system installation shall conform to the latest edition of the National Electrical Code as well as state and local codes.

Codes and ordinances having jurisdiction and specified codes shall serve as minimum requirements, but if the contract documents or equipment manufacturers indicate requirements which are in excess of those minimum requirements then the stricter of those requirements shall be followed. Any conflicts between the Contract Documents and codes, or any ordinances, report these with bid shall be report prior to bidding.

Determine the exact requirements for ALL utility service connections and metering facilities as set forth by the utilities that will serve the project and pay for and perform ALL work as required by those utilities.

STANDARDS

All materials and equipment shall conform to the requirements of the Contract Documents. All materials and equipment shall be or the highest quality in order to provide the most reliable end product possible. They shall be new, free from defects, and they shall conform to the following standards where these organizations have set standards:

1. Underwriters Laboratories, Inc. (UL)
2. National Electrical Manufacturer's Association. (NEMA)
3. American National Standards Association. (ANSI)
4. Insulated Cable Engineers Association. (ICEA)

CONSTRUCTION

The Contractor shall coordinate electrical, control and instrumentation requirements for the pumps and water dispenser station with those manufacturers. The Contractor shall submit a proposed underground conduit site plan showing conduit and wiring alignment, materials, wire gauge, breaker and raceway suppliers and locations, proposed trench depth and insulating conduits for Engineer’s and Owner’s approval prior to installation of those facilities. The Contractor’s electrician shall be licensed in the State of Texas.

MEASUREMENT AND PAYMENT

There is no direct measurement or payment item for plant electrical, controls and instrumentation. The cost of furnishing and installing all material, labor, equipment and incidentals required to complete the work as intended shall be included with and considered fully subsidiary to the unit bid price of the associated items: pumps, water dispenser, etc.

Geotechnical Engineering Report

Proposed Water Dispenser Station

Near Mangana-Hein Rd.

Laredo, Texas

October 25, 2019

Terracon Project No. 89195025

Prepared for:

Webb County Engineering Dept.

Laredo, Texas

Prepared by:

Terracon Consultants, Inc.

Laredo, Texas

October 25, 2019

Webb County Engineering Dept.
1620 Santa Ursula Ave
Laredo, Texas 78040

Attn: Mr. Luis Perez Garcia, P.E.

Re: Geotechnical Engineering Report
Proposed Water Dispenser Station
Near Mangana-Hein Rd.
Laredo, Texas
Terracon Project No. 89195025

Dear Mr. Garcia:

Terracon Consultants, Inc. (Terracon) has completed the geotechnical engineering services for the above referenced project. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations for the proposed project. We appreciate the opportunity to work with you on this project and look forward to contributing to the ongoing success of this project by providing Materials Testing services during construction. Should there be any questions, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.
(Firm Registration: TX F3272)

Tariqul Anwar, P.E.
Project Engineer

Gregory P. Stieben, P.E., D.GE
Senior Consultant

TA/PSG/mhb – 89195025

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EXECUTIVE SUMMARY

This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled **GENERAL COMMENTS** should be read for an understanding of the report limitations.

This geotechnical exploration has been performed for the Proposed Water Dispenser Station to be located near Mangana-Hein Rd. about 9½ miles south of Laredo, Texas. The subsurface conditions at the site were explored by drilling five soil borings to nominal depths ranging from about 5 feet to 30 feet below existing grade.

Based on the information obtained from our subsurface exploration, the site can be developed for the proposed project. Pertinent geotechnical issues and considerations include the following:

- The subsurface soils at this site generally consist of Clayey Sand (SC).
- No free groundwater was observed in the borings during the drilling operations below the existing grade.
- The estimated Potential Vertical Rise (PVR) at this site is approximately about 1 inch in its present condition.
- We understand the tank structures will be supported by a shallow foundation system, such as ring wall foundations or a mat foundation system.
- The 2018 International Building Code seismic site classification for this site is C.

GEOTECHNICAL ENGINEERING REPORT
PROPOSED WATER DISPENSER STATION
LAREDO, TEXAS
Terracon Project No. 89195025
October 25, 2019

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) is pleased to submit our Geotechnical Engineering Report for the Proposed Water Dispenser Station to be located near Mangana-Hein Rd. about 9½ miles south of Laredo, Texas. The project scope was performed in general accordance with Terracon Proposal No. P89195025 dated September 16, 2019.

The purpose of this report is to describe the subsurface conditions observed at the borings drilled for this study, analyze and evaluate the test data, and provide recommendations with respect to:

- subsurface soil conditions
- earthwork
- seismic considerations
- groundwater conditions
- foundation design and construction
- pavement construction

2.0 PROJECT INFORMATION

2.1 Project Description

Item	Description
Site layout	Refer to Appendix A; Exhibit A-1: Site Location Plan and Exhibit A-2: Boring Location Plan.
Concrete Storage Tank	Two new ground storage tanks with approximate capacity of about 40 to 50k gallons will be constructed along with service lanes. The proposed tanks will be about 20 to 23 ft diameter and about 16 to 18 ft high.
Tank Foundation	The proposed steel tanks will be supported on either ring-wall or mat foundation systems.
Bearing Pressure	The anticipated contact pressures are in the range of 1,000 to 1,500 psf.
Finished Floor Elevation (FFE)	El. 520.0 feet
Pavement (Roadway)	A roadway will be constructed. Concrete pavement will be considered.

2.2 Site Location and Description

Item	Description
Location	The project site is located near Mangana-Hein Rd. about 9½ miles south of Laredo, Texas.
Existing improvements	Undeveloped. Majority of the site is vegetated. There is an access path and boring were drilled in the access path. The pavement borings were adjusted in the field to avoid tree clearing and drill rig access.
Current ground cover	Shrubs, grass, trees and bare soil.
Existing topography	Based on the field exploration and provided grading plan, the proposed site is sloping downward from north to south from elevation El. 521 feet to elevation El. 512.5 feet.

3.0 SUBSURFACE CONDITIONS

3.1 Typical Profile

Based on the results of the borings, subsurface conditions on the project site can be generalized as follows:

Approximate Depth (feet)	Material Description	Consistency/ Density
0 to 30	CLAYEY SAND (SC) [1]; light brown, yellowish brown	Loose to Very Dense

[1] The CLAYEY SAND (SC) materials could undergo low volumetric changes (shrink/swell) should they experience changes in their in-place moisture content. These materials are considered volumetrically stable with regards to change in moisture content due to their granular nature. **This stratum may become water bearing and prone to sloughing.**

Conditions encountered at each boring location are indicated on the individual boring logs. Stratification boundaries on the boring logs represent the approximate location of changes in soil types; in situ, the transition between materials may be gradual. Details of the boring can be found on the boring logs in Appendix A of this report.

3.2 Groundwater

Groundwater generally appears as either a permanent or temporary water source. Permanent groundwater is generally present year round, which may or may not be influenced by seasonal and climatic changes. Temporary groundwater water is also referred to as a “perched” water source, which generally develops as a result of seasonal and climatic conditions.

The borings were dry-augered to its full depth in an attempt to observe for the presence of subsurface water. No free groundwater was observed in the borings during the drilling operations. Groundwater levels are influenced by seasonal and climatic conditions which generally result in fluctuations in the elevation of the groundwater level over time. Additionally, the sand layer may become water bearing after a precipitation event. Therefore, the foundation contractor should check the groundwater conditions just before foundation excavation activities. The borings were backfilled with soil cuttings after the drilling operations and groundwater observations were completed.

4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

4.1 Geotechnical Considerations

Terracon understands that a shallow foundation system will be considered to support the proposed structure at this site. The foundations being considered must satisfy two independent, engineering criteria with respect to the subsurface conditions encountered at this site. One criterion is the foundation system must be designed with an appropriate factor of safety to reduce the possibility of a bearing capacity failure of the soils underlying the foundation when subjected to axial and lateral load conditions. The other criterion is movement of the foundation system due to compression (consolidation or shrinkage) or expansion (swell) of the underlying soils must be within tolerable limits for the structures.

Based on our findings, the subsurface soils at this site generally exhibit low expansion potential. Based on the information developed from our field and laboratory programs and on method TEX-124-E in the Texas Department of Transportation (TxDOT) Manual of Testing Procedures, we estimate that the subgrade soils at this site exhibit a Potential Vertical Rise (PVR) of about 1 inch in its present condition. The actual movements could be greater if inadequate drainage, ponded water, and/or other sources of moisture are allowed to infiltrate beneath the structures after construction. In order to reduce soil movement beneath the floor slab, subgrade grade and structure pad modifications will be required as discussed in this report. The desired slab foundation system may be used at this site provided the structure pad and foundations are designed and constructed as recommended in this report.

4.1.1 Sulfate Considerations

Sulfate tests were performed on selected samples collected from the borings to check for possible adverse reactions with lime or cement treatment. Testing was not performed on all borings nor at all depths. Sulfate content concentrations for a boring along with its approximate depth and nearest boring number is as follows:

Boring No.	Approximate Depth, feet	Sulfate Content, ppm
B-3	0 - 1½	628
B-4	3½ – 5	>8,000

The test results indicate sulfate values in the range of 628 ppm to >8,000 ppm. The sulfate effect at this site is considered to be moderate to very severe. Using the criteria from ACI 201.2R, the test results were classified as Class 1 and 3 exposures, respectively.

The test results indicate that the sulfate concentrations in the soils are within levels deemed to be of a high risk for adverse reactions when mixed with a calcium-based additive TxDOT (>8,000 ppm), the National Lime Association (>3,000 ppm) and AASHTO (>5,000 ppm). The American Concrete Institute (ACI) and the Texas Department of Transportation (TxDOT) provide guidance and specifications regarding sulfates in soil and groundwater. Concrete exposed to these materials is also subject to sulfate attack which can result in the deterioration of the concrete over time. Lime or cement subgrade stabilization in the pavement areas are not recommended. The concrete mix should be designed for high sulfate level based on ACI 201.2R.

Based on these references and our experience, the following concrete may be used at this site:

- Maximum water/cement ratio of 0.40

Cementitious Material

- ASTM C150 Type V portland cement; or,
- ASTM C150, Type II cement blended with ASTM C618, Class F fly ash that meets the following when tested in accordance with ASTM C1012:
    - Expansion ≤ 0.1% at 18 months;

Other concrete mixtures proven to meet these criteria with regards to sulfate attack will be considered. Specialty admixtures such as Micron 3 should be considered. Technical representatives from the admixture supplier should be consulted.

4.2 Earthwork

The following presents recommendations for general site preparation, structure pad preparation and placement of engineered fills on the project. The recommendations presented for design and construction of earth supported elements including foundations, slabs and pavements are contingent upon following the recommendations outlined in this section. Earthwork on the project should be observed and evaluated by Terracon. The evaluation of earthwork should include observation and testing of engineered fill, subgrade preparation, foundation bearing soils, and other geotechnical conditions exposed during the construction of the project.

4.2.1 General Site Preparation

Construction operations may encounter difficulties due to the wet or soft surface soils becoming a general hindrance to equipment due to rutting and pumping of the soil surface, especially during and soon after periods of wet weather. If the subgrade cannot be adequately compacted to minimum densities as described in the **Compaction Requirements** section of this report, one of the following measures may be required:

- removal and replacement with select fill;
- drying by natural means if the schedule allows.

Prior to construction, all vegetation, loose topsoil with organics and any otherwise unsuitable materials should be removed from the construction area. The stripped materials consisting of vegetation and organic materials should be wasted from the site, or used to revegetate landscaped areas or exposed slopes after completion of grading operations. Wet or dry material should either be removed or moisture conditioned and recompacted. After stripping and grubbing, the subgrade should be proof-rolled where possible to aid in locating loose or soft areas. Proof-rolling can be performed with a fully loaded dump truck or equivalent pneumatic tired vehicle. Soils that are observed to rut or deflect excessively (typically greater than 1-inch) under the moving load should be undercut and replaced with properly compacted on-site soils. The proof-rolling and undercutting activities should be witnessed by a representative of the geotechnical engineer and should be performed during a period of dry weather.

4.2.2 Pad Preparation

As previously mentioned, the existing PVR within the structure footprint is about 1 inch. However, the upper 2 feet of sandy soils are dry and loose in condition. Therefore, we recommend that the structure pad be prepared as followed to maintain the soil movement and provide a uniform soil support.

- After removing vegetation, topsoil and other deleterious materials excavate and stockpile 2 feet of onsite soil for reuse, from the structure pad area. The structure pad area is defined as the area that extends at least 3 feet (horizontal) beyond the perimeter of the proposed structure and movement sensitive flatwork.

- After removing 2 feet of onsite soil, the exposed subgrade in the pad should be proof rolled with a fully loaded dump truck or equivalent pneumatic tired vehicle to evidence any weak yielding zones. A Terracon geotechnical engineer or their representative should be present to observe proof rolling operations.

- Over-excavate any confirmed weak yielding zones, both vertically and horizontally, and replace with competent soil. The exposed subgrade should be moisture conditioned between -2 and +3 percentage points of the optimum

moisture content and then compact to at least 98 percent of the maximum dry density determined in accordance with ASTM D 698.

- After compacting the exposed subgrade, place and compact the onsite stockpiled soil to achieve Finished Pad Elevation (FPE). The onsite soil should be placed in in loose lifts of no more than 8 inches, with compacted thickness not exceeding 6 inches. Onsite soil should be compacted to at least 95 percent of the maximum dry density determined in accordance with ASTM D 698. Onsite soil should be moisture conditioned to between -2 and +3 percentage points of the optimum moisture content. If this soil becomes wet and difficult to compact, then chemical stabilization of sand with cement maybe required. We anticipate that approximately 3 percent cement (about 18 pounds per square yard for a six-inch lift) will be required. Additional cement may be required depending on the site conditions and the weather at the time of construction. The percentage of cement may need to be increased in order to produce a stabilized subgrade.

- If grade is to be raised further, select fill or onsite soil should be used to achieve the proposed finished grade. Recommendations for select fill are included in the **Fill Material Requirements** and **Compaction Requirements** sections of this report.

This method should result in at least 2 feet of reworked and possibly stabilized onsite soil, beneath the grade supported slab and should result in a PVR of about 1 inch.

4.2.3 Fill Material Requirements

Select fill and on-site soils should meet the following criteria.

Fill Type [1]	USCS Classification	Acceptable Location for Placement
Granular select fill [2]	Varies	All locations and elevations
Select fill	CL, SC (LL≤40) and (7≤PI≤20)	All locations and elevations
On-Site soils	SC	All locations and elevations

1	Prior to any filling operations, samples of the proposed borrow and on-site materials should be obtained for laboratory moisture-density testing. The tests will provide a basis for evaluation of fill compaction by in-place density testing. A qualified soil technician should perform sufficient in-place density tests during the filling operations to evaluate that proper levels of compaction, including dry unit weight and moisture content, are being attained.
2	Granular select fill should be cohesive crushed limestone base material with a maximum aggregate size of 3 inches. Plasticity Index should range from 5 to 20. Recommendations for pavement base material are provided elsewhere in this report.

4.2.4 Compaction Requirements

Item	Description
Fill Lift Thickness	All fill should be placed in thin, loose lifts of about 8 inches, with compacted thickness not exceeding 6 inches.
Compaction of On-Site Soil, Select Fill and Granular Select Fill	95 percent of the material's Standard Proctor maximum dry density (ASTM D 698).
Moisture Content of On-site Soil and Select Fill	The materials should be moisture conditioned between -2 and +3 percentage points of the optimum moisture content.
[1] Unless otherwise noted within this report all compaction requirements are provided above.	

4.2.6 Grading and Drainage

All grades must provide effective drainage away from the structure during and after construction and should be maintained throughout the life of the structure. Water retained next to the structure can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab and/or foundation movements, cracked slabs and walls, and roof leaks. The roof should have gutters/drains with downspouts that discharge onto splash blocks at a distance of at least 10 feet from the structure.

Exposed ground should be sloped and maintained at a minimum 3 percent away from the structure for at least 10 feet beyond the perimeter of the structure. Locally, flatter grades may be necessary to transition ADA access requirements for flatwork. After structure construction and landscaping, final grades should be verified to document effective drainage has been achieved. Grades around the structure should also be periodically inspected and adjusted as necessary as part of the structure's maintenance program. Where paving or flatwork abuts the structure a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

4.2.7 Earthwork Construction Considerations

It is anticipated that excavations for the proposed construction can be accomplished with conventional earthmoving equipment. Based upon the subsurface conditions determined from the geotechnical exploration, subgrade soils exposed during construction are anticipated to be relatively stable. However, the stability of the subgrade may be affected by precipitation, repetitive construction traffic or other factors. If unstable conditions develop, workability may be improved by scarifying and drying. Over excavation of wet zones and replacement with granular materials may be necessary. Lightweight excavation equipment may be required to reduce subgrade pumping. The use of remotely operated equipment, such as a backhoe, would be beneficial to perform cuts and reduce subgrade disturbance.

All temporary excavations should be sloped or braced as required by Occupational Health and Safety Administration (OSHA) regulations to provide stability and safe working conditions.

Temporary excavations will probably be required during grading operations. The grading contractor, by his contract, is usually responsible for designing and constructing stable, temporary excavations and should shore, slope or bench the sides of the excavations as required, to maintain stability of both the excavation sides and bottom. All excavations should comply with applicable local, state and federal safety regulations, including the current OSHA Excavation and Trench Safety Standards.

4.3 Foundations

Based upon the subsurface conditions observed during our study, a shallow foundation system may be used to support the tank provided the subgrade is prepared as discussed in **Pad Preparation** section of this report. Recommendations for a slab-on-grade beam foundation system, ring footings and mat foundation systems are provided in the following sections, along with other geotechnical considerations for this project.

4.3.4 Ring-Wall Foundation

Ring wall foundations may be used for the grade supported tanks. Subgrade soil within tank pad area should be prepared as described in the "**Pad Preparation"** section of this report. The bearing depth of the ring wall may be controlled by the load requirements necessary to resist lateral load induced by wind or seismic loading. However, the ring wall should bear no shallower than 2 feet below the final exterior site grade. The ring wall footing for the tank can be designed using net allowable bearing pressure of 2,500 psf. The design bearing pressure includes factor of safety against a bearing capacity failure of about 3. The ring wall should be designed to resist hoop stresses created by internal lateral earth pressures resulting from the weight of the backfill confined within the ring wall and the hydrostatic loads.

Overturning moments induced by wind loading should be considered during the foundation design. Uplift loading on the ring wall foundation can be resisted by the weight of the ring wall, the weight of structure, and any soil overlying the ring wall. Overturning should be analyzed for both empty and full tank conditions. A soil unit weight of 110 pounds per cubic foot (pcf) may be assumed for the select fill placed above the footing, provided that the select fill is properly compacted as recommended in the **Earthwork** section of this report. An ultimate coefficient of friction across the ring wall foundation base of 0.50 can be used to aid in the resistance of ground line shear loading.

The uplift force will likely be resisted by the weight of the tank. We estimate that the center settlements will be on of about 1½ inches. Edge settlements will likely be about one-half of the center settlements. Differential settlement from the tank's center to the perimeter is estimated to be about 1 inch or less. Settlement response of ring foundation is impacted greatly by the quality of the construction.

4.3.5 Mat Foundation System

Individual or a combined mat foundation may be considered to support the tanks at the site. The mat should be analyzed using a soil-structure interaction program to identify areas of high contact stresses, excessive movements and large moments. A subgrade modulus (k_1) of 110 pci for a 1 ft by 1 ft plate on the prepared subgrade of compacted soil can be used. The modulus value may be adjusted for the actual mat size. Net allowable bearing pressure of 2,500 psf with a factor of safety of 3 may be used to design the mat. Maximum contact pressure should not exceed the allowable net bearing pressure. The recommended foundation depth is about 3 feet below finished exterior grade.

Operational distortion of the mat foundation designed for the indicated allowable bearing pressure and subgrade modulus should be evaluated with the mat analyses. If the magnitude of distortion is not tolerable, the mat foundation may be thickened to increase its stiffness or supported on drilled piers to reduce these calculated distortions.

For a mat foundation system designed and constructed as recommended in this report, anticipated center settlement may be on the order of about 2 inches. Depending on the stiffness of the mat, edge settlements are anticipated to be of about 1 inch of the center settlement. Settlement response of a select fill supported slab is influenced more by the quality of construction than by soil-structure interaction. Therefore, it is essential that the recommendations for foundation construction be strictly followed during the construction phases of the foundation.

4.3.6 Foundation Construction Considerations

The foundation should preferably be neat excavated. Excavation should be accomplished with a smooth-mouthed bucket. If a toothed bucket is used, excavation with this bucket should be stopped 6 inches above the final bearing surface and the excavation completed with a smooth-mouthed bucket or by hand labor. If neat excavation is not possible then the foundation should be overexcavated and formed. All loose materials should be removed from the overexcavated areas and filled with lean concrete or compacted cement stabilized sand (two sacks cement to one cubic yard of sand) or flowable fill. **Due to the presence of sand, caving and sloughing should be anticipated. Therefore, forms to construct the foundation maybe required.**

To reduce the potential for water infiltration into the excavations and to minimize disturbance to the bearing area, we recommend that concrete and steel be placed as soon as possible after the excavations are completed. Excavations should not be left open for more than 48 hours. The bearing surface should be evaluated after excavation is completed and immediately prior to placing concrete. If not, a seal slab consisting of lean concrete should be poured to protect the exposed foundation soils. The bearing surface should be excavated with a slight slope to create an internal sump for runoff water collection and removal. If surface runoff water in excess of 1 inch accumulates at the bottom of the excavation, it should be pumped out prior to concrete placement. Under no circumstances should water be allowed to adversely affect the quality of the bearing surface.

4.3.7 Tank Settlement Considerations

The maximum imposed tank bottom pressure for a 23-foot high tank will be on the order of 1,200 psf under hydrostatic loading. The total settlement of the proposed Storage Tanks has two components, short-term settlement (elastic settlement) and long-term settlement (consolidation settlement). Total settlements, based on the indicated bearing pressures, should be about 1½ inches for properly designed and constructed foundation. Settlement beneath the slab will be primarily elastic with most of the settlement occurring during construction. Most of the settlement of these tanks is estimated to be short term.

The differential settlement of the tank shell depends on the local variability of the soil conditions below the tank. Based on the results of the laboratory tests, it is estimated that differential shell settlement due to consolidation of the bearing soils should be less than about 1 inch in 50 feet of wall length.

Settlement response of foundation is impacted greatly by the quality of construction. Improper foundation design and construction or ground improvement methods could result in differential settlements that are significantly greater than we have estimated. It is anticipated that approximately 70 to 80 percent of the total settlement will occur shortly after filling of the tanks. We anticipate that the remaining settlement will occur over long-term or several years of service of the tank with fluids at or near the tank top.

We anticipate that the bottom of the tank will be sloped approximately 1 inch vertical in 10 feet horizontal from the center to the edge of the tank. Anticipated total settlement at the center of the tank should be considered during the design and construction of the tank to achieve the desired slope; i.e. the center should be crowned to allow for the anticipated settlement.

According to the Boussinesq's elastic solution, the induced stress at the center of the foundation will be higher than stress induced at the periphery. Therefore, settlement at the center will be higher than settlement at the periphery. Based on the observed subsurface conditions, results of the laboratory tests and our engineering judgment, we estimate that the center settlements will be on the order of 1½ inches. Edge settlements will likely be about one-half of the center settlements.

4.4 Seismic Considerations

Description	Value
2018 International Building Code Site Classification (IBC) [1]	C [2]

[1]	The site class definition was determined in conjunction with 2018 IBC and Table 20.3-1 in the 2010 ASCE-7.
[2]	Borings extended to a maximum depth of 30 feet, and this seismic site class definition considers that similar soil continues below the maximum depth of the subsurface exploration.

4.5 Pavements

We understand, only concrete pavements will be considered for the proposed roadway.

4.5.1 Design Considerations

Support characteristics of subgrade for pavement design do not account for shrink/swell movements of an expansive clay subgrade, such as soils encountered on this project. Thus, the pavement may be adequate from a structural standpoint, yet still experience cracking and deformation due to shrink/swell related movement of the subgrade.

4.5.2 Design Recommendations

We considered the planned roadway as heavy duty pavement section since the majority of the traffic will be truck traffic and delivery trucks.

RIGID PAVEMENT SYSTEM (inches)	
Reinforced Concrete	6.0
Granular Base	4.0
Moisture Conditioned Subgrade	6.0

[1] The thickness design analysis used for concrete pavement is not highly sensitive to the type of subgrade supporting the concrete pavement. However, a subbase consisting of 4 inches of crushed limestone or caliche base material immediately beneath the concrete will be less affected by water, sulfate attack and traffic loads and should help to provide improved long term, uniform support for the concrete pavement. We recommend that this be considered for concrete pavement. The base material also will separate the concrete slab from the high sulfate subgrade soils, thus reducing sulfate attack on concrete structures.

Proper perimeter drainage is very important and should be provided so infiltration of surface water from unpaved areas surrounding the pavement is minimized. We do not recommend installation of landscape beds or islands in the pavement areas. Such features provide an avenue for water to enter into the pavement section and underlying soil subgrade. Water penetration usually results in degradation of the pavement section with time as vehicular traffic traverses the affected area.

4.5.3 Pavement Section Materials

Presented below are selection and preparation guidelines for the materials that may be used to construct the pavement section.

- **Concrete -** Concrete should have a minimum 28-day design compressive strength of 4,000 psi.

- **Granular Base Material -** Base material may be composed of crushed limestone base or crushed concrete meeting all of the requirements of 2014 TxDOT Item 247, Type A, Grade 1-2; including triaxial strength. The material should be compacted to at least 95 percent of the maximum dry density as determined in accordance with ASTM D 1557 at moisture contents ranging from -2 and +3 percentage points of the optimum moisture content.

- **Moisture Conditioned Subgrade -** The subgrade should be scarified to a depth of 6 inches and then moisture conditioned and compacted as recommended in the **Compaction Requirements**. section of this report.

4.5.4 Pavement Joints and Reinforcement

The following is recommended for all concrete pavement sections in this report. Refer to ACI 330 "Guide for Design and Construction of Concrete Parking Lots" for additional information.

Item	Description
Distributed Reinforcing Steel	No. 3 reinforcing steel bars at 18 inches on-center-each-way, Grade 60. It is imperative that the distributed steel be positioned accurately in the pavement cross section, namely minimum 2 inches from the top of the pavement.
Contraction Joint Spacing	15 feet each way for pavement thickness of 6 inches or greater. Saw cut control joints should be cut within 6 to 12 hours of concrete placement.
Contraction Joint Depth	At least ¼ of pavement thickness.
Contraction Joint Width	One-fourth inch or as required by joint sealant manufacturer.
Construction Joint Spacing	To attempt to limit the quantity of joints in the pavement, consideration can be given to installing construction joints at contraction joint locations, where it is applicable.
Construction Joint Depth/Width	Full depth of pavement thickness. Construct sealant reservoir along one edge of the joint. Width of reservoir to be ¼ inch or as required by joint sealant manufacturer. Depth of reservoir to be at least ¼ of pavement thickness.
Isolation Joint Spacing	As required to isolate pavement from structures, etc.
Isolation Joint Depth	Full depth of pavement thickness.
Isolation Joint Width	One-half to 1 inch or as required by the joint sealant manufacturer.
Expansion Joint	In this locale, drying shrinkage of concrete typically significantly exceeds anticipated expansion due to thermal affects. As a result, the need for expansion joints is eliminated provided all joints (including saw cuts) are sealed. Construction of an unnecessary joint may be also become a maintenance problem. All joints should be sealed. If all joints, including sawcuts, are not sealed then expansion joints should be installed.

All construction joints have dowels. Dowel information are presented as follows:

Pavement Thickness	6 inches
Dowels	¾ inch diameter
Dowel Spacing	12 inches on center
Dowel Length	14 inches long
Dowel Embedment	6 inches

5.0 GENERAL COMMENTS

Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to provide observation and testing services during grading, excavation, foundation construction and other earth-related construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the boring performed at the indicated location and from other information discussed in this report. This report does not reflect variations that may occur away from our boring, across the site, or due to the modifying effects of weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided. Prospective subcontractors should familiarize themselves with the conditions at the site and retain their own experts to interpret the data in this report and perform additional testing and/or inspection as they deem necessary prior to bidding.

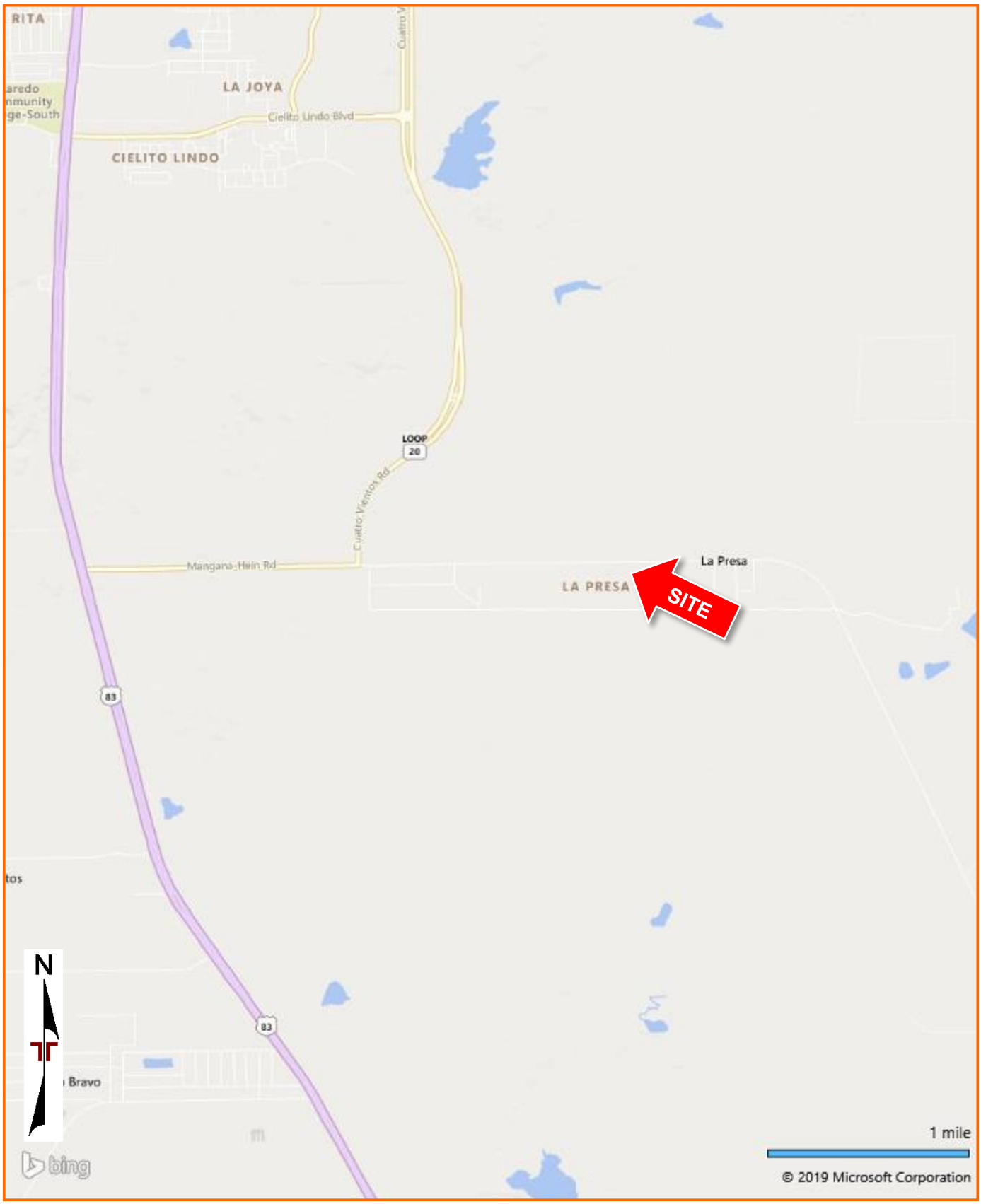
The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

APPENDIX A

EXHIBIT A-1: SITE LOCATION PLAN

Proposed Water Dispenser Station ■ Laredo, Texas
October 25, 2019 ■ Terracon Project No. 89195025



ROAD MAP PROVIDED BY MICROSOFT BING MAPS

EXHIBIT A-2: BORING LOCATION PLAN

Proposed Water Dispenser Station ■ Laredo, Texas
October 25, 2019 ■ Terracon Project No. 89195025

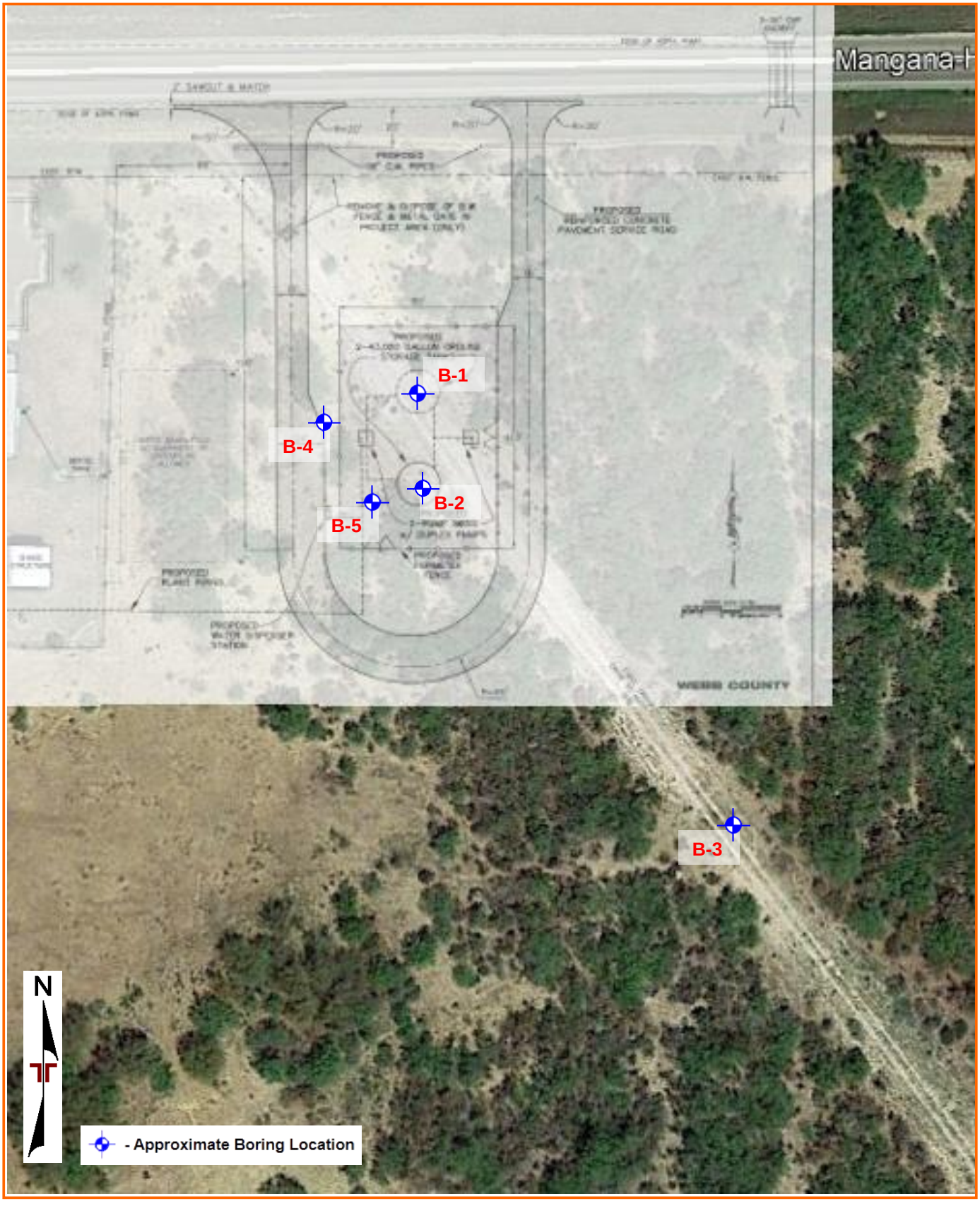


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Field Exploration Description

The boring locations were staked in the field by the client. The locations of the borings should be considered accurate only to the degree implied by the means and methods used to define them. The pavement borings were adjusted in the field to avoid tree clearing and drill rig access.

A truck-mounted, rotary drill rig equipped with continuous flight augers was used to advance the boreholes. Soil sampling is typically performed using thin-wall tube and/or split-barrel sampling procedures. In the split-barrel sampling procedure, a standard 2-inch O.D. split-barrel sampling spoon is driven into the ground with a 140-pound hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the standard penetration resistance value. These values are indicated on the boring log at the depths of occurrence. If the sampler was driven less than the final 12 inches, the N value is recorded on the logs as the number of blows and amount of penetration.

The samples were tagged for identification, sealed to reduce moisture loss, and taken to our laboratory for further examination, testing, and classification. Information provided on the boring log attached to this report includes soil descriptions, consistency evaluations, boring depths, sampling intervals, and groundwater conditions. The boring was backfilled with soil cuttings after completion of drilling.

Our field representative prepared the field logs as part of the drilling operations. The field logs included visual classifications of the materials encountered during drilling and our field representative interpretation of the subsurface conditions between samples. The final boring logs included with this report represent the engineer's/geologist's interpretation of the field logs and include modifications based on visual observations, laboratory observations and testing of the samples in the laboratory.

The scope of services for our geotechnical engineering services does not include addressing any environmental issues pertinent to the site.

BORING LOG NO. B-1

PROJECT: Proposed Water Dispenser Station

CLIENT: Webb County Engineering Dept
Laredo, Texas

SITE: Mangana-Hein Rd.
Laredo, Texas

LOCATION See Exhibit A-2

Latitude: 27.4008° Longitude: -99.4353°

DEPTH	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	CLAYEY SAND (SC), light brown, medium dense to dense				4-5-5 N=10	3		
					7-11-13 N=24	13	49-25-24	
		5			15-17-29 N=46	12		35
	- yellowish brown below 6 feet				12-8-11 N=19	11	41-22-19	
		10			5-10-13 N=23	20		42
	- very dense, cemented below 13 feet				18-26-50/3"	17		
		15						
		20			28-34-32 N=66	17	29-20-9	
					12-32-42 N=74	18		
		25						
30.0		30			50/2"	11		
	Boring Terminated at 30 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Straight flight auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

Notes:

WATER LEVEL OBSERVATIONS

No free water observed

Terracon
615 Gale St, Bldg B, Ste B
Laredo, TX

Boring Started: 10-09-2019	Boring Completed: 10-09-2019
Drill Rig: CME 55	Driller: Howland Drilling
Project No.: 89195025	Exhibit: A-4

BORING LOG NO. B-2

PROJECT: Proposed Water Dispenser Station

CLIENT: Webb County Engineering Dept
Laredo, Texas

SITE: Mangana-Hein Rd.
Laredo, Texas

LOCATION See Exhibit A-2

Latitude: 27.4007° Longitude: -99.4353°

DEPTH	GRAPHIC LOG	DESCRIPTION	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
		CLAYEY SAND (SC), light brown, medium dense to dense				5-5-5 N=10	7	38-17-21	
						7-10-14 N=24	14		36
			5			12-17-21 N=38	15	43-27-16	
		- yellowish brown below 6 feet				11-10-12 N=22	12		40
						8-12-18 N=30	16	45-19-26	
			10						
		- very dense, cemented below 13 feet				50/5"	14		
			15						
						16-20-37 N=57	10		24
			20						
		- Lean Clay (CL) seams at 23 feet				16-22-23 N=45	19	47-20-27	
			25						
30.0						4-20-50/3"	7		
		Boring Terminated at 30 Feet	30						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Straight flight auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

Notes:

WATER LEVEL OBSERVATIONS

No free water observed

Terracon
615 Gale St, Bldg B, Ste B
Laredo, TX

Boring Started: 10-09-2019 | Boring Completed: 10-09-2019

Drill Rig: CME 55 | Driller: Howland Drilling

Project No.: 89195025 | Exhibit: A-5

BORING LOG NO. B-3

PROJECT: Proposed Water Dispenser Station

CLIENT: Webb County Engineering Dept
Laredo, Texas

SITE: Mangana-Hein Rd.
Laredo, Texas

LOCATION See Exhibit A-2

Latitude: 27.4001° Longitude: -99.4348°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	CLAYEY SAND (SC), light brown, medium dense to dense				4-5-7 N=12	5		
					6-7-22 N=29	8	32-16-16	26
	- yellowish brown below 4 feet	5			11-12-20 N=32	8		
					8-21-16 N=37	10		
					10-12-13 N=25	18	67-23-44	45
	10.0	10						
	Boring Terminated at 10 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Straight flight auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

Notes:

WATER LEVEL OBSERVATIONS

No free water observed

Terracon
615 Gale St, Bldg B, Ste B
Laredo, TX

Boring Started: 10-09-2019 | Boring Completed: 10-09-2019

Drill Rig: CME 55 | Driller: Howland Drilling

Project No.: 89195025 | Exhibit: A-6

BORING LOG NO. B-4

PROJECT: Proposed Water Dispenser Station

CLIENT: Webb County Engineering Dept
Laredo, Texas

SITE: Mangana-Hein Rd.
Laredo, Texas

LOCATION See Exhibit A-2

Latitude: 27.4007° Longitude: -99.4355°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	CLAYEY SAND (SC), light brown, medium dense to dense				2-3-2 N=5	5	34-17-17	
	- loose at the surface				6-5-9 N=14	6		30
	5.0				9-17-16 N=33	13		
	Boring Terminated at 5 Feet	5						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Straight flight auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

Notes:

WATER LEVEL OBSERVATIONS

No free water observed

Terracon
615 Gale St, Bldg B, Ste B
Laredo, TX

Boring Started: 10-09-2019	Boring Completed: 10-09-2019
Drill Rig: CME 55	Driller: Howland Drilling
Project No.: 89195025	Exhibit: A-7

BORING LOG NO. B-5

PROJECT: Proposed Water Dispenser Station

CLIENT: Webb County Engineering Dept
Laredo, Texas

SITE: Mangana-Hein Rd.
Laredo, Texas

LOCATION See Exhibit A-2

Latitude: 27.4006° Longitude: -99.4354°

GRAPHIC LOG	DEPTH	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
	CLAYEY SAND (SC), light brown, medium dense				3-3-5 N=8	6		
	- loose at the surface				7-8-15 N=23	8		27
	5.0				10-10-12 N=22	16	49-24-25	
	Boring Terminated at 5 Feet	5						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
Straight flight auger

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

Notes:

WATER LEVEL OBSERVATIONS

No free water observed

Terracon
615 Gale St, Bldg B, Ste B
Laredo, TX

Boring Started: 10-09-2019 | Boring Completed: 10-09-2019

Drill Rig: CME 55 | Driller: Howland Drilling

Project No.: 89195025 | Exhibit: A-8

APPENDIX B

Laboratory Testing

Samples retrieved during the field exploration were taken to the laboratory for further observation by the project geotechnical engineer and were classified in accordance with the Unified Soil Classification System (USCS) described in this Appendix. At that time, the field descriptions were confirmed or modified as necessary and an applicable laboratory testing program was formulated to determine engineering properties of the subsurface materials.

Laboratory tests were conducted on selected soil samples and the test results are presented in this appendix. The laboratory test results were used for the geotechnical engineering analyses, and the development of foundation and earthwork recommendations. Laboratory tests were performed in general accordance with the applicable ASTM, local or other accepted standards.

Selected soil samples obtained from the site were tested for the following engineering properties:

- Moisture Content
- Atterberg Limits
- Soils Finer than No. 200 Mesh Sieve
- Sulfate Content

Sample Disposal

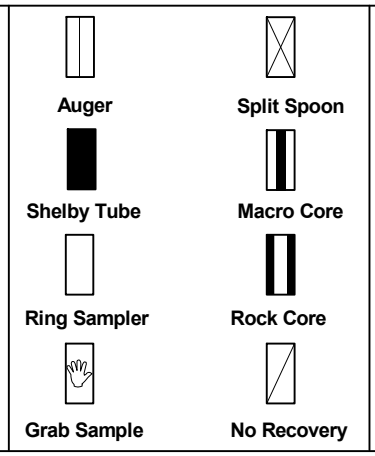
All samples were returned to our laboratory. The samples not tested in the laboratory will be stored for a period of 30 days subsequent to submittal of this report and will be discarded after this period, unless other arrangements are made prior to the disposal period.

APPENDIX C

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING



WATER LEVEL

Water Initially Encountered

Water Level After a Specified Period of Time

Water Level After a Specified Period of Time

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

(HP)	Hand Penetrometer
(T)	Torvane
(b/f)	Standard Penetration Test (blows per foot)
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength, Qu, tsf**	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**
Very Loose	0 - 3	0 - 6	Very Soft	less than 0.25	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	0.25 to 0.50	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	0.50 to 1.00	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	1.00 to 2.00	8 - 15	10 - 18
Very Dense	> 50	≥ 99	Very Stiff	2.00 to 4.00	15 - 30	19 - 42
			Hard	> 4.00	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or $1 > Cc > 3$ [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F,G,H]
			Fines classify as CL or CH		GC	Clayey gravel [F,G,H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or $1 > Cc > 3$ [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G,H,I]
			Fines classify as CL or CH		SC	Clayey sand [G,H,I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A" line [J]		CL	Lean clay [K,L,M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K,L,M,N]
			Liquid limit - not dried			Organic silt [K,L,M,O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K,L,M]
			PI plots below "A" line		MH	Elastic Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K,L,M,P]
			Liquid limit - not dried			Organic silt [K,L,M,Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

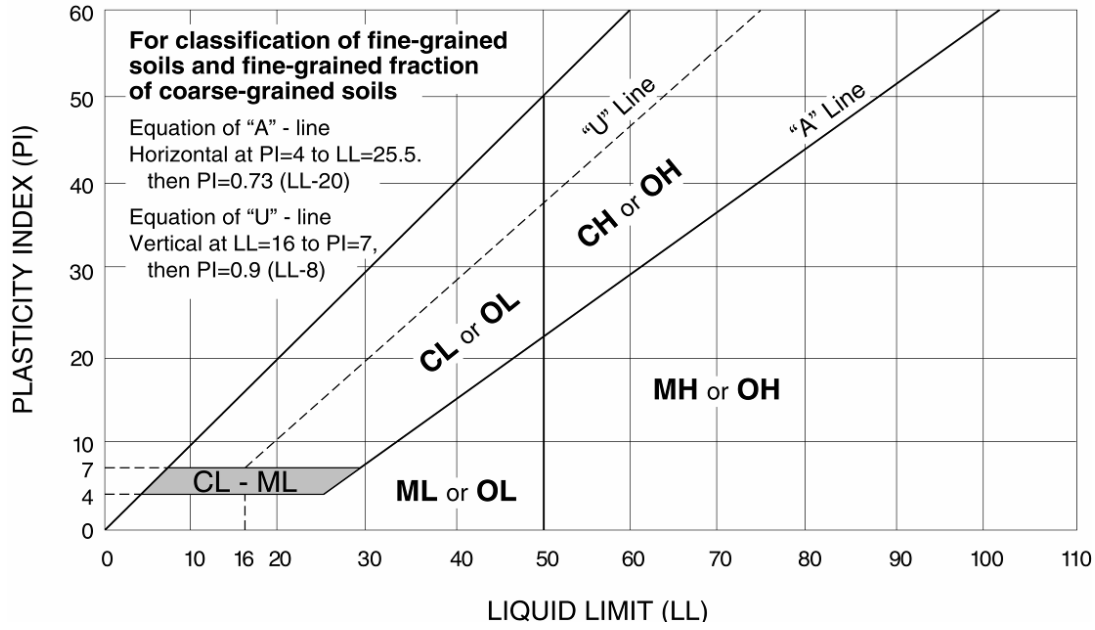
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



Terracon

Exhibit C-2