

**RON COLLINS TREATMENT  
RECLAMATION FACILITY**

**SLUDGE DRYING BED NO. 6  
REHABILITATION**

**FOR**

**RIVERBEND WATER RESOURCES  
DISTRICT**

**JULY 2024**

**PREPARED BY:**



5930 Summerhill Road 903.838.8533 telephone  
Texarkana, TX 75503 903.832.4700 facsimile  
TBPE No. 354



7/17/2024

**MTG PROJECT NO. 246038**

**SET NO. \_\_\_\_\_**

CONTRACT DOCUMENTS AND SPECIFICATIONS  
RIVERBEND WATER RESOURCES DISTRICT  
RON COLLINS TREATMENT RECLAMATION FACILITY  
SLUDGE DRYING BED NO. 6 REHABILITATION

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# INVITATION FOR PROPOSALS AND INSTRUCTIONS TO PROPOSERS

Riverbend Water Resources District (Owner) will receive bids for Ron Collins Water Reclamation Facility Sludge Drying Bed No. 6 Rehabilitation until 2:00 PM on August 22, 2024. Sealed bids will be received until 2:00 PM on August 22, 2024, at the following location, at which time they will be publicly opened and read aloud:

Attn: Eli Hunt, Director of Operations  
228 Texas Avenue, Suite A  
New Boston, TX 75570

The scope of work generally consists of the rehabilitation of Sludge Drying Bed No. 6 at the Ron Collins Water Reclamation Facility, including demolition of the existing drying bed, earthwork, concrete construction, piping system and filter materials, including all materials, equipment, labor and incidentals to complete the work as required by the plans and specifications and as necessary to complete the work.

The selection of the proposer will be to the proposer who provides the “best value” to Riverbend Water Resources District based on the bid evaluation criteria listed herein.

All questions concerning the project should be directed, via email, to David Williams at [dwilliams@mtgengineers.com](mailto:dwilliams@mtgengineers.com). Answers will be provided via return e-mail.

## INSTRUCTIONS

### 1. Use of Separate Bid Forms

These contract documents include a complete set of bid and contract forms which are for the convenience of the proposers and are not to be detached from the contract document.

### 2. Interpretations or Addenda

No oral interpretations will be made to any proposer. Each request for an interpretation shall be made in writing to the engineer no less than seven (7) days prior to the bid deadline. Each interpretation made will be in the form of an Addendum to the contract documents and will be distributed to all parties holding contract documents no less than five (5) days prior to the bid deadline. It is, however, the proposer's responsibility to make inquiry as to any addenda issued. All such addenda shall become part of the contract documents and all proposers shall be bound by such addenda, whether or not received by the proposers.

### 3. Inspection of Site

Each proposer should visit the site of the proposed work and fully acquaint himself with the existing conditions there and should fully inform himself as to the facilities involved, the difficulties and restrictions attending the performance of the contract. The proposer should thoroughly examine and familiarize himself with the drawings, technical specifications and all other contract documents. The contractor by the execution of the contract shall in no way be relieved of any obligation under it due to his failure to receive or examine any form or legal document or to visit the site or acquaint himself with the conditions there existing. The owner will be justified in rejecting any claim based on lack of inspection of the site prior to the bid.

4. Alternate bid items

None.

5. Bids

- a. All bids must be submitted on the forms provided and are subject to all requirements of the Contract Documents, including the Drawings. **Bids are required to be submitted in hard copy format, one original. Faxed or emailed bids will not be considered.**
- b. A bid bond in the amount of 5% of the bid issued by an acceptable surety shall be submitted with each bid. A certified check or bank draft payable to Riverbend Water Resources District or negotiable U.S. Government Bonds (as par value) may be submitted in lieu of the Bid Bond.
- c. All bids must be regular in every respect and no interlineations, excisions or special conditions may be made or included by the proposer.
- d. Bid documents, including the bid, and the statement of proposers' qualifications, Form A – Certificate of Interested Parties, shall be sealed in an envelope and clearly labeled with the words "Bid Documents", the project number, name of bidder and the date and time of the bid deadline.
- e. The Owner may consider as irregular any proposer on which there is an alteration of or departure from the bid form and, at its option, may reject any irregular bidder.
- f. If a contract is awarded, it will be awarded to a responsible bidder on the basis of the best bid and the selected alternate bid items, if any. The contract will require the completion of the work in accordance with the contract documents.

6. Statement of Bidders Qualifications

Each bidder shall submit on the form furnished for that purpose a statement of the bidder's qualifications. The owner shall have the right to take such steps as it deems necessary to determine the ability of the bidder to perform his obligations under the contract, and the bidder shall furnish the owner all such information and data for this purpose as it may request. The right is reserved to reject any proposal where an investigation of the available data does not satisfy the owner that the bidder is qualified to carry out properly the terms of the contract.

7. Time for Receiving Proposals

Proposals received prior to the advertised hour of opening shall be kept securely sealed. The person appointed to open the proposals shall decide when the specified time has arrived and no proposal received thereafter will be considered

8. Opening of Proposals

A public opening of proposals for this project will be conducted at the required time and location for return of proposals.

9. Withdrawal of Proposals

Bidder may withdraw the proposal before the time fixed for the opening of proposals, by communicating his purpose in writing to the owner. Upon receipt of such notice, the unopened proposal will be returned to the bidder. The proposal guaranty of any bidder withdrawing his proposal will be returned promptly.

10. Award of Contract/Rejection of Proposals

- a. The contract will be awarded to the Bidder submitting the best proposal for the project. The bidder selected will be notified at the earliest possible date. The owner reserves the right to reject any or all proposals and to waive any informality in proposals received where such rejection or waiver is in its interest.
- b. The owner reserves the right to consider as unqualified to do the work any bidder who does not habitually perform with his own forces the major portions of the work involved in construction of the improvements embraced in this contract.

11. Execution of Agreement/Payment and Performance Bonds

- a. Payment and Performance Bonds, Requires all prime contractors which enter into a formal contract in excess of \$25,000 with the State, any department, board, agency, municipality, county, school district or any division or subdivision thereof, to obtain a Payment Bond in the amount of the contract before commencing with work and a performance bond for public works contracts in excess of \$100,000.
- b. The failure of the successful bidder to execute the agreement and supply the required bonds within ten (10) days after the prescribed forms are presented for signature, or within such extended period as the owner may grant, shall constitute a default and the owner may, at its option either award the contract to the next lowest responsible bidder, or re-advertise for proposals.

12. Criteria for Best Proposal Evaluation

The criteria and relative weights for evaluation of proposals to determine the best value are as follows:

- Proposal price (55%);
- The reputation of the vendor and of the vendor's goods and services (15%);
- The quality of the vendor's goods or services (10%);
- The extent to which the goods or services meet the owner (5%);
- The vendor's past relationship with the owner (10%);
- Any other relevant factors that a private business entity would consider in selecting a vendor (5%).

13. Incurring Costs

The costs for developing and delivering responses to this RFP and any subsequent presentations of the proposal as requested by the Owner are entirely the responsibility of the offeror. The Owner is not liable for any expense incurred by the offeror in the preparation and presentation of their proposal or any other costs incurred by the offeror prior to execution of a contract.

## BID FORM CHECK LIST

Riverbend Water Resources District  
Ron Collins Water Reclamation Facility Sludge Drying Bed No. 6 Rehabilitation

Please ensure that the following documents have been completed properly, manually signed, dated, etc., and included with submission of the BID for each BID package contractor is submitting.

- One original bid
- Completed Statement of Proposer's Qualifications
- Form A - Certificate of Interested Parties
- Form B – Conflict of Interest Questionnaire
- HB 89 Verification
- Bid Bond in the amount of 5%
- Bid submitted in sealed envelope with Proposer's Name and Bid Package Number noted on outside of envelope.
- Submission by mail, overnight express, etc. shall be sent to the following address:  
  
Riverbend Water Resources District  
ATTN: Eli Hunt, Director of Operations  
228 Texas Avenue, Suite A  
New Boston, TX 75570
- Contractor shall verify delivery schedule of express delivery to ensure arrival prior to deadline for Bid submission. Neither the Owner nor engineer will be responsible for Bids that are mis-sent, mis-delivered, misplaced, or received after the submission deadline.
- All required signatures have been executed in manual form at each applicable location.
- All other documents as required in the project specifications.

Section 00300

BID PROPOSAL

To: Riverbend Water Resources District  
 For the Construction of  
 Ron Collins Treatment Reclamation Facility Sludge Drying Bed No. 6 Rehabilitation  
 Hooks, Texas

The undersigned, as bidder, declares that the only person or parties interested in this proposal as principals are those named herein, that this proposal is made without collusion with any other person, firm or corporation, that he has carefully examined the form and conditions of the Contract, Invitation for Proposals, Instructions to bidders, the drawings and specifications therein referred to, and has carefully examined the locations, conditions, and classes of materials of the proposed work; and agrees that he will provide the necessary labor, machinery, tools apparatus, and other items incidental to the proposed construction, and will do all work and furnish all the materials called for in the Contract Documents in the manner prescribed therein and according to the requirements of the Engineer as set forth therein at and for the unit prices for the individual items as follows:

(NOTE: Bidders are required to provide a unit price and a total price for each line item listed.)

ITEM NO.	EST. QUAN.	UNIT	DESCRIPTION & UNIT PRICE IN WORDS	UNIT PRICE FIGURES	TOTAL \$ AMOUNT
1	1.0	LS	SITE PREPARATION & GENERAL CONDITIONS Complete in place The Sum of  Dollars and  Cents per Lump Sum	\$ _____	\$ _____
2	1.0	LS	SITE DEMOLITION Complete in place The Sum of  Dollars and  Cents per Lump Sum	\$ _____	\$ _____
3	1.0	LS	SLUDGE DRYING BED #6 RECONSTRUCTION Complete in place The Sum of  Dollars and  Cents per Lump Sum	\$ _____	\$ _____
4	1.0	LS	EROSION & SEDIMENT CONTROL Complete in place, The Sum of  Dollars and  Cents per Lump Sum	\$ _____	\$ _____
TOTAL BID AMOUNT				\$ _____	

Owner reserves the right to reduce or eliminate any item without any change in the unit prices.



It is understood and agreed that work shall commence BY October 1, 2024, and be completed in full by August 31, 2024, and it is further agreed that for every day the project is not completed past the date of November 30, 2024, herein agreed upon for completion, the Project shall be acted upon as herein stipulated. Furthermore, both the Owner and the Contractor (bidder) are in agreement that each such day of delay, the Owner may withhold, permanently from the Undersigned's total compensation, the sum of Five Hundred Dollars (\$500.00) per calendar day as LIQUIDATED DAMAGES for such delay.

In the event of the award of a contract to the undersigned, the undersigned will furnish performance and payment bonds for the full amount of the contract greater than \$25,000.00, to secure proper compliance with the terms and provisions of the contract with sureties offered by \_\_\_\_\_ to insure and guarantee the work until final completion and acceptance, and to guarantee payment of all lawful claims for labor performed and material furnished by the fulfillment of the contract. The work proposed to be done shall be accepted when fully completed and finished in accordance with the drawings and specifications, to the satisfaction of the Owner.

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

NOTE: Bid prices must be shown in words and figures, and in the event of discrepancy, the words shall control.

Receipt is hereby acknowledged of the following addenda to the Contract Documents:

Addendum No. 1 dated \_\_\_\_\_ Received \_\_\_\_\_  
 Addendum No. 2 dated \_\_\_\_\_ Received \_\_\_\_\_

The Contractor hereby certifies that the following subcontractors and subcontract amounts were utilized for bidding the various components of the Proposal and shall be utilized for accomplishing the Project unless permitted by the Owner to do otherwise:

Proposal Item No.	Name & Address of Subcontractor	Unit Price	Extension
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

TOTAL AMOUNT TO BE SUBCONTRACTED \$ \_\_\_\_\_, \_\_\_\_\_ % OF

TOTAL BID AMOUNT \_\_\_\_\_ .

This is a Proposal of \_\_\_\_\_, a Corporation, organized and existing under the laws of the State of \_\_\_\_\_, or a Partnership, consisting of \_\_\_\_\_, or an Individual doing business as \_\_\_\_\_.

(Seal and Authorization if Corporation)

By \_\_\_\_\_

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Street Address)

\_\_\_\_\_  
(City and State)

Affix BY: \_\_\_\_\_

Corporate Seal

Attest

BY: \_\_\_\_\_

**STATEMENT OF PROPOSER'S QUALIFICATIONS**

All questions must be answered and the data given must be clear and comprehensive. If necessary, questions may be answered on separate attached sheets. The Proposer may submit any additional information he desires.

Name of Proposer: \_\_\_\_\_ Date Organized: \_\_\_\_\_

Address: \_\_\_\_\_ Date Incorporated: \_\_\_\_\_

Number of Years in contracting business under current name: \_\_\_\_\_

Are you a Historically Underutilized or Minority owned business? (See below)  Yes  No

**CONTRACTS ON HAND:**

Contracts	Dollar Amount	Completion Date
-----------	---------------	-----------------

_____		
_____		
_____		

Type of work performed by your company: \_\_\_\_\_

Have you ever failed to complete any work awarded to you? \_\_\_\_\_

Have you ever defaulted on a contract? \_\_\_\_\_

List the projects most recently completed by your firm (include project of similar importance):

Project	Dollar Amount	Mo/Yr Completed
---------	---------------	-----------------

_____		
_____		
_____		

Major equipment available for **this** contract:

_____
_____

Attach resume(s) for the principal member(s) of your organization, including the officers as well as the proposed superintendent for the project.

Credit available: \$ \_\_\_\_\_ Bank Reference: \_\_\_\_\_

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the \_\_\_\_\_ in verification of the recitals comprising this Statement of Proposer's Qualifications.

Executed this \_\_\_\_\_ day of \_\_\_\_\_, 2019.

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

**PROPOSAL BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, \_\_\_\_\_, as Principal, and

\_\_\_\_\_, as Surety, are hereby

in the penal sum of \_\_\_\_\_ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_,

The Condition of the above obligation is such that whereas the Principal has submitted to a certain PROPOSAL, attached hereto and hereby made a part hereof to enter into a contract in writing, for the \_\_\_\_\_

NOW, THEREFORE,

- (a) If said PROPOSAL shall be rejected, or
- (b) If said PROPOSAL 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 PROPOSAL) 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 PROPOSAL,

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 the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such PROPOSAL; and said Surety does hereby waive notice of 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 forth above.

\_\_\_\_\_( L.S.)  
Principal

\_\_\_\_\_  
Surety

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

IMPORTANT- Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

# RIVERBEND WATER RESOURCES DISTRICT

## CONSTRUCTION CONTRACT (UNIT PRICE)

STATE OF TEXAS

COUNTY OF BOWIE

This contract and agreement is entered into by and between **RIVERBEND WATER RESOURCES DISTRICT**, hereinafter referred to as “Owner,” and \_\_\_\_\_, hereinafter referred to as “Contractor,” as follows:

### **I.** **WORK TO BE DONE**

The Contractor agrees to build, construct, erect and complete in a good and workmanlike manner, using new and unused materials only, and to provide all labor and materials required to do all things necessary for the proper construction and completion of Ron Collins Water Reclamation Facility Sludge Drying Bed No. 6 Rehabilitation upon the project limits in accordance with the plans and specifications prepared by MTG Engineers & Surveyors, Inc., dated the 17<sup>th</sup> day of July, 2024, which are attached hereto as Exhibit “A” and made a part hereof by reference for all purposes, “the Work”.

### **II.** **CONTRACT PRICE**

2.01. As a consideration for this agreement, the Owner agrees to pay to Contractor for the construction of the above identified improvements, in accordance with the attached unit price bid proposal for a total cost of the base bid of \_\_\_\_\_.

2.02. Any changes to the plans and specifications, or work, shall be agreed to in writing only by Change Order executed by Owner and Contractor with an adjustment to the contract price as set forth in the Change Order.

2.03. The Owner shall pay to Contractor, the contract price as follows:

Monthly Draws on percentage of completion. All billings shall be submitted for review by MTG Engineers & Surveyors, Inc.

2.04. Notwithstanding the payment provisions set forth in paragraph 2.03, Owner shall retain 5 percent (5%) of the contract price for a period of thirty-one days after full completion of the contract, or until all lien claims have been resolved.

**III.  
CONSTRUCTION TIME**

3.01. Contractor agrees to build, construct and complete the above-described improvements by November 30, 2024; provided, however, a reasonable allowance shall be made in the event delays occur because of unseasonably bad weather or inability to obtain materials and supplies over which the Contractor has no control.

3.02. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified herein, plus any extensions thereof allowed. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay OWNER \$500.00 for each day that expires after the time specified for Completion until the Work is complete.

**IV.  
DELIVERY OF MATERIALS & SUBCONTRACTS**

Contractor will have materials used in the construction delivered to the site. Owner is not responsible for lost or stolen materials. Contractor must provide the security necessary to ascertain that the materials remain at the site during their use.

4.01. Contractor may award subcontracts on such work as is not normally performed by Contractor; however, Contractor shall be fully responsible for the workmanship and the materials provided by Subcontractors.

4.02. In making payments to Subcontractors, the Contractor shall not make a final payment to a Subcontractor without receiving in writing a written release of any and all liens from the Subcontractor. In the event a Subcontractor gives notice to the Owner in accordance with the terms of the Texas Property Code that the Subcontractor is claiming a lien upon the improvements and/or property, Owner after receiving notice of the unpaid claim from the Subcontractor may withhold payment to the Contractor in an amount sufficient to cover the unpaid claim of the Subcontractor until the dispute is resolved and Owner is furnished evidence of the settlement of the dispute in writing from both the Contractor and Subcontractor. A list of all subcontractors to perform work on this project shall be submitted to Owner prior to beginning of work.

**V.  
PAYMENT AND PERFORMANCE BONDS**

5.01. If the amount of this Contract is in excess of \$25,000.00, Contractor shall provide a payment bond payable to Owner in the amount of the contract. The bond must be provided prior to any performance of labor or delivery of materials.

5.02. If the amount of this Contract is in excess of \$100,000.00, Contractor agrees to provide a performance bond payable to Owner in the amount of the contract. The bond must be provided prior to any performance or labor or delivery of materials.

5.03. The bonds shall be provided in accordance with the requirements of Chapter 2253 of the Texas Government Code.

**VI.  
HAZARD INSURANCE**

Owner agrees to procure and keep in force at all times during the construction of the improvements herein agreed upon sufficient insurance upon the premises against loss or damage by fire and the perils of extended coverage.

**VII.  
CONTRACTOR'S AND SUBCONTRACTOR'S INSURANCE**

7.01. The Contractor shall not commence work under this contract until he has obtained all of the insurance required hereunder and such insurance has been approved by the Owner. Approval of the insurance by the Owner shall not relieve or decrease the liability of the Contractor hereunder. Certificates of insurance shall be provided to Owner evidencing the required coverages.

7.02. The Contractor shall take out and maintain during the life of this contract Statutory Worker's Compensation and Employer's Liability Insurance for all of his employees to be engaged in work on the project under this contract; and in case any such work is subcontracted, the Contractor shall either require the Subcontractors similarly to provide such insurance for all of the Subcontractor's employees to be engaged in such work, or Contractor will cover the employees of Subcontractors under his insurance policy.

7.03. The Contractor shall take out and maintain during the life of this contract such Bodily Injury and Property Damage Liability Insurance as shall protect it and any Subcontractor performing work covered by this contract for claims for damages for personal injury, including accident death, as well as from claims for property damage, which may arise from operations under this contract, whether such operations be by themselves or by Subcontractor or by anyone directly or indirectly employed by Contractor, and the amounts of such insurance shall not be less than:

- |    |                 |   |
|----|-----------------|---|
| A. | Bodily Injury   | \$500,000.00 for any one person and<br>\$1,000,000.00 for any one accident. |
| B. | Property Damage | \$100,000.00 for any one accident and<br>\$300,000.00 for all accidents.    |



C.	Auto Liability	\$200,000.00 bodily injury per person
		\$500,000.00 bodily injury per occurrence
		\$100,000.00 property damage per occurrence

7.04. The Contractor shall take out and furnish to the Owner and maintain during the life of this contract, Builder's Risk Insurance in a sufficient amount to cover all materials against theft, loss or damage.

**VIII.  
RECEIPTS AND RELEASES**

At completion, Contractor shall furnish Owner proper receipts and releases from any and all materialmen from whom any material is obtained by Contractor for use in said improvements, and from all Subcontractors to the end that no liens may be fixed upon said premises by a materialman or Subcontractor. Owner shall not be obligated to make final payment under the contract until said receipts and releases are furnished.

**IX.  
RIGHT TO OFFSET**

If at any time there should be notice of any lien or claim for labor or materials furnished to Contractor, for which, if established, Owner, or the property, might become liable, though primarily chargeable to Contractor, Owner shall in such case have the right to retain out of any payment or payments then due or to become due on the contract amount such amounts as may be sufficient to completely indemnify Owner against said lien or claim.

**X.  
ASSIGNMENT**

Part of the consideration and inducement offered to Owner for the execution of this agreement is the personal character, reputation, integrity, experience and ability of Contractor. For this reason, this contract may not be assigned by Contractor. In the event of death, or other disability, which prevents Contractor from personally managing, and participating in, Contractor's performance under this agreement, the Contractor, his personal representatives and successors shall not enter into any new subcontracts or continue construction without the written consent of Owner. As soon as practically possible after the occurrence of such a disabling event, Owner and Contractor, or Contractor's personal representatives or successors, shall meet to determine the action needed to complete construction. If Owner and Contractor have not been able to agree upon a course of action to complete construction within 15 days after the disabling event, Owner shall have the right to select a new Contractor to complete the construction, or to make demand upon the Performance Bond of Contractor for completion of Contract. In such event, Contractor, or his personal representatives or successors, shall execute such documents as necessary to assign this contract to the new Contractor selected by Owner or to the Surety on the Bond. In such case, Contractor shall be paid the Contractor's fee upon a prorated basis determined by the amount of the construction completed on the date of the disability.

**XI.  
WARRANTY**

Contractor warrants the Work against all deficiencies and defects in materials and/or workmanship and that the Work shall be completed in accordance with the plans and specifications. Contractor agrees to satisfy its warranty obligations which appear within the warranty period without cost to the Owner. Unless otherwise specified in the plans and specifications, Contractor shall warrant the Work for a period of one (1) year from the date of final completion of the work and acceptance by Owner as evidenced by final payment of the contract amount to Contractor.

**XII.  
CONTRACT EXECUTED BEFORE PERFORMANCE BEGUN**

This contract is executed, acknowledged, and delivered before labor has been performed and before any material has been furnished for the construction of the improvements.

**XIII.  
MISCELLANEOUS**

13.01. Owner and Contractor agree to negotiate in good faith in an effort to resolve any dispute related to this agreement that may arise between them during the course of execution of the work. If the dispute cannot be resolved by negotiating, the dispute shall be submitted to mediation before resort to litigation. If the need for mediation arises, a mutually acceptable mediator shall be chosen by the parties to the dispute who shall share the cost of mediation services equally. During the negotiations and/or mediation of any dispute between the Owner and Contractor, execution of the work shall proceed unless the dispute relates to a design specification which prevents continuation of construction. Failure to pay a disputed invoice or charge until resolution of a dispute is not and shall not be a ground to suspend or terminate work.

13.02. It is expressly understood and agreed by and between Owner and Contractor that this agreement shall be governed by and its terms construed under the laws of the State of Texas. Any litigation arising out of this contract shall be filed in the District Court of Bowie County, Texas.

13.03. It is agreed that time shall be of the essence of this agreement and each and every provision hereof.

13.04. This agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, personal representatives, successors and permitted assigns.

13.05. In the event either of the respective parties hereto shall default in any of its covenants or obligations and the other party not in default commences legal or equitable action against the defaulting party, the defaulting party agrees to pay all reasonable expenses of litigation, negotiation and appeal, including a reasonable sum for attorney's fees.

EXECUTED this the \_\_\_\_\_ day of \_\_\_\_\_, 2024.

**OWNER:** RIVERBEND WATER RESOURCES DISTRICT

By: \_\_\_\_\_  
Kyle Dooley, P.E., Executive Director/CEO

Owner's Address:  
RIVERBEND WATER RESOURCES DISTRICT  
228 Texas Avenue, Suite A  
New Boston, TX 75570

**CONTRACTOR:** \_\_\_\_\_

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

Printed Name: \_\_\_\_\_

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

Contractor's Address:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ATTACHMENTS:**

Exhibit "A" - Plans and Specifications

**Form A**  
**Certificate of Interested Parties**

In accordance with Gov't Code 2252.908, beginning January 1, 2016, successful bidders awarded contracts that requires an action or vote by the governing body of the entity or agency before the contract may be signed shall be required by state law to complete online, print and notarize the Certificate of Interested Parties Form 1295. The original copy of the notarized form must be submitted to the Purchasing staff member listed in the solicitation before the purchase/contract will be presented to the Board of Directors for approval. The Form 1295 and submission instructions are available at: [https://www.ethics.state.tx.us/whatsnew/elf\\_info\\_form1295.htm](https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm)

# CERTIFICATE OF INTERESTED PARTIES

# FORM 1295

### OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.  
 Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

**1** Name of business entity filing form, and the city, state and country of the business entity's place of business.

**2** Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

**3** Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the goods or services to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

**5** Check only if there is NO Interested Party.

**6 AFFIDAVIT** I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

\_\_\_\_\_  
 Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said \_\_\_\_\_, this the \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_, to certify which, witness my hand and seal of office.

\_\_\_\_\_  
 Signature of officer administering oath      Printed name of officer administering oath      Title of officer administering oath

**ADD ADDITIONAL PAGES AS NECESSARY**

Form B  
Conflict of Interest Questionnaire

**TO ALL VENDORS**

**Texas Local Government Code Chapter 176**

requires that any vendor wishing to do business with Riverbend Water Resources District District must fill out the attached Conflict of Interest Questionnaire form and return it with each bid or proposal submitted.

This law requires you to disclose any family, employment or business relationships with local government officers or any gifts provided to them (other than food, lodging, transportation, or entertainment accepted as a guest) with an aggregate value of more than \$250 to the officer (or family member) in the previous 12 months. Covered transactions include services or property.

**This process is mandatory. Failure to return the completed form with your bid or proposal may force RWRD to disqualify it.**

# CONFLICT OF INTEREST QUESTIONNAIRE

# FORM CIQ

For vendor or other person doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 1491, 80th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code by a person who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the person meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person knowingly violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of person who has a business relationship with local governmental entity.

2  Check this box if you are filing an update to a previously filed questionnaire.

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3 Name of local government officer with whom filer has employment or business relationship.

\_\_\_\_\_  
Name of Officer

This section (item 3 including subparts A, B, C & D) must be completed for each officer with whom the filer has an employment or other business relationship as defined by Section 176.001(1-a), Local Government Code. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income, other than investment income, from the filer of the questionnaire?

Yes  No

B. Is the filer of the questionnaire receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer named in this section AND the taxable income is not received from the local governmental entity?

Yes  No

C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

Yes  No

D. Describe each employment or business relationship with the local government officer named in this section.

4

\_\_\_\_\_  
Signature of person doing business with the governmental entity

\_\_\_\_\_  
Date

Adopted 06/29/2007

House Bill 89 VERIFICATION

I, (Person Name) \_\_\_\_\_, the undersigned  
representative of (Company or Business Name) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (hereafter referred to as company),

**being an adult over the age of eighteen (18) years of age, after being duly sworn by the undersigned notary, do hereby depose and verify under oath that the company named-above, under the provisions of Subtitle F, Title 10, Government Code Chapter 2270:**

- 1. Does not boycott Israel currently; and**
- 2. Will not boycott Israel during the term of the contract the above-named Company, business or individual with Riverbend Water Resources District.**

*Pursuant to Section 2270.001, Texas Government Code:*

- 1. "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes; and*
- 2. "Company" means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit.*

\_\_\_\_\_

\_\_\_\_\_

DATE

SIGNATURE OF COMPANY REPRESENTATIVE

ON THIS THE \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally  
appeared \_\_\_\_\_, the above-named  
person, who after by me being duly sworn, did swear and confirm that the above  
is true and correct.

NOTARY SEAL

\_\_\_\_\_  
NOTARY SIGNATURE



**PAYMENT BOND**

STATE OF TEXAS

COUNTY OF BOWIE

LET IT BE KNOWN BY THIS INSTRUMENT:

That we, \_\_\_\_\_ as Principal and \_\_\_\_\_ a corporation duly authorized to do business in this State, as Surety(s), are this date held and firmly bound unto Riverbend Water Resources District in the amount of \_\_\_\_\_ (\$\_\_\_\_\_) for payment of which indemnity the said Principal and Surety, by this declaration, do firmly bind themselves, their heirs, executors, administrators, successors and assigns, jointly and individually.

Since a Contract, which by reference is made a part hereof, exists between Principal and Riverbend Water Resources District, and dated \_\_\_\_\_ for the construction of \_\_\_\_\_ as described in Principal's Proposal Quote No. \_\_\_\_\_.

This obligation is conditioned that if Principal shall promptly pay and satisfy the claims for all labor, subcontracts, materials, specifically fabricated materials, normal and usual extras on the above-described contract between Principal and owner, and shall pay and satisfy claims for all such extras in an amount not to exceed fifteen percent of the total price provided for in the above-described contract, then this obligation shall be void, but otherwise it shall remain in full force and effect.

The liabilities, rights, limitations, and remedies concerning this Bond shall be determined in accordance with the provisions of Chapter 2253 of the Texas Government Code, as amended, pursuant to which this Bond is executed.

IN WITNESS TO THIS DECLARATION, the said Principal and Surety(s) have signed and sealed this instrument.

this \_\_\_\_\_ day of \_\_\_\_\_, 2024.

PRINCIPAL

SURETY

By: \_\_\_\_\_  
\_\_\_\_\_, \_\_\_\_\_

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

Bond Identification No. \_\_\_\_\_

(Surety's Appointment of Attorney-in-Fact must Be attached to this Bond Form.)

\_\_\_\_\_  
Mailing Address of Surety

\_\_\_\_\_  
Physical Address of Surety

\_\_\_\_\_  
Telephone No. of Surety

**PERFORMANCE BOND**

STATE OF TEXAS

COUNTY OF BOWIE

LET IT BE KNOWN BY THIS INSTRUMENT:

That we, \_\_\_\_\_ as Principal and \_\_\_\_\_ a corporation duly authorized to do business in this State, as Surety(s), are this date held and firmly bound unto Riverbend Water Resources District in the amount of \_\_\_\_\_ (\$\_\_\_\_\_) for payment of which indemnity the said Principal and Surety, by this declaration, do firmly bind themselves, their heirs, executors, administrators, successors and assigns, jointly and individually.

Since a Contract, which by reference is made a part hereof, exists between Principal and Riverbend Water Resources District, and dated \_\_\_\_\_ for the construction of \_\_\_\_\_ as described in Principal's Proposal Quote No. \_\_\_\_\_. The conditions of this obligation are, therefore, such that it shall remain in full force and effect unless and until the Principal shall faithfully perform the Contract in accordance with the Contract Documents and pay all claims for materials and labor in accordance therewith.

In the event of Principal's failure, as defined by the Contract Documents, to faithfully perform the Contract, Surety(s) will within fifteen (15) days of determination of default, assume full responsibility for completion of said Contract and become entitled to payment of the balance of the Contract amount.

The liabilities, rights, limitations, and remedies concerning this Bond shall be determined in accordance with the provisions of Chapter 2253 of the Texas Government Code, as amended, pursuant to which this Bond is executed.

IN WITNESS TO THIS DECLARATION, the said Principal and Surety(s) have signed and sealed this instrument

this \_\_\_\_\_ day of \_\_\_\_\_, 2024.

PRINCIPAL

SURETY

By: \_\_\_\_\_  
\_\_\_\_\_, \_\_\_\_\_

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

Bond Identification No. \_\_\_\_\_

(Surety's Appointment of Attorney-in-Fact must Be attached to this Bond Form.)

\_\_\_\_\_  
Mailing Address of Surety

\_\_\_\_\_  
Physical Address of Surety

\_\_\_\_\_  
Telephone No. of Surety

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

**ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE**

and

Issued and Published Jointly by



AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE  
*A Practice Division of the*  
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

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# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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## ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
  2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
  3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
  5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
  7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
  8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
  9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
  10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
  11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

## 1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
  - a. does not conform to the Contract Documents; or
  - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
  - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
  2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
  3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
  4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

## **ARTICLE 2 – PRELIMINARY MATTERS**

### *2.01 Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

### *2.02 Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

### *2.03 Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

## 2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

## 2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
  - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
  - 2. a preliminary Schedule of Submittals; and
  - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

## 2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

## 2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
  - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of

the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

### **ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE**

#### **3.01 *Intent***

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

#### **3.02 *Reference Standards***

- A. Standards, Specifications, Codes, Laws, and Regulations
  1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
  2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

#### **3.03 *Reporting and Resolving Discrepancies***

- A. *Reporting Discrepancies:*



1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
  - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
  - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
  1. A Field Order;
  2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

### 3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
  1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
  2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

### 3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

## **ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS**

### 4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the

Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

#### 4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

- 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
- 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

- 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
- 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
- 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

#### 4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

- 1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
- 2. is of such a nature as to require a change in the Contract Documents; or
- 3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

- B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

- C. *Possible Price and Times Adjustments*:

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
  - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
  - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
  - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
  - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
  - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

#### 4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
  - a. reviewing and checking all such information and data;
  - b. locating all Underground Facilities shown or indicated in the Contract Documents;
  - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
  - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

#### 4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

#### 4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
  - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
  - 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
  - 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to

- permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
  - F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
  - G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
  - H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
  - I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

## ARTICLE 5 – BONDS AND INSURANCE

### 5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

### 5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

### 5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.



- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

#### 5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
  - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
  - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
  - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
  - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
    - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
    - b. by any other person for any other reason;
  - 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
  - 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
  - 1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners,

- employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
  3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
  4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
  5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
  6. include completed operations coverage:
    - a. Such insurance shall remain in effect for two years after final payment.
    - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

#### 5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

#### 5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
  1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of

- them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
  3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
  4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
  5. allow for partial utilization of the Work by Owner;
  6. include testing and startup; and
  7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
  2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

#### 5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

#### 5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

#### 5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

## ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

### 6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

### 6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

### 6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

#### 6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
  - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
  - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

#### 6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
  - 1. "*Or-Equal*" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
    - a. in the exercise of reasonable judgment Engineer determines that:
      - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
      - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
      - 3) it has a proven record of performance and availability of responsive service.
    - b. Contractor certifies that, if approved and incorporated into the Work:
      - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
      - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
  - 1) shall certify that the proposed substitute item will:
    - a) perform adequately the functions and achieve the results called for by the general design,
    - b) be similar in substance to that specified, and
    - c) be suited to the same use as that specified;
  - 2) will state:
    - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
    - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
    - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
  - 3) will identify:
    - a) all variations of the proposed substitute item from that specified, and
    - b) available engineering, sales, maintenance, repair, and replacement services; and
  - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.



- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

#### 6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or

- entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
  2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

#### 6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its

use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

#### 6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

#### 6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner

and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

#### 6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

#### 6.11 *Use of Site and Other Areas*

##### A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

## 6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

## 6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
  - 1. all persons on the Site or who may be affected by the Work;
  - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
  - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts

any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

#### 6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

#### 6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

#### 6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

#### 6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

##### 1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

##### 2. *Samples:*

- a. Submit number of Samples specified in the Specifications.

- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.
- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Submittal Procedures:*
  1. Before submitting each Shop Drawing or Sample, Contractor shall have:
    - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
    - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
    - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
    - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
  2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
  3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the

Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
  1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
  2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
  1. observations by Engineer;
  2. recommendation by Engineer or payment by Owner of any progress or final payment;



3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

## 6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
  1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
  2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

## 6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

## **ARTICLE 7 – OTHER WORK AT THE SITE**

### 7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
  - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
  - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe

access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

## 7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
  - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
  - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
  - 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

## 7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

## ARTICLE 8 – OWNER’S RESPONSIBILITIES

### 8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

### 8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

### 8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

### 8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

### 8.05 *Lands and Easements; Reports and Tests*

- A. Owner’s duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

### 8.06 *Insurance*

- A. Owner’s responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

### 8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

### 8.08 *Inspections, Tests, and Approvals*

- A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

### 8.09 *Limitations on Owner’s Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor 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. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

**ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION**

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, 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.

### 9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

### 9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

### 9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

### 9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

### 9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations

on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 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.
- B. 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.
- C. 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.
- D. 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 to be delivered by Paragraph 14.07.A 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.

- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

#### 9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

### **ARTICLE 10 – CHANGES IN THE WORK; CLAIMS**

#### 10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

#### 10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

#### 10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
  - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
  - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
  - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of



executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

#### 10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

#### 10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).
- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
  - 1. deny the Claim in whole or in part;
  - 2. approve the Claim; or
  - 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

## **ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

### *11.01 Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
  - 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
  - 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
  - 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
  - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
  - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
  - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
  - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
  - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
  - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
  - g. The cost of utilities, fuel, and sanitary facilities at the Site.
  - h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
  - i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
  2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
  3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
  4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
  5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

## 11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
1. Contractor agrees that:
    - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
    - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in

the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
2. there is no corresponding adjustment with respect to any other item of Work; and
3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

**ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES**

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
  2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
  3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
  2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
    - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
    - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
    - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
    - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
    - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
    - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

## 12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

## 12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

## **ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

### *13.01 Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

### *13.02 Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

### *13.03 Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
  - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
  - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
  - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.



- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

#### 13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

#### 13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

#### 13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers,

architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

### 13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
1. repair such defective land or areas; or
  2. correct such defective Work; or
  3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
  4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

### 13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

### 13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

## **ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION**

### 14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

### 14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's

review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
  - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
  - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
  - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
  - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
  - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
  - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
  - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
  - c. there are other items entitling Owner to a set-off against the amount recommended; or
  - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

#### 14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

#### 14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

#### 14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 14.07 *Final Payment*

##### A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
  - b. consent of the surety, if any, to final payment;
  - c. a list of all Claims against Owner that Contractor believes are unsettled; and



- d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

*B. Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

*C. Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

**14.08** *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

#### 14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
  2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

### **ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION**

#### 15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

#### 15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
  2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
  3. Contractor's repeated disregard of the authority of Engineer; or
  4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
  3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

### 15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
  2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
  3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other

- dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
4. reasonable expenses directly attributable to termination.

- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

#### 15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

### **ARTICLE 16 – DISPUTE RESOLUTION**

#### 16.01 *Methods and Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
  1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

2. agrees with the other party to submit the Claim to another dispute resolution process; or
3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

## ARTICLE 17 – MISCELLANEOUS

### 17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
  1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
  2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

### 17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

### 17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

### 17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

### 17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

### 17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

# SUPPLEMENTARY CONDITIONS

Prepared by

**ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE**

and

Issued and Published Jointly by

**ACEC**

AMERICAN COUNCIL OF ENGINEERING COMPANIES



**ASCE** American Society  
of Civil Engineers

**P/E** National Society of  
Professional Engineers  
Professional Engineers in Private Practice

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PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE  
*A Practice Division of the*  
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

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## I. INTRODUCTION

### SC-2.02 *Copies of Documents*

**SC-2.02 Delete Paragraph 2.02.A in its entirety and insert the following in its place:**

**H. Owner shall furnish to Contractor up to one set in electronic format. Hard copies will be furnished upon request at the cost of reproduction.**

### SC-4.06 *Hazardous Environmental Conditions*

**SC-4.06 Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following:**

- A. None known.**
- B. Not Used.**

### SC-5.04 *Contractor's Liability Insurance*

**SC-5.04 Refer to Construction Agreement for requirements.**

### SC-5.06 *Property Insurance*

**SC-5.06.A. Refer to Construction Agreement for requirements.**

### SC-5.10 *Concerning Insurance*

**SC-5.10 Add new paragraphs immediately after Paragraph 5.10.A:**

#### **(1) Worker's 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 Texas Workers' Compensation 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 the 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 work on the project has been completed and accepted by the Owners.

"Persons providing services on the Project" ("subcontractor" in Texas Labor Code Section 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 the Project. Services do 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 Owner 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 Owner showing that coverage has been extended.
- E. The Contractor shall obtain from each person providing services on the Project, and provide to the Owner:
  - (i) A certificate of coverage, prior to that person beginning work on the Project, so the Owner will have on file certificates of coverage showing coverage for all persons providing services on the Project; and
  - (ii) No later than seven days after receipt by the Contractor, an 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 Owner in writing by certified mail or personal delivery, within ten (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 the 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 the Project to:
  - (i) 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;
  - (ii) 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;
  - (iii) 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;
  - (iv) Obtain from each other person with whom it contracts, and provide to the Contractor:
    - 1. A certificate of coverage, prior to the other person beginning work on the Project; and

- 2. 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;
  - (v) Retain all required certificates of coverage on file for the duration of the Project and for one year thereafter;
  - (vi) Notify the Owner in writing by certified mail or personal delivery, within ten 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
  - (vii) Contractually require each person with whom it contracts, to perform as required by items (1) – (6) listed immediately above, with the certificates of coverage to be provided to the person for whom they are providing the services.
- J. By signing this Contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the Owner that all employees of the Contractor who will provide services on the Project will be covered by workers' compensation insurance 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 Texas Workers' Compensation 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 Owner to declare this Contract void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the Owner.
- L. The coverage requirement recited above does not apply to sole proprietors, partners, and corporate officers who are excluded from coverage in an insurance policy or certificate of authority to self-insure that is delivered, issued for delivery, or renewed on or after January 1, 1996.

SC-6.06 *Concerning Subcontractors, Suppliers, and Others*

**SC-6.06 Add a new paragraph immediately after Paragraph 6.06.G:**

- I. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by a particular Subcontractor or Supplier.**

SC-6.17 *Shop Drawings and Samples*

**SC-6.17 Add the following new paragraphs immediately after Paragraph 6.17.E:**

- F. Contractor shall furnish required submittals with sufficient information and accuracy in order to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing subsequent submittals of Shop Drawings, samples, or other items requiring approval and Contractor shall reimburse Owner for Engineer's charges for such time.**

**G. In the event that Contractor requests a change of a previously approved item, Contractor shall reimburse Owner for Engineer's charges for its review time unless the need for such change is beyond the control of Contractor.**

SC-6.20 *Indemnification*

**SC-6.20 Delete Paragraph 6.20 in its entirety and insert the following in its place:**

- A. The Contractor agrees to indemnify and hold harmless and defend the Owner, its officers and its employees, from and against all claims and suits for damages, injuries to persons (including death), property damages, losses, and expenses including court costs and attorney's fees, arising out of, or resulting from, Contractor's work under this contract, including all such causes of action based upon common, constitutional, or statutory law, or based in whole or in part, upon allegations of negligent or intentional acts on the part of the Contractor, its officers, employees, agents, subcontractors, licensees, invitees, whether or not such claims are based in whole or in part upon the negligent acts or omissions of the Owner, its officers, employees, or agents.**
- B. The Contractor agrees to waive any and all claims it may have against the Owner, connected with, resulting from, or arising out of, claims and suits covered by this indemnification agreement and agrees that any insurance policy provide for the waiver of subrogation rights against the Owner.**
- C. The Contractor agrees to insure this indemnity and hold harmless clause with insurance policies, approved by the Owner, and issued by a carrier authorized to do business in the State of Texas, in the minimum amounts set out in Section 11.1 of these supplementary conditions.**

SC-11.01 *Cost of the Work*

**SC-11.01.A.1 Add the following new paragraphs immediately after Paragraph 11.01.A.1:  
Chapter Section 2258.021 of the Texas Government Code which, among other things, provides that it shall be mandatory upon Contractor and any subcontractor to pay a worker employed by it or on behalf of it:**

1. not less than the general prevailing rate of hourly wages for work of a similar character in the locality in which the work is performed; and
2. not less than the general prevailing rate of hourly wages for legal holiday and overtime work.

SC-12.01 *Change of Contract Price*

**SC-12.01.C Contractor's Fee.** Delete the semicolon at the end of GC 12.01.C.2.c, and add the following language:

**, provided, however, that on any subcontracted work the total maximum fee to be paid by Owner under this subparagraph shall be no greater than 27 percent of the costs incurred by the Subcontractor who actually performs the work;**

SC-16.01 *Methods and Procedure*

**SC-16.01** Delete Paragraph 16.01 in its entirety and insert the following in its place:

- A. **If a dispute arises out of or relates to this Contract, or the breach thereof, and if said dispute cannot be settled through negotiations, the parties agree first to try to settle the dispute by non-binding mediation before resorting to litigation or some other dispute resolution procedure. When a written decision of the Engineer is made, any demand for mediation must be made within fourteen (14) days, after the date on which the party making the demand receives the Engineer's final written decision. Failure to request mediation within said fourteen (14) days, shall result in the Engineer's decision becoming final and binding upon the Owner and Contractor. The Engineer's decision or the filing of a claim with the Engineer is not a condition precedent to filing an action that arises or is first known about after final acceptance.**
- B. **The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.**

SC-17.05 *Controlling Law*

**SC-17.05** Delete Paragraph 17.05 in its entirety and insert the following in its place:

**This Agreement shall be governed by the law of the place where the Project is located, which is Bowie County, Texas.**

## SECTION 01010

### SUMMARY OF WORK

#### PART 1 GENERAL

Riverbend Water Resources District is performing drying bed rehabilitation at the Ron Collins Water Reclamation Facility.

##### 1.1 SECTION INCLUDES

- A. Work by Owner.
- B. Owner furnished products.
- C. Contractor use of site and premises.
- D. Future work.
- E. Work Sequence.
- F. Owner occupancy.
- G. List of Drawings

##### 1.2 WORK BY OWNER

- A. The Owner has awarded contracts for engineering services, surveying, field engineering and testing.

##### 1.3 OWNER FURNISHED PRODUCTS – NONE.

##### 1.4 CONTRACTOR USE OF SITE AND PREMISES.

- A. Access to Site: WORK ON THE IMPROVEMENTS SHALL BEGIN AS SOON AS POSSIBLE. THE FACILITY WILL BE IN OPERATION DURING THE ENTIRETY OF THE PROJECT. Monday through Friday, 7:00 a.m. to 5:00 p.m. Overtime work requires prior approval by the engineer/owner.
- B. Construction Operations: Limited to areas noted on Drawings.
- C. Utility Outages and Shutdown: Scheduling of utility outages or shutdowns requires a minimum of 24 hours notice to the engineer/owner.

##### 1.5 FUTURE WORK - No future work is planned under this contract.

1.6 WORK SEQUENCE

- A. Construct Work in stages to accommodate Owner's occupancy requirements during the construction period, coordinate construction schedule and operations with Owner/Engineer:
  - 1. Coordinate with owner's schedule and other contractors working on site.
  - 2. Schedule work so that adjacent property owners continuous access to their facility and utilities.

1.7 OWNER OCCUPANCY

- A. The Owner will occupy the site during the entire period of construction.
- B. Cooperate with Owner to minimize conflict, and to facilitate Owner's/Public's access.

1.8 LIST OF DRAWINGS

Sheet Number	Description
1.	TITLE SHEET
C1.	LOCATION MAP
C2.	EXISTING CONDITIONS
C3.	SITE PLAN
C4.	GRADING PLAN
C5.	PLAN & SECTIONS
C6.	DETAILS

END OF SECTION

## SECTION 01025

### MEASUREMENT AND PAYMENT

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Measurement and payment criteria applicable to the Work performed under a unit price payment method.
- B. Method of payment for each item at unit prices as recorded in the Proposal of the executed Contract Documents.

##### 1.2 AUTHORITY

- A. Measurement methods delineated in the individual specification sections are intended to complement the criteria of this section.
- B. Take all measurements and compute quantities. The Engineer will verify measurements and quantities.
- C. Assist by providing necessary equipment, workers, and survey personnel as required.

##### 1.3 UNIT QUANTITIES SPECIFIED

- A. Quantities and measurements indicated in the Proposal are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the Engineer shall determine payment.
- B. If the actual Work requires fewer quantities than those quantities indicated, the Contractor will be paid for the actual units placed.
- C. No payment will be made for materials in excess of plan quantities unless prior approval is obtained from the Engineer at the actual time of construction.

##### 1.4 MEASUREMENT OF QUANTITIES

- A. Measurement Devices:
  - 1. Weigh Scales: Inspected, tested, and certified by the applicable state Weights and Measures department within the past year.
  - 2. Platform Scales: Of sufficient size and capacity to accommodate the conveying vehicle.
  - 3. Metering Devices: Inspected, tested, and certified by the applicable State department within the past year.



- B. Measurement by Weight: Cast iron or ductile iron fittings, concrete reinforcing steel, rolled or formed steel or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
- C. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.
- D. Measurement by Area: Measured by square dimension using mean length and width or radius.
- E. Linear Measurement: Measured by linear dimension at the item centerline or mean chord.
- F. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.
- G. All measurements taken by survey or topography will be calculated by computer using three-dimensional modeling programs.

#### 1.5 PAYMENT

- A. Payment Includes: Full compensation for all required labor, Products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; including overhead and profit.
- B. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Engineer multiplied by the unit sum/price for Work which is incorporated in or made necessary by the Work.

#### 1.6 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements at the Contractors own cost.
- B. If in the opinion of the Engineer it is not practical to remove and replace the Work, the Engineer may consider a request from the Contractor for alternate corrections to the work if such corrections are in the best interest of the Owner.
- C. The authority of the Engineer to assess the defect and identify payment adjustment is final.

#### 1.7 NON-PAYMENT FOR REJECTED PRODUCTS

- A. Payment will not be made for any of the following:
  - 1. Products wasted or disposed of in a manner that is not acceptable;
  - 2. Products determined as unacceptable before or after placement;
  - 3. Products not completely unloaded from the transporting vehicle;
  - 4. Products placed beyond the lines and levels of the required Work;

5. Products remaining on hand after completion of the Work;
6. Loading, hauling and disposing of rejected Products.

#### 1.8 RELATED SECTIONS

- A. Section 00330 – Competitive Sealed Proposal.
- B. Section 01010 - Summary of Work.
- C. Section 01300 - Submittals.
- D. Section 01410 - Testing Laboratory Services.
- E. Section 01700 - Contract Closeout.

#### 1.9 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Quantities, as given in Section 003300 – Competitive Sealed Proposal, have been carefully computed by the Engineer. Where payment is made based on quantities noted as "field measured" quantities, the Contractor shall be paid for the actual measured amounts. Amounts over plan quantities, if any, will be authorized by change order prepared by the Engineer and approved by the owner. Where payment is made based on "plan quantities", the Contractor will be paid for no more than plan quantities. It is therefore incumbent upon the Contractor to closely adhere to the stipulated plan dimensions, grade and typical section and construct the project thereby. Payment, as stated herein, shall be considered as full compensation for all work required in provision, installation, and completion of the item(s).
- B. The Contractor shall furnish all labor, materials, tools, equipment, and perform all work and services associated with each item of work as listed in the Proposal and the Reference Sections of the specifications. Although such work is not specifically indicated, the Contractor shall furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation. If a specific item of work, associated with the completion of another item, is not specifically mentioned herein, elsewhere, or in the Construction Drawings, the Contractor shall furnish, install or construct such item and shall consider it subsidiary and incidental, in terms of payment or compensation, to the various bid items with which it would normally be associated.
- C. Refer to Section 00300 – Description of Work for a description of the bid items contained in Section 00330.
- D. Project items as listed in Section 003300 – Bid Proposal.

## **1 SITE PREPARATION & GENERAL CONDITIONS**

- A. Reference Section(s): Section 02110 – Site Preparation, Section 02222 - Excavating, Section 02223 - Backfilling and Embankment, Section 02225 - Trenching.
- B. Measurement and Payment: The work paid for under this item of the Contract Proposal will be the “lump sum” payment for Site Preparation. Payment will be made for approved quantities at the contract unit price as listed in the Proposal.
- C. Subsidiary Work: All work necessary to prepare the site for the execution of the other work of the contract, including but not limited to removal and disposal of existing, removal and disposal of existing materials, excavation and/or embankment not provided for elsewhere in the plans, preparing subgrade for construction operations, protection of utilities, dust control (by wetting) erosion retention, bonds insurance and all other work required for the proper execution of the work.

## **2 SITE DEMOLITION**

- A. Reference Section(s): Section 02110 – Site Preparation, Section 02222 - Excavating, Section 02223 - Backfilling and Embankment, Section 02225 – Trenching.
- B. Measurement and Payment: The work paid for under this item of the Contract Proposal will be the “lump sum” payment for Site Demolition, acceptably accomplished in accordance with all applicable reference sections of the Specifications and drawings, and approved by the engineer. Payment will be made for approved quantities at the contract unit price as listed in the Proposal.
- C. Subsidiary Work: All work necessary to demolish the existing site for the execution of the work of the contract, including but not limited to removal and disposal of concrete, piping, existing filter material, protection of features to remain in place, dust control (by wetting) erosion retention and all other work required for the proper execution of the work.

## **3 SLUDGE DRYING BED #6 RECONSTRUCTION**

- A. Reference Section(s): Section 02110 - Site Preparation, Section 02205 - Soil Materials, Section 02207 - Aggregate Materials, Section 02222 - Excavating, Section 02223 - Backfilling and Embankment, Section 02225 - Trenching, Section 02245 - Soil Stabilization, and Division 3 - Concrete
- B. Measurement and Payment: The work paid for under this item of the Contract Proposal will be the “lump sum” payment for drying bed #6 reconstruction, acceptable accomplished in accordance with all applicable reference sections of the specifications and drawings, and approved by the engineer. Payment will be made for approved quantities at the contract unit price as listed in the Proposal.

- C. **Subsidiary Work:** All work necessary for the rehabilitation of the sludge drying beds in accordance with the plans and specifications to provide for complete functioning drying beds, including and all other work required for the proper execution of the work.

#### **4 EROSION AND SEDIMENT CONTROL**

- A. **Reference Section(s):** Section 02110 - Site Preparation, Section 02205 - Soil Materials, Section 02207 - Aggregate Materials, Section 02222 - Excavating, Section 02223 - Backfilling and Embankment, and Division 3 - Concrete.
- B. **Measurement and Payment:** The work paid for under this item of the Contract Proposal will be the “lump sum” payment for erosion and sediment control,” acceptably accomplished in accordance with all applicable reference sections of the Specifications and more particularly as shown in the Construction Drawings, required by site conditions and approved by the Engineer. Payment will be made for approved quantities at the contract unit price bid as listed in the Proposal.
- C. **Subsidiary Work:** Furnishing and installing erosion control devices, maintaining erosion control devices and removal of devices along with any accumulated silt or eroded soils upon completion of the work. Establishment of a minimum coverage of 70% vegetative cover on any disturbed soil areas.

END OF SECTION

SECTION 01050

FIELD ENGINEERING

1. GENERAL

A. REQUIREMENTS INCLUDED

- (1) Owner's consultant engineer, MTG Engineers & Surveyors Inc., hereafter referred to as Engineer, is responsible for identifying existing control points, property lines, easement lines, and right-of-way lines.
- (2) Engineer will also be responsible for the initial provision of all horizontal and vertical controls, as stated in these specifications, necessary for the construction effort.
- (3) The Contractor shall be responsible for the proper utilization of engineering or surveying services as is outlined herein.

B. RELATED REQUIREMENTS

- (1) C-700 - Standard General Conditions of the Contract.
- (2) C-800 – Supplementary General Conditions of the Contract.

2. QUALIFICATIONS OF SURVEYOR OR ENGINEER

Qualified Registered Professional Engineer or Registered Land Surveyor, as is required, contracted to the Owner for the provision of services herein stated.

3. SURVEY REFERENCE POINTS

- A. Adequate horizontal and vertical control points for the Project shall be provided for the Contractor.
- B. The Contractor shall locate and protect control points and bench marks prior to starting site work, and preserve all permanent reference points during construction.
- C. The Contractor shall make no changes or relocations without prior written notice to the Engineer.
- D. The Contractor shall report to the Engineer when any reference or control point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

- E. The Contractor shall bear the cost of reestablishing the control points and bench marks, if such are disturbed, and shall assume the entire expense of rectifying work improperly constructed due to failure to maintain and protect the same.

4. ESTABLISHING LINES AND GRADES

- A. All work under this Contract shall be constructed in accordance with the lines and grades shown on the Drawings. The full responsibility for holding to alignment and grade shall rest upon the Contractor.
- B. The Contractor shall be required to provide his own day-to-day construction staking from the horizontal and vertical control furnished by the Engineer.
- C. The horizontal and vertical control furnished by the Engineer shall be located such that the Contractor's work forces shall only be required to transfer grades. The Engineer will provide offset vertical and horizontal construction staking, within reason, as required for the construction operations.
- D. The Contractor shall be responsible for notifying the Engineer a minimum of 48 hours prior to the time at which site staking may be required.

END OF SECTION

## SECTION 01090

### REFERENCE STANDARDS

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Quality assurance.
- B. Schedule of references.

##### 1.2 RELATED SECTIONS

- A. General Conditions and Supplemental General Conditions: Reference Standards.

##### 1.3 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date for receiving bids or date specified in Product Sections should there be a conflict.
- C. Obtain copies of standards when required by Contract Documents.
- D. Maintain copy at job site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- F. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

##### 1.4 SCHEDULE OF REFERENCES

AASHTO            American Association of State Highway and Transportation Officials  
444 North Capitol Street, N.W.  
Washington, DC 20001

ACI                American Concrete Institute  
Box 19150 - Reford Station  
Detroit, MI 48219

AGC Associated General Contractors of America  
1957 E Street, N.W.  
Washington, DC 20006

AI Asphalt Institute  
Asphalt Institute Building  
College Park, MD 20740

AIA American Institute of Architects  
1735 New York Avenue, N.W.  
Washington, DC 20006

AISC American Institute of Steel Construction  
400 North Michigan Avenue - Eighth Floor  
Chicago, IL 60611

AISI American Iron and Steel Institute  
1000 16th Street, N.W.  
Washington, DC 20036

ANSI American National Standards Institute  
1430 Broadway  
New York, NY 10018

APA American Plywood Association  
Box 11700  
Tacoma, WA 98411

ASME American Society of Mechanical Engineers  
345 East 47th Street  
New York, NY 10017

ASPA American Sod Producers Association  
4415 West Harrison Street  
Hillside, IL 60162

ASTM American Society for Testing and Materials  
1916 Race Street  
Philadelphia, PA 19103

AWS American Welding Society  
550 LeJeune Road, N.W.  
Miami, FL 33135



AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235
CLFMI	Chain Link Fence Manufacturers Institute 1101 Connecticut Avenue, N.W. Washington, DC 20036
CRSI	Concrete Reinforcing Steel Institute 933 Plum Grove Road Schaumburg, IL 60195
DIPRA	Ductile Iron Pipe Research Association 245 Riverchase Parkway, Suite O Birmingham, AL 35244
EJCDC	Engineers' Joint Contract Documents Committee American Consulting Engineers Council 1015 15th Street, N.W. Washington, DC 20005
EJMA	Expansion Joint Manufacturers Association 25 North Broadway Tarrytown, NY 10591
ICBO	International Conference of Building Officials 5360 South Workman Mill Road Whittier, CA 90601
IEEE	Institute of Electrical and Electronics Engineers 345 East 47th Street New York, NY 10017
NEMA	National Electrical Manufacturers' Association 2101 'L' Street, N.W. Washington, DC 20037
NFPA	National Fire Protection Association Battery March Park Quincy, MA 02269
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077

PCI	Prestressed Concrete Institute 201 North Wells Street Chicago, IL 60606
PS	Product Standard U. S. Department of Commerce Washington, DC 20203
SSPC	Steel Structures Painting Council 4400 Fifth Avenue Pittsburgh, PA 15213
UL	Underwriters' Laboratories, Inc. 333 Pfingston Road Northbrook, IL 60062
AHTD	Arkansas Highway & Transportation Department Little Rock, AR
TxDOT	Texas Department of Transportation Austin, TX

END OF SECTION

## SECTION 01300

### SUBMITTALS

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed products list.
- D. Shop drawings.
- E. Product data.
- F. Samples.
- G. Manufacturers' instructions.
- H. Manufacturers' certificates.

##### 1.2 RELATED SECTIONS

- A. Section 01410 - Testing and Laboratory Services.
- B. Section 01700 - Contract Closeout.

##### 1.3 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Engineer accepted form in duplicate.
- B. Sequentially number the transmittal forms. Resubmittals are to have original number with an alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
- D. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.

- E. Schedule submittals to expedite the Project, and deliver to Engineer, MTG Engineers & Surveyors, Inc. at 5930 Summerhill Road, Texarkana, TX 75503. Coordinate submission of related items.
- F. Identify variations from Contract Documents and specified Product or system limitations which may be detrimental to successful performance of the completed Work.
- G. Provide space for Contractor and Engineer review/approval stamps.
- H. Revise and resubmit submittals as required, identify all changes made since previous submittal.
- I. All submittals shall include three copies and one reproducible plus the number of copies the contractor needs to do the work.

#### 1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule within 15 days after date of Owner-Contractor Agreement for Engineer review.
- B. Revise and resubmit as required.
- C. Submit revised schedules with each Application for Payment, identifying current status and changes since previous version.
- D. Indicate estimated percentage of completion for each item of Work at each submission.
- E. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates.

#### 1.5 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of Owner-Contractor Agreement, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

#### 1.6 SHOP DRAWINGS

- A. Submit the number and types of drawing as shown above.
- B. After review, Engineer will distribute in accordance with Article on Procedures above and for Record Documents described in Section 01700 - Contract Closeout.

## 1.7 PRODUCT DATA

- A. Submit the number of copies which the Contractor requires, plus two copies which will be retained by the Engineer.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project.
- C. After review, distribute in accordance with Article on Procedures above and provide copies for Record Documents described in Section 01700 - Contract Closeout.

## 1.8 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- B. Reviewed samples which may be used in the Work are indicated in individual specification Sections.

## 1.9 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, and finishing, in quantities specified for Product Data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.

## 1.10 MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification Sections, submit manufacturers' certificate to Engineer for review, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

END OF SECTION

## SECTION 01410

### TESTING LABORATORY SERVICES

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Selection and payment.
- B. Contractor submittals.
- C. Laboratory responsibilities.
- D. Laboratory reports.
- E. Limits on testing laboratory authority.
- F. Contractor responsibilities.
- G. Schedule of inspections and tests.

##### 1.2 RELATED SECTIONS

- A. General Conditions: Inspections, testing, and approvals required by public authorities.
- B. Section 01300 - Submittals: Manufacturer's certificates, material certifications, and mix designs.
- C. Section 01700 - Contract Closeout: Project Record Documents.
- D. Individual Specification Sections: Inspections and tests required and standards for testing.

##### 1.3 REFERENCES

- A. ANSI/ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- B. ANSI/ASTM E329 - Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.
- C. ANSI A21.51/AWWA C151 and ANSI A21.4/AWWA C104 – Ductile Iron Pipe with Cement Mortar Lining and Seal Coat.
- D. AWWA M9 – Concrete Pressure Pipe.

#### 1.4 SELECTION AND PAYMENT

- A. Owner will employ and pay for services of an independent testing laboratory to perform specified inspection and testing.
- B. Employment of testing laboratory shall in no way relieve Contractor of obligation to perform work in accordance with requirements of Contract Documents.

#### 1.5 QUALITY ASSURANCE

- A. Comply with requirements of ANSI/ASTM E329 and ANSI/ASTM D3740.
- B. Laboratory: Authorized to operate in state in which Project is located.
- C. Laboratory Staff: Maintain a full time staff to review services.
- D. Testing Equipment: Calibrated at reasonable intervals with devices of accuracy traceable to either National Bureau of Standards (NBS) Standards or accepted values of natural physical constants.

#### 1.6 LABORATORY RESPONSIBILITIES

- A. Test samples of mixes submitted by Contractor.
- B. Provide qualified personnel at site. Cooperate with Engineer and Contractor in performance of services.
- C. Perform specified inspection, sampling, and testing of Products in accordance with specified standards.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or Products.
- F. Perform additional inspections and tests required by Engineer.
- G. Attend preconstruction conferences and progress meetings as required.

#### 1.7 LABORATORY REPORTS

- A. After each inspection and test, promptly submit two copies of laboratory report to Engineer, and to Owner.

- B. Include:
  - 1. Date issued,
  - 2. Project title and number,
  - 3. Name of inspector,
  - 4. Date and time of sampling or inspection,
  - 5. Identification of product and Specifications Section,
  - 6. Location in the Project,
  - 7. Type of inspection or test,
  - 8. Date of test,
  - 9. Results of tests,
  - 10. Conformance with Contract Documents.
  
- C. When requested by Engineer, provide interpretation of test results.

#### 1.8 LIMITS ON TESTING LABORATORY AUTHORITY

- A. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Laboratory may not approve or accept any portion of the Work.
- C. Laboratory may not assume any duties of Contractor.
- D. Laboratory has no authority to stop the Work.

#### 1.9 CONTRACTOR RESPONSIBILITIES

- A. Deliver to laboratory at designated location, adequate samples of materials proposed to be used, which require testing, along with proposed mix designs.
- B. Cooperate with laboratory personnel, and provide access to the Work.
- C. Provide incidental labor and facilities to provide access to Work to be tested, to obtain and handle samples at the site or at source of products to be tested, to facilitate tests and inspections, storage and curing of test samples.
- D. Notify Engineer and laboratory 24 hours prior to expected time for operations requiring inspection and testing services.

#### 1.10 SCHEDULE OF INSPECTIONS AND TESTS

- A. Section 02205 - Soil Materials.
- B. Section 02222 - Excavating.
- C. Section 02223 - Backfilling and Embankment.



D. Section 02225 - Trenching.

E. Section 03300 - Cast in Place Concrete.

END OF SECTION

## SECTION 01560

### TEMPORARY CONTROLS

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Water Control.
- B. Dust Control.
- C. Erosion and Sediment Control.
- E. Traffic Control.
- F. Livestock Control.

##### 1.2 REGULATORY

- A. Conform to local & state guidelines for construction site access and maintenance.

##### 1.3 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

##### 1.4 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

##### 1.5 EROSION AND SEDIMENT CONTROL

- A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- B. Minimize amount of bare soil exposed at one time.
- C. Provide temporary measures such as berms, dikes, and drains to prevent water flow.

- D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
- E. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- F. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

1.6 TRAFFIC CONTROL

- A. All barricades, signs and traffic control devices shall be used and placed as directed by the Manual of Uniform Traffic Control Devices (MUTCD) or local/state regulations whichever is the most comprehensive. All traffic control flaggers and supervisors shall demonstrate knowledge of the MUTCD.

END OF SECTION

## SECTION 01700

### CONTRACT CLOSEOUT

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Adjusting.
- D. Project record documents.
- E. Operation and maintenance data.
- F. Warranties.
- G. Spare parts and maintenance materials.

##### 1.2 RELATED SECTIONS

- A. Section 01300 - Submittals.
- B. Section 01410 - Testing Laboratory Services.

##### 1.3 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Owner's/Engineer's inspection.
- B. Provide submittal to Owner/Engineer that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- D. Owner will occupy portions of the work as specified in Section 01010.

#### 1.4 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces.
- C. Clean equipment and fixtures to a sanitary condition.
- D. Clean debris from roofs, gutters, downspouts, and drainage systems.
- E. Clean site; sweep paved areas, rake clean landscaped surfaces.
- F. Repair fences, patch driveways, fill and seed settled areas.
- G. Remove waste and surplus materials, rubbish, and construction facilities from the site.

#### 1.5 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

#### 1.6 PROJECT RECORD DOCUMENTS

- A. Maintain on site, one set of the following Approved record documents; record any actual revisions to the Work:
  - 1. Contract Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Orders and other Modifications to the Contract.
  - 5. Reviewed shop drawings, product data, and samples.
- B. Store Record Documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
  - 1. Manufacturer's name and product model and number.
  - 2. Product substitutions or alternates utilized.
  - 3. Changes made by Addenda and Modifications.

- E. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:
  - 1. Measured depths of foundations in relation to finish floor datum.
  - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - 4. Field changes of dimension and detail.
  - 5. Details not on original Contract Drawings.
- F. Delete Engineer seal from all marked up drawing/documents.
- G. Submit documents to Engineer with claim for final Application for Payment.

#### 1.7 OPERATION AND MAINTENANCE DATA

- A. Submit two sets (for checking) prior to final inspection, bound in 8-1/2 x 11 inch (216 x 279 mm) text pages in three hole McBee, swing hinge, view cover, hard cover binders.
- B. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project on both the front and the spine.
- C. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, type on 30 pound white paper.
- E. Part 1: Directory, listing names, addresses, and telephone numbers of Contractor, Subcontractors, major material suppliers, and major equipment suppliers.
- F. Part 2: Operation and maintenance instructions, arranged by system and subdivided by section. Subcontractors and suppliers. Identify the following:
  - 1. Significant design criteria.
  - 2. List of equipment.
  - 3. Parts list for each component.
  - 4. Operating instructions.
  - 5. Maintenance instructions for equipment and systems with recommended spare parts,
  - 6. Maintenance instructions for finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.

G. Part 3: Project documents and certificates, including the following:

1. Shop drawings and product data.
2. Certificates.
3. Photocopies of warranties.

H. Submit one copy of completed volumes in final form 15 days prior to final inspection. This copy will be returned [after final inspection], with Architect/Engineer comments. Revise content of documents as required prior to final submittal.

I. Submit five (5) final volumes revised, within ten days after final inspection.

#### 1.8 WARRANTIES

A. Provide triplicate copies.

B. Execute and assemble documents from Subcontractors, suppliers, and manufacturers.

C. Provide Table of Contents and assemble in binders as specified above.

D. Submit prior to final Application for Payment.

E. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

#### 1.9 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.

B. Deliver to and place in location as directed; obtain receipt prior to final payment.

#### PART 2 PRODUCTS

Not used.

#### PART 3 EXECUTION

Not used.

END OF SECTION

SECTION 02110  
SITE PREPARATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Remove surface debris.
- B. Clear site of plant life and grass.
- C. Remove trees and shrubs.
- D. Remove root system of trees and shrubs.
- E. Topsoil excavation.
- F. Remove other obstructions as necessary for the construction of the project.

1.2 RELATED SECTIONS

- A. Section 01025 - Measurement and Payment: Requirements applicable to unit prices for the work of this Section.

1.3 REGULATORY REQUIREMENTS

- A. Conform to applicable code for disposal of debris, burning debris on site if allowed by Owner and Regulatory Agencies, and dust control.
- B. Coordinate clearing Work with utility companies.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Not applicable on this Project.



## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Verify that existing plant life designated to remain, is tagged or identified.

### 3.2 PROTECTION

- A. Locate, identify, and protect utilities that remain, from damage.
- B. Protect trees, plant growth, and features designated to remain, as final landscaping.
- C. Protect bench marks and existing structures from damage or displacement.

### 3.3 CLEARING

- A. Clear areas required for access to site and execution of Work.
- B. Remove trees and shrubs within marked areas indicated. Remove stumps, and root system.
- C. Clear undergrowth and deadwood, without disturbing subsoil.

### 3.4 REMOVAL

- A. Remove debris, rock, and extracted plant life from site.

### 3.5 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be further excavated, to an average depth of 6 inches.
- B. Load, haul and stockpile in area designated on Owner project directed by the Engineer. Protect from erosion. Remove excess topsoil not being reused, from site.
- C. Do not excavate wet topsoil.
- D. At completion of topsoil replacement, grade remaining stockpiles to a stable shape and slope and revegetate.

END OF SECTION

## SECTION 02205

### SOIL MATERIALS

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Subsoil and topsoil materials.

##### 1.2 RELATED SECTIONS

- A. Section 02110 – Site Clearing.
- B. Section 02223 - Backfilling and Embankment.

##### 1.3 REFERENCES

- A. ANSI/ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5 lb (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.
- B. ASTM D2487 - Classification of Soils for Engineering Purposes.
- C. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.

##### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Materials Source: When the Contractor utilizes a different fill material, submit name of imported materials suppliers. Provide materials from same source throughout the work. Change of source requires the Engineers approval.

#### PART 2 PRODUCTS

##### 2.1 SOIL MATERIALS

- A. Subsoil Type: Refer to Geotechnical Report.
- B. Select Fill: If required, off-site borrow materials shall be approved before use by the Engineer and be predominately coarse grained soils, free of organics, have a max

imum particle size less than 3-inches, have a liquid limit of less than 35 and have a plasticity index between 5 and 18. Fine grained soils for use as select fill will require additional Engineer approval.

## 2.2 SOURCE QUALITY CONTROL

- A. Inspection and testing will be performed under provisions of Section 01400.
- B. Tests and analysis of soil material will be performed in accordance with ANSI/ASTM D698, ASTM D2922, ASTM D3017.
- C. If tests indicate materials do not meet specified requirements, change material and retest at no cost to Owner.

## PART 3 EXECUTION

### 3.1 STOCKPILING

- A. Stockpile materials on site at locations designated by Engineer.
- B. Stockpile in sufficient quantities to meet project schedule and requirements.
- C. Separate differing materials with dividers or stockpile apart to prevent mixing.
- D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

### 3.2 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in a clean and neat condition. Grade site surface to prevent free standing surface water.
- B. If a borrow area is indicated, leave area in a clean and neat condition. Grade site surface to prevent free standing surface water.

### 3.3 DISPOSAL

- A. After completion of project, dispose of excess soils off-site at a location approved by the Engineer.

END OF SECTION

## SECTION 02207

### AGGREGATE MATERIALS

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Aggregate materials.

##### 1.2 RELATED SECTIONS

- A. Section 01410 - Testing Laboratory Services: Testing aggregate fill materials.
- B. Section 02205 - Soil Materials.
- C. Section 02223 - Backfilling and Embankment.
- D. Section 02225 - Trenching.
- E. Section 02231 - Aggregate Base Course.
- F. Section 02936 – Sodding, Seeding and Erosion Control.

##### 1.3 REFERENCES

- A. AASHTO - M147 - Materials for Aggregate and Soil-Aggregate.
- B. ANSI/ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- C. ANSI/ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5 lb Rammer and 12 inch Drop.
- D. ASTM D2487 - Classification of Soils for Engineering Purposes.
- E. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- F. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.
- G. ASTM D4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

## 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Samples: Submit, in air-tight containers, 50 lb. sample of each type of fill to testing laboratory.
- C. Materials Source: Submit name of imported materials suppliers. Provide materials from same source throughout the work. Change of source requires Engineer approval.

## PART 2 PRODUCTS

### 2.1 AGGREGATE MATERIALS

- A. Coarse Aggregate Type: Conforming to TxDOT Type A, Grade 2. Crushed iron ore base shall not be used on this project unless permission is obtained from the Construction Manager and the material is cement stabilized (30 pounds per square yard minimum) at the Contractor's expense.
- B. Bedding Materials: Pipe Bedding materials may be obtained on site if available or off site. The types of embedment to be used on this project are as follows:
  - a. Ductile Iron or C900 PVC Water Pipe - Excavated soil or select fill free of rocks, debris and frozen materials. ASTM D2321 Class I, II, III or IV.
  - b. PVC Sewer Pipe (SDR 35 and SDR 26) – ASTM D2321 Class I, II or III embedment.
- C. Oversize Material: Clean rock, cobbles or crushed stone typically 2 inches or larger to be used for bridging unstable foundation soils under utilities.
- D. Native sand for asphalt operations.

### 2.2 SOURCE QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01410.
- B. Tests and analysis of aggregate material will be performed in accordance with ANSI/ASTM D698, ASTM D2922, ASTM D3017, ASTM D4318 and ASTM C136.
- C. If tests indicate materials do not meet specified requirements, change material and retest.

## PART 3 EXECUTION

### 3.1 STOCKPILING

- A. Stockpile materials on site at locations designated by Engineer.
- B. Stockpile in sufficient quantities to meet project schedule and requirements.
- C. Separate differing materials with dividers or stockpile apart to prevent mixing.
- D. Direct surface water away from stockpile site so as to prevent erosion or deterioration of materials.

### 3.2 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in a clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION

## SECTION 02222

### EXCAVATING

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Excavating for building pads and roadways.
- B. Excavating for landscaping.
- C. Excavating for site structures.

##### 1.2 RELATED SECTIONS

- A. Section 02223 - Backfilling and Embankment.

##### 1.3 FIELD MEASUREMENTS

- C. Verify that survey bench mark and intended elevations for the Work are as indicated.

#### PART 2 PRODUCTS

Not Applicable.

#### PART 3 EXECUTION

##### 3.1 PREPARATION

- C. Identify required lines, levels, contours, and datum.
- D. Locate, identify, and protect utilities that remain, from damage.
- E. Protect plant life, trees, lawns, and other features remaining as a portion of final landscaping.
- F. Protect bench marks, existing structures, fences, paving, and curbs from excavation equipment and vehicular traffic.
- F. Unauthorized over excavations will not be paid for and shall be corrected at the Contractors expense.

### 3.2 EXCAVATION

- A. Excavate subsoil required to accommodate building pads, slabs-on-grade, paving and site structures and construction operations.
- B. Machine slope banks to contours or grades as shown.
- C. Correct areas over-excavated in accordance with Section 02223.
- D. Stockpile excavated material in area designated on site and remove excess material not being reused, from site.
- E. Notify Engineer of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.

### 3.3 FIELD QUALITY CONTROL

- A. Field inspection will be performed under provisions of Section 01410.

### 3.4 PROTECTION

- A. Protect excavations by methods required to prevent cave-in or loose soil from falling into excavation.
- B. Protect bottom of excavations and soil, adjacent to and beneath foundation, from freezing.

END OF SECTION



## SECTION 02223

### BACKFILLING AND EMBANKMENT

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Building perimeter backfilling to subgrade elevations.
- B. Site filling and backfilling.
- C. Fill under paving.
- D. Fill under roadways.
- E. Consolidation and compaction as scheduled.
- F. Fill for over-excavation.
- G. Fill for below subgrade undercuts as directed.

##### 1.2 RELATED SECTIONS

- A. Section 01410 - Testing Laboratory Services: Compaction testing.
- B. Section 02205 - Soil Materials.
- C. Section 02207 - Aggregate Materials.
- D. Section 02222 - Excavating.
- E. Section 02225 - Trenching: Backfilling of utility trenches.
- F. Section 03300 - Cast-in-Place Concrete: Concrete materials.

##### 1.3 REFERENCES

- A. ANSI/ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5 lb Rammer and 12 inch Drop.
- B. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- C. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.

## PART 2 PRODUCTS

### 2.1 FILL MATERIALS

- A. Structural Fill Type: Subsoil as specified in Section 02205.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify subgrade has been approved for subsequent fill operations.

### 3.2 PREPARATION

- A. Compact subgrade to density requirements for subsequent backfill materials.
- B. Scarify and proof roll subgrade surface to identify soft spots; compact to density equal to or greater than requirements for subsequent fill material.

### 3.3 BACKFILLING

- A. Backfill areas to contours and elevations with unfrozen materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- C. Soil Fill Type, Embankment: Place and compact material in continuous layers not exceeding 6 inches compacted depth.
- D. Employ a placement method that does not disturb or damage other work.
- E. Maintain optimum moisture content of backfill materials to attain required compaction density. Backfill against supported foundation walls. Do not backfill against unsupported foundation walls.
- F. Slope grade away from building minimum 2 inches in 10 ft., unless noted otherwise.
- G. Make gradual grade changes. Blend slope into level areas.
- H. Stockpile surplus topsoil materials on campus at the location designated by the owner. All other surplus materials to be disposed of by the contractor.
- I. Leave fill material stockpile areas free of excess fill materials.

### 3.4 TOLERANCES

- A. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.
- B. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

### 3.5 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01410.
- B. Compaction testing will be performed in accordance with ANSI/ASTM D698, ASTM D2922, ASTM D3017.
- C. If tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- D. Frequency of Tests: 1 Field Density Test per 1,200 square feet of fill placed per each 6 inch lift.
- E. Proof roll compacted fill surfaces under building pads and paving.

### 3.6 PROTECTION OF FINISHED WORK

- A. Protect finished Work under provisions of Section 01560.
- B. Reshape and re-compact fills subjected to vehicular traffic.

### 3.7 SCHEDULE

- A. Building Pad Areas:
  - 1. Refer to Geotechnical Report.
- B. Fill Under Grass Areas:
  - 1. Fill Type, Structural, to 6 inches below finish grade, compacted to 90 percent of the ASTM D698 maximum value.

C. Fill Under Asphalt or Concrete Paving:

1. Refer to Geotechnical Report.

END OF SECTION

## SECTION 02225

### TRENCHING

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Excavating trenches for utilities, traffic control devices and for storm sewers.
- B. Compacted fill from top bedding to subgrade elevations.
- C. Backfilling and compaction.

##### 1.2 RELATED SECTIONS

- A. Section 01410 - Testing Laboratory Services: Testing fill compaction.
- B. Section 01560 - Temporary Controls: Water control in excavations.
- C. Section 02205 - Soil Materials.
- D. Section 03300 - Cast-in-Place Concrete: Concrete materials.

##### 1.3 REFERENCES

- A. ANSI/ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ANSI/ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5 lb Rammer and 12 inch Drop.
- C. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.

##### 1.4 DEFINITIONS

- A. Utility: Any buried pipe, conduit, or cable.

##### 1.5 FIELD MEASUREMENTS

- A. Verify that survey bench mark and intended elevations for the Work are as shown on drawings.

##### 1.6 COORDINATION

- A. Coordinate work.
- B. Verify work associated with lower elevation utilities are complete before placing higher elevation utilities.

## PART 2 PRODUCTS

### 2.1 FILL MATERIALS

- A. Subsoil Types: Excavated and re-used material, graded, free of lumps larger than 3 inches, rocks larger than 2 inches and debris.
- B. Topsoil Type: Excavated and reused material, graded, free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.
- C. Bedding Materials: Pipe Bedding materials may be obtained on site or off site. The following types of embedment to be used on this project are as follows:
  - 1. Ductile Iron Pipe
    - (a) Type I – Excavated soil or select fill free of rocks, debris and frozen materials. Not for use on pipes greater than or equal to 14-inches in diameter. Trench bottom shall be undisturbed earth and backfill loosely.
    - (b) Type II – Excavated soil or select fill free of rocks, debris and frozen materials. Trench bottom shall be undisturbed earth and backfill lightly consolidated to the centerline of the pipe.
    - (c) Type III – Excavated soil or select fill free of rocks, debris and frozen materials. Pipe shall be bedded in 4-inches of loose soil or select fill and backfill lightly consolidated to the top of the pipe.
    - (d) Type IV – Sand, gravel or crushed stone. Place bedding 4-inch minimum and backfill with a compacted effort to the top of the pipe at least 80% of ASTM D698.
    - (e) Type V – Sand, gravel or crushed stone. Place compacted bedding from 4-inch minimum below the pipe to the centerline of the pipe and backfill with granular material or select fill to a compacted effort to the top of the pipe at least 90% of ASTM D698.

2. Concrete Pressure Pipe
  - (a) SA1 – Fine grained, low plasticity backfill (CL, ML, CL-ML), free from clods or rocks greater than 1-inch, with densities less than 85% of ASTM D698. Not for use on pipes greater than 24-inches in diameter.
  - (b) SA2 – Fine grained, low plasticity backfill (CL, ML, CL-ML), free from clods or rocks greater than 1-inch, with densities greater than 85% of ASTM D698. Not for use on pipes greater than 36-inches in diameter.
  - (c) SA3 – Fine grained, low plasticity backfill (CL, ML, CL-ML), free from clods or rocks greater than 1-inch, with densities greater than 90% of ASTM D698.
  - (d) SA4 – Fine grained, low plasticity backfill (CL, ML, CL-ML), with more than 25% coarse particles, or coarse grained backfill with more than 12% fines, free from clods or rocks greater than 1-inch, with densities greater than 85% of ASTM D698.
  - (e) SA5 – Fine grained, low plasticity backfill (CL, ML, CL-ML), with more than 25% coarse particles, or coarse grained backfill with more than 12% fines, free from clods or rocks greater than 1-inch, with densities greater than 90% of ASTM D698.
3. Oversize Material: Clean rock, cobbles or crushed stone typically 2 inches or larger to be used for bridging unstable foundation soils.

D. Gravel Road Base: Gravel base materials Type A Grade 3 per Texas Department of Transportation specifications. Iron ore materials require the addition of cement, flyash or lime at the rate of 6 to 10% by volume as shown by test to strengthen for wet conditions.

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Protect plant life, trees, lawns, and other features remaining as a portion of final landscaping.
- C. Protect bench marks, existing structures, fences, paving, and curbs from excavation equipment and vehicular traffic.
- D. Maintain and protect above and below grade utilities that are to remain.
- E. Cut out soft areas of subgrade not capable of compaction. Backfill with oversize stone.

### 3.2 EXCAVATION

- A. Excavate subsoil required for utilities to municipal utilities.
- B. Cut trenches sufficiently wide to enable installation and allow inspection.
- C. Hand trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.
- D. Remove lumped subsoil, roots, debris and rock from trench excavation.
- E. Correct areas over excavated with over-sized materials as required.
- F. Stockpile excavated material in area designated on site and remove excess material not being used from site.

### 3.3 BACKFILLING

- A. Backfill trenches to contours and elevations with unfrozen materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- C. Bedding: Place and compact materials in accordance with the types previously listed as detailed in the drawings.
- D. Soil Fill Type, Subsoil: For backfilling around and over the pipe, place and compact material in continuous layers over the bedding not exceeding 6 inches compacted depth.
- E. Soil Fill Type, Topsoil: Place material over the subsoil fill not exceeding 6 inches compacted depth.
- F. Backfill Trench in drives and roadways as noted in the plans.
- G. Maintain optimum moisture content of fill materials to attain required compaction density.
- H. Remove surplus fill materials from site.
- I. Leave fill material stockpile areas completely free of excess fill materials.

### 3.4 TOLERANCES

- A. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations as shown in the plans.
- B. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations and mounded as shown in the plans.



### 3.5 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01410.
- B. Compaction testing will be performed in accordance with ANSI/ASTM D698, ASTM D2922 and ASTM D3017.
- C. If tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest. Refer to Section 01025.
- D. Frequency of Tests: 1 density test per 250 lineal feet of trench backfill placed. On areas underneath paving, roads or driveways, 1 density test per 50 lineal feet per lift of material placed is required on the trench backfill.
- E. Contractor should be familiar with the content of 29 CFR 1926, Subpart P of the OSHA regulations.

### 3.6 PROTECTION OF FINISHED WORK

- A. Protect finished Work.
- B. Reshape and re-compact fills subjected to vehicular traffic during construction.

### 3.7 SCHEDULE

- A. General – All bedding and backfill when completed shall be capable of supporting AASHTO H-20 loading at the natural ground line above the pipe.
- B. Waterline Pipe Bedding:
  - 1. Pipe (12 inch and Smaller) use Type III (general) or Type IV (paving/roadways) bedding as specified for ductile iron pipe.
  - 2. For Ductile Iron Pipe: ANSI/AWWA C150/C151 (Class 150 minimum) use Type III bedding.
  - 3. For Ductile Iron Pipe: ANSI/AWWA C150/C151 (Class 200 minimum) use Type III bedding.
  - 4. For Concrete Pressure Pipe: AWWA C-303 (150 psi minimum working pressure plus an additional 100 psi above the working pressure for surge protection) use SA-2 bedding.
- C. Backfill Above Pipe and Bedding:
  - 1. Paving, Roads and Drives - Cover pipe and bedding with Fill Type, Subsoil, in 6 inch lifts, compacted to 95 percent of the ASTM D698 maximum.
  - 2. Landscaped, Wooded and Agricultural - Cover pipe and bedding with Fill Type, Subsoil, in 6 inch lifts, compacted to 90 percent of the ASTM D698 maximum.

END OF SECTION

## SECTION 02231

### AGGREGATE BASE COURSE

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Aggregate base course.

##### 1.2 RELATED SECTIONS

- A. Section 01410 - Testing Laboratory Services: Inspection of bearing surfaces.
- B. Section 02205 - Soil Materials: Material types.
- C. Section 02225 - Trenching: Compacted fill under base course.

##### 1.3 REFERENCES

- A. ANSI/ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5 lb Rammer and 12 inch Drop.
- B. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- C. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.

#### PART 2 PRODUCTS

##### 2.1 FILL MATERIALS

- A. Coarse Aggregate Fill Type, Flexible Aggregate Base: TxDOT Type A, Grade 2.

#### PART 3 EXECUTION

##### 3.1 EXAMINATION/PREPARATION

- A. Verify substrate has been inspected, gradients and elevations are correct, and dry.

- B. For areas receiving aggregate, prepare and compact subgrade in accordance with Sections 02223 and 02225.

### 3.2 AGGREGATE PLACEMENT

- A. Spread aggregate over prepared substrate to a total compacted thickness of 6 inches.
- B. Level and contour surfaces to elevations and gradients indicated.
- C. Add small quantities of fine aggregate to course aggregate as appropriate to assist compaction.
- D. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- E. Use mechanical tamping equipment in areas inaccessible to compaction equipment.
- F. Place second lift as specified in this section.

### 3.3 TOLERANCES

- A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.
- B. Scheduled Compacted Thickness: Within 1/4 inch.
- C. Variation from True Elevation: Within 1/2 inch.

### 3.4 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01410.
- B. Compaction testing will be performed in accordance with ANSI/ASTM D698, ASTM D2922 and ASTM D3017.
- C. If tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- D. Frequency of Tests: 1 field density test per 1,200 square feet of compacted aggregate road base.

### 3.5 SCHEDULES

#### A. Road Surfaces and Under Asphalt Pavement:

1. Compact placed aggregate materials to achieve compaction of 100 percent of the ASTM D698 maximum density.

END OF SECTION

## SECTION 02936

### EROSION CONTROL

#### PART 1 - GENERAL

##### 1.1 SECTION INCLUDES:

- A. Work included in this Section, while not inclusive but listed as a guide, shall include:
  - 1. Furnishing of all labor, tools, equipment and incidentals required to complete the work.
  - 2. Layout of work.
  - 3. Installation and maintenance of silt fences.
  - 4. Placement of riprap.
  - 5. Clean-up.

##### 1.2 RELATED SECTIONS:

- A. Section 02205 - Soils for Earthwork: Soils for fill.
- B. Section 02223 - Aggregates for Earthwork: Aggregates for fill.
- C. Section 02225 - Trenching: Trenching and backfilling for utilities.

##### 1.3 REFERENCES: Meet requirements and recommendations of applicable portions of Standards listed.

- A. ASTM D698 - Laboratory Compaction Characteristic of Soil Using Standard Effort (12,400 lb/ft<sup>3</sup>).
- B. ASTM D4318 - Liquid Limit, Plastic Limit and Plasticity Index of Soils.
- C. Texas Department of Transportation Standard Specifications for Construction of Highways, Streets, and Bridges, 2004, TxDOT.

##### 1.4 SUBMITTALS:

- A. General: Submit the following in accordance with 01300.
- B. Product data for geotextiles and erosion control matting (if a component of the SW3P).
- C. Product data for soil retention blankets (if a component of the SW3P).
- D. Product data for geotextile silt fence (if a component of the SW3P).

##### 1.5 SUMMARY:

- A. This work shall consist of furnishing, installing, maintaining, and removing devices to prevent silt leaving the site, either thru inlets or by overland flow around inlets. The quantities of temporary silt fence shown on the plans may be increased or decreased based on weather, construction procedures, and actual site conditions that occurs during construction of the project. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the work.
- B. The contractor has the option of installing a silt fence construction of geotextiles or hay bales.
- C. The contractor shall be responsible for utilizing Best Management Practices to control erosion from his activities that are incidental to the proposed construction such as staging yards, office trailers, etc.
- D. Before starting construction, post a copy of the NOI and a copy of the "Construction Site Notice" (attached) at the site. The documents shall remain posted at the site until construction is complete.
- E. Perform all site activities in compliance with the SW3P plan and the requirements of the General Permit TXR150000 (attached) including the required site inspections as required by the SW3P.

## PART 2 – PRODUCTS

### 2.1 HAY BALES

- A. Rectangular, commercially sized bales, with densely packed hay, secured bound with wire or plastic strips.

### 2.2 GEOTEXTILES:

- A. This specification provides criteria for wire-supported geotextiles silt fence as well as a self-supporting geotextile silt fence.
- B. Fibers used in the manufacture of geotextiles shall consist of long-chain synthetic polymers, composed of at least 85% by weight polyolefins, polyesters, or polyamides. They shall be formed into a network such as that the filaments or yarns retain dimensional stability relative to each other, including selvages. The geotextile shall be specific for its intended purpose. The geotextile shall be free from any treatments or coating which might adversely alter its physical properties after installation.
- C. Geotextile rolls shall be furnished with suitable wrapping for protection against moisture and extended ultraviolet exposure prior to placement. Each roll shall be labeled or tagged to provide product identification sufficient for inventory and quality control purposes. Rolls shall be stored in a manner that protects them from the elements.
- D. Post: Either wood, steel or synthetic posts may be used. Posts shall have minimum length of 36 in. plus burial depth and be of sufficient strength to resist damage during installation and to support applied loads.
- E. Support Fence: Wire or other support fences shall be at least 32 in. high and strong enough to support applied loads.
- F. Prefabricated Fence: Prefabricated fence systems may be used provided they meet all of the above material requirements.

### 2.3 SOIL RETENTION BLANKET:

#### A. Short Term Protection:

1. Description. This item shall govern for providing and placing wood, straw or coconut fiber mat, synthetic mat, paper mat, jute mesh or other material as a soil retention blanket for erosion control on slopes or ditches for short term protection or seeded as shown on the plans or as specified by the Owner's Representative.
2. Soil Retention Blankets. Samples of all soil retention blankets must be submitted to the Owner's Representative prior to use. A current list of qualified materials may be obtained by writing to the Director of Maintenance and Operations, Texas Department of Transportation, 125 E. 11th Street, Austin, Texas 78701-2483. Materials shall be approved by the Owner's Representative.

#### B. Long Term Protection:

1. General. Geotextiles are woven or non-woven synthetic fabrics that are designed to be used for erosion control and soil stabilization applications. This item to be used only as required to supplement the silt fences based on field observations.
2. Geotextiles used in Erosion Control and Stabilization Applications: The fabric conform to the following average roll minimum values (lot mean-2 standard deviations), as determined by Federal Highway Administration Task Force 25 guidelines cited below, measured in the weakest direction.

## 2.4 TOPSOIL

- A. The topsoil shall be fertile soil, be easily cultivated, be free from objectionable material, have relatively high erosion resistance and be readily able to support the growth of planting, seeding or sodding.

## 2.5 SOD

- A. The sod shall consist of live, growing Bermuda grass where shown on the plans. Bermuda grass sod as shown on the plans shall have a healthy virile root system of dense, thickly matted roots throughout the soil of the sod for a minimum thickness of 1 inch. The Contractor shall not use sod from areas where the grass is thinned out, or where the grass roots have been dried out by exposure to the air and sun to such an extent as to damage its ability to grow when transplanted.

## 2.6 FERTILIZER

- A. Specification Submittal. Submit a sample label or specification of the fertilizer proposed to be used for approval.
  - 1. General: Fertilizer shall be a commercial product, uniform in composition, free flowing and suitable for application with approved equipment. Fertilizer shall be delivered to the site in fully labeled original containers. Fertilizer, which has been exposed to high humidity and moisture, has become caked or otherwise damaged, making it unsuitable for use, shall be rejected.
  - 2. Initial Planting Application. Fertilizer for the initial planting application shall be of an organic base containing by weight the following (or other approved) percentages of nutrients: 15-10-5 (N-P-K); also containing 1-15 percent sulphate and traces of iron and zinc as required and approved by the Owner.
  - 3. Specification Submittal. Submit a sample label or specification of the fertilizer proposed to be used for the Owner's approval.
  - 4. Post Planting Application. Fertilizer for the post planting application shall be a chemical base fertilizer containing by weight the following percentages of nutrients: 21-0-0 (N-P-K) ammonium sulphate; or the nitrogen equivalent of 33-0-0 ammonium nitrate.

## 2.7 ROCK FILTER DAMS

- A. This specification provides criteria for the materials to be furnished and for the installation, maintenance and removal of rock filter dams.
- B. All aggregate used for the construction of the rock filter dams shall be hard, durable, clean open graded. Aggregate gradation shall be 3 to 6 inches for rock filter dams, Types 1, 2 and 4, and shall be 4 to 8 inches for Type 3. The galvanized steel wire mesh and tie wires for Types 2 and 3 shall be a minimum 20 gauge.
- C. The filter dams shall be constructed according to the following criteria unless otherwise shown on the plans:
  - 1. **Type 1 (non-reinforced)**  
Height – 18 inches minimum, measured vertically from existing ground to top of filter dam.  
Top Width – 2 feet minimum.  
Slopes – 2:1 maximum.
  - 2. **Type 2 (reinforced)**  
Height – 18 inches minimum, measured vertically from existing ground to top of filter dam.  
Top Width – 2 feet minimum.  
Slopes – 2:1 maximum.

3. **Type 3 (reinforced)**

Height – 36 inches minimum, measured vertically from existing ground to top of filter dam.

Top Width – 2 feet minimum.

Slopes – 2:1 maximum

The aggregate shall be placed on the galvanized wire mesh to the lines, heights and slopes specified. The mesh shall be folded at the upstream end side over the aggregate and secured to itself on the downstream side.

3.6 CONSTRUCTION EXITS

- A. This specification provides criteria for the materials to be furnished and for the installation, maintenance and removal of construction exits.
- B. All materials shall meet the applicable requirements as indicated below for the Rock Construction Exit.
  - 1. Rock used for long and short term construction exits shall consist of crushed stone. The aggregates shall be clean, hard durable materials. The open-grades crushed stone shall be in the 4 to 8 inch size as shown on the plans. The depth of the aggregate shall not be less than 8 inches.
- C. The exit must be properly maintained to allow consistent function to prevent soil migration via construction vehicles from the construction area. This may require periodic removal and replacement of stone as conditions demand. All construction vehicular access must arrive and leave via this entrance or additional entrances must be constructed at separate points of access – this is to be coordinated by and with the General Contractor. The construction entrances must prevent soil/mud from leaving the site – this is a performance requirement with performance judged solely by the Architect. The crushed rock entrances shall be removed after project completion and the drives and existing sites shall be left in original condition.

PART 3 – EXECUTION

3.1 TEMPORARY SILT FENCE:

- A. The Contractor shall install a temporary silt fence as shown on the plans, and at other locations as required. Fence construction shall be adequate to handle the stress from sediment loading.
  - 1. Hay Bales: Shall be installed per the details shown on the plans.
  - 2. Geotextile Fence: Shall be installed per the details shown on the plans.
- B. It is the Contractor's responsibility to maintain the integrity of silt fences as long as they are necessary to contain sediment runoff. The Contractor shall inspect all temporary silt fences immediately after each rainfall and at least daily during prolonged rainfall. The Contractor shall immediately correct any deficiencies. In addition, the Contractor shall make a daily review of the location of the silt fences in area where construction activities have changed the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, additional silt fences shall be installed. Should the silt fence become damaged or otherwise ineffective while the barrier is still necessary, it shall be repaired promptly.
- C. Sediment deposits shall either be removed when the deposit reaches approximately one-half of the height of the silt fence or a second silt fence shall be installed.
- D. The silt fence shall remain in place as long as needed. Upon removal, the Contractor shall remove and dispose of any excess silt accumulations, dress the area to give a pleasing appearance, and vegetate all bare areas. The fence materials will remain the property of the Contractor and may be used at other locations provided the materials meet their intended purpose.



- E. The designated area shall be cleared of all trees, brush, shrubbery, plants, etc., not indicated on the plans to be preserved. Concrete shall be removed where indicated. Trees and bushes designated to be left in place shall be carefully trimmed as directed and shall be protected from scarring, barking or other injuries during construction operations. Pruned limbs over two inches in diameter shall be treated by painting the exposed ends with an approved asphaltic material. Unless otherwise indicated on the plans, trees and stumps shall be cut off or otherwise removed as close to the natural ground as practicable on areas that are to be covered by at least three feet of embankment. On areas required for borrow sites and materials sources, stumps, roots, etc., shall be removed to the complete extent necessary to prevent such objectionable matter becoming mixed with the material to be used in construction.

### 3.2 SOIL RETENTION BLANKET:

- A. Soil retention Blankets shall be installed in accordance with Manufacturer's recommendations.

### 3.3 HYDROMULCHING

- A. Seed or seed mixture, in the quantity specified, shall be uniformly distributed over the areas shown on the plans where directed. Seed and fertilizer to be distributed as a water slurry, and the mixture shall be applied to that area to be seeded within 30 minutes after all components are placed in the equipment. Fertilizer shall conform to the requirements of Section 32 92 19 Seeding. After planting, the seed shall be raked or harrowed into the soil to a depth of approximately ¼" (6mm). The planted areas shall then be rolled with a smooth roller, developing 15 –25 psi (100 to 170 kp) contact pressure upon the planted surface area and giving smooth surface without ruts or tracks. After compacting is completed, the planted area shall be watered sufficiently to assure uniform moisture from the surface to a minimum of six inches (150 mm) in depth.

END OF SECTION

## SECTION 03100

### CONCRETE FORMWORK

#### 1. GENERAL NOTES

- A. Refer to general conditions, supplemental conditions and related requirements.

#### 2. MATERIALS

- A. Forms shall be smooth sound fir or yellow pine plywood. Forms shall be substantial and sufficiently tight to prevent leakage of mortar. Forms for exposed concrete shall be of new plywood to present a smooth unbroken face without joint marks, knot holes and splices on exposed surfaces. Studs, shores and bracing shall be not less than 2x4 construction grade Douglas Fir.

#### 3. CONSTRUCTION

- A. Vertical surfaces of all concrete walls shall be formed unless otherwise indicated on the drawings (if applicable).
- B. Forms shall be constructed to shape, lines and dimensions indicated on the drawings. Forms shall be carefully and accurately placed and braced to prevent sagging or bellying and to safely support the construction loads.
- C. Forms may be removed from vertical faces of beams, walls and slabs after 24 hours. Holes or honeycombs left after removal of form and form ties shall be immediately patched.

END OF SECTION

## SECTION 03200

### CONCRETE REINFORCEMENT

#### 1. GENERAL NOTES

- A. Refer to general conditions, supplemental conditions and related requirements.

#### 2. MATERIALS

- A. Reinforcing bars shall conform to ASTM A-615, grade 60, New Billet Steel with deformations in accordance with ASTM A-305.
- B. Wire fabric shall conform to ASTM A-185.
- C. Furnish and install metal accessories including spacers, chairs, ties and other devices necessary for proper assembling, placing, spacing, supporting and fastening reinforcement in place.
- D. Reinforcement: cut, bend cold to exact dimensions, lengths required and properly tagged for identification in field. Reinforcing bars are to be protected to prevent rust.

#### 3. SHOP DRAWINGS

- A. Prepare schedule and lists showing bending, placement and length. All detailing to conform to latest standard practice for detailing reinforced concrete. Submit for approval according to the general conditions and Division 1.
- B. Unless otherwise shown or specified, reinforcement shall be fabricated and placed in accordance with American Concrete Institute and Concrete Reinforcing Steel Institute.

#### 4. PLACEMENT AND FABRICATION

- A. Place reinforcement accurately in all work and fasten securely to insure against displacement during concreting operation. Locate splices only at points of minimum stress. Specified clearances to face of concrete to be maintained in all cases. Lap welded wire fabric 6" at splices and tie together. Minimum lap for splices shall be 12".
- B. Place reinforcement with following clearances, except as noted or detailed on the plans:
  - a. Welded wire mesh: 3/4" to 1" from top of slab or base slab.

- C. Metal reinforcement, at time concrete is placed, shall be free from rust, scale, and other coatings that might destroy bond.

END OF SECTION

## SECTION 03300

### CAST-IN-PLACE CONCRETE

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Cast-in-place concrete.
- B. Slabs on grade.
- C. Control, expansion and contraction joint devices associated with concrete work, including joint sealants.
- D. Thrust blocks and manholes.
- E. Concrete paving.

##### 1.2 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

- A. Section 03100 - Concrete Formwork: Placement of joint device, joint device anchors in formwork.

##### 1.3 RELATED SECTIONS

- A. Section 03100 - Concrete Formwork: Formwork and accessories.
- B. Section 03200 - Concrete Reinforcement.
- C. Section 03370 - Concrete Curing.

##### 1.4 REFERENCES

- A. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
- B. ACI 305R - Hot Weather Concreting.
- C. ACI 306R - Cold Weather Concreting.
- D. ACI 308 - Standard Practice for Curing Concrete.
- E. ACI 318 - Building Code Requirements for Reinforced Concrete.
- F. ANSI/ASTM D994 - Preformed Expansion Joint Filler for Concrete (Bituminous Type).

- G. ANSI/ASTM D1190 - Concrete Joint Sealer, Hot-Poured Elastic Type.
- H. ANSI/ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
- I. ASTM C33 - Concrete Aggregates.
- J. ASTM C94 - Ready-Mixed Concrete.
- K. ASTM C150 - Portland Cement.
- L. ASTM C260 - Air Entraining Admixtures for Concrete.
- M. ASTM C494 - Chemicals Admixtures for Concrete.

#### 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Provide data on joint devices, attachment accessories, and admixtures.

#### 1.6 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01700.
- B. Accurately record actual locations of embedded utilities and components which are concealed from view.

#### 1.7 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301.
- B. Maintain one copy of each document on site.
- C. Acquire cement and aggregate from same source for all work.
- D. Conform to ACI 305R when concreting during hot weather.
- E. Conform to ACI 306R when concreting during cold weather.

#### 1.8 FIELD SAMPLES

- A. Provide under provisions of Section 01410. Coordinate with Section 03100.

## 1.9 COORDINATION

- A. Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.

## PART 2 PRODUCTS

### 2.1 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type IA - Air Entraining, Type IIA - Air Entraining.
- B. Fine and Coarse Aggregates: ASTM C33.
- C. Water: Clean and not detrimental to concrete.
- D. Fiber Reinforcement: ASTM C1018.

### 2.2 ADMIXTURES

- A. Air Entrainment: ASTM C260.
- B. Chemical: ASTM C494 Type A - Water Reducing, Type B - Retarding, Type D - Water Reducing and Retarding, Type F - Water Reducing, High Range, Type G - Water Reducing, High Range and Retarding.

### 2.3 ACCESSORIES

- A. Non-Shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 6500 psi in 28 days.

### 2.4 JOINT DEVICES AND FILLER MATERIALS

- A. Joint Filler Type A: ASTM D1751, ASTM D994; Asphalt impregnated fiberboard or felt 1/2-inch.

### 2.5 CONCRETE MIX

- A. Mix concrete in accordance with ACI 304. Deliver concrete in accordance with ASTM C94.
- B. Provide concrete to the following mix design:

	CLASS A	CLASS B	CLASS C
Compressive Strength (28 day)	3000 psi	2000 psi	4000 psi
Fiber Reinforcement	as required	as required	as required
Water/Cement Ratio (max)	.55 by weight	.55 by weight	.50 by weight
Aggregate Size (maximum)	1 1/4"	1 1/4"	1 1/4"
Aggregate Size (minimum)	3/8 inch	3/8 inch	3/8 inch
Air Entrained	5+/-1%	5+ /1%	5 +/-1%
Slump - +/- 1/2 inch	3 inches	3 inches	3 inches

The listed proportions are general in nature; however, any changes or deviations shall be approved by the engineer. Slump requirements are subject to change pending use of water reducing agents. Fine and coarse aggregates shall be well proportioned to avoid gap graded mixes.

- C. Use accelerating admixtures in cold weather only when approved by Engineer. Use of admixtures will not relax cold weather placement requirements.
- D. Use calcium chloride only when approved by Engineer.
- E. Use set retarding admixtures during hot weather only when approved by Engineer.
- F. Add air entraining agent to normal weight concrete mix for work exposed to exterior.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify site conditions.
- B. Verify requirements for concrete cover over reinforcement.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

#### 3.2 PREPARATION

- A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.

#### 3.3 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304.
- B. Notify Engineer minimum 24 hours prior to commencement of operations.



- C. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints are not disturbed during concrete placement.
- D. Install joint devices in accordance with manufacturer's instructions.
- E. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- F. Place concrete continuously between predetermined expansion, control, and construction joints.
- G. Do not interrupt successive placement; do not permit cold joints to occur.

### 3.4 CONCRETE FINISHING

- A. Steel trowel surfaces which are scheduled to be exposed.

### 3.5 CURING AND PROTECTION

- A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

### 3.6 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed in accordance with ACI 301 and under provisions of Section 01410.
- B. Provide free access to Work and cooperate with appointed firm.
- C. Submit proposed mix design to inspection and testing firm for review prior to commencement of Work.
- D. Tests of cement and aggregates may be performed to ensure conformance with specified requirements.
- E. Three concrete test cylinders will be taken for every 100 or less cu yard of concrete placed.
- F. One additional test cylinder will be taken during cold weather concreting, cured on job site under same conditions as concrete it represents.
- G. One slump test will be taken for each set of test cylinders taken.

### 3.7 PATCHING

- A. Allow Engineer to inspect concrete surfaces immediately upon removal of forms.
- B. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Engineer upon discovery.
- C. Patch imperfections in accordance with ACI 301.

### 3.8 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by the Engineer.
- C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer for each individual area.

### 3.9 SCHEDULE - CONCRETE TYPES AND FINISHES

- A. Blocking - As shown on the drawings or use Class A or Class B.
- B. Driveways and Paving - Use Class C.

END OF SECTION

SECTION 03370  
CONCRETE CURING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Initial and final curing of horizontal and vertical concrete surfaces.

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete.

1.3 REFERENCES

- A. ACI 308 - Standard Practice for Curing Concrete.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301 and ACI 302.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect, and handle products in accordance with manufacturer's recommendation.
- B. Deliver curing materials in manufacturer's packaging including application instructions.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Membrane Curing Compound ASTM C309 Type 1, clear without fugitive dye.
- B. Water: Potable, not detrimental to concrete.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify substrate conditions.
- B. Verify that substrate surfaces are ready to be cured.

### 3.2 EXECUTION - HORIZONTAL SURFACES

- A. Cure floor surfaces in accordance with ACI 308.
- B. Membrane Curing Compound: Apply curing compound in accordance with manufacturer's instructions in two coats with second coat applied at right angles to first.

### 3.3 EXECUTION - VERTICAL SURFACES

- A. Cure surfaces in accordance with ACI 308.
- B. Membrane Curing Compound: Apply compound in accordance with manufacturer's instructions in two coats with second coat applied at right angles to first.

### 3.4 PROTECTION OF FINISHED WORK

- A. Protect finished Work under provisions of Section 01500.
- B. Do not permit traffic over unprotected floor surface.

END OF SECTION

## SECTION 334213 - PUBLIC PIPE CULVERTS

### PART 1 GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
1. Pipe culverts.
  2. Concrete box culverts.
  3. Accessories.
  4. Drainage structures.
  5. Bedding and cover materials.
  6. Pipe supports and anchoring.
  7. Pile support systems.
  8. Concrete encasement and cradles.
  9. Slope protection at pipe end.

#### 1.2 REFERENCES

- A. American Association of State Highway and Transportation Officials:
1. AASHTO M36/M36M - Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains.
  2. AASHTO M86 - Concrete, Sewer, Storm Drain, and Culvert Pipe.
  4. AASHTO M170 - Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
  6. AASHTO M196/M196M - Corrugated Aluminum Pipe for Sewers and Drains.
  7. AASHTO M198 - Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets.
  8. AASHTO M206 - Reinforced Concrete Arch Culvert Storm Drain, and Sewer Pipe.
  10. AASHTO M207 - Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe.
  12. AASHTO M252 - Corrugated Polyethylene Drainage Tubing.
  13. AASHTO M259 - Precast Concrete Box Sections for Culverts, Storm Drains, and Sewers.
  15. AASHTO M273 - Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers with Less than 2 ft of Cover Subject to Highway Loadings.
  17. AASHTO M278 - Class PS 50 Polyvinyl Chloride (PVC) Pipe.
  18. AASHTO M288 - Geotextiles.
  19. AASHTO M294 - Specification for Corrugated Polyethylene Pipe, 305- to 915-mm (12- to 36-in.) Diameter.
  20. AASHTO M304M - Standard Specification for Poly (Vinyl Chloride) (PVC) Ribbed Drain Pipe & Fittings Based on Controlled Inside Diameter.
  21. AASHTO T99 - Standard Specification for the Moisture-Density Relations of Soils Using a 2.5 kg (5.5 lb) Rammer and a 305 mm (12 in.) Drop.
  22. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.
- B. ASTM International:
1. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
  2. ASTM A760/A760M - Standard Specification for Corrugated Steel Pipe, Metallic-Coated for Sewers and Drains.

3. ASTM B745/745M - Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains.
4. ASTM C14 - Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
6. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
8. ASTM C443 - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
10. ASTM C506 - Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe.
12. ASTM C507 - Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe.
14. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)).
15. ASTM C1433 - Standard Specification for Precast Reinforced Concrete Box Section for Culverts, Storm Drains, and Sewers.
17. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>)).
18. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
19. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

### 1.3 SUBMITTALS

- A. Section 01300 - Submittals: Requirements for submittals.
- B. Product Data: Submit data on pipe, fittings and accessories.
- C. Manufacturer's Installation Instructions: Submit special procedures required to install Products specified.
- D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

### 1.4 CLOSEOUT SUBMITTALS

- A. Section 01700 – Contract Closeout: Requirements for submittals.
- B. Project Record Documents:
  1. Accurately record actual locations of pipe runs, connections, and invert elevations.
  2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

### 1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with appropriate city and state agency requirements.
- B. Maintain one copy of each document on site.

## 1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing work of this section with minimum 3 years experience.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Block individual and stockpiled pipe lengths to prevent moving.
- C. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic, without prior approval.
- D. Do not place pipe flat on ground. Cradle to prevent point stress.
- E. Store UV sensitive materials out of direct sunlight.

## 1.8 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.
- B. Coordinate the Work with termination of storm sewer, trenching, and connection to existing storm sewer.
- C. Coordinate unrecorded or variations in site conditions, and corresponding adjustments to construction requirements.

## PART 2 PRODUCTS

### 2.1 PIPE CULVERT

- A. Corrugated Steel Pipe: AASHTO M36, galvanized
  - 1. Furnish materials in accordance with city and state agency requirements.
  - 2. Tapered Ends: Same material as pipe, machine cut, for joining to pipe end.
  - 3. Coupling Bands: Galvanized steel; connected with two neoprene "O" ring gaskets and two galvanized steel bolts.
  - 4. Shape: According to Plans
- B. Reinforced Circular Concrete Pipe: ASTM C76, Class III .
  - 1. Furnish materials in accordance with appropriate city and state agency requirements.
  - 2. Bell and spigot joints: ASTM C990 with pre-formed flexible joint sealants.
  - 3. Shape: According to Plans

- C. Reinforced Non-Circular Concrete Pipe:
  - 1. Reinforced Concrete Arch Pipe: ASTM C506, Class, A-III.
  - 2. Joints: ASTM C990 with pre-formed flexible joint sealants.
  - 3. Precast Concrete Box Sections: ASTM C1433, Class, A-III.
  - 4. Joints: ASTM C990 with pre-formed flexible joint sealants.
- D. Perforated or Non-Perforated Polyethylene Culvert Pipe: AASHTO M252 or ASTM D2239, smooth interior.
  - 1. Furnish materials in accordance with appropriate city and state agency requirements.
  - 2. Joints: AASHTO M294, smooth to match pipe.
- E. Perforated or Non-Perforated HDPE Culvert Pipe: AASHTO M330 or ASTM D2736 (less than 35 inches in diameter or AASHTO M330 or ASTM D2881 (greater than 35 inches in diameter).
  - 1. Furnish materials in accordance with appropriate city and state agency requirements.
  - 2. Jointing and gasketing: ASTM F2736, ASTM F2881 and ASTM D3212.

## 2.2 DRAINAGE STRUCTURES

- A. Drainage Structures: as specified herein or shown in plans.

## 2.3 BEDDING AND COVER MATERIALS

- A. Bedding: Conforming to ASTM D2321 and ASTM D2774. Bedding and haunching types as follows:
  - 1. Class IA (open graded manufactured) and Class IB (dense graded manufactured).
  - 2. Class II Clean Coarse Grained Soils (GW, GP, SW, and SP).
  - 3. Class III Coarse Grained Soils with Fines (GM, GC, SM, and SC).
  - 4. Concrete: Lean concrete or Class A Concrete.
- B. Cover:
  - 1. Subsoil Fill: Type S1, S2, or S3 as specified in Section 31 05 13.
  - 2. Structural Fill: Type S1 as specified in Section 31 05 13.
  - 3. Granular Fill: As specified in Section 31 05 16.
  - 4. Concrete: Lean concrete or Class A Concrete.

## 2.4 PIPE SUPPORTS AND ANCHORING

- A. Metal for pipe support brackets: Structural steel galvanized thoroughly coated with bituminous paint.

## 2.5 CONCRETE ENCASEMENT AND CRADLES

- A. Concrete: Conforming to Section 03300.
- B. Concrete Reinforcement: Conform to Section 03200.

## 2.6 SHOP FINISHING - STEEL

- A. Galvanizing: ASTM A123/A123M; hot dip galvanize after fabrication.



## 2.7 ACCESSORIES

- A. Geotextile Filter Fabric: AASHTO M288 for Subsurface Drainage.
- B. Asphaltic Joint Sealer: Ram Nek or equal.
- C. Grout: As specified.

## 2.8 UNDERGROUND PIPE MARKERS

- A. Plastic Ribbon Tape: Bright colored, continuously printed, minimum 6 inches wide by 4 mil thick, manufactured for direct burial service.
- B. Trace Wire: If required, magnetic detectable conductor with plastic covering, imprinted with "**Storm Sewer Service**" in large letters.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verification of existing conditions before starting work.
- B. Verify trench cut and excavation base is ready to receive work and excavations, dimensions, and elevations are as indicated on Drawings. Notify Engineer of discrepancies.

### 3.2 PREPARATION

- A. Hand trim excavations to required elevations. Correct over excavation with fine aggregate or lean concrete.
- B. Remove large stones or other hard or organic matter capable of damaging piping or impeding consistent backfilling or compacting.

### 3.3 EXCAVATION AND BEDDING

- A. Excavate culvert trench to depth indicated on plans. Hand trim excavation for accurate placement of pipe to elevations indicated.
- B. Place bedding material at trench bottom, level fill materials in one continuous layer compacted depth of 95 percent. Cradle bottom 20 percent of diameter.
- C. Dewater excavations to maintain dry conditions to preserve final grades at bottom of excavation.
- D. Provide sheeting and shoring in accordance with OSHA regulations.
- E. Install pipe supports and anchors, if required.

### 3.4 INSTALLATION - PIPE

- A. Lift or roll pipe into position. Do not drop or drag pipe over prepared bedding.
- B. Install 2' wide strip of drainage fabric wrap around pipe at each joint, unless otherwise specified.
- C. Shore pipe to required position; retain in place until after compaction of adjacent fills. Ensure pipe remains in correct position and to required slope. Cradle bottom 20 percent of pipe diameter to avoid point load.
- D. Refer to Section 02223 for backfilling and compacting requirements. Do not displace or damage pipe when compacting.

### 3.5 PLACEMENT TOLERANCES

- A. Tolerances.
- B. Lay pipe to alignment and slope gradients noted on Drawings; with maximum variation from indicated slope of 1/8 inch in 10 feet.
- C. Maximum Variation From Intended Elevation of Culvert Invert: 1/2 inch.
- D. Maximum Offset of Pipe From Indicated Alignment: 1 inch.

### 3.6 FIELD QUALITY CONTROL

- A. Section 01700 – Contract Closeout: Field inspecting, testing, adjusting, and balancing.
- B. Request inspection prior to placing cover over pipe.
- C. Compaction Testing: In accordance with ASTM D698.
- D. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- E. Frequency of Tests: One compaction test per 250 linear feet with a minimum of one per day or one for each run of pipe.

### 3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01700 – Contract Closeout: Protecting installed construction.
- B. Protect pipe and bedding from damage or displacement until backfilling operation is complete.
  - 1. Take care not to damage or displace installed pipe and joints during construction of pipe supports, backfilling, testing, and other operations.
  - 2. Repair or replace pipe that is damaged or displaced from construction operations.

END OF SECTION

# CONSTRUCTION PLANS

## FOR

# RON COLLINS WATER RECLAMATION FACILITY SLUDGE DRYING BED NO. 6 REHABILITATION

## FOR

# RIVERBEND WATER RESOURCES DISTRICT

HOOKS, TEXAS  
JOB NO. 246038

JULY 2024

### REFERENCE LIST

Riverbend Water Resources District  
Ph: 903-831-0091  
Eli Hunt  
Director of Operations

A.E.P. Electric  
Ph: 903-223-5811  
Jason Waldon

Windstream  
Ph: 903-223-4383  
Ryan Trammell

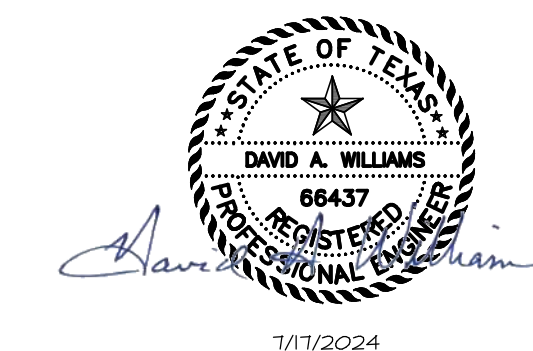
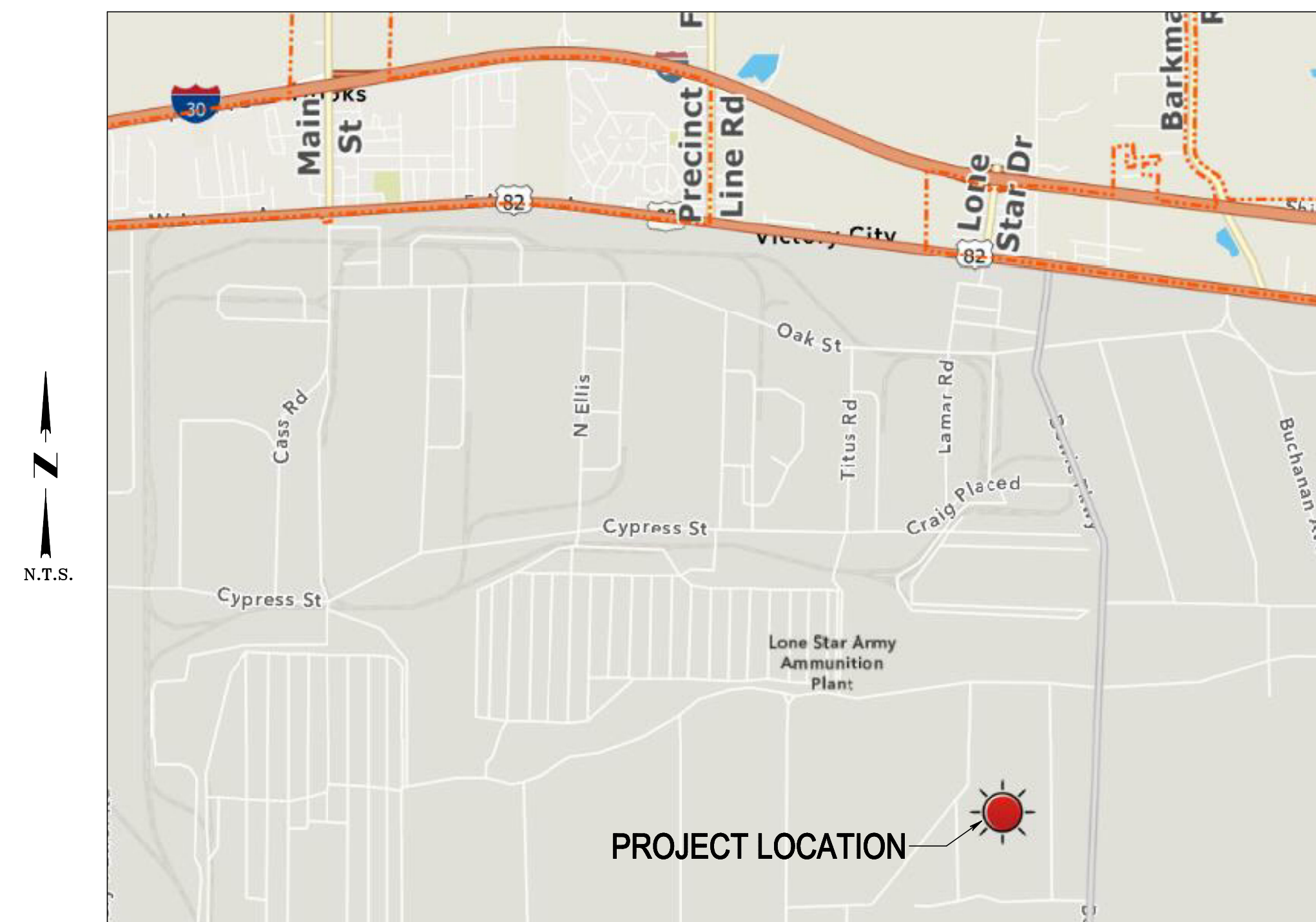
Texarkana Water Utilities  
Ph: 903-798-3800  
Kenny Icenhower

Navitas Utility  
Ph: 405-494-4518  
Kevin Percy

### INDEX OF DRAWINGS

- |     |                                |
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| C2. | EXISTING CONDITIONS            |
| C3. | SITE PLAN                      |
| C4. | GRADING & EROSION CONTROL PLAN |
| C5. | PLAN & SECTIONS                |
| C6. | TYPICAL DETAILS                |

### VICINITY MAP



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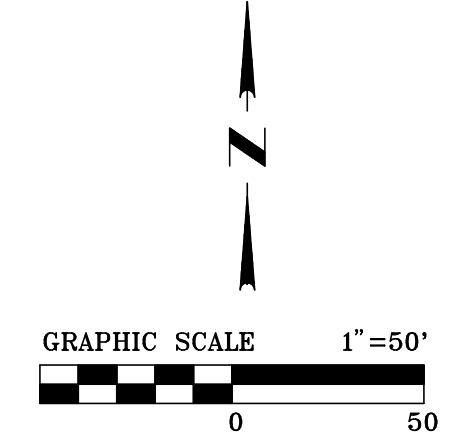
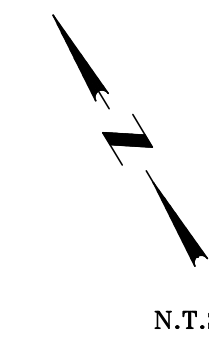
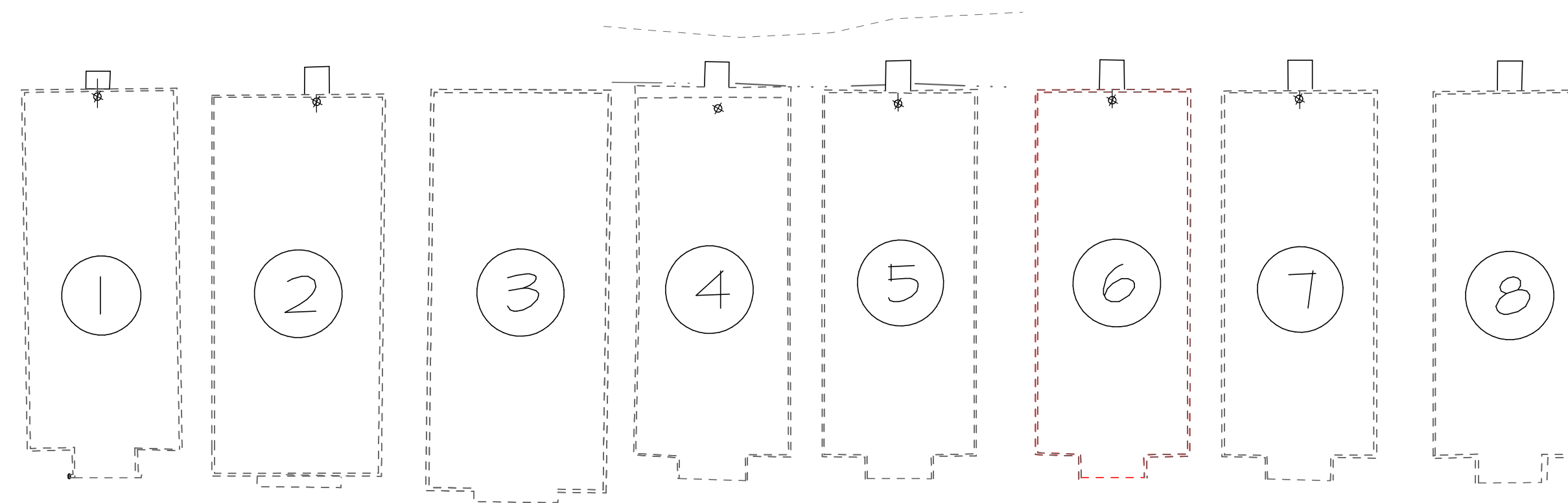
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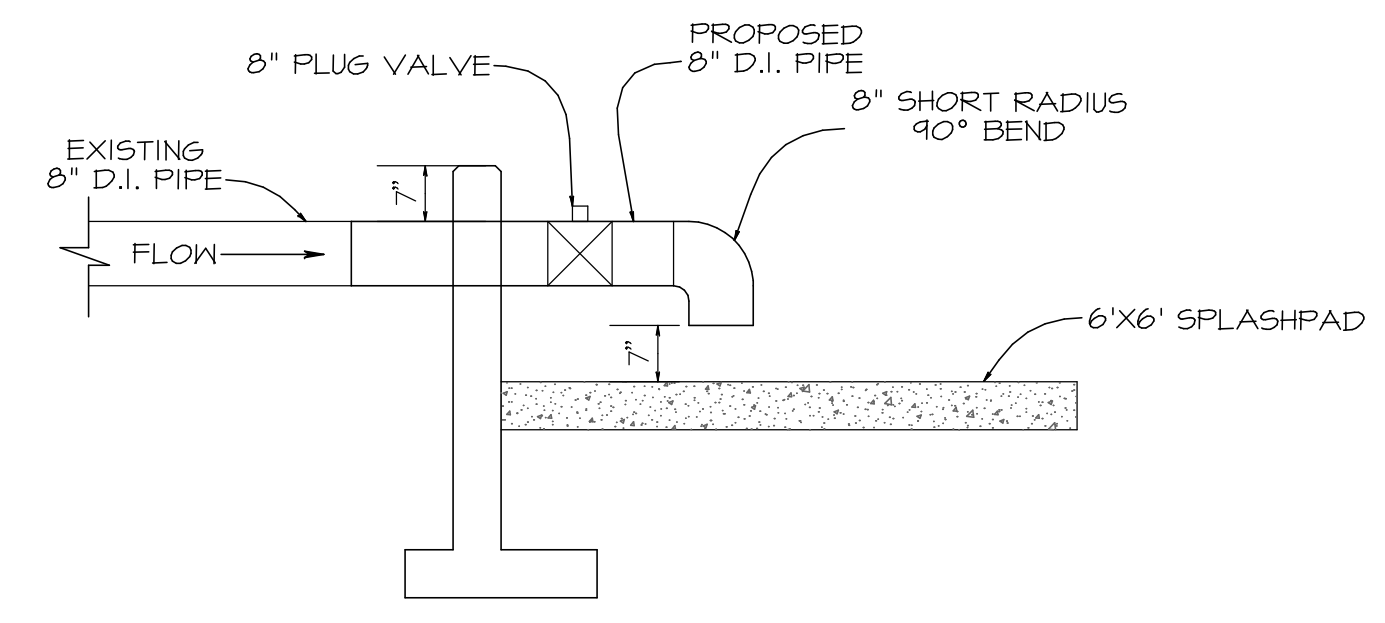
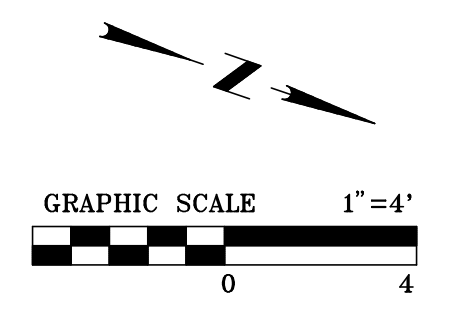
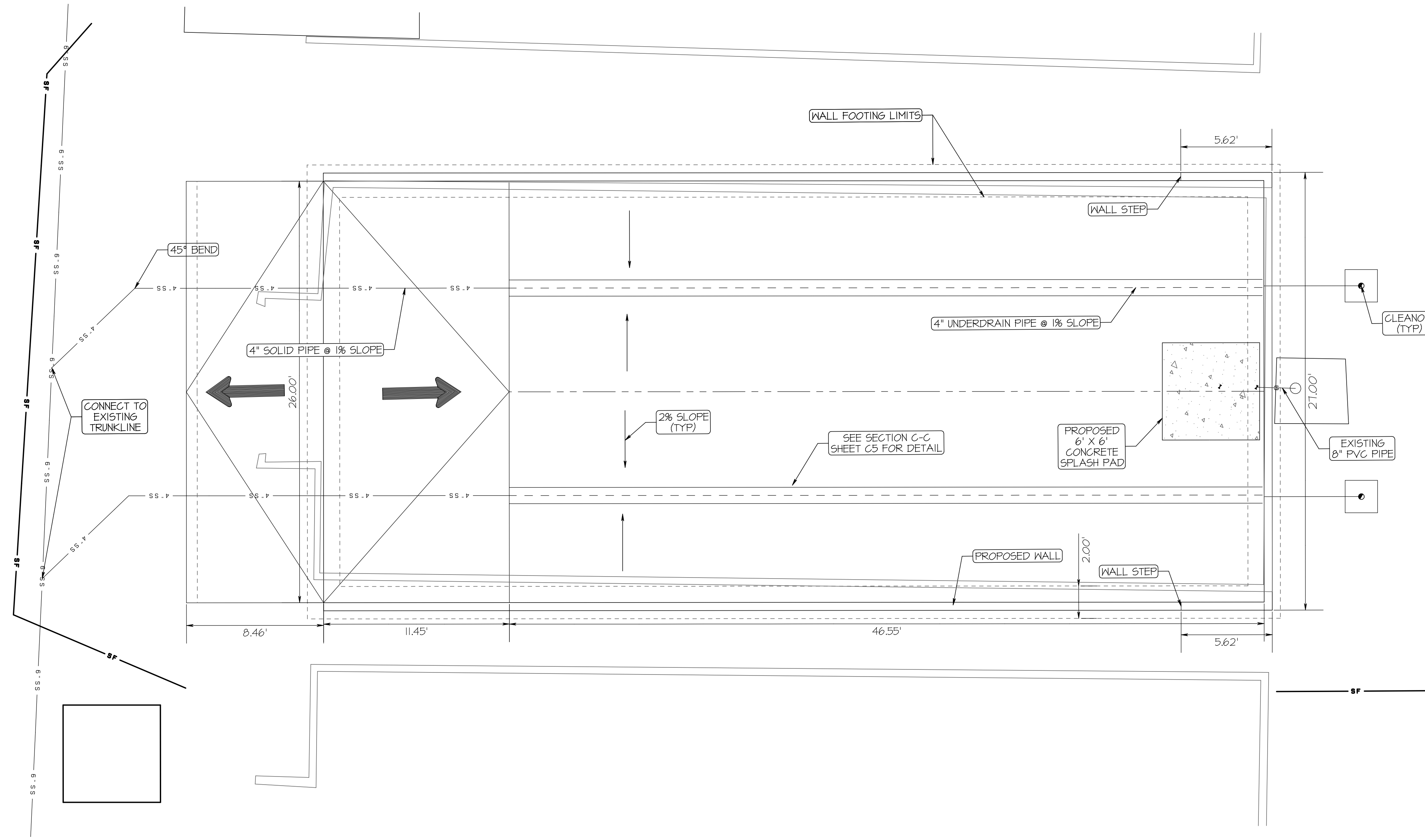
RON COLLINS TREATMENT RECLAMATION FACILITY  
 OVERALL MAP



GENERAL NOTES:  
 SLUDGE DRYING BED 6 IS PLANNED FOR REHABILITATION IN THIS PROJECT. ALL OTHER DRYING BEDS ARE TO PROTECTED AND REMAIN OPERATIONAL.

SLUDGE DRYING BED REHABILITATION COLLINS RECLAMATION FACILITY RIVERBEND WRD	LOCATION MAP			5950 SUMMERHILL ROAD TEXARKANA, TEXAS P 903.636.6633 www.mtgengineers.com TBPE FIRM NO. F-394 AR COA NO. 125 © MTG 2024
Drawing Date 7/17/2024	Project Number 246038	Sheet Number C1	Scale AS SHOWN Drawn By A.M.G. Checked By D.A.V.L. File No.	No. Revision/Description Date

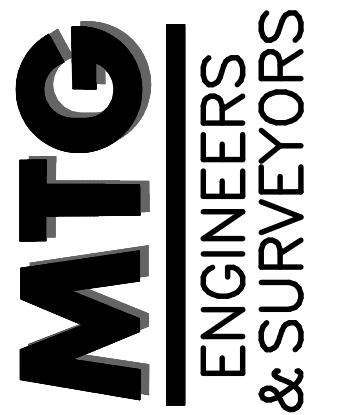





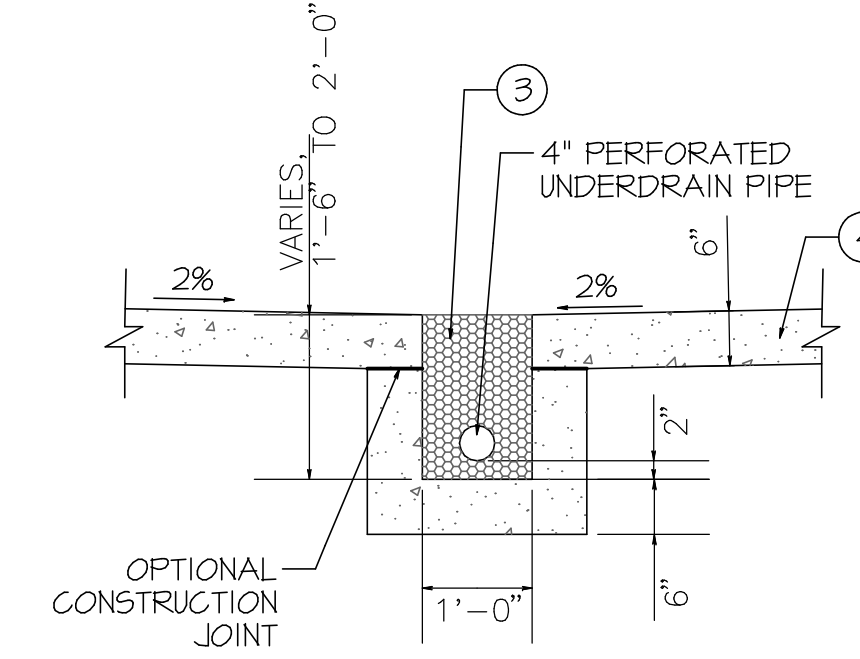
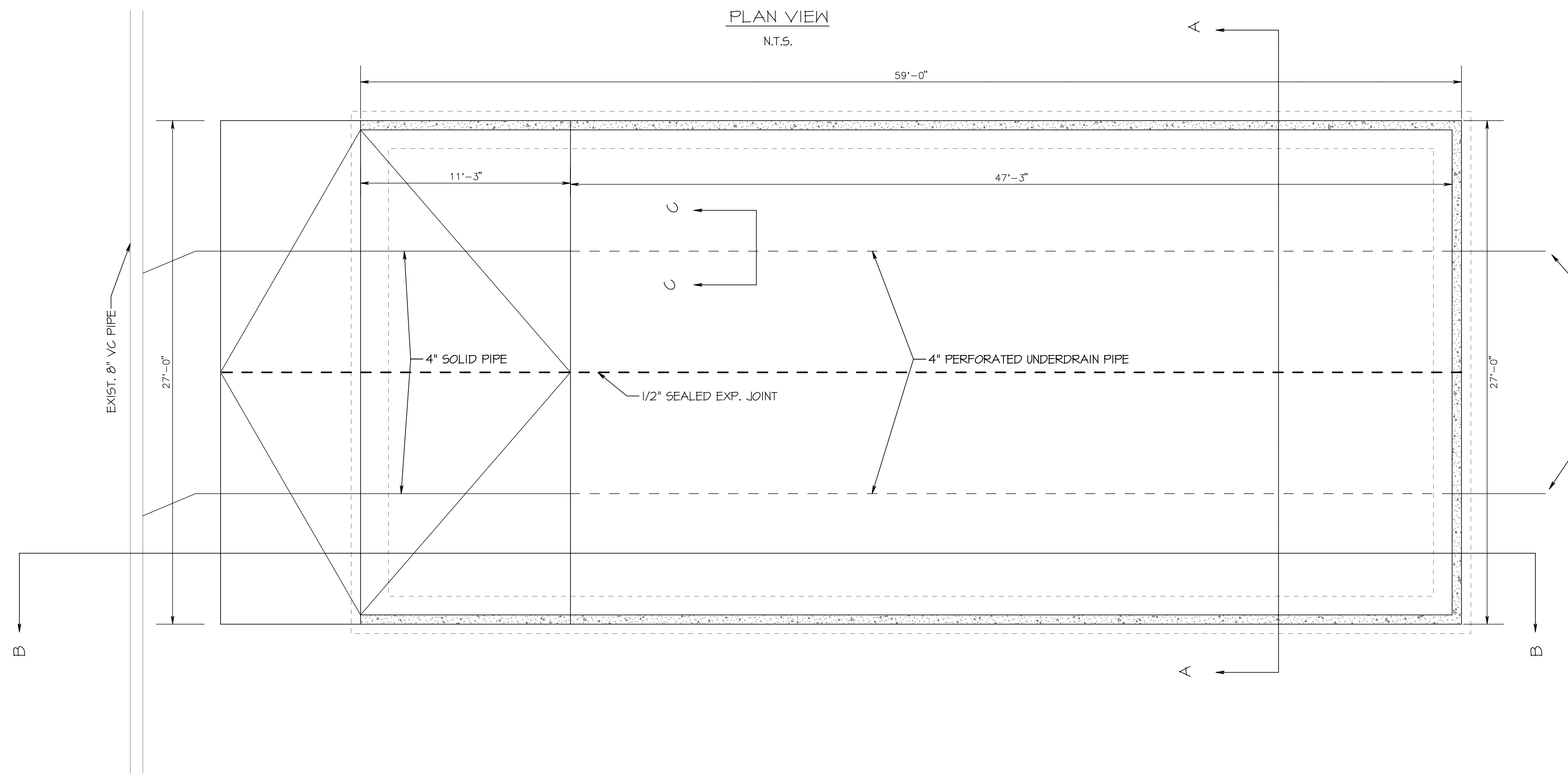
SLUDGE DISCHARGE PIPE DETAIL  
N.T.S.

GENERAL SITE NOTES

1. CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING AND PLANNED UTILITIES BEFORE CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN) WITHIN SCOPE OF CONSTRUCTION. IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT HIS OWN EXPENSE.
2. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY OBSTRUCTIONS SUCH AS EXISTING STRUCTURES, FENCES, DEBRIS, OR TREES ON SITE, AND SHALL COORDINATE ALL REMOVAL WITH THE GENERAL CONTRACTOR. NO TREES OR OTHER ITEMS SHALL BE REMOVED WITHOUT THE APPROVAL OF THE ARCHITECT, ENGINEER, AND OWNER.
3. THE CONTRACTOR SHALL PROTECT ALL EXISTING POWER POLES, SIGNS, MANHOLES, TELEPHONE RISERS, WATER VALVES, ETC. DURING ALL CONSTRUCTION PHASES.

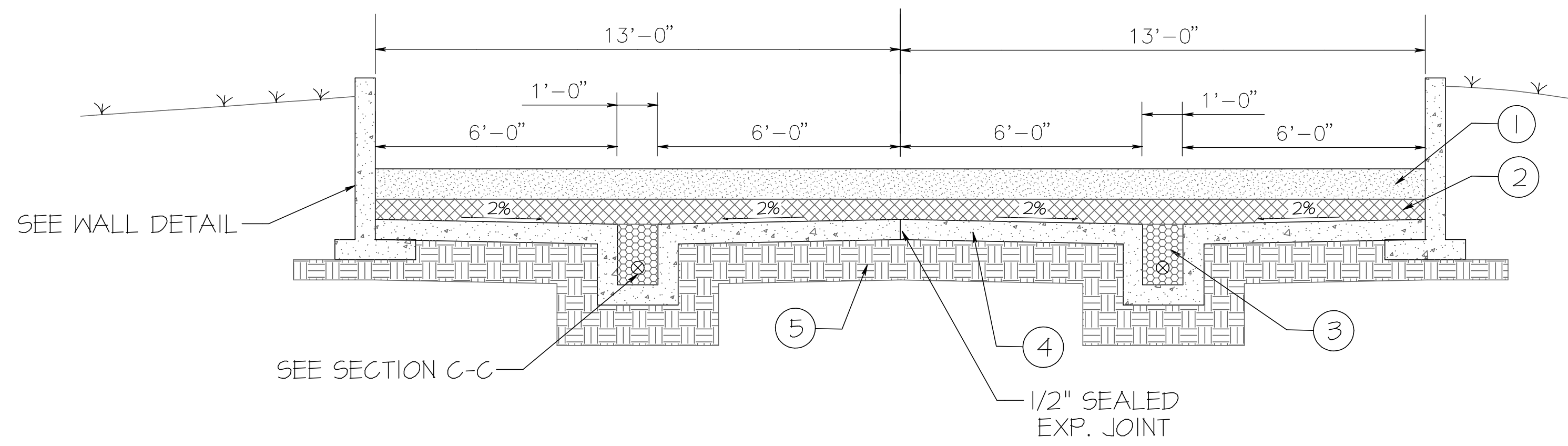
	
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SITE PLAN	
SLUDGE DRYING BED REHABILITATION COLLINS RECLAMATION FACILITY RIVERBEND WRD	
Drawing Date: 7/17/2024 Project Number: 246038 Sheet Number: 03	Revision/Description: No.:





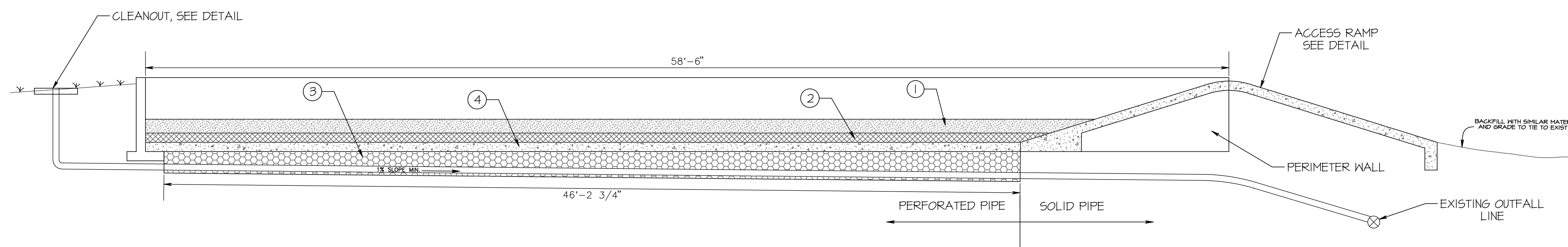
NOTES:  
 TRENCH DEPTH VARIES FROM 1'-6" AT THE UPSTREAM END OF PIPE TO 2'-0" AT THE DOWNSTREAM END OF THE PERFORATED PIPE. SOLID OUTFALL PIPE SHALL BE PLACED AT 1% MIN. GRADE  
 THE 4" PERFORATED PIPE AND FITTINGS SHALL MEET AASHTO M252 REQUIREMENTS.

SECTION C-C  
N.T.S.

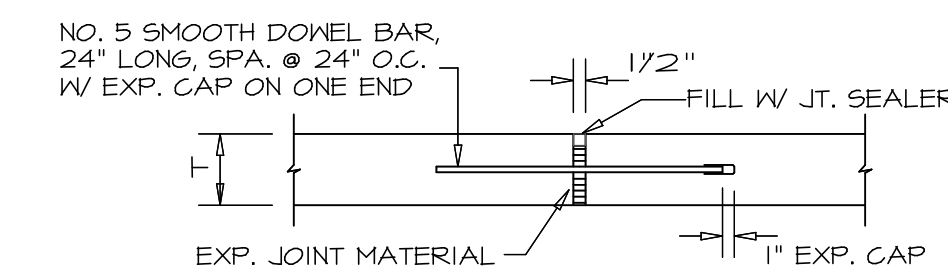


- ① 9" SAND LAYER PLACED IN MINIMUM OF 2 LIFTS. SAND SHALL BE ASTM C-33 FINE AGGREGATE BY GUNN LAKE SAND (GUNNLAKESAND@GMAIL.COM) OR APPROVED EQUAL.
- ② 6" PEA GRAVEL LAYER. PEA GRAVEL SHALL BE CLEAN WITH PARTICLE SIZE MEETING THE ASTM C33 #89 GRADATION.
- ③ COARSE CLEAN GRAVEL WITH PARTICLE SIZE MEETING THE ASTM C-33 #7 GRADATION.
- ④ 6" P.C.C. SLAB REINFORCED WITH #4 REBAR AT 12" C-C SPACING EACH WAY. CONCRETE SHALL BE 4,000 PSI AT 28 DAYS.
- ⑤ MINIMUM OF 12" OF SELECT FILL COMPACTED TO 95% DENSITY (STANDARD PROCTOR ASTM D698) AT OPTIMUM MOISTURE (+/-1%)

SECTION A-A  
N.T.S.



SECTION B-B  
N.T.S.



SLAB EXPANSION JOINT

No.	Revision/Description	Date

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 ENGINEERS  
 & SURVEYORS

STATE OF TEXAS  
 DWG. A. WILLIAMS  
 66437  
 REGISTERED  
 PROFESSIONAL ENGINEER

*David Williams*  
 7/17/2024

Scale	A5 SHOWN
Drawn By	A.M.G.
Checked By	D.A.V.
File No.	

PLAN & SECTIONS

SLUDGE DRYING  
 BED REHABILITATION  
 COLLINS RECLAMATION  
 FACILITY  
 RIVERBEND WRD

Drawing Date	7/17/2024
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Sheet Number	C5



