

# **Request for Bids**

## **Cole Creek Siphon Project**



**July 2025** 



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#### **NOTICE TO BIDDERS**

### Sabine River Authority of Texas Cole Creek Siphon Project

#### **General Notice**

**Sabine River Authority of Texas** (Owner) is requesting **ONLINE** Bids for the construction of the following Project:

# Cole Creek Siphon Project GFT Project No. 080078

Sealed bids for the construction of the Project will ONLY be received virtually at www.CivcastUSA.com, until October 6, 2025, at 2:00 PM local time. At that time the Bids received will be publicly opened and read at the Sabine River Authority's General Office, located at 12777 North Highway 87, Orange, TX. 77632.

Bids must be submitted and received no later than the opening date and time specified above. Any Bid received later than the specified time will not be considered and will be returned unopened. The SRA is not responsible for ensuring the delivery and upload of Bids to CivcastUSA.com.

A mandatory Pre-Bid Conference between the SRA, prospective bidders, suppliers, etc. will be held on September 23, 2025, at 2:00 PM local time at the SRA General Office, 12777 North Highway 87, Orange, TX. 77632, to make certain that the scope of work is fully understood. All interested parties are requested to attend.

The Sabine River Authority reserves the right to adopt the most advantageous interpretation of the bids submitted in the case of ambiguity or lack of clearness in stating proposal prices, to reject any or all bids, and/or waive any formalities.

Contract documents may be obtained by downloading (1) from www.sratx.org under doing business "bid opportunities" or (2) from CIVCAST USA Website. Hard copies of plans will not be made available for purchase.

Questions regarding contract documents may be sent via CIVCAST Website or emailed to <u>purchasing@sratx.org</u> no later than September 26, 2025. Responses to the questions will be distributed as an addendum to the bid package by October 1, 2025. The anticipated commencement of services is expected on October 20, 2025.

First Publication: September 11, 2025 Second Publication: September 18, 2025



**INSTRUCTION to BIDDERS** 

## INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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#### ARTICLE 1—DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
  - A. *Issuing Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders (refer to the Notice to Bidders).

#### ARTICLE 2—BIDDING DOCUMENTS

- 2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.
- 2.03 Owner has established a Bidding Documents Website (CIVCAST USA) as indicated in the Notice to Bidders. Owner recommends that Bidder register as a plan holder with the Issuing Office at such website, and obtain a complete set of the Bidding Documents from such website. Bidders may rely that sets of Bidding Documents obtained from the Bidding Documents Website are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.
- 2.04 Bidder may register as a plan holder and obtain complete sets of Bidding Documents, in the number and format stated in the notice to bid, from the Issuing Office. Bidders may rely that sets of Bidding Documents obtained from the Issuing Office are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.
- 2.05 Plan rooms (including construction information subscription services, and electronic and virtual plan rooms) may distribute the Bidding Documents, or make them available for examination. Those prospective bidders that obtain an electronic (digital) copy of the Bidding Documents from a plan room are encouraged to register as plan holders from the Bidding Documents Website or Issuing Office. Owner is not responsible for omissions in Bidding Documents or other documents obtained from plan rooms, or for a Bidder's failure to obtain Addenda from a plan room.

#### 2.06 Electronic Documents

- A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.
  - Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf)
    that is readable by Adobe Acrobat Reader. It is the intent of the Engineer and Owner
    that such Electronic Documents are to be exactly representative of the paper copies of

the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Engineer cannot and do not guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies.

B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.06.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.

#### **ARTICLE 3—QUALIFICATIONS OF BIDDERS**

- 3.01 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the Work:
  - A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.
  - B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
  - C. Bidder's state or other contractor license number, if applicable.
  - D. Subcontractor and Supplier qualification information.
  - E. Other required information regarding qualifications.
- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

#### **ARTICLE 4—PRE-BID CONFERENCE**

A mandatory pre-bid conference will be held at the time and location indicated in the notice to bid. Representatives of Owner and Engineer will be present to discuss the Project. Proposals will not be accepted from Bidders who do not attend the conference. It is each Bidder's responsibility to sign in at the pre-bid conference to verify its participation. Bidders must sign in using the name of the organization that will be submitting a Bid. A list of qualified Bidders that attended the pre-bid conference and are eligible to submit a Bid for this Project, will be made available upon request.

4.01 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions

at the pre-bid conference. Information presented, and statements made at the pre-bid conference will not be binding or legally effective unless incorporated in an Addendum.

# ARTICLE 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

#### 5.01 Site and Other Areas

A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

#### 5.02 Existing Site Conditions

- A. Subsurface and Physical Conditions; Hazardous Environmental Conditions
  - The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:
    - a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.
    - b. Those drawings known to Owner of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data.
    - c. Reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
    - d. Technical Data contained in such reports and drawings.
  - Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
  - If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.
  - 4. Geotechnical Baseline Report/Geotechnical Data Report: The Bidding Documents contain a Geotechnical Baseline Report (GBR) and Geotechnical Data Report (GDR).
    - a. As set forth in the Supplementary Conditions, the GBR describes certain select subsurface conditions that are anticipated to be encountered by Contractor during construction in specified locations ("Baseline Conditions"). The GBR is a Contract Document.
    - b. The Baseline Conditions in the GBR are intended to reduce uncertainty and the degree of contingency in submitted Bids. However, Bidders cannot rely solely on

- the Baseline Conditions. Bids should be based on a comprehensive approach that includes an independent review and analysis of the GBR, all other Contract Documents, Technical Data, other available information, and observable surface conditions. Not all potential subsurface conditions are baselined.
- c. Nothing in the GBR is intended to relieve Bidders of the responsibility to make their own determinations regarding construction costs, bidding strategies, and Bid prices, nor of the responsibility to select and be responsible for the means, methods, techniques, sequences, and procedures of construction, and for safety precautions and programs incident thereto.
- d. As set forth in the Supplementary Conditions, the GDR is a Contract Document containing data prepared by or for the Owner in support of the GBR.
- B. Underground Facilities: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05 of the General Conditions, and not in the drawings referred to in Paragraph 5.02.A of these Instructions to Bidders. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

#### 5.03 Other Site-related Documents

A. In addition to the documents regarding existing Site conditions referred to in Paragraph 5.02.A, the following other documents relating to conditions at or adjacent to the Site are known to Owner and made available to Bidders for reference:

#### 1. None

Owner will make copies of these other Site-related documents available to any Bidder on request.

- B. Owner has not verified the contents of these other Site-related documents, and Bidder may not rely on the accuracy of any data or information in such documents. Bidder is responsible for any interpretation or conclusion Bidder draws from the other Site-related documents.
- C. The other Site-related documents are not part of the Contract Documents.
- D. Bidders are encouraged to review the other Site-related documents, but Bidders will not be held accountable for any data or information in such documents. The requirement to review and take responsibility for documentary Site information is limited to information in (1) the Contract Documents and (2) the Technical Data.
- E. No other Site-related documents are available.

#### 5.04 Site Visit and Testing by Bidders

- A. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.
- B. Bidders visiting the Site are required to arrange their own transportation to the Site.
- C. All access to the Site other than during a regularly scheduled Site visit must be coordinated through the following Owner or Engineer contact for visiting the Site:

Owner: David Williams Gulf Coast Division Manager dwilliams@sratx.org 409-746-2111

Engineer: Yvonne Rivera, P.E. Senior Project Manager yrivera@gftinc.com 713-527-6475

Bidder must conduct the required Site visit during normal working hours.

- D. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- E. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site. Bidder is responsible for establishing access needed to reach specific selected test sites.
- F. Bidder must comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- G. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

#### 5.05 Owner's Safety Program

A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.

#### 5.06 Other Work at the Site

A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

#### ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

- 6.01 Express Representations and Certifications in Bid Form, Agreement
  - A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.
  - B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

#### ARTICLE 7—INTERPRETATIONS AND ADDENDA

- 7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Engineer in writing. All questions shall be received no later than 10 days prior to the bid opening date. Contact information and submittal procedures for such questions are as follows:
  - A. Questions shall be submitted via CIVCAST USA Website.
- 7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.
- 7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

#### **ARTICLE 8—BID SECURITY**

- 8.01 A Bid must be accompanied by Bid security made payable to Owner. Bidder must meet the following bid security requirements as set forth in Texas Water Code Chapter 49 Subchapter I. If the Bid proposal exceeds \$50,000 up to \$250,000, the Bidder must submit a bid security in the amount of at least two (2%) percent of the amount of the maximum total bid in the form of a certified or cashier's check on a responsible bank in the state. If the Bid exceeds \$250,000, the Bidder must submit a bid bond in the amount of five (5%) percent of the amount of the maximum total bid in the form of an approved Bidder's Bond underwritten by a surety authorized to conduct business in the State of Texas. The surety must also meet the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder

- will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.
- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released after the Contract Award.

#### **ARTICLE 9—CONTRACT TIMES**

- 9.01 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.
- 9.02 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

#### ARTICLE 10—SUBSTITUTE AND "OR EQUAL" ITEMS

- 10.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 10.02 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, and those "or-equal" or substitute or materials and equipment subsequently approved by Engineer prior to the submittal of Bids and identified by Addendum. No item of material or equipment will be considered by Engineer as an "or-equal" or substitute unless written request for approval has been submitted by Bidder and has been received by Engineer prior to the pre-bid meeting. Each such request must comply with the requirements of Paragraphs 7.05 and 7.06 of the General Conditions, and the review of the request will be governed by the principles in those paragraphs. The burden of proof of the merit of the proposed item is upon Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any such proposed item, such approval will be set forth in an Addendum issued to all registered Bidders. Bidders cannot rely upon approvals made in any other manner.
- 10.03 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as

supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

#### ARTICLE 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 11.01 A Bidder must be prepared to retain specific Subcontractors and Suppliers for the performance of the Work if required to do so by the Bidding Documents or in the Specifications. If a prospective Bidder objects to retaining any such Subcontractor or Supplier and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 11.02 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed for the following portions of the Work with the qualifications statement or within 5 days of Owner's request.
- 11.03 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 11.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.

#### **ARTICLE 12—PREPARATION OF BID**

- 12.01 Bidders must complete the electronic bid proposal and make any uploads including a signed pdf bid bond to https://www.civcastusa.com/ (Civcast) by the time and date in the notice to bidders. Please note that in order to complete a bid, Civcast has certain requirements including that the bidder must download all of the project documents prior to bid submission, so do not wait until the last minute to meet the strict time deadline. Bids can be submitted at any time prior to the deadline and revised or edited as necessary up until the time of bid. The Bid Form is included with the Bidding Documents.
- 12.02 Bidders shall submit their bids electronically as stated, and follow all instructions on the online bidding website.
- 12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.
- 12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.

- 12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.
- 12.06 A Bid by an individual must show the Bidder's name and official address.
- 12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.
- 12.08 All names must be printed in spaces indicated.
- 12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the appropriate online Bid.
- 12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.
- 12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

#### **ARTICLE 13—BASIS OF BID**

#### 13.01 Unit Price

- A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity", which Owner or its representative has set forth in the Bid Form, for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. In case of discrepancy between the written amounts and figures, the written amounts shall govern.

#### 13.02 Allowances

A. For cash allowances the Bid price must include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

#### **ARTICLE 14—SUBMITTAL OF BID**

- 14.01 The Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form.
- 14.02 A Bid must be received no later than the date and time prescribed in the Advertisement or notice to bid and must be electronically submitted to CivcastUSA.com and must be accompanied by the Bid security and other required documents.
- 14.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

#### ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID

- 15.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 15.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, the Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, the Bidder will be disqualified from further bidding on the Work.

#### **ARTICLE 16—OPENING OF BIDS**

16.01 Bids will be opened at the time and place indicated in the advertisement or notice to bid and, unless obviously non-responsive, read aloud <u>publicly</u>. A summary of the amount of the base Bids

and major alternates, if any, will be made available to Bidders after the opening of Bids. Bidders and other interested parties may be present at the public bid opening.

#### ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

17.01 All Bids will remain subject to acceptance for a period of 60 days as shown in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

#### ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.
- 18.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.

#### 18.05 Evaluation of Bids

- A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award. The Owner may consider the following in determining the best value:
- In the comparison of Bids, The amount bid;
- Reputation of the bidder and the bidder's goods or services;
- Quality of the bidder's goods or services;
- Extent to which the goods or services meet the needs of SRA;
- Bidder's past relationship with SRA;
- Total long-term cost to SRA to acquire the bidder's goods or services;
- Bidder's past experience in performing similar work;
- Bidder's financial record indicating the stability of the bidder;
- Bidder's history of successfully completing projects; and
- Any relevant criteria specifically listed in the request for bids or proposals.
- B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
- 18.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for

- those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 18.07 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

#### **ARTICLE 19—BONDS AND INSURANCE**

- 19.01 Article 6 of the General Conditions and the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds, other required bonds (if any), and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.
- 19.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

#### **ARTICLE 20—SIGNING OF AGREEMENT**

20.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within 10 days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

#### **ARTICLE 21—SALES AND USE TAXES**

21.01 Owner is exempt by law from **State of Texas** sales and Use Tax Laws, and Federal Excise Tax on materials and equipment to be incorporated in the Work. Said taxes must not be included in the Bid. Refer to Paragraph SC-7.10 of the Supplementary Conditions for additional information.

#### **ARTICLE 22—CONFIDENTIALITY OF DOCUMENTS**

The SRA is subject to the Texas Public Information Act (PIA). Any information submitted to the SRA by the Bidder shall be considered non-confidential and available to the public, except as follows:

In the event a Bidder considers a specific portion of their Bid to be confidential and subject to an exception to disclosure under the PIA, such portion must be clearly identified and marked "CONFIDENTIAL". Do not mark an entire proposal confidential, as this is not in conformance with the PIA and is not acceptable. Only the specific portion or portions of the Bid that the Bidder considers to be confidential pursuant to the PIA should be marked. IF AN ENTIRE BID IS MARKED CONFIDENTIAL, THE SRA WILL NOT TREAT ANY PORTION OF THE BID AS CONFIDENTIAL AND THE BID MAY BE REJECTED AS NON-CONFORMING. The SRA will honor notations of confidentiality in accordance with this paragraph and decline to release such information initially; however, final determination of whether a particular portion of a Bid may in fact be

withheld pursuant to the PIA will be made by the Texas Attorney General or a court of competent jurisdiction.

In the event a public information request is received for a portion of a Bid that has been marked confidential, the SRA will ask the affected Bidder if the information may be released. If the release is agreed to, the SRA shall release the information.

If the release is denied, the matter shall be referred to the Texas Attorney General's Office in accordance with the process set forth in the PIA. The Bidder shall be fully and solely responsible for submitting arguments and evidence within the statutory timeframes to the Texas Attorney General's Office regarding its claim of confidentiality. The SRA will NOT submit arguments on behalf of the Bidder.

The Texas Attorney General's Office shall rule on the matter. In the event that it is determined by opinion of the Texas Attorney General or court of competent jurisdiction that such information may not be withheld, then such information will be made available to the requestor. If it is determined that the information may be withheld, SRA will withhold the information from the requestor.

Pricing information contained in bids or contracts is not considered confidential under the PIA and will be disclosed without making a request to the Texas Attorney General.

#### **ARTICLE 23—CONFLICT OF INTEREST**

Pursuant to Chapter 176 of the Local Government Code, any person or agent of a person who contracts or seeks to contract for the sale or purchase of property, goods, or services with a local government entity (i.e. Sabine River Authority) must disclose in the Conflicts of Interest Questionnaire Form (CIQ) the person's affiliation or business relationship that might cause a conflict of interest with the local government entity. By law, the CIQ must be filed with the SRA Records Management Officer no later than seven (7) days after the date the person begins contract discussions or negotiations with the SRA, or submits an application or response to a Request for Bids, correspondence, or another writing related to a potential agreement with SRA. Updated Questionnaires must be filed in conformance with Chapter 176. A copy of the CIQ is included. If you have any questions about compliance, please consult your own legal counsel. Compliance is the individual responsibility of each person or agent of a person who is subject to the filing requirement. An offense under Chapter 176 carries a penalty up to a Class A misdemeanor.

#### **ARTICLE 24—EQUAL OPPURTINITY**

Sabine River Authority provides for equal opportunity for all qualified parties including Historically Underutilized Business (HUBs). If your organization or any associated sub-contractor on the project area a certified HUB with the State of Texas, please submit documentation of the certified organization, including description of the work, percentage of the contract expected to be completed by the HB, and the certification number of the HUB.



BID PROPOSAL

## **BID FORM FOR CONSTRUCTION CONTRACT**

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

#### ARTICLE 1—OWNER AND BIDDER

- 1.01 This Bid is submitted to: Sabine River Authority of Texas Gulf Coast Division
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents. All prices shall be stated in both words and figures; however, do not extend the unit price. If the unit price is extended, the extension shall be ignored in tabulating the bids(\*). In case of discrepancy between the written amounts and the figures, the written amounts shall govern.

#### **ARTICLE 2—ATTACHMENTS TO THIS BID**

- 2.01 The following documents are submitted with and made a condition of this Bid:
  - A. Required Bid security;
  - B. Vendor Certification to State Law;
  - C. Conflict of Interest;
  - D. Required Bidder Qualification Statement with supporting data;
  - E. Form W-9;
  - F. Bonding Company Information
  - G. Bid Opening Sheet
  - H. Non-Collusion Affidavit(s)
  - I. Additional Items as stipulated in the request

#### ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

## 3.01 Unit Price Bids

A. Bidder will perform the following Work at the indicated unit prices:

Section Title	Item No.	Description	Unit	Qty.	Unit Price
Base Bid Include subm		Mobilization/demobilization: Including transportation, bonding, insurance, submittals, NOT TO EXCEED 10% of project total, in accordance with the plans and specifications	L.S.	1	
Base Bid	2	Clearing and Grubbing	AC.	0.5	
Base Bid	3	Excavation: Excavate, stockpile, and manage earthen materials for reuse in finished construction	C.Y.	3000	
Base Bid	4	Haul off and disposal of excess excavated materials	C.Y.	600	
Base Bid	5	Groundwater management	L.S.	1	
Base Bid	6	Temporary cofferdams	L.S.	1	
Base Bid	7	Concrete headwalls/wingwalls: Form, cast, and finish per plans and specifications	C.Y.	160	
Base Bid	8	Galvanized grating	S.F.	220	
Base Bid	9	Siphon pipes: Provide and install 60" diameter steel pipe for siphons per plans and specifications	L.F.	340	
Base Bid	10	Siphon pipe stubouts: Provide and install 60" butt welded caps on the two (2) pipe stubouts for the future siphon pipe per plans and specifications	EA.	2	
Base Bid	11	Bentonite core backfill: Provide and install bentonite clay backfill around pipes through levee per plans and specifications	TON	40	

Base Bid	12	Backfill and embankment construction: Place and compact select materials for backfill and embankment per plans and specifications	C.Y.	300
Base Bid	13	Cement stabilized sand:  Bed and backfill siphon pipes below drainage ditch in cement stabilized sand per plans and specifications	TON	300
Base Bid	14	Storm Water Pollution Prevention Plan: Establish and maintain appropriate SWPPP measures per plans and specifications	L.S.	1
Base Bid	15	Hydromulch seeding: Reseed disturbed area to reestablish vegetative ground cover per plans and specifications	S.Y.	1500
Base Bid	16	Riprap erosion protection: Install riprap at headwall structures and along levee slopes per plans and specifications	S.Y.	300
Base Bid	17	Access road: Provide and place crushed limestone (1-½" size) and/or limestone base to improve designated project access rout and facilitate all-weather access to construction site, 4" minimum finished thickness	S.Y.	2800

#### B. Bidder acknowledges that:

- 1. each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and
- estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

#### **ARTICLE 4—TIME OF COMPLETION**

- 4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 4.02 Bidder agrees that the Work will be substantially complete as indicated in the Agreement, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions.

- 4.03 Bidder agrees that the Work will be substantially complete within the time stipulated in the Agreement and as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions.
- 4.04 Bidder accepts the provisions of the Agreement as to liquidated damages.

# ARTICLE 5—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

- 5.01 Bid Acceptance Period
  - A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.
- 5.02 Instructions to Bidders
  - A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.
- 5.03 Receipt of Addenda
  - A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date	Received

#### ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

- 6.01 Bidder's Representations
  - A. In submitting this Bid, Bidder represents the following:
    - 1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
    - 2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
    - 3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
    - 4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
    - 5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

- 6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
- 7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- 8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- 9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- 10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- 11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

#### 6.02 Bidder's Certifications

#### A. The Bidder certifies the following:

- 1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
- Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
- 3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
- 4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
  - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
  - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

c.	Collusive practice means a scheme or arrangement between two or more Bidders,
	with or without the knowledge of Owner, a purpose of which is to establish bid prices
	at artificial, non-competitive levels.

d.	Coercive practice means harming or threatening to harm, directly or indirectly,
	persons or their property to influence their participation in the bidding process or
	affect the execution of the Contract.

BIDDER hereby submits thi Bidder:	
	(typed or printed name of organization)
Ву:	(individual's signature)
Name:	(marviada 3 signature)
	(typed or printed)
Title:	(typed or printed)
Date:	(types of princes)
	(typed or printed)
If Bidder is a corporation, a រុ	partnership, or a joint venture, attach evidence of authority to sign.
Attest:	
	(individual's signature)
Name:	(typed or printed)
Title:	(0), p. 2
	(typed or printed)
Date:	(typed or printed)
Address for giving notices	
Bidder's Contact:	
Name:	(typed or printed)
Title:	
	(typed or printed)
Phone:	
Email:	
Address:	
<u> </u>	
Bidder's Contractor Licens	se No.: (if applicable)

## **BID BOND (PENAL SUM FORM)**

Bidder	Surety				
Name:	Name:				
Address (principal place of business):	Address (principal place of business):				
Owner	Bid				
Name: Sabine River Authority of Texas	Project (name and location):				
Address (principal place of business):	Cole Creek Siphon Project				
12777 Hwy 87 N	Conc Green of priority reject				
Orange, Texas 77632					
,					
	Bid Due Date: October 6, 2025				
Bond					
Penal Sum:					
Date of Bond:					
Surety and Bidder, intending to be legally bound h	ereby, subject to the terms set forth in this Bid Bond,				
do each cause this Bid Bond to be duly executed b					
Bidder	Surety				
(Full formal name of Bidder)	(Full formal name of Surety) (corporate seal)				
By:	By:				
(Signature)	(Signature) (Attach Power of Attorney)				
Name: (Printed or typed)	Name:				
Title:	Title:				
Attest:	Attest:				
(Signature)	(Signature)				
Name:	Name:				
(Printed or typed) Title:	(Printed or typed) Title:				
	red notice. (2) Provide execution by any additional parties, such as				
joint venturers, if necessary.	eu notice. (2) Frovide execution by any dualitorial parties, such as				

- 1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.
- 2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
- 3. This obligation will be null and void if:
  - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
  - 3.2. All Bids are rejected by Owner, or
  - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
- 4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
- 5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
- 6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.
- 7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
- 8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.
- 9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
- 10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.
- 11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

## **BID OPENING**

In the space provided below, enter your total Base Bid amount for this project. Only this figure will be read publicly at the public bid opening.

It is understood and agreed by the bidder in signing the proposal that the total bid amount entered below is not binding on either the bidder or the Owner. It is further agreed that the official total bid amount for this proposal will be determined by multiplying the unit prices for each unit price pay item by the respective estimated quantities shown in this proposal, and then totaling all of the extended amounts plus the amounts bid for all lump sum items.

Project:	Cole Creek Siphon Project			
Owner:	Sabine River Authority of Texas Orange County, Texas			
		\$		
			Total Base Bid Amount	
		-	Name of Bidder	

### **ARTICLE 1—GENERAL INFORMATION**

ness:	Busi	the	for	ion	nat	orr	inf	ontact	ride	Prov	1.01
n	Busi	tne	TOT	ıon	าสเ	orr	ım	ontact	iae	Prov	T.U.L

Legal Na	ame of Business:								
Corpora	Corporate Office								
Name:				Phone number:					
Title:				Email address:					
Busines	s address of corpo	rate office:							
Local Of	Local Office								
Name:				Phone number:					
Title:				Email address:					
Busines	s address of local o	office:							

#### **ARTICLE 2—DIVERSE BUSINESS CERTIFICATIONS**

2.01 Provide information regarding Business's Diverse Business Certification, if any. Provide evidence of current certification.

Certification	Certifying Agency	Certification Date
☐ Disadvantaged Business Enterprise		
☐ Minority Business Enterprise		
☐ Woman-Owned Business Enterprise		
☐ Small Business Enterprise		
☐ Disabled Business Enterprise		
☐ Veteran-Owned Business Enterprise		
☐ Service-Disabled Veteran-Owned Business		
☐ HUBZone Business (Historically Underutilized) Business		
☐ Other		
□ None		

#### **ARTICLE 3—CONSTRUCTION EXPERIENCE**

3.01 Provide information that will identify the overall size and capacity of the Busin
--

Average number of current full-time employees:	
Estimate of revenue for the current year:	
Estimate of revenue for the previous year:	

3.02 Provide information regarding the Business's previous contracting experience.

Years of experience with projects like the proposed project:					
rears of experience with projects like the proposed project.					
As a general contractor:		As a joint venturer:			
Has Business, or a predecessor in interest, or an affiliate identified in Paragraph 1.03:					
Been disqualified as a bidder by any local, state, or federal agency within the last 5 years?					
☐ Yes ☐ No					
Been barred from contracti	ng by ar	ny local, state, or feder	al agency	within the last 5 years?	
☐ Yes ☐ No					
Been released from a bid in the past 5 years? ☐ Yes ☐ No					
Defaulted on a project or failed to complete any contract awarded to it? ☐ Yes ☐ No					
Refused to construct or refused to provide materials defined in the contract documents or in					
a change order? ☐ Yes ☐ No					
Been a party to any currently pending litigation or arbitration? ☐ Yes ☐ No					
Provide full details in a separate attachment if the response to any of these questions is Yes.					

- 3.03 List all projects currently under contract in Schedule A and provide indicated information.
- 3.04 List a minimum of three and a maximum of six projects completed in the last 5 years in Schedule B and provide indicated information to demonstrate the Business's experience with projects similar in type and cost of construction.
- 3.05 In Schedule C, provide information on key individuals whom Business intends to assign to the Project. Provide resumes for those individuals included in Schedule C. Key individuals include the Project Manager, Project Superintendent, Quality Manager, and Safety Manager. Resumes may be provided for Business's key leaders as well.

#### **ARTICLE 4—REQUIRED ATTACHMENTS**

- 4.01 Provide the following information with the Statement of Qualifications:
  - A. Schedule A (Current Projects) as required by Paragraph 8.03.
  - B. Schedule B (Previous Experience with Similar Projects) as required by Paragraph 8.04.
  - C. Schedule C (Key Individuals) and resumes for the key individuals listed, as required by Paragraph 8.05.
  - D. Financial Statements shall be provided upon request.

This Staten	nent of Qualifications is offered by:
Business:	
	(typed or printed name of organization)
Ву:	(individual's signature)
Name:	(maividual's signature)
Name.	(typed or printed)
Title:	(typed or printed)
Data	(typea or printea)
Date:	(date signed)
(If Business	is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)
Attest:	(individual's signature)
Name:	
	(typed or printed)
Title:	
Address for	(typed or printed) r giving notices:
Designated	Representative:
Name:	
· · · · · · · · · · · · · · · · · · ·	(typed or printed)
Title:	
Address:	(types of p.m.est)
Phone:	
Email:	

## Schedule A—Current Projects

Name of Organization							
Project Owner			Project Nam	e			
General Description of Pr	oject						
Project Cost			Date Project				
Key Project Personnel	Project Manager	Project Manager Project Superio			ntendent Safety Manager		
Name							
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)							
	Name	Title/Position	Organ	ization	Telephone	Email	
Owner							
Designer							
Construction Manager							
Project Owner			Project Nam	e			
General Description of Pr	roiect		, .,				
Project Cost			Date Project				
Key Project Personnel	Project Manager	Project Manager Project Superi		· · · · · · · · · · · · · · · · · · ·		Quality Control Manager	
Name	•						
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)							
	Name	Title/Position	Organ	ization	Telephone	Email	
Owner							
Designer							
Construction Manager							
Project Owner			Project Nam	e			
General Description of Pr	oiect						
Project Cost	-,		Date Project				
Key Project Personnel	Project Manager	Project Manager Project Superi		Saf	ety Manager	Quality Control Manager	
Name							
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)							
	Name	Title/Position	Organ	ization	Telephone	Email	
Owner							
Designer							

Construction Manager			
construction manager			

## Schedule B—Previous Experience with Similar Projects

Name of Organization							
Project Owner			Project Nam	ie			
General Description of P	roject						
Project Cost			Date Project	:			
Key Project Personnel	Project Manager	Project Superi	ntendent	Safe	ety Manager	Quality Control Manager	
Name							
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)							
	Name	Title/Position	Organ	ization	Telephone	Email	
Owner							
Designer							
Construction Manager							
Project Owner			Project Nam	10			
General Description of P	roinct		Project Nam	ie			
Project Cost	Oject		Date Project	-			
Key Project Personnel	Project Manager	Duniant Manager				Quality Control Manager	
- · · · ·	Project Manager	Project Manager Project Superior		ntendent Safety Manager		Quality Control Manager	
Name Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)							
Reference Contact Infort					Email		
0	Name	Title/Position	Organ	ization	Telephone	Eman	
Owner							
Designer							
Construction Manager							
Project Owner			Project Nam	ie			
General Description of P	roject						
Project Cost			Date Project	:			
Key Project Personnel	Project Manager	Project Manager Project Superio		ntendent Safety M		Quality Control Manager	
Name							
Reference Contact Inforr	nation (listing names indica	tes approval to contacting	the names inc	dividuals as a	reference)		
	Name	Title/Position	Organ	ization	Telephone	Email	
Owner							
Designer							

Construction Manager			
construction manager			

# Schedule B—Previous Experience with Similar Projects

Name of Organization						
Project Owner			Project Nam	ie		
General Description of P	roject					
Project Cost			Date Project			
Key Project Personnel	Project Manager	Project Superi	ntendent	Safe	ety Manager	Quality Control Manager
Name						
Reference Contact Inforr	nation (listing names indica	ites approval to contacting	the names inc	dividuals as a	reference)	
	Name	Title/Position	Organ	ization	Telephone	Email
Owner						
Designer						
Construction Manager						
Project Owner			Project Nam	10		
General Description of P	roinct		Project Nam	ie		
Project Cost	Oject		Date Project	-		
Key Project Personnel	Project Manager	Project Superi	1		ety Manager	Quality Control Manager
<u> </u>	Project Manager	Project Superi	intenuent :		ety ivialiagei	Quality Control Manager
Name  Reference Contact Inform	nation (listing names indica	tos approval to contactino	the names in	l dividuals as a	roforonco)	
Reference Contact infort	rmation (listing names indicates approval to contacting the names individuals as a reference)  Name  Title/Position  Organization  Telephone  Email				- Fmail	
0	Name	Title/Position	Organ	ization	relephone	Eman
Owner						
Designer						
Construction Manager						
Project Owner			Project Nam	ie		
General Description of P	roject					
Project Cost			Date Project	:		
Key Project Personnel	Project Manager	Project Superi	· · · · · · · · · · · · · · · · · · ·		ety Manager	Quality Control Manager
Name						
Reference Contact Inforr	nation (listing names indica	ites approval to contacting	the names inc	dividuals as a	reference)	
	Name	Title/Position	Organ	ization	Telephone	Email
Owner						
Designer						

Construction Manager			
Construction Wandscr			

# Schedule C—Key Individuals

Project Manager				
Name of individual				
Years of experience as project manager				
Years of experience with this organization				
Number of similar projects as project manager				
Number of similar projects in other positions				
Current Project Assignments				
Name of assignment	Percent of time used for	Estimated project		
	this project	completion date		
Reference Contact Information (listing names indicates app	proval to contact named indi	viduals as a reference)		
Name	Name			
Title/Position	Title/Position			
Organization	Organization			
Telephone	Telephone			
Email	Email			
Project	Project			
Candidate's role on	Candidate's role on			
project	project			
Project Superintendent				
Name of individual				
Years of experience as project superintendent				
Years of experience with this organization				
Number of similar projects as project superintendent				
Number of similar projects in other positions				
Current Project Assignments				
Name of assignment	Percent of time used for	Estimated project		
	this project	completion date		
Reference Contact Information (listing names indicates app	proval to contact named indi	viduals as a reference)		
Name	Name			
Title/Position	Title/Position			
Organization	Organization			
Telephone	Telephone			
Email	Email			
Project	Project			
Candidate's	Candidate's			
role on project	role on project			

<b>Safety Manager</b>					
Name of individu	al				
Years of experier	ice as proj	ect manager			
Years of experier	nce with th	is organization			
Number of simila	r projects	as project manager			
Number of simila	r projects	in other positions			
Current Project A	ssignment	:S			
Name of assignm	ent		Percent of time	used for	Estimated project
			this project		completion date
Reference Conta	ct Informa	tion (listing names indicates a	oproval to contact i	named indi	viduals as a reference)
Name			Name		
Title/Position			Title/Position		
Organization			Organization		
Telephone			Telephone		
Email			Email		
Project			Project		
Candidate's role	on		Candidate's role	on	
project			project		
Quality Control I					
Name of individu					
		ect superintendent			
Years of experier					
		as project superintendent			
Number of simila	r projects	in other positions			
Current Project A		:S			
Name of assignm	ent		Percent of time	used for	Estimated project
		this project		completion date	
	ct Informa	tion (listing names indicates a	<u> </u>	named indi	viduals as a reference)
Name			Name		
Title/Position			Title/Position		
Organization			Organization		

Telephone	Telephone	
Email	Email	
Project	Project	
Candidate's	Candidate's	
role on project	role on project	

# VENDOR COMPLIANCE TO STATE LAW

Chapter 2252.002, of the Texas Government Code applies to the award of government contract to non-resident bidders. This law provides that:

"A government entity may not award a governmental contract to a nonresident bidder unless the nonresident underbids the lowest bid submitted by a responsible resident bidder by an amount that is less than the greater of the amount by which a resident bidder would be required to underbid the nonresident bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located

"Nonresident Bidder" refers to a person who is not a resident of Texas

Check the statement that is correct for Bidder.

"Resident Bidder" refers to a person whose principal place of business is in this state, including a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

# **BONDING COMPANY INFORMATION**

The following person, firm, or corporation has agreed to execute the required payment and performance bonds in the event this contract is awarded to the bidder:

Name of Surety:
Mailing Address:
City, State, Zip:
Telephone Number:
surety authorized to operate in Texas?
surety aware of size of project?
oes surety have adequate authorization and resources to cover bonds for the amount of this ontract?
ating from Best's Key Rating Guide
roject: Cole Creek Siphon Project
Name of Bidde

# NON-COLLUSION AFFIDAVIT FOR PRIME CONTRACTOR

ate of)	
) ss. ounty of)	
, being first duly sworn, deposes and says that:	
) He isne Bidder that has submitted the referenced Bid;	of
He is fully informed respecting the preparation and contents of the referenced I bmitted to	on
Neither the said Bidder nor any of its officers, partners, owners, agents, representative aployees, or parties in interest, including this affiant, has in any way colluded, conspir nnived, or agreed, directly or indirectly, with any other Bidder, firm, or person to subscollusive or sham Bid in connection with such Contract, or to refrain from bidding nnection with such Contract, or has in any manner, directly or indirectly, sought reement or collusion or communication or conference with any other Bidder, firm, and to fix the price or prices in the referenced Bid or in the Bid of any other bidder, or an overhead, profit, or cost element of the Bid price or the Bid price of any other Bidder to secure through collusion, conspiracy, connivance, or unlawful agreement a vantage against the (Owner) or any persenterested in the proposed Contract; and	ed, nit in by or to er, ny
The price or prices quoted in the referenced Bid are fair and proper and are not tain any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder y of its agents, representatives, owners, employees, or parties in interest, including the fidavit.	or
igned)	
tle bscribed and sworn to before me by the saidon thiso	ay
Notary Public	
County, [Notary Se	al]
y commission expires, 20	

# NON-COLLUSION AFFIDAVIT FOR PROPOSED SUBCONTRACTOR

State of
County of) ss.
, being first duly sworn, deposes and says that:
(1) He is of, hereinafter referred to as the "Subcontractor";
(2) He is fully informed respecting the preparation and contents of the subcontractor's Proposal submitted by the subcontractor to,
the Contractor for certain work in connection with (name of contract), for (Owner);
(3) Such subcontractor's Proposal is genuine and is not a collusive or sham proposal;
(4) Neither the subcontractor nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly, with any other Bidder, firm, or person to submit a collusive or sham Proposal in connection with such Contract, or to refrain from submitting a Proposal in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm, or person to fix the price or prices in said subcontractor's Proposal or any other subcontractor's proposal, or to secure through collusion, conspiracy, connivance, or unlawful agreement any advantage against the (Owner) or any person interested in the proposed Contract; and  (5) The price or prices quoted in the subcontractor's Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affidavit.  (Signed)
Title Subscribed and sworn to before me by the said on this day of, 20
By:
Notary Public County, [Notary Seal]
My commission expires, 20

# (Rev. October 2018) Department of the Treasury

# **Request for Taxpayer Identification Number and Certification**

Give Form to the requester. Do not send to the IRS.

Internal	Reve	enue Service	► Go to www.irs.gov/FormW9 for inst	tructions and the lates	st inform	ation.	•00					20000000
5	1 1	Name (as shown	on your income tax return). Name is required on this line; do	not leave this line blank.								
	2 E	Business name/o	lisregarded entity name, if different from above				201					
Print or type. Specific Instructions on page 3.	3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only <b>one</b> of the following seven boxes.  4 Exemptions (codes apply only certain entities, not individuals; s instructions on page 3):  5 Individual/sole proprietor or C Corporation S Corporation Partnership Trust/estate  5 Separate Partnership Trust/estate  5 Exemptions (codes apply only certain entities, not individuals; s instructions on page 3):											
Print or type c Instruction	Single-member LLC  Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership)  Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check  Exempt payee code (if any)  Exempt payee code (if any)  Exempt payee code (if any)											
Print c c Instr		LLC if the LLC another LLC t	is classified as a single-member LLC that is disregarded from the owner for U.S. federal tax pt from the owner for U.S. federal tax pt from the owner should check the appropriate box for the tax	om the owner unless the o urposes. Otherwise, a sing	wner of th le-membe	e LLC i	is c	code (if a		IFAIG	н герс	rung
ecifi		Other (see ins	tructions) ►	ax oracomorator or its own	e Coccis			upplies to a			d outside	the U.S.)
See <b>S</b> t	5 /	Address (numbe	r, street, and apt. or suite no.) See instructions.		Requeste	r's nan	ne and	d addres	ss (opti	onal)		
Ø	6 (	City, state, and 2	IIP code									
	7 L	ist account num	ber(s) here (optional)									
Par			yer Identification Number (TIN)	000	(4)X [ang]							
			propriate box. The TIN provided must match the nam			Social	secui	ity nun	iber			
reside entitie	nt a s, it	lien, sole prop	individuals, this is generally your social security num rietor, or disregarded entity, see the instructions for F yer identification number (EIN). If you do not have a n	Part I, later. For other				-		-		
TIN, Ia	ater.				200	r						18
			n more than one name, see the instructions for line 1.	. Also see What Name a	and	Emplo	yer id	entifica	tion n	umber		
Numb	er I	o Give the Red	<i>quester</i> for guidelines on whose number to enter.				=					
Par	t II	Certifi	cation		-							
Unde	per	nalties of perju	ry, I certify that:									
2. I ar Ser	1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and 2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and											
3. I ar	nal	J.S. citizen or	other U.S. person (defined below); and									
		CONTRACTOR STORES CONTRACTOR	ntered on this form (if any) indicating that I am exemp									
you ha acquis	ave f	ailed to report or abandonm	s. You must cross out item 2 above if you have been no all interest and dividends on your tax return. For real est ent of secured property, cancellation of debt, contribution vidends, you are not required to sign the certification, but	ate transactions, item 2 ons to an individual retire	does not ement arr	apply. angem	. For r nent (l	nortga( RA), an	ge inte id gen	erest pa erally, p	aid, paym	ents
Sign Here		Signature of U.S. person	•	ľ	Date ►							
			uctions	• Form 1099-DIV (div funds)	/idends,	includi	ing th	ose fro	m sto	cks or	mutu	ual —
noted			o the Internal Revenue Code unless otherwise	<ul> <li>Form 1099-MISC (v proceeds)</li> </ul>	various t	/pes o	f inco	me, pr	izes, a	awards	s, or g	gross
<b>Futur</b>	e de	velopments.	For the latest information about developments	<ul> <li>Form 1099-B (stock</li> </ul>	k or muti	ial fun	id sali	es and	certai	in othe	4r	

related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

## Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

• Form 1099-INT (interest earned or paid)

- transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding,

By signing the filled-out form, you:

- 1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
  - 2. Certify that you are not subject to backup withholding, or
- 3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
- 4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

**Note:** If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- · An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, Withholding of Tax on Nonresident Aliens and Foreign Entities)

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

- 1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
  - 2. The treaty article addressing the income
- 3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
- $4. \, \mbox{The type}$  and amount of income that qualifies for the exemption from tax.
- $\,$  5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

## **Backup Withholding**

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return

Payments you receive will be subject to backup withholding if:

- 1. You do not furnish your TIN to the requester,
- 2. You do not certify your TIN when required (see the instructions for Part II for details),
  - 3. The IRS tells the requester that you furnished an incorrect TIN,
- 4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
- 5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see Special rules for partnerships, earlier.

# What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

### Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

#### **Penalties**

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

# **Specific Instructions**

#### Line 1

You must enter one of the following on this line; do not leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. Individual. Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

**Note: ITIN applicant:** Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

- b. Sole proprietor or single-member LLC. Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.
- c. Partnership, LLC that is not a single-member LLC, C corporation, or S corporation. Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2
- d. Other entities. Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.
- e. Disregarded entity. For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

#### Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

### Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n)	THEN check the box for
Corporation	Corporation
<ul> <li>Individual</li> <li>Sole proprietorship, or</li> <li>Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.</li> </ul>	Individual/sole proprietor or single- member LLC
<ul> <li>LLC treated as a partnership for U.S. federal tax purposes,</li> <li>LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or</li> <li>LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.</li> </ul>	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
Partnership	Partnership
Trust/estate	Trust/estate

#### Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

#### Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3-A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- $4-{\rm A}$  foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5-A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7 A futures commission merchant registered with the Commodity Futures Trading Commission
- 8-A real estate investment trust
- $9-\mbox{An}$  entity registered at all times during the tax year under the Investment Company Act of 1940
- 10 A common trust fund operated by a bank under section 584(a)
- 11-A financial institution
- 12 A middleman known in the investment community as a nominee or custodian
- 13-A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for	THEN the payment is exempt for
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,0001	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>&</sup>lt;sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

- A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)
  - B-The United States or any of its agencies or instrumentalities
- C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)
- E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)
- F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state
  - G-A real estate investment trust
- H-A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940
  - I-A common trust fund as defined in section 584(a)
  - J-A bank as defined in section 581
  - K-A broker
- L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M-A tax exempt trust under a section 403(b) plan or section 457(g) plan

**Note:** You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

#### Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

#### Line 6

Enter your city, state, and ZIP code.

# Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note: See What Name and Number To Give the Requester, later, for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.SSA.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/Businesses and clicking on Employer Identification Number (EIN) under Starting a Business. Go to www.irs.gov/Forms to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to www.irs.gov/OrderForms to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note:** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

#### Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

**Signature requirements.** Complete the certification as indicated in items 1 through 5 below.

However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

- 1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification
- 2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.
- **3.** Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.
- 4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).
- 5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

# What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:	
1. Individual	The individual	
Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account 1	
Two or more U.S. persons     (joint account maintained by an FFI)	Each holder of the account	
Custodial account of a minor     (Uniform Gift to Minors Act)	The minor <sup>2</sup>	
5. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee <sup>1</sup>	
b. So-called trust account that is not a legal or valid trust under state law	The actual owner <sup>1</sup>	
Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>	
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i) (A))	The grantor*	
For this type of account:	Give name and EIN of:	
Disregarded entity not owned by an individual	The owner	
9. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>	
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation	
Association, club, religious, charitable, educational, or other tax- exempt organization	The organization	
12. Partnership or multi-member LLC	The partnership	
13. A broker or registered nominee	The broker or nominee	
State of the state		

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

<sup>&</sup>lt;sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

- <sup>3</sup> You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.
- <sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.
- \*Note: The grantor also must provide a Form W-9 to trustee of trust.

**Note:** If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

## Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

<sup>&</sup>lt;sup>2</sup> Circle the minor's name and furnish the minor's SSN.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to <code>phishing@irs.gov</code>. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at <code>spam@uce.gov</code> or report them at <code>www.ftc.gov/complaint</code>. You can contact the FTC at <code>www.ftc.gov/idtheft</code> or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see <code>www.identityTheft.gov</code> and Pub. 5027.

Visit www.irs.gov/IdentityTheft to learn more about identity theft and how to reduce your risk.

# **Privacy Act Notice**

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

# **CONFLICT OF INTEREST QUESTIONNAIRE**

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.	OFFICE USE ONLY			
This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor 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 vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.				
A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.				
Name of vendor who has a business relationship with local governmental entity.				
Check this box if you are filing an update to a previously filed questionnaire. (The law re completed questionnaire with the appropriate filing authority not later than the 7th busines you became aware that the originally filed questionnaire was incomplete or inaccurate.)				
Name of local government officer about whom the information is being disclosed.				
Name of Officer				
Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.  A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?  Yes  No  B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?  Yes  No				
Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.				
Check this box if the vendor has given the local government officer or a family member of as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(b).				
7				
Signature of vendor doing business with the governmental entity	vate			

# CONFLICT OF INTEREST QUESTIONNAIRE For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

<u>Local Government Code § 176.001(1-a)</u>: "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

## Local Government Code § 176.003(a)(2)(A) and (B):

- (a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:
  - (2) the vendor:
    - (A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that
      - (i) a contract between the local governmental entity and vendor has been executed; or
      - (ii) the local governmental entity is considering entering into a contract with the vendor:
    - (B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:
      - (i) a contract between the local governmental entity and vendor has been executed; or
      - (ii) the local governmental entity is considering entering into a contract with the vendor.

#### Local Government Code § 176.006(a) and (a-1)

- (a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:
  - (1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A):
  - (2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or
  - (3) has a family relationship with a local government officer of that local governmental entity.
- (a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:
  - (1) the date that the vendor:
    - (A) begins discussions or negotiations to enter into a contract with the local governmental entity; or
    - (B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or
  - (2) the date the vendor becomes aware:
    - (A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);
    - (B) that the vendor has given one or more gifts described by Subsection (a); or
    - (C) of a family relationship with a local government officer.



STANDARD FORM OF AGREEMENT (CONTRACT)

# AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

	Agreement is by and between <b>Sabine River Authority of Texas</b> , a Texas governmental entity er") and <b>[name of contracting entity]</b> , a ("Contractor").
Terms Condit	used in this Agreement have the meanings stated in the General Conditions and the Supplementary tions.
Owne	r and Contractor hereby agree as follows:
ARTIC	LE 1—WORK
1.01	Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: The replacement of the Cole Creek inverted siphon structure. Project includes earthwork, steel pipe fabrication and installation, and structural concrete elements.
ARTIC	LE 2—THE PROJECT
2.01	The Project, of which the Work under the Contract Documents is a part, is generally described as follows:
Gulf C	e River Authority oast Division reek Siphon
ARTIC	LE 3—ENGINEER
3.01	The Owner has retained Gannett Fleming, Inc. ("Engineer") to act as Owner's representative,

# ARTICLE 4—CONTRACT TIMES

Engineer in the Contract.

- 4.01 Time is of the Essence
  - A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

assume all duties and responsibilities of Engineer, and have the rights and authority assigned to

- 4.03 *Contract Times: Days* 
  - A. The Work will be substantially complete within **210** consecutive calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **240** consecutive calendar days after the date when the Contract Times commence to run.
- 4.05 Liquidated Damages
  - A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and

Milestones not achieved within the Contract Times, as duly modified. 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):

- 1. Substantial Completion: Contractor shall pay Owner \$500 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.
- Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$500 for each day that expires after such time until the Work is completed and ready for final payment.
- 3. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.
- B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

#### ARTICLE 5—CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:
  - A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit. Total Contract Amount: \$\_\_\_\_\_

#### **ARTICLE 6—PAYMENT PROCEDURES**

- 6.01 Submittal and Processing of Payments
  - A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.
- 6.02 Progress Payments; Retainage
  - A. Owner shall make progress payments on the basis of Contractor's Applications for Payment within 30 days of receiving engineer approved pay request, as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
    - Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited

to liquidated damages, in accordance with the Contract and Texas Water Code Chapter 49.276 .

- a. 90% percent of the value of the Work completed (with the balance being retainage).
- b. **90%** percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

#### 6.03 Final Payment

A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

## 6.04 Consent of Surety

A. Owner will not make final payment, or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.

#### 6.05 Interest

A. All amounts not paid when due will bear interest at the lowest amount allowed by law.

#### ARTICLE 7—CONTRACT DOCUMENTS

#### 7.01 Contents

- A. The Contract Documents consist of all of the following:
  - 1. This Agreement.
  - 2. Bonds:
    - a. Performance bond (together with power of attorney).
    - b. Payment bond (together with power of attorney).
  - 3. General Conditions.
  - 4. Supplementary Conditions.
  - 5. Specifications as listed in the table of contents of the project manual (copy of list attached).
  - Drawings (not attached but incorporated by reference) consisting of 12 sheets with each sheet bearing the following general title: Sabine River Authority Cole Creek Siphon Project
  - 7. Addenda (numbers [number] to [number], inclusive).
  - 8. Exhibits to this Agreement (enumerated as follows):
    - a. Contractors Bid (C-410)

- 10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
  - a. Notice to Proceed.
  - b. Work Change Directives.
  - c. Change Orders.
  - d. Field Orders.
  - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

#### ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

- 8.01 Contractor's Representations
  - A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
    - Contractor has examined and carefully studied the Contract Documents, including Addenda.
    - 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
    - 3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
    - 4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
    - Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
    - 6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and

- procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.
- 7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- 8. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- 9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- 10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- 11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

## 8.02 Contractor's Certifications

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:
  - "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
  - "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
  - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

### 8.03 Standard General Conditions

A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

This Agreement will be effective on	(which is the Effective
Date of the Contract).	(
1.	
Owner:	Contractor:
Sabine River Authority of Texas	
(typed or printed name of organization)	(typed or printed name of organization)
Ву:	Ву:
(individual's signature)	(individual's signature)
Date:	Date:
(date signed)	(date signed)
Name: David Montagne	Name:
(typed or printed)	(typed or printed)
Title: General Manager (typed or printed)	Title:(typed or printed)
(typed of princed)	(If [Type of Entity] is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)
Attest:	Attest:
(individual's signature)	(individual's signature)
Title:	Title:
(typed or printed) Address for giving notices:	(typed or printed) Address for giving notices:
	Address for giving notices.
Sabine River Authority of Texas	
PO Box 579	
Orange Texas, 77631	
Designated Representative:	Designated Representative:
Name:	Name:
(typed or printed)	(typed or printed)
Title:	Title:
(typed or printed) Address:	(typed or printed) Address:
Phone:	Phone:
Email:	Email:
	License No.:
	(where applicable)
	State:





# INSURANCE CERTIFICATES

(TO BE INSERTED AT TIME OF EXECUTION)



PERFORMANCE and PAYMENT BONDS

# **PERFORMANCE BOND**

Contractor	Surety	
Name:	Name:	
Address (principal place of business):	Address (principal place of business):	
Owner	Contract	
Name: Sabine River Authority of Texas	Description (name and location):	
Mailing address (principal place of business):	Cole Creek Siphon Project	
12777 Highway 87 N		
Orange, Texas 77632		
	Contract Price:	
	Effective Date of Contract:	
Bond		
Bond Amount:		
Date of Bond:		
(Date of Bond cannot be earlier than Effective Date of Contract)		
Modifications to this Bond form:		
□ None □ See Paragraph 16		
Surety and Contractor, intending to be legally bound		
Performance Bond, do each cause this Performance agent, or representative.	bond to be duly executed by an authorized officer,	
Contractor as Principal	Surety	
Contractor as Filliopal	Surety	
(Full formal name of Contractor)	(Full formal name of Surety) (corporate seal)	
Ву:	Ву:	
(Signature)	(Signature)(Attach Power of Attorney)	
Name:	Name:	
(Printed or typed)	(Printed or typed)	
Title:	Title:	
Attest:	Attest:	
(Signature)	(Signature)	
Name:	Name:	
(Printed or typed)	(Printed or typed)	
Title:	Title:	
Notes: (1) Provide supplemental execution by any additional pa		
Contractor, Surety, Owner, or other party is considered plural where applicable.		

- 1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
- 2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
- 3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
  - 3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;
  - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
  - 3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
- 4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
- 5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
  - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
  - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
  - 5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
  - 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

- 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
- 6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.
- 7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
  - 7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
  - 7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
  - 7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
- 8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
- 9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
- 10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
- 11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
- 12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.
- 13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such

statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

#### 14. Definitions

- 14.1. Balance of the Contract Price—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
- 14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
- 14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
- 14.4. Owner Default—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
- 15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
- 16. Modifications to this Bond are as follows: [None]

# **PAYMENT BOND**

		_		
Contracto	r	Surety		
Name:		Name:		
Address (p.	rincipal place of business):	Address (princi	pal place of business):	
Owner		Contract		
	Sabine River Authority of Texas		Description (name and location): Cole Creek Siphon Project	
	dress (principal place of business):	Cole Creek 3ip	mon Project	
12777 High	nway 87 N exas 77632			
Orange, it		Contract Price	::	
		Effective Date	of Contract:	
Bond				
Bond Amo	unt:			
Date of Bo	nd:			
(Date of Bond	l cannot be earlier than Effective Date of Contract)			
	ns to this Bond form:			
	See Paragraph 18	and haraby subje	est to the terms set forth in this	
	I Contractor, intending to be legally boo Bond, do each cause this Payment Bond	• • •		
representa	•	to be duly exceed	tea sy an authorized officer, agent, of	
Contractor	as Principal	Surety		
	(Full formal name of Contractor)	(Full	formal name of Surety) (corporate seal)	
Ву: _		Ву:		
	(Signature)		(Signature)(Attach Power of Attorney)	
Name: _	(Printed or typed)	Name: _	(Printed or typed)	
Title:	(Filitea of typea)	Title:	(Filitea of typea)	
		Title		
Attest: _		Attest:		
	(Signature)		(Signature)	
Name: _	(2.1.1.1	Name: _	(2)	
Title	(Printed or typed)	T:+lo.	(Printed or typed)	
Title:		Title:	unaturary (2) Amusia mula a factoria ta	
	ovide supplemental execution by any additional Surety, Owner, or other party is considered plura		venturers. (2) Any singular reference to	

- 1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
- 2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
- 3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
- 4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
- 5. The Surety's obligations to a Claimant under this Bond will arise after the following:
  - 5.1. Claimants who do not have a direct contract with the Contractor
    - 5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
    - 5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
  - 5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
- 6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
- 7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
  - 7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
  - 7.2. Pay or arrange for payment of any undisputed amounts.
  - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

- 8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.
- 9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
- 10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
- 11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
- 12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.
- 13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.
- 14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
- 15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
- 16. Definitions
  - 16.1. *Claim*—A written statement by the Claimant including at a minimum:
    - 16.1.1. The name of the Claimant;
    - 16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;
    - 16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
    - 16.1.4. A brief description of the labor, materials, or equipment furnished;

- 16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- 16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
- 16.1.7. The total amount of previous payments received by the Claimant; and
- 16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2. Claimant—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
- 16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4. Owner Default—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
- 17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
- 18. Modifications to this Bond are as follows: [Describe modification or enter "None"]

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

## **APPLICATION FOR PAYMENT**

## **Prepared By**









## **Endorsed By**





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## GUIDELINES FOR THE INTENDED USE OF EJCDC C-620, APPLICATION FOR PAYMENT

#### 1.0 PURPOSE AND INTENDED USE OF THE DOCUMENT

The Application for Payment is used to facilitate periodic progress payments to the Contractor for Work completed and for stored materials and equipment (referred to in this document as "Stored Materials").

For additional information regarding the Application for Payment, see EJCDC® C–700, Standard General Conditions of the Construction Contract (2018), Paragraph 15.01, and EJCDC® C–001, Commentary on the 2018 EJCDC Construction Documents (2018).

#### 2.0 APPLICATION FOR PAYMENT OVERVIEW

This document was prepared in Microsoft Excel due to the number of calculations involved in the preparation of the Application for Payment. The application consists of a Summary worksheet, and 3 supporting worksheets: Lump Sum worksheet, Unit Price worksheet, and Stored Materials worksheet.

- 2.1 Summary Worksheet calculates the amount to be paid to the Contractor at the end of each Application for Payment period. This calculation imports numbers from the supporting worksheets to determine the value of the Work completed and Stored Materials, calculate retainage, and deduct amounts previously paid to determine the amount the Contractor should be paid for the current application period. Application periods are typically one month; however these periods may be extended when Contractor's efforts do not result in the billable completion of Work or storage of materials and equipment during the payment period.
- 2.2 Lump Sum Worksheet calculates the total value for completed Work for which compensation is paid on a Lump Sum basis. The schedule of values included in this worksheet reflects a breakdown of lump sum Work items to which Contractor and Engineer have agreed, pursuant to Article 2 of the General Conditions. Costs for Stored Materials associated with lump sum items are included on this worksheet to calculate the total value for completed lump sum Work and associated Stored Materials. This total is exported to the Summary worksheet. Separate totals for Work Completed and for materials currently stored are also exported to the Summary worksheet for use in calculating the amount of retainage to be held for each.
- 2.3 Unit Price Worksheet calculates the total value for completed Work for which compensation is paid on a Unit Price basis. The schedule of values included in this spreadsheet is typically a tabulation of Unit Price items from the Agreement. Costs for Stored Materials associated with unit price items are included in this worksheet to calculate the total value for completed Unit Price Work and associated Stored Materials. This total is exported to the Summary worksheet. Separate totals for Work Completed and for Materials Currently Stored are also exported to the Summary worksheet for use in calculating the amount of retainage to be held for each.

2.4 Stored Materials Worksheet — calculates the total value for materials and equipment that have been purchased and are being stored until they are incorporated into the Work. This worksheet adds materials and equipment to the worksheet as they are brought to the site and stored; such Stored Materials are then deducted from the Stored Materials worksheet total as they are incorporated into the Work, providing a running net value for the materials and equipment remaining in storage. The values of Stored Materials must be manually added to the Lump Sum or Unit Price line items. These do not automatically update when changes are made. The amount of materials remaining in storage is eligible for payment but must be tracked separately from Work completed since different retainage rates may apply to Work completed and Stored Materials.

#### 3.0 Instructions for filling out the Payment Application form

- 3.1 Project-specific information is to be entered in the top portion (header) of the Summary worksheet. This same information will automatically be copied to the other worksheets to complete the headers on all other worksheets.
- 3.2 Outside of the header, data can be entered in non-shaded cells when the sheet is protected. Cells shaded light blue contain equations that will automatically transfer data from other cells or make calculations to complete the worksheet. Altering any of these cells can result in errors in the Application for Payment. It is recommended that the worksheets be protected at all times unless alterations are deliberately being made to the Application for Payment form other than to enter data. See Paragraph 4.0 below for information on Protection of Worksheets.
- 3.3 Enter information regarding each item in the Lump Sum and/or Unit Price worksheets. For Lump Sum projects, each item should represent an item in the schedule of values prepared by the Contractor and approved by the Engineer/Owner, breaking down the Lump Sum amount into measurable components. For Unit Price contracts, use numbers from the Agreement as the schedule of values. Specific information on the data to be entered into each column may be seen by clicking on the header description for that column. Similar comments may be seen for cells in the "Totals" row that indicates how the number is calculated and where this number is exported to another part of the spreadsheet. See the Commentary for additional information.

3.4 The equations in the Summary worksheet use numbers imported from both the Lump Sum and Unit Price worksheets. Projects will typically either use the Lump Sum or the Unit Price worksheet, but some projects may use both. If one of the worksheets is not used, it should be hidden and not deleted. If it is deleted, Users will need to correct the equations in the Summary worksheet by unprotecting the worksheet and editing the equations. To hide a worksheet, right click on the worksheet tab at the bottom of the worksheet and select "Hide." To unhide a worksheet, right click on any worksheet tab and select "Unhide," and then select the worksheet to unhide and click "Okay." This same process may be used to hide these Guidelines for Use.

#### 4.0 Protection of Worksheets

- 4.1 The cells in this Workbook that create the forms or contain equations have been coded to "lock" the cells that should not be altered. It is recommended that the Workbook be Protected (cells locked) at all times unless it is necessary to add or delete rows. Directions for adding and deleting rows are provided in the next section. Passwords can be used to lock the Protect / Unprotect settings on spreadsheets, however the worksheets in this workbook do not require a password.
- 4.2 To unprotect a worksheet, click on the "Review" menu tab at the top of Excel, then click "Unprotect Sheet." To protect a worksheet, click on the "Review" menu tab at the top of Excel, then click "Protect Sheet." This will open a dialog box in which the User is allowed to select protection options. It is recommended that only the top two checkboxes for "Select Locked Cells" and "Select Unlocked Cells" be checked. This will reset the protection for the Worksheet.

## 5.0 Adding and Deleting Rows

- 5.1 A limited number of blank rows are provided in the Lump Sum, Unit Price, and Stored Material worksheets. Additional rows may be added to these worksheets by the User. The first step in this process is to unprotect the worksheet as previously discussed. After the sheet is unprotected, move with caution to prevent inadvertently deleting any cells that contain equations. To insert a row, right click in the row heading at the left of the spreadsheet and select "Insert." A new row will be inserted at the location where the cursor was placed in the row heading. If more than one new row is desired, left click and drag the cursor to include the desired number of rows, right click in the selected row headings and then select "Insert." It is important that the line immediately above the "Totals" row not be included in the rows selected. Doing so will require that equations in the "Totals" row be adjusted. When rows are inserted, Excel automatically adjusts the equations to include the new rows, unless the row directly above the "Totals" row is also selected.
- 5.2 After new rows are inserted, it is important to copy a line from one of the original rows so correct formatting and equations are copied into each new row. To do this, select the row to be copied by clicking the cell in Column A and dragging the cursor to the last column in the table. Then select "Copy" from the menu or type CTRL+C to copy the cells. Excel will show that this row has been copied by showing a moving dashed line around the cells that are to be copied. Then select the new rows into which the information is to be copied as before and select Paste from the menu or type CTRL+V.
- 5.3 To delete an unused row, right click in the row heading on the left of the spreadsheet for the row to be deleted and select "Delete." The selected row will be deleted. If more than one row is to be deleted, left click and drag the cursor to the desired number of rows to be deleted and then right click to open the menu and select "Delete." Unlike the admonition on adding new rows, it is okay to delete the row just above the "Totals" row.
- 5.4 After rows have been added or deleted, it is important reset the worksheet protection.

## 6.0 Saving Files

This file is provided as a Microsoft <sup>®</sup> Excel Open XML workbook template (.xltx) to prevent this file from being inadvertently changed. When an application for payment is created for a specific project it should be saved as an Excel workbook (.xlxs) file. To do this, select Save As (F12), type in a new file name and select Excel Workbook (.xlxs) from the drop down Save As Type menu.

## 7.0 License Agreement

This document is subject to the terms and conditions of the License Agreement, 2018 EJCDC® Construction Series Documents. A copy of the License Agreement was furnished at the time of purchase of this document, and is available for review at www.ejcdc.org and the websites of EJCDC's sponsoring organizations.

	Sabine River Authority of Texa	Owner's Project	: No.:	28273
Engineer:	GFT	Engineer's Proje	ect No.:	080078
Contractor:		Contractor's Pro	oject No.:	
Project:	Cole Creek Siphon Project			
Contract:				18
Application	No.:	Application Date:		
Application	Period: From	to		
1. Ori	ginal Contract Price		\$	-
2. Ne	t change by Change Orders		\$	-
3. Cur	rrent Contract Price (Line 1 + Lin	ie 2)	\$	-
4. Tot	tal Work completed and materia	als stored to date		
(Su	m of Column G Lump Sum Total	l and Column J Unit Price Total)	\$	
5. Ret	tainage			
a	. <u>10%</u> X \$ -	Work Completed	\$	<u> </u>
b		Stored Materials	\$	<u> </u>
	. Total Retainage (Line 5.a + Lin	•	\$	
	nount eligible to date (Line 4 - Lin	·	\$	-
	ss previous payments (Line 6 fro	m prior application)		
	nount due this application	(i.	\$	-
9. Bal	ance to finish, including retaina	ge (Line 3 - Line 4)	\$	<del>-</del>
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applied on acc prior Applicati (2) Title to all Application fo encumbrance: security intere (3) All the Wo defective.	count to discharge Contractor's legitions for Payment; Work, materials and equipment incompanent, will pass to Owner at tires (except such as are covered by a kest, or encumbrances); and		tion with the W listed in or covens, security into ng Owner again	ork covered by ered by this erests, and est any such lier
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#### **Progress Estimate - Unit Price Work**

#### **Contractor's Application for Payment**

Owner:	Sabine River Authority of Texas								Owner's Project No.		28273
Engineer:	GFT								Engineer's Project N		080078
Contractor:									<b>Contractor's Project</b>	No.:	
Project:	Cole Creek Siphon Project							-			
Contract:								-			
Application	No.: Application Period:	From		to					Applica	ation Date:	
Α	В	С	D	E	F	G	Н	1	J	К	L
			Contract	Information		Work C	ompleted				
						Estimated	Value of Work		Work Completed and Materials	% of Value of	
					Value of Bid Item	Quantity		Materials Currently			Balance to Finish (F
Bid Item				Unit Price	(C X E)	Incorporated in	(E X G)	Stored (not in G)	(H + I)	(J / F)	- J)
No.	Description	Item Quantity	Units	(\$)	(\$)	the Work	(\$)	(\$)	(\$)	(%)	(\$)
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## Progress Estimate - Unit Price Work

#### **Contractor's Application for Payment**

Owner:	Sabine River Authority of Texas							_	Owner's Project No.	:	28273
Engineer:	GFT								<b>Engineer's Project N</b>	0.:	080078
Contractor:								•	<b>Contractor's Project</b>	No.:	
Project:	Cole Creek Siphon Project							•			
Contract:											
	<u> </u>							-			
Application	No.: Application Period:	From		to					Applica	ation Date:	
Α	В	С	D	E	F	G	Н	I	J	K	L
			Contract	Information		Work 0	ompleted				
									Work Completed	% of	
						Estimated	Value of Work		and Materials	Value of	
					Value of Bid Item	Quantity	Completed to Date	Materials Currently	Stored to Date	Item	Balance to Finish (F
Bid Item				Unit Price	(C X E)	Incorporated in	(E X G)	Stored (not in G)	(H + I)	(J / F)	- J)
No.	Description	Item Quantity	Units	(\$)	(\$)	the Work	(\$)	(\$)	(\$)	(%)	(\$)
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					ct and Change Orders		•	۱۵	A		A
Project Totals \$ - \$ - \$ - \$ - \$ -											

Stored Materials Summary Contractor's Application for Payment

Owner:	Sabine River Authority of Texas	Owner's Project No.:	28273
Engineer:	GFT	Engineer's Project No.:	080078
Contractor:		Contractor's Project No.:	
Project:	Cole Creek Siphon Project		
Combracts			

Application No.:				Application Period:	From		to		-		Application Date:	
Α	В	С	D	E	F	G	Н	I	J	K	L	М
							Materials Stored			Incorporated in Work	(	
Item No. (Lump Sum Tab) or Bid Item No. (Unit Price Tab)	Supplier Invoice No.	Submittal No. (with Specification Section No.)	Description of Materials or Equipment Stored	Storage Location	Application No. When Materials Placed in Storage	Previous Amount Stored (\$)	Amount Stored this Period (\$)	Amount Stored to Date (G+H) (\$)	Amount Previously Incorporated in the Work (\$)	Amount Incorporated in the Work this Period (\$)	Total Amount Incorporated in the Work (J+K) (\$)	Materials Remaining in Storage (I-L) (\$)
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	•				Totals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

## **CERTIFICATE OF SUBSTANTIAL COMPLETION**

Owner: Engineer: GFT Contractor:	Sabine River Authority of Texas	Owner's Project No.: Engineer's Project No.: Contractor's Project No.:	28273 080078
Project:	Cole Creek Siphon Project		
Contract Name:			
This $\square$ Preliminary $\square$	Final Certificate of Substantial Comp	oletion applies to:	
	e following specified portions of the		
-	tion of the work for which Certificat		is issued]
	mpletion: [Enter date, as determine	-	
	s Certificate applies has been inspec	•	
	eer, and found to be substantially co		
·	nereof designated above is hereby es	-	
	Substantial Completion. The date of	•	
	tion marks the commencement of th	ne contractual correction peri	od and
• •	required by the Contract.		
•	be completed or corrected is attac		,
	re to include any items on such list of		ity of the
	e all Work in accordance with the Co		radust of mutual
	actual responsibilities recorded in th and Contractor; see Paragraph 15.03	-	
~	tween Owner and Contractor for se		
•	d warranties upon Owner's use or or	**	
the Contract, except a	•	scupality of the work must be	c as provided in
	er's Responsibilities: $\square$ None $\square$ As f	ollows:	
	to Owner's Responsibilities]	Ono <b>W</b> 3.	
<del>-</del>	actor's Responsibilities:  None	As follows:	
	to Contractor's Responsibilities]	, 15 16 116 1151	
_	nts are attached to and made a part	of this Certificate:	
_	such as punch list; other document		
_	ot constitute an acceptance of Work	_	Contract
	release of Contractor's obligation to		
Contract Documents.	Ğ	·	
Engineer			
By (signature):			
Name (printed):			
Title:			

#### NOTICE OF ACCEPTABILITY OF WORK

Owner:	Sabine River Authority of Texas	Owner's Project No.:	28273
Engineer:	GFT	Engineer's Project No.:	080078
Contractor:		Contractor's Project No.:	

Project: Cole Creek Siphon Project

Contract Name:

Notice Date: Effective Date of the Construction Contract:

The Engineer hereby gives notice to the Owner and Contractor that Engineer recommends final payment to Contractor, and that the Work furnished and performed by Contractor under the Construction Contract is acceptable, expressly subject to the provisions of the Construction Contract's Contract Documents ("Contract Documents") and of the Agreement between Owner and Engineer for Professional Services dated [date of professional services agreement] ("Owner-Engineer Agreement"). This Notice of Acceptability of Work (Notice) is made expressly subject to the following terms and conditions to which all who receive and rely on said Notice agree:

- 1. This Notice has been prepared with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.
- 2. This Notice reflects and is an expression of the Engineer's professional opinion.
- 3. This Notice has been prepared to the best of Engineer's knowledge, information, and belief as of the Notice Date.
- 4. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Contractor's Work) under the Owner-Engineer Agreement, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Owner-Engineer Agreement.
- 5. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract, an acceptance of Work that is not in accordance with the Contract Documents, including but not limited to defective Work discovered after final inspection, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Contract Documents, or to otherwise comply with the Contract Documents or the terms of any special guarantees specified therein.
- 6. This Notice does not relieve Contractor of any surviving obligations under the Construction Contract, and is subject to Owner's reservations of rights with respect to completion and final payment.



**SUPPLEMENTARY CONDITIONS** 

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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## STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

#### ARTICLE 1—DEFINITIONS AND TERMINOLOGY

## 1.01 Defined Terms

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. 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.
  - 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.
  - Agreement—The written instrument, executed by Owner and Contractor, that sets forth
    the Contract Price and Contract Times, identifies the parties and the Engineer, and
    designates the specific items that are Contract Documents.
  - 3. Application for Payment—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  - 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  - 5. Bidder—An individual or entity that submits a Bid to Owner.
  - 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
  - 7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
  - 8. Change Order—A document 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, or other revision to the Contract, issued on or after the Effective Date of the Contract.
  - 9. Change Proposal—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

#### 10. Claim

 a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

- requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.
- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
- c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
- d. A demand for money or services by a third party is not a Claim.
- 11. Constituent of Concern—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
- 12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
- 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
- 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
- 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
- 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
- 17. Cost of the Work—See Paragraph 13.01 for definition.
- 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
- 19. Effective Date of the Contract—The date, indicated in the Agreement, on which the Contract becomes effective.
- 20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
- 21. Electronic Means—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the

recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

- 22. Engineer—The individual or entity named as such in the Agreement.
- 23. Field Order—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
- 24. Hazardous Environmental Condition—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
  - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
  - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
  - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
- 25. Laws and Regulations; Laws or Regulations—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
- 26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
- 27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
- 28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
- 29. *Notice to Proceed*—A written notice 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.
- 30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
- 31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
- 32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

- 33. Resident Project Representative—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
- 34. Samples—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
- 35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.
- 36. 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.
- 37. Shop Drawings—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
- 38. 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, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
- 39. Specifications—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
- 40. *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.
- 41. Submittal—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
- 42. 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 of such Work.

- 43. Successful Bidder—The Bidder to which the Owner makes an award of contract.
- 44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
- 45. Supplier—A manufacturer, fabricator, supplier, distributor, 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 a Subcontractor.

## 46. Technical Data

- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
- b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
- c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
- 47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
- 48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
- 49. 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; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
- 50. Work Change Directive—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

#### 1.02 *Terminology*

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. Intent of Certain Terms or Adjectives: 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 Article 10 or any other provision of the Contract Documents.
- C. Day: The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective*: The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:
  - 1. does not conform to the Contract Documents;
  - 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
  - 3. 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 15.03 or Paragraph 15.04).

## E. Furnish, Install, Perform, Provide

- 1. The word "furnish," when used in connection with services, materials, or equipment, means 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, means 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, means to furnish and install said services, materials, or equipment complete and ready for intended use.
- 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. Contract Price or Contract Times: References to a change in "Contract Price or Contract Times" or "Contract Times or Contract Price" or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term "or both" is not expressed.
- G. 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 Performance and Payment Bonds; Evidence of Insurance

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. Evidence of Contractor's Insurance: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. Evidence of Owner's Insurance: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

## 2.02 Copies of Documents

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

## 2.03 Before Starting Construction

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
  - 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;
  - 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.

## 2.04 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 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, 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 and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

#### 2.05 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 the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
  - 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 therefore.
  - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
  - 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 the component parts of the Work.
  - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

#### 2.06 Electronic Transmittals

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

#### ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

#### 3.01 Intent

- A. The Contract Documents are complementary; what is required by one Contract Document 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.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
  - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
  - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

#### 3.02 Reference Standards

### A. Standards Specifications, Codes, Laws and Regulations

- Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract 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, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer 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 part of the Contract Documents prepared by or for Engineer.

## 3.03 Reporting and Resolving Discrepancies

## A. Reporting Discrepancies

- 1. Contractor's Verification of Figures and Field Measurements: Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
- 2. Contractor's Review of Contract Documents: If, before or 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) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) 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 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
- 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

- Except as may be otherwise specifically stated in the Contract Documents, the provisions
  of the part of the Contract Documents prepared by or for Engineer take precedence in
  resolving any conflict, error, ambiguity, or discrepancy between such provisions of the
  Contract Documents and:
  - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); 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 Requirements of the Contract Documents

A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

## 3.05 Reuse of Documents

- A. Contractor and its Subcontractors and Suppliers shall not:
  - 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 versions, or 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; or
  - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

#### ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

- 4.01 Commencement of Contract Times; Notice to Proceed
  - A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract 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 Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

## 4.02 Starting the Work

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

### 4.03 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.

## 4.04 Progress Schedule

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
  - Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
  - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

### 4.05 Delays in Contractor's Progress

- A. If Owner, Engineer, 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 Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
  - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
  - 2. Abnormal weather conditions;
  - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
  - 4. Acts of war or terrorism.

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
  - 1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
  - Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
  - 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
  - 1. The circumstances that form the basis for the requested adjustment;
  - 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
  - 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
  - 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
  - 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.

Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.

- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

## ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

#### 5.01 Availability of Lands

A. Owner shall furnish the Site. Owner shall notify Contractor in writing 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.

- 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 permanent improvements are to be made 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.

## 5.02 Use of Site and Other Areas

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

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
- 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, 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 any such claim, and against all 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 directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. Removal of Debris During Performance of the Work: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will 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 and adjacent areas 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 of 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 structures or land to stresses or pressures that will endanger them.

## 5.03 Subsurface and Physical Conditions

- A. Reports and Drawings: The Supplementary Conditions identify:
  - 1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
  - 2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
  - 3. Technical Data contained in such reports and drawings.
- B. *Underground Facilities*: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.
- C. Reliance by Contractor on Technical Data: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.
- D. Limitations of Other Data and Documents: Except for such reliance on 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:
  - 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;
  - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
  - 3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
  - 4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

#### 5.04 Differing Subsurface or Physical Conditions

- A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
  - 1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
  - 2. is of such a nature as to require a change in the Drawings or Specifications;
  - 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 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. Engineer's Review: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. Owner's Statement to Contractor Regarding Site Condition: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. Early Resumption of Work: If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. Possible Price and Times Adjustments
  - Contractor shall be entitled to an equitable adjustment in Contract Price or Contract
    Times, to the extent that the existence of a differing subsurface or physical condition, or
    any related delay, disruption, or interference, 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 fall within any one or more of the categories described in Paragraph 5.04.A;
- 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 Paragraph 13.03; and,
- c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
- 2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
  - a. Contractor knew of the existence of such condition at the time Contractor made a 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 otherwise;
  - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
  - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
- 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
- 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. Underground Facilities; Hazardous Environmental Conditions: Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

## 5.05 Underground Facilities

- A. Contractor's Responsibilities: Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
  - 1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
  - complying with applicable state and local utility damage prevention Laws and Regulations;

- 3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
- 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
- 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. Notice by Contractor: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then 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 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. Engineer's Review: Engineer will:
  - promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
  - identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
  - obtain any pertinent cost or schedule information from Contractor; determine the extent,
    if any, to which a change is required in the Drawings or Specifications to reflect and
    document the consequences of the existence or location of the Underground Facility; and
  - 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

- D. Owner's Statement to Contractor Regarding Underground Facility: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. Early Resumption of Work: If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. Possible Price and Times Adjustments
  - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. 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 Paragraph 13.03;
- b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
- c. Contractor gave the notice required in Paragraph 5.05.B.
- 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
- 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
- 4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

### 5.06 Hazardous Environmental Conditions at Site

- A. Reports and Drawings: The Supplementary Conditions identify:
  - 1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
  - 2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
  - 3. Technical Data contained in such reports and drawings.
- B. Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on 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:
- 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 removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) 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 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. 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, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. 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, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. 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, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. 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 failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

### ARTICLE 6—BONDS AND INSURANCE

## 6.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond 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 must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

### 6.02 Insurance—General Provisions

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

- Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.
- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
  - Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
  - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- If either party does not purchase or maintain the insurance required of such party by the Contract, 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.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

### 6.03 Contractor's Insurance

- A. Required Insurance: Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions*: The policies of insurance required by this Paragraph 6.03 as supplemented must:
  - 1. include at least the specific coverages required;
  - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
  - remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
  - 4. apply with respect to the performance of the Work, whether such performance is 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; and
  - 5. include all necessary endorsements to support the stated requirements.
- C. Additional Insureds: The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
  - 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
  - 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
  - 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

- 4. not seek contribution from insurance maintained by the additional insured; and
- 5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

# 6.04 Builder's Risk and Other Property Insurance

- A. Builder's Risk: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. Property Insurance for Facilities of Owner Where Work Will Occur: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. Property Insurance for Substantially Complete Facilities: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. Partial Occupancy or Use by Owner: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. Insurance of Other Property; Additional Insurance: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

## 6.05 Property Losses; Subrogation

A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

- 1. Owner and Contractor waive all rights against each other and the 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, risks, 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 Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, 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 extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
  - 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 all losses and damages caused by, arising out
    of, or resulting from fire or any of the perils, risks, or causes of loss covered by such
    policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights 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 insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, 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 fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

## 6.06 Receipt and Application of Property Insurance Proceeds

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

### **ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES**

## 7.01 Contractor's Means and Methods of Construction

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

### 7.02 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.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

# 7.03 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 maintain good discipline and order at the Site.

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. 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 will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

# 7.04 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, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will 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 must 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.

# 7.05 *"Or Equals"*

- A. Contractor's Request; Governing Criteria: Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item 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 is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
  - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
    - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
      - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) 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;
- 3) has a proven record of performance and availability of responsive service; and
- 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
  - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
  - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. Engineer's Evaluation and Determination: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. Effect of Engineer's Determination: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. Treatment as a Substitution Request: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

## 7.06 Substitutes

- A. Contractor's Request; Governing Criteria: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
  - Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
  - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

- 3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
  - a. will certify that the proposed substitute item will:
    - 1) perform adequately the functions and achieve the results called for by the general design;
    - 2) be similar in substance to the item specified; and
    - 3) be suited to the same use as the item specified.

### b. will state:

- 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
- 2) 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
- 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

# c. will identify:

- 1) all variations of the proposed substitute item from the item specified; and
- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. Engineer's Evaluation and Determination: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. Reimbursement of Engineer's Cost: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. 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.

- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. Effect of Engineer's Determination: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

# 7.07 Concerning Subcontractors and Suppliers

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

# 7.08 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 an 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 will be disclosed 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.

### 7.09 Permits

A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. 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 the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

## 7.10 *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.

# 7.11 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. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and 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 such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

## 7.12 Record Documents

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

# 7.13 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.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. 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, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.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 at its expense (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).
- E. 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.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. 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.

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

## 7.14 Hazard Communication Programs

A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as 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.

# 7.15 *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 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 by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

### 7.16 Submittals

- A. Shop Drawing and Sample Requirements
  - 1. Before submitting a Shop Drawing or Sample, Contractor shall:
    - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
    - b. determine and verify:
      - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
      - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
      - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
    - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
  - Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

- 3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. Submittal Procedures for Shop Drawings and Samples: Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

# 1. Shop Drawings

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings must 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 7.16.C.

# 2. Samples

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall 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 7.16.C.
- 3. 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. Engineer's Review of Shop Drawings and Samples
  - Engineer will provide timely review of Shop Drawings and Samples in accordance with the
    accepted Schedule of Submittals. 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, comply with the requirements of 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, or to safety precautions or programs incident thereto.
  - 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
  - 4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.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 will

- document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.
- 5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
- 6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
- 7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
- 8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

# D. Resubmittal Procedures for Shop Drawings and Samples

- 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.
- 2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
- 3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

# E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs

- 1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
  - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
  - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
  - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

- d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
- 2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03. 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

## 7.17 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 is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
  - 1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
  - 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
  - abuse, or improper modification, 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.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
  - 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;
  - 6. The issuance of a notice of acceptability by Engineer;
  - 7. The end of the correction period established in Paragraph 15.08;
  - 8. Any inspection, test, or approval by others; or

- 9. Any correction of defective Work by Owner.
- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

## 7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, 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 (the "Indemnified Parties"), from losses, damages, costs, and judgments (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 from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage 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 7.18.A will 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.

### 7.19 Delegation of Professional Design Services

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.

- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
  - 1. Checking for conformance with the requirements of this Paragraph 7.19;
  - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
  - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

### ARTICLE 8—OTHER WORK AT THE SITE

### 8.01 Other Work

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. 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.

- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, 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.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

### 8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
  - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
  - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
  - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

# 8.03 Legal Relationships

A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
  - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
  - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) 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 any such claims, and against all 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 damage, delay, disruption, or interference.

# **ARTICLE 9—OWNER'S RESPONSIBILITIES**

- 9.01 *Communications to Contractor* 
  - A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.
- 9.02 Replacement of Engineer
  - A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.
- 9.03 Furnish Data
  - A. Owner shall promptly furnish the data required of Owner under the Contract Documents.
- 9.04 Pay When Due
  - A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

- 9.05 Lands and Easements; Reports, Tests, and Drawings
  - A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
  - B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
  - C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

### 9.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

# 9.07 Change Orders

A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

# 9.08 Inspections, Tests, and Approvals

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

### 9.09 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.

## 9.10 Undisclosed Hazardous Environmental Condition

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

### 9.11 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 (including obligations under proposed changes in the Work).

## 9.12 Safety Programs

- 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.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

### ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

# 10.01 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.

### 10.02 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 10.07. 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.

### 10.03 Resident Project Representative

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

# 10.04 Engineer's Authority

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

### 10.05 Determinations for Unit Price Work

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

## 10.06 Decisions on Requirements of Contract Documents and Acceptability of Work

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

## 10.07 Limitations on Engineer's Authority and Responsibilities

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, 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, will 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 Contractor under Paragraph 15.06.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 10.07 also apply to the Resident Project Representative, if any.

# 10.08 Compliance with Safety Program

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

### ARTICLE 11—CHANGES TO THE CONTRACT

# 11.01 Amending and Supplementing the Contract

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

## 11.02 Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
  - 1. Changes in 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;
  - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
  - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
  - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

## 11.03 Work Change Directives

A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

- B. If Owner has issued a Work Change Directive and:
  - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
  - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

### 11.04 Field Orders

- A. Engineer may authorize minor changes in the Work if the changes 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. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

# 11.05 Owner-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. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

### 11.06 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, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

# 11.07 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. 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, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
- Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
- 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will 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 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
    - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 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 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
    - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
    - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
    - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

### 11.08 Change of Contract Times

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

## 11.09 Change Proposals

A. Purpose and Content: Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

# B. Change Proposal Procedures

- 1. *Submittal*: Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
- Supporting Data: The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
  - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
  - Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. Engineer's Initial Review: Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. Engineer's Full Review and Action on the Change Proposal: Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

- Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
- 5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. Resolution of Certain Change Proposals: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

### 11.10 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.

### **ARTICLE 12—CLAIMS**

#### 12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
  - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
  - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
  - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
  - 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. Submittal of Claim: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

- and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. Review and Resolution: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.

#### D. Mediation

- At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
- 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
- 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. Denial of Claim: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. Final and Binding Results: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

# ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

### 13.01 *Cost of the Work*

- A. Purposes for Determination of Cost of the Work: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
  - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

- 2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. Costs Included: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will 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 in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will 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 accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will 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, which 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 will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
  - 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
  - 5. Other costs consisting of 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, 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.

1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

# c. Construction Equipment Rental

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
- 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
- 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed 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 builder's risk or other property insurance established in accordance with Paragraph 6.04), 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 include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will 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 communication 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 that Contractor is required by the Contract Documents to purchase and maintain.
- C. Costs Excluded: The term Cost of the Work does not include any of the following items:
  - 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, 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 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
  - 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
  - 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
  - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
  - 5. 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.
  - 6. Expenses incurred in preparing and advancing Claims.
  - 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

### D. Contractor's Fee

- 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
  - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
  - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
    - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
    - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
- 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

E. Documentation and Audit: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

### 13.02 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: Contractor agrees that:
  - 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
  - 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 for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's 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 for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

### 13.03 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. Payments to Contractor for Unit Price Work will be based on actual quantities.
- 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. 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, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

### E. Adjustments in Unit Price

- 1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
  - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
  - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
- 2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
- 3. Adjusted unit prices will apply to all units of that item.

### ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

### 14.01 Access to Work

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction 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 with such procedures and programs as applicable.

### 14.02 Tests, Inspections, and Approvals

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- 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, obtaining, and paying for all inspections and tests required:
  - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  - 3. by manufacturers of equipment furnished under the Contract Documents;
  - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. 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. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

### 14.03 Defective Work

- A. Contractor's Obligation: It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects*: Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. Correction, or Removal and Replacement: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. Costs and Damages: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

### 14.04 Acceptance of Defective Work

A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages 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. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

### 14.05 Uncovering Work

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then 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, and provide all necessary labor, material, and equipment.
  - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages 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 pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
  - 2. 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, 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, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

### 14.06 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, then 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 will 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.

## 14.07 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 defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, 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, 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 incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. 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 14.07.

### ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

### 15.01 Progress Payments

A. Basis for Progress Payments: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

### B. Applications for Payments

- 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.
- 2. 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 must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

- 3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
- 4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

### C. Review of Applications

- Engineer will, within 10 days after receipt of each Application for Payment, including each
  resubmittal, 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;
  - 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 13.03, and any other qualifications stated in the recommendation);
  - 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; 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;
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
  - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; 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 15.01.C.2.
- 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
  - a. the Work is defective, requiring correction or replacement;
  - b. the Contract Price has been reduced by Change Orders;
  - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
  - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

### D. Payment Becomes Due

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

### E. Reductions in Payment by Owner

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
  - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
- c. Contractor has failed to provide and maintain required bonds or insurance;
- d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
- e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
- f. The Work is defective, requiring correction or replacement;
- g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
- h. The Contract Price has been reduced by Change Orders;
- i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
- j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
- k. 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; or
- I. Other items entitle Owner to a set-off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, 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, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
- 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

### 15.02 Contractor's Warranty of Title

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

### 15.03 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 and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

- submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- 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 preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. 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 punch list.

### 15.04 Partial Use or Occupancy

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:

- At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be 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 15.03.A through 15.03.E for that part of the Work.
- 2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work 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 15.03 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 6.04 regarding builder's risk or other property insurance.

### 15.05 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, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

## 15.06 Final Payment

### A. Application for Payment

- 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, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
- 2. The final Application for Payment must be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents;
  - b. consent of the surety, if any, to final payment;
  - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

- d. a list of all duly pending Change Proposals and Claims; and
- e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
- 3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) 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, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. Engineer's Review of Final Application and Recommendation of Payment: 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 have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. 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. Notice of Acceptability: In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. Completion of Work: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. Final Payment Becomes Due: Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

### 15.07 Waiver of Claims

A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim,

- appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

### 15.08 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 Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
  - 1. correct the defective repairs to the Site or such adjacent areas;
  - 2. correct such defective Work;
  - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
  - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, 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. Contractor shall pay all 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). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. 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.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, 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.

F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

### **ARTICLE 16—SUSPENSION OF WORK AND TERMINATION**

### 16.01 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 written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

### 16.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
  - 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);
  - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
  - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
  - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
  - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
  - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, 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 complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.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 the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

- attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds 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.
- F. 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, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

### 16.03 Owner May Terminate for Convenience

- A. Upon 7 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):
  - 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;
  - 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; and
  - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

### 16.04 Contractor May Stop Work or Terminate

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 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 16.03.
- 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, 7 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 are not intended to preclude Contractor from submitting a Change Proposal 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 17—FINAL RESOLUTION OF DISPUTES**

### 17.01 Methods and Procedures

- A. *Disputes Subject to Final Resolution*: The following disputed matters are subject to final resolution under the provisions of this article:
  - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
  - 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes*: For any dispute subject to resolution under this article, Owner or Contractor may:
  - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
  - 2. agree with the other party to submit the dispute to another dispute resolution process; or
  - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

### **ARTICLE 18—MISCELLANEOUS**

### 18.01 Giving Notice

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
  - 1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
  - 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
  - 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

### 18.02 Computation of Times

A. When any period of time is referred to in the Contract 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.

### 18.03 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. 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.

## 18.04 Limitation of Damages

A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

### 18.05 No Waiver

A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

### 18.06 Survival of Obligations

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

## 18.07 Controlling Law

A. This Contract is to be governed by the laws of the State of Texas, which the Project is located.

### 18.08 Assignment of Contract

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

### 18.09 Successors and Assigns

A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

### 18.10 Headings

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



**SUPPLEMENTARY CONDITIONS** 

## SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

### **ARTICLE 1—DEFINITIONS AND TERMINOLOGY**

SC1.01 – Add the following:

- 51. Working Day- Any day in which weather or other conditions, not under the control of the CONTRACTOR, will permit construction of the principal units of work for a period of not less than 7 hours between 7:00 am an 6:00 pm. Saturdays, Sundays, and legal holidays will not be counted as a work day if not worked. If the CONTRACTOR works any of these days, he will be charged a working day. Work will not be permitted on Saturdays, Sundays, or legal holidays without the prior written approval of the OWNER.
- 52. Calendar Day Every day of the month including Saturday, Sunday, legal holidays, rain days, or other adverse weather days.

### **ARTICLE 2—PRELIMINARY MATTERS**

### 2.01 Add the following:

- D. Texas Ethics Commission Contractor and Owner shall complete all documentation required to conform with HB 1295 including but not limited to Form 1295 "Certificate of Interested Parties".
- E. Prohibition on Boycotting Israel In accordance with Section 2270.002 of the Texas Government Code, Contractor hereby represents and warrants that Contractor: 1) Does not boycott Israel; and 2) will not boycott Israel during the term of this contract.
- F. Prohibition on Boycotting Power Companies In accordance with Section 2274.001 of the Texas Government Code, Contractor hereby represents and warrants that Contractor: 1) Does not boycott power companies and 2) will not boycott power companies during the term of this contract.
- G. Prohibition on Companies that discriminate against firearm and ammunition industries In accordance with Section 2274.002 of the Texas Government Code, Contractor hereby represents and warrants that Contractor: 1) Does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and 2) Will not discriminate during the term of the contract against a firearm entity or firearm trade association.
- H. Posting of certain information at Commercial Building Construction Site Required In accordance with Section 116.001 of the Texas Government Code, Contractor hereby represents and warrants that Contractor: 1) As soon as practicable after beginning construction of a commercial building project located in this state, the developer of the project shall visibly post the following information at the entrance to the construction site: a) the name and contact information of the developer; and b) a brief description of the project.

## 2.02 Copies of Documents

SC-2.02 Amend the first sentence of Paragraph 2.02.A. to read as follows:

Owner shall furnish to Contractor [3] printed copies of the Contract Documents (including one fully signed counterpart of the Agreement). Electronic portable document format (PDF) shall be available upon request.

### **ARTICLE 4—NO CHANGES**

# ARTICLE 5—SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

- 5.03 Subsurface and Physical Conditions
- SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.D:
  - E. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Date of Report	Technical Data
Geotechnical Engineering Report	August 20, 2024	Subsurface conditions and design
Cole Creek Siphon Replacement		recommendations
Sabine River Authority of Texas		
Mauriceville, Texas		

F. The following table lists the drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data, and specifically identifies the Technical Data upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
N/A		

G. Contractor may examine copies of reports and drawings identified in SC-5.03.E and SC-5.03.F that were not included with the Bidding Documents at **1922 IP Way, Orange, TX 77632** during regular business hours, or may request copies from Engineer.

- SC-5.06 Add the following new paragraphs immediately after Paragraph 5.06.A.3:
  - 4. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely:

Report Title	Date of Report	Technical Data
N/A		

5. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
N/A		

### ARTICLE 6—BONDS AND INSURANCE

- 6.01 Performance, Payment, and Other Bonds
- SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:
- 1. Required Performance Bond Form: The performance bond that Contractor furnishes will be in the form of EJCDC® C-610, Performance Bond (2010, 2013, or 2018 edition). Performance Bond: By State statute, local governments must require a performance bond from all contractors where such contracts involve construction, alteration, or repair of buildings or other public works projects in excess of \$100,000.00. Such bonds must be executed by a corporate surety authorized to do business in the State of Texas in accordance with Article 7.19-1 Bond of Surety Company; Chapter 7 of the Insurance Code, must be for not less than one-hundred percent (100%) of the contract price, and remain in effect for one year beyond the date of acceptance by the Owner. Performance bonds are conditioned upon "the faithful performance of the work in accordance with the drawings, specifications, and contract documents". These are in effect performance guarantees to assure completion of construction. These bonds are solely for the protection of the Owner. (Texas Government Code 2253.021)
- 2. Required Payment Bond Form: The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2010, 2013, or 2018 edition). Payment Bond: A payment bond is one executed in connection with a contract (construction, alteration, or repair) to assure payment as required by law to all persons supplying labor and materials in the execution of work provided for in the contract. These bonds are required solely for the protection of all such claimants. These, like performance bonds, must be issued by a State approved corporate surety in accordance with Article 7.19-1 Bond of Surety Company; Chapter 7 of the Insurance Code, must also be for not less than one hundred percent (100%) of the contract price, and remain in effect for one year beyond the date of acceptance by the Owner. The \$25,000.00 State requirement (i.e., all contracts over that amount will require the Owner to have one hundred percent (100%) payment bonds) is also the same. (Texas Government Code 2253.021)
- 6.03 *Contractor's Insurance*

Add the following language to 6.03.A.

- a) The Contractor shall not commence work under this contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the Owner.
- b) Worker's Compensation Insurance: The Contractor shall procure and shall maintain during the life of this Contract Worker's Compensation Insurance, including employer liability insurance and coverages for occupational illness or disease with an available limit of at least \$1,000,000 per occurrence for all of its employees to be engaged in work at the site of the project under this Contract and, in case of any such work sublet, the Contractor shall require the subcontractor similarly to provide Worker's Compensation Insurance for all of the employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Worker's Compensation Insurance.
- c) Commercial General Liability Insurance: including products/completed operation and broad form property damage limits with an available limit of at least \$1,000,000 per occurrence with a \$2,000,000 aggregate. The policy shall not exclude coverage for explosion, collapse or underground hazards, and pollution, or shall be endorsed for explosion, collapse or underground hazards, and pollution.
- d) Automobile Liability Insurance: including use of all owned, non-owned and hired vehicles with an available limit of not less than: Bodily Injury \$1,000,000 each person, \$1,000,000 each occurrence: Property Damage \$1,000,000 each occurrence, combined limit \$2,000,000.
- e) Longshoremen's and Harborworkers' Compensation Act insurance: to the extent required under such Act with regard to the work to be performed under the Contract.
- f) Excess liability insurance or Umbrella insurance: over all of the foregoing primary policies with an available limit of at least \$5,000,000.00 which follows form on Contractor's other policies.
- g) Owner and Engineer shall be listed as additional insured on all insurance, except for Worker's Compensation and Employer's Liability insurance. Contractor shall provide a waiver of subrogation in favor of the Sabine River Authority on all policies.
- h) Proof of Insurance: The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates and date of expiration of policies. Such certificates shall also contain substantially the following statement: "The insurance covered by this certificate will not be canceled or materially altered, except after ten (10) days written notice has been received by the Owner."

### ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

### 7.10 *Taxes*

- SC-7.10 Add a new paragraph immediately after Paragraph 7.10.A:
  - A. Owner is exempt by law from **State of Texas** sales and Use Tax Laws, and Federal Excise Tax on materials and equipment to be incorporated in the Work. Said taxes must not be included in the Bid.
    - 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.

- 2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.
- SC-7.18 Add a new paragraph immediately after Paragraph 7.1B:

C. NOTWITHSTANDING ANYTHING IN PARAGRAPH 7.18.A TO THE CONTRARY, IN THE EVENT A CLAIM ARISES FROM BODILY INJURY (INCLUDING, WITHOUT LIMITATION, SICKNESS OR DISEASE) OR DEATH SUFFERED OR SUSTAINED BY AN EMPLOYEE OF CONTRACTOR OR ANY OF ITS AGENTS OR ITS SUBCONTRACTORS OF ANY TIER, THEN, TO THE FULLEST EXTENT PERMITTED BY LAW, CONTRACTOR AGREES TO INDEMNIFY AND SAVE HARMLESS THE INDEMNIFIED PARTIES, FROM AND AGAINST ANY AND ALL SUCH CLAIMS, WHICH ANY AND ALL OF THEM MAY HEREAFTER SUFFER, INCUR, BE RESPONSIBLE FOR OR PAY OUT, EVEN IF THE CLAIM WAS CAUSED, OR WAS ALLEGED TO BE CAUSED, IN WHOLE OR IN PART, BY THE NEGLIGENCE, FAULT, OMISSION, STRICT LIABILITY, STRICT PRODUCTS LIABILITY. OR NEGLIGENCE PER SE. OF THE INDEMNIFIED PARTIES. IT BEING THE EXPRESS INTENT OF OWNER AND CONTRACTOR THAT CONTRACTOR SHALL BE OBLIGATED TO INDEMNIFY THE INDEMNIFIED PARTIES IN THE MANNER PROVIDED IN THIS PARAGRAPH 7.18.C EVEN FOR THE CONSEQUENCES OF THE INDEMNIFIED PARTIES' OWN NEGLIGENCE, FAULT, OMISSION, STRICT LIABILITY, STRICT PRODUCTS LIABILITY, OR NEGLIGENCE PER SE, WHETHER OR NOT IT IS OR IS ALLEGED TO BE THE SOLE OR A CONCURRING CAUSE OF THE LOSSES GIVING RISE TO THE INDEMNIFIED CLAIMS.

### ARTICLE 8—OTHER WORK AT THE SITE

- 8.02 *Coordination*
- SC-8.02 Add the following new Paragraph 8.02.C immediately after Paragraph 8.02.B:
  - C. Owner intends to contract with others for the performance of other work at or adjacent to the Site. N/A

### ARTICLE 10—ENGINEERS STATUS DURING CONSTRUCTION

- 10.03 Resident Project Representative
- SC-10.03 Add the following new subparagraph immediately after Paragraph 10.03.A:
  - 1. On this Project, by agreement with the Owner, the Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.

### ARTICLE 15 PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD

SC 15.01.D.1. Replace paragraph in its entirety with the following:

Payment shall be made within 30 days of presentation of the application for Payment to the Owner with Engineer's recommendation, the amount recommended (subject to any owner set-offs) will become due, and when due will be paid by Owner to Contractor.

### ARTICLE 17 FINAL RESOLUTIONS OF DISPUTES

Add the following to 17.01

- C. All disputes arising under this Contract or its interpretation except those disputes covered by FEDERAL LABOR STANDARDS PROVISIONS whether involving law or fact or both, or extra work, and all claims for alleged breach of contract shall, within ten (10) days of commencement of the dispute, be presented by the Contractor to the Owner for decision. Any claim not presented within the time limit specified in this paragraph shall be deemed to have been waived, except that if the claim is of a continuing character and notice of the claim is not given within ten (10) days of its commencement, the claim will be considered only for a period commencing ten (10) days prior to the receipt of the Owner.
- D. The Contractor shall submit in detail his claim and his proof thereof.
- E. If the Contractor does not agree with any decision of the Owner, he shall in no case allow the dispute to delay the work but shall notify the Owner promptly that he is proceeding with the work under protest.
- F. Venue for disputes shall lie exclusively in Orange County, Texas and none other.

#### ARTICLE 18 MISCELLANEOUS

Add the following Section

### 18.11 Contractors Field Office

The contractor shall furnish and maintain, during construction of the Improvements embraced in this Contract, adequate facilities on the Project area or adjacent thereto for the use of the Local Public Agency and its Engineers as described below:

 Contractors Office: A field office is not required for this project, however the Contractor shall have readily accessible copies of plans and contract documents and working drawings shall be kept on site. Provide cell phone, emails, and other communications for all superintendents, foreman, and project managers.

## **WORK CHANGE DIRECTIVE NO.: [Number of Work Change Directive]**

Owner:	Sabine River Authority of Texas	Owner's Project No.:	28273
Engineer:	GFT	Engineer's Project No.:	080078
Contractor:		Contractor's Project No.:	
Project:	Cole Creek Siphon Project		
Contract Name:			
Date Issued:	Effective Date of	of Work Change Directive:	
Contractor is direc	cted to proceed promptly with the follow	ring change(s):	
Description:			
	of the change to the Work]		
Attachments:			
-	its related to the change to the Work]		
•	ork Change Directive:		
=	purpose for the change to the Work]	oroin prior to ogracing to sha	ngo in Contract
· ·	ed promptly with the Work described h t Time, is issued due to:	erein, prior to agreeing to cha	nge in Contract
Notes to User—Cl	heck one or both of the following		
☐ Non-agreemen	t on pricing of proposed change. $\square$ Nece	ssity to proceed for schedule or	r other reasons.
-	in Contract Price and Contract Times (no		
	\$	[increase] [decrease] [not	vet estimated]
Contract Price:			
Contract Time:	days	[increase] [decrease] [not	yet estimated].
Basis of estimated	change in Contract Price:		
☐ Lump Sum ☐ U	Init Price ☐ Cost of the Work ☐ Other		
·			
Recomm	ended by Engineer	Authorized by Owner	
	ended by Engineer		
Ву:			
Title:			
Date:			
	<del></del>	·	

## FIELD ORDER NO.: [Number of Field Order]

Owner:	Sabine River Authority of Texas	Owner's Project No.:	28273
Engineer:	GFT	Engineer's Project No.:	080078
Contractor:		Contractor's Project No.:	
Project:	Cole Creek Siphon Project		
Contract Name:			
Date Issued:	Effective [	Date of Field Order:	
Contractor is here	eby directed to promptly perform the W	ork described in this Field Order, is	ssued in
accordance with	Paragraph 11.04 of the General Conditio	ns, for minor changes in the Work	without
changes in Contra	act Price or Contract Times. If Contractor	considers that a change in Contra	ct Price o
<b>Contract Times is</b>	required, submit a Change Proposal bef	ore proceeding with this Work.	
Reference:			
Specification	Section(s):		
Drawing(s) /	Details (s):		
Description:			
[Description	of the change to the Work]		
Attachments:			
[List docume	nts supporting change]		
Issued by Engine	er		
By:			
Title:			
Date:			
		<del></del>	





## Geotechnical Engineering Report Cole Creek Siphon Replacement Sabine River Authority of Texas Mauriceville, Texas

Prepared for:

Sabine River Authority of Texas 12777 Highway 87 North Orange, Texas 77632

Prepared by:

Tolunay-Wong Engineers, Inc. 2455 West Cardinal Drive Beaumont, Texas 77705

TWE Project No. 24.23.122 / Report No. 156201

Date:

August 20, 2024



August 20, 2024

**Sabine River Authority of Texas** 12777 Highway 87 North Orange, Texas 77632

Attn: Mr. Mark Mann, P.E.

mmann@sratx.org

Ref: Geotechnical Engineering Report

Cole Creek Siphon Replacement Sabine River Authority of Texas

Mauriceville, Texas

TWE Project No. 24.23.122 / Report No. 156201

Dear Mr. Mann,

Tolunay-Wong Engineers, Inc. (TWE) is pleased to submit this geotechnical report for the referenced project. This report contains a brief description of the project, the scope of services provided and our geotechnical recommendations associated with the project. Our scope of services were conducted in accordance with TWE Proposal No. P24-B288 (Revision 1) dated June 11, 2024 and authorized by Sabine River Authority of Texas (SRA) Requisition No. 27290 dated June 18, 2024.

## **Project Overview**

The project includes the replacement of siphon pipes for SRA at an existing site in Mauriceville, Texas. We understand open-cut excavations and temporary sheet piling will be used to facilitate the removal of the existing siphon and installation of the new siphon pipes. We understand the new siphon will be approximately 20-ft to 25-ft below grade with a diameter of approximately 60-in. No additional information was provided at the time of this report.

### **Scope of Services**

The purposes of our geotechnical services were to evaluate the subsurface conditions at the project site and to provide geotechnical design recommendations needed to provide the Client the necessary geotechnical information to facilitate siphon removal and installation. Our scope of services included three (3) major phases: field program, laboratory testing and engineering analysis/reporting as described in the following sections.

## Field Program

The subsurface soil and groundwater conditions within the project site were explored by TWE by performing two (2) test borings to a depth of 30-ft at the project site. The test boring locations were selected by SRA and are presented on the test boring location plan in Appendix A of this report. TWE coordinated the field activities, used a 2-man drilling crew with conventional highland buggy-mounted equipment and provided a Geotechnician to log the boreholes and obtain groundwater level measurements during drilling and sampling.



## **Test Borings**

### **Drilling Methods**

The test borings were performed in general accordance with the Standard Practice for Soil Investigation and Sampling by Auger Borings (ASTM D1452). The boreholes were advanced with dry-auger drilling methods until groundwater was encountered and completed to depth using wash-rotary drilling techniques following 15-min static groundwater level readings. Soil samples were obtained on 3-ft depth intervals to a depth of 20-ft and at 5-ft depth intervals thereafter.

### Soil Sampling

Fine-grained, cohesive soil samples were recovered from the soil borings by hydraulically pushing a 3-in diameter, thin-walled Shelby tube to a distance of about 24-in. The field sampling procedures were conducted in general accordance with the Standard Practice for Thin-Walled Tube Sampling of Soils (ASTM D1587). Our Geotechnician visually classified the recovered soils and obtained field strength measurements of the recovered soils using a calibrated pocket penetrometer and/or hand torvane. The tube samples were extruded in the field, wrapped in foil, placed in moisture-sealed plastic bags and protected from disturbance during transportation to the laboratory.

Coarse-grained cohesionless soils and fine-grained soils thought to be cohesionless during drilling were collected with the standard penetration test (SPT) sampler driven 18-in by blows from a 140-lb hammer falling 30-in in accordance with the Standard Test method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils (ASTM D1586). The number of blows required to advance the sampler three (3) consecutive 6-in depths are recorded for each corresponding sample on the boring log. The N-value, in blows per foot, is obtained from SPTs by adding the last two (2) blow count numbers. The samples obtained from the split-barrel sampler were visually classified, placed in moisture-sealed containers and transported to our laboratory for testing.

### **Boring Logs**

Our interpretations of general subsurface soil and groundwater conditions at the test boring locations are included on the boring logs in Appendix B. Our interpretations of the soil types throughout the boring depths and the locations of strata changes were based on visual classifications during field sampling and laboratory testing in accordance with the Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System) (ASTM D2487) and the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) (ASTM D2488). The logs include the types and interval depth for each sample along with their corresponding field strength or resistance values. A key to terms and symbols used on the boring logs is also presented in Appendix B.

### Groundwater Measurements

Groundwater level measurements were attempted in the open boreholes when groundwater was first encountered during dry-auger drilling and at 5-min intervals over a 15-min time period. Groundwater measurements obtained from the test borings are presented on the boring logs in Appendix B and are summarized on the following page.



Table 1: Groundwater Level Measurements				
Test Boring	Boring Completion Depth (ft)	Free Water Depth during Dry-Auger Drilling (ft)	15-min Static Water Depth (ft)	15-min Total Borehole Depth (ft)
TB-1	30	14.0	13.9	14.3
TB-2	30	14.6	14.0	15.0

A design groundwater level depth of 14-ft below existing grade was assumed for our study as shown in Figure 1 in Appendix C. Please note groundwater levels can fluctuate with climatic and seasonal variations and should be verified before construction. Accurate determination of the static groundwater level is typically made with a standpipe piezometer. Installation of piezometers to evaluate long-term groundwater conditions at the project site was not included in our scope of work.

## **Laboratory Services**

Laboratory tests were performed in general accordance with ASTM International standards to determine physical and engineering properties of the subsurface strata encountered in the test borings. The types and brief descriptions of the geotechnical laboratory tests performed are presented in Table 2 below. Geotechnical laboratory test results on recovered samples from the test borings are presented on the boring logs in Appendix B.

Table 2: Geotechnical Laboratory Testing Program			
Test Description	Test Method		
Amount of Material Finer than No. 200 Sieve	ASTM D1140		
Unconfined Compression	ASTM D2166		
Water (Moisture) Content	ASTM D2216		
Unconsolidated-Undrained (UU) Triaxial Compression	ASTM D2850		
Liquid Limit, Plastic Limit and Plasticity Index	ASTM D4318		
Density (Unit Weight)	ASTM D7263		

### **Subsurface Conditions**

Our interpretations of subsurface soil and groundwater conditions within the project site are based on information obtained at the test boring locations shown in Appendix A. This information was used as the basis for our conclusions and recommendations presented in this report. Please note the subsurface conditions encountered in the individual project borings can vary at areas not explored by the test borings. If encountered during construction, significant variations within the project site could require reassessment of our recommendations.

The subsurface conditions consisted primarily of stiff to very stiff clays to the 14-ft depth with medium dense sand stratum extending to the boring completion depths of 30-ft below existing grade. As stated previously, the existing shallow groundwater table is located at this interface of the clay and sand strata within this site.



Plots of interpreted design soil strength,  $N_{60}$  corrected blow counts, angles of internal friction, estimated unit weight, and moisture content interpreted from the geotechnical data obtained from the site are shown in Appendix C. These design soil parameters were used to develop the conclusions and recommendations provided in this report and were selected using the subsurface data from the TBs performed for this project.

A line indicating the ratio of undrained shear strength to effective overburden pressure (c/p) equaling 0.31 is superimposed on the undrained shear strength plots in Appendix C. This line represents the minimum value of undrained shear strength with depth according to the SHANSEP (Soil Stress History and Normalized Soil Engineering Properties) relation (Ladd and Foote, 1974.

### **Geotechnical Recommendations**

We understand the project will include the replacement of below grade piping which will require temporary shoring and/or open-cut excavations. We have developed soil design parameters for use with design of below grade structures and utilities based on the subsurface conditions encountered at the test borings performed for the project.

In addition to lateral earth pressures imposed by the effective stress of soil, hydrostatic pressures acting on structures should also be considered for drained conditions. To facilitate analysis of below-grade structures and utilities, we have included design parameters which consider drained (long-term or effective stress) and undrained (short-term or total stress) conditions. All applicable design conditions should be considered for analysis of lateral earth pressures acting on below-grade structures. This section provides design recommendations for temporary and/or permanent below grade structures as well as recommendations for open-cut and/or braced excavations and bedding and backfilling.

### **Open-Cut Excavations**

The open-cut excavation option is the most basic installation technique for below grade structures. This approach provides the best access for construction and has the least effect on the design of the structure. However, dewatering of transmissive strata must be sufficient to avoid slope instabilities and maintain a stable bearing surface. The following considerations should be met in order to maintain safe and stable working conditions during open excavation operations.

According to Occupational Safety and Health Administration (OSHA) standard 29 CFR - Subpart 1926 – Subpart P, if excavations are deeper than 5-ft and the excavations are not performed in stable rock, the excavations must be sloped, shored or shielded. Protective systems for use in excavations greater than 20-ft in depth should be designed by a registered Professional Engineer in accordance with OSHA standard 29 CFR – Part 1926.652(b) and (c). Soil classification, per OSHA guidelines, is based on three (3) types of soils: Type A, Type B and Type C.

Sloped excavations could be considered for below grade excavations. OSHA standards provide four (4) options for the design of sloped or benched excavations [29 CFR Part 1926.652(b)]. Option 2 of this standard is based on soil type strength. Based on the OSHA definitions, the soils encountered in the upper footage of the project site are interpreted as Type B. Excavations in Type B soils should have side slopes no steeper than 1H:1V or sloped angles no steeper than 45° from the horizontal.



### **Lateral Earth Pressures**

For lateral pressures on a permanent structure, the controlling factors include the nature of the retained material, the drainage of the material, and the relative rigidity of the walls. Two (2) soil conditions exist for analyzing lateral pressures on walls, permanent (long-term, drained soil condition) and temporary (short-term, undrained soil condition). Recommended design soil parameters for retention system design for both conditions are provided in the table in Appendix D.

The design of the permanent earth retention structures should consider long-term lateral earth and hydrostatic pressures and the hydrostatic uplift pressures at the base of the structures if the bottom of the structure is below the static groundwater level. For hydrostatic pressure considerations, it should be assumed the static groundwater level is at existing grade. Surcharge loads behind the walls, if present, should be included by considering a lateral uniform load equal to the lateral earth pressure coefficient times the vertical uniform surcharge load.

### Temporary (Short-Term) Lateral Earth Pressures

If sheet piles are used as temporary shoring to facilitate construction of below grade structures, sheet piles could consist of cantilevered walls or braced walls. A cantilever wall derives support from the passive resistance below the mudline to support the active pressures from the soil and hydrostatic pressures above the mudline without an anchorage. This type of wall is suitable for heights up to about 15-ft and is more practical when constructed in stiff clays or granular soils. Internally braced flexible walls can be braced laterally as the excavation proceeds. This restrains lateral movement of the soil and causes loads on the braces which exceed those expected from active earth pressures. Braces can be either long raking braces or relatively short horizontal cross braces between opposing walls. Recommended undrained soil parameters provided in Appendix D should be used for design of temporary sheet pile shoring systems.

## Permanent (Long-Term) Lateral Earth Pressures

Permanent below grade structures should be designed using long-term (drained) soil parameters. The recommended parameters for drained conditions were based on soil friction angles and zero effective cohesion values. The effective or drained friction angles of cohesive soils were estimated using published correlation which relates friction angles to the plasticity indices (Kenney, 1959, Bjerrum and Simons, 1960 and Ladd et al. (1977). For rigid or non-yielding walls, at-rest earth pressure coefficients should be applicable. For yielding walls, active and passive earth pressure coefficients should be considered.

Where sheet piling is used for temporary excavation support to facilitate construction of the below grade structure, backfill will be placed within only a narrow zone between the permanent wall and sheeting, and the sheeting is typically pulled and salvaged. Alternately, the sheet pile could also serve as formwork for below grade cast-in-place concrete walls and remain in place permanently after the concrete retaining wall is constructed. In such situations, the design soil parameters for in-situ soils provided in Appendix D should be used for design.



Where excavations will be made as a sloped cut with temporary slopes on a 1(H):1(V) slope or flatter, lateral earth pressures may be calculated by multiplying the equivalent fluid density of the backfill type by the depth below ground surface. Equivalent fluid densities for various backfill materials and compaction efforts are outlined in Table 3 below. The equivalent fluid densities outlined for the higher compaction effort should be used for backfill with surcharge.

Table 3: Equivalent Fluid Pressures for Permanent Earth Retention System Design Backfill Soil Parameters – Non-Yielding Walls			
	Compaction Effort	Equivalent Fluid Density (pcf)	
Soil Type	(ASTM D698)	Above Water Table	Below Water Table <sup>(1)</sup>
Structural Clay Fill	88% to 92%	65	95
$(10 \le PI \le 20)$	93% to 98%	85	103
General Clay Fill	88% to 92%	75	105
(PI > 20)	93% to 98%	100	113
Structural Sand Fill	88% to 92%	55	88
(Fines content < 25%)	93% to 98%	75	96

**Note:** (1) These magnitudes include a water component, if applicable.

## **Uplift Considerations**

Considering the static groundwater level measurements obtained at the site (approximately 14-ft below existing grade), if the bottom of below-grade structures will extend below the groundwater table, then the uplift pressures resulting from excess piezometric head will need to be resisted. Hydrostatic uplift pressures can be computed by multiplying the water head between the bottom of the excavation and the groundwater elevation by the unit weight of water. We recommend using a factor of safety of 2.0 on the uplift pressure when designing against hydrostatic uplift.

We expect some groundwater seepage could occur within excavations for below grade structures at this project site. We anticipate any water seepage which could occur within the excavations during construction could be removed using conventional sump and pumping equipment. The Contractor should review the soil and groundwater information in this report and plan dewatering systems accordingly.

### **Construction Considerations**

The soils exposed at the base of the deep excavations should be protected from disturbance by the installation of a lean concrete seal slab, flowable fill or other suitable methods. All excavations made for the construction of below-grade structures should conform to OSHA guidelines. A surcharge pressure would be exerted by the excavator on the ground surface adjacent to the sump during construction activities. Large surface loadings nearby can be evaluated on a specific basis using additional pressure at the ground surface near the wall. Typical surcharge loads from construction equipment are on the order of 200-psf to 500-psf.



Design and construction of temporary facilities including excavation retention systems are the responsibility of the Contractor. TWE provides excavation planning comments and suggestions for strictly informational purposes.

To avoid surcharging the temporary sheet pile walls, stockpiling of materials immediately adjacent to the excavation walls should be prohibited. We recommend stockpiled materials be placed away from the excavation at a minimum distance of 6-ft from the temporary sheet pile walls. Experienced personnel who can assess the performance of the retention system being used should monitor all excavations and retaining structures on a continuous basis. A competent supervisor or inspector should be provided by the Contractor to oversee these operations during construction.

## **Bedding and Backfilling**

### Pipe Embedment Zone

The pipe embedment zone is defined as the portion of trench backfill consisting of bedding, haunching and initial backfill. Pipe bedding is the portion of the pipe embedment zone which extends vertically from the top of foundation soils (exposed trench subgrade after excavation) up to a level line at bottom of the pipe between the trench sidewalls. Haunching is the material placed on either side of the pipe from the top of bedding up to the springline of the pipe and horizontally between the trench sidewalls. Initial backfill is the portion of the pipe embedment zone that extends vertically from the springline of the pipe up to a level line 12-in above the top of pipe horizontally between the trench sidewalls.

Bedding material, haunching and initial backfill materials should consist of well-graded gravels and sands, gravel-sand mixtures and/or crushed well-graded rock with little or no fines (GW or SW). These materials should be non-plastic and should have no greater than 15% passing the No. 200 sieve. Trench backfill within the pipe embedment zone should be placed in 6-in compacted lift thicknesses and compacted to a minimum 95% of the maximum dry density as determined by the standard Proctor compaction efforts (ASTM D698) or a minimum of 80% of relative density in accordance with ASTM D4253 (maximum density) and ASTM D4254 (minimum density).

As an alternative, cement-stabilized sand could be substituted as bedding and backfill within the pipe embedment zone in lieu of the above-described materials. Cement-stabilized sand backfill should contain a minimum of 1.5 sacks of Type 1 Portland cement per ton of dry sand and should yield an unconfined compressive strength of at least 100-psi at 48-hrs after mixing. Cement-stabilized sand should be placed in maximum 12-in lifts (loose measure) and compacted to at least 95% of the maximum dry density moisture conditioned from optimum to +3% of optimum moisture content as determined by the Standard Test Method for Moisture-Density (Unit Weight) Relations of Soil-Cement Mixtures (ASTM D558). The material should be placed and compacted to the required density within 4-hrs after mixing.

The bedding material should be capable of providing uniform and stable support without concentrated pressure points. Bedding material should be constructed uniformly over the full length of the pipe. This layer will serve as a working platform for construction and will provide drainage beneath the pipe.



## Trench Zone

The trench zone is the portion of backfill which extends vertically from the top of the pipe embedment zone up to final grade. We recommend structural clay fill material free from debris and/or organic matter be used as backfill within the trench zone. The cohesive clay soils encountered in our project borings could be also considered suitable for backfill within the trench zone provided they are not saturated and contain limited amount of debris or organics.

If needed, structural clay fill should consist of a clean sandy lean clay (CL) or lean clay with sand (CL) material with a liquid limit (LL) less than 40, a plasticity index (PI) between 10 and 20, greater than 60% passing the No. 200 sieve and an organic content less than 4%. Structural clay fill should be placed in thin lifts, moisture conditioned between -2% and +3% of optimum moisture content and compacted to a minimum 95% of the maximum dry density as determined by the Standard Test Method for Laboratory Compaction Characteristics of Soil using Standard Efforts (ASTM D698).

### **Limitations**

## **Scope of Study**

The scope of this study, as well as the conclusions and recommendations provided herein, were developed based on our understanding of the project. Assumptions were made when specific information was unknown. Revisions to our conclusions and recommendations could be necessary as a result of any significant project changes or if our assumptions are incorrect.

Construction dewatering design, earth retention design, and construction site safety are the responsibility of the Contractor and have not been addressed herein. The scope of our study did not include evaluation geologic faults. In addition, assessment of environmental conditions, including investigation for hazardous materials/pollutants/wastes, regulatory compliance, threatened or endangered species, cultural resources, floodplains, and jurisdictional wetlands were beyond the scope of our study.

## Warranty

The professional services which form the basis for this report have been performed using a degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical engineers practicing in the same locality. No warranty, expressed or implied, is made as to the professional advice set forth.

### **Subsurface Variations**

Our interpretations of subsurface conditions are based on data obtained at the boring locations only and only at the times our field exploration were performed. Subsurface variations could exist at areas not explored. The validity of our recommendations is based, in part, on assumptions made about subsurface conditions in areas not explored. Such assumptions can only be confirmed during construction. Therefore, construction observations by TWE are recommended to check for variations in subsurface conditions. Significant changes from our assumptions could require modification to our findings and recommendations.



## **Report Reliance**

This report was prepared as an instrument of service for sole and exclusive use by the Sabine River Authority of Texas and their project team subject to the limitations stated herein and with specific application to the referenced project. This report should not be applied for any other purpose or project except as described herein.

This report shall remain the property of Tolunay-Wong Engineers, Inc. No third party may use or rely upon the information provided herein without our express written consent. If any party other than the Sabine River Authority of Texas and their project team chooses to rely on this instrument without our consent, said party expressly waives any rights it may otherwise have to claim its reliance on this instrument of professional service that resulted in injury, loss, or damage of any kind and will defend and indemnify Tolunay-Wong Engineers, Inc., from any such claim.

## **Report Distribution**

This report is intended to be used in its entirety. This report should be considered in whole and should not be distributed or made available in partial form.

### Closing

We appreciate the opportunity to provide our services for this project. If you have any questions regarding this report or if we can be of further assistance, please contact us at (409) 840-4214.

Sincerely,

TOLUNAY-WONG ENGINEERS, INC.

TBPELS Firm Registration No. F-124

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TO/TGH/to

Appendices: A) Test Boring Location Plan

B) Test Boring Logs and Key to Terms and Symbols

TREY O'CONNOR

C) Soil Design Parameters

D) Recommended Soil Parameters for Lateral Earth Pressure Design



# **APPENDIX A**

TEST BORING LOCATION PLAN





## **APPENDIX B**

TEST BORING LOGS AND KEY TO TERMS AND SYMBOLS

ROJECT:			LOG OF BORI  eek Siphon Replacement ville, Texas		ENT:	S	Sabin Orang				rity o	f Tex	as			
ELEVATION (FT)	SAMPLE TYPE	SYMBOL	COORDINATES: N 30° 09' 25.15" W 93° 52' 34.19"  SURFACE ELEVATION:  DRILLING METHOD: Dry Augered: 0' to 15' Wash Bored: 15' to 30'  MATERIAL DESCRIPTION	(P) POCKET PEN (tsf) (T) TORVANE (tsf)	STD. PENETRATION TEST BLOWCOUNT		MOISTURE CONTENT (%)	누	LIQUID LIMIT (%)		LAB MINI VANE SHEAR (tsf)	COMPRESSIVE STRENGTH (tsf)	FAILURE STRAIN (%)	CONFINING PRESSURE (psi)	PASSING #200 SIEVE (%)	OTHER TESTS
-5			Very stiff, brown and tan LEAN CLAY with SAND (CL) -with ferrous nodules from 0' to 2' -becomes stiff at 3.5'	(P)4.50	3/6" 7/6" 7/6"		9	107	27	12		2.77	3		70	
-			-with ferrous nodules from 6' to 8'	(P)2.75			9	102	23	8						
- 10 - - -			Very stiff, brown and tan LEAN CLAY (CL), with sand pockets -with ferrous nodules from 9' to 11'	(P)3.25 (P)2.75			22	105	38	22		2.08	15	8	90	
- 15 - -		0439.00 (1300) (1300) (1300) (1300) (1300) (1300)	Medium dense brown POORLY GRADED SAND with SILT (SP-SM)		5/6" 7/6" 8/6"		25								11	
- - 20 - -					5/6" 8/6" 12/6"											
- 25 -		7.415-1.	Medium dense brown SILTY SAND (SM)		6/6" 7/6" 15/6"		21								14	
- - - 30 - - -			Bottom @ 30'		7/6" 8/6" 14/6"											

COMPLETION DEPTH:
DATE BORING STARTED:
DATE BORING COMPLETED:
LOGGER:
PROJECT NO.:

30 ft 07/03/24 07/03/24 J. Tamez 24.23.122 DTES: Free Water Depth = 14.0-ft. 15-min Static Water Depth = 13.9-ft. 15-min Total Ho Depth = 14.3-ft. Borehole was backfilled with cement-bentonite grout.

Page 1 of 1

		eek Siphon Replacement ville, Texas	CLI	ENT:		Sabin Orang				rity o	t lex	as			
DEPTH (FT)	SYMBOL	COORDINATES: N 30° 09' 25.06" W 93° 52' 32.64"  SURFACE ELEVATION:  DRILLING METHOD: Dry Augered: 0' to 14' Wash Bored: 14' to 30'  MATERIAL DESCRIPTION	(P) POCKET PEN (tsf) (T) TORVANE (tsf)	STD. PENETRATION TEST BLOWCOUNT	N <sub>60</sub>	MOISTURE CONTENT (%)	DRY UNIT WEIGHT (pcf)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	LAB MINI VANE SHEAR (tsf)	COMPRESSIVE STRENGTH (tsf)	FAILURE STRAIN (%)	CONFINING PRESSURE (psi)	PASSING #200 SIEVE (%)	OTHER TESTS
0		Hard, brown and tan LEAN CLAY with SAND (CL), with ferrous nodules	(P)4.50			10	108				5.13	2	6	72	
- - - 5		-becomes brown at 3' -very stiff from 3' to 5'	(P)3.50			11	95	40	24						
-			(P)4.50												
- 10		Stiff brown FAT CLAY with SAND (CH)		4/6" 6/6" 7/6"		13		52	36					73	
-		-becomes very stiff at 12'	(P)2.75			17	113				2.59	15	11		
- 15 - -		Medium dense gray SILTY SAND (SM)		6/6" 8/6" 15/6"											
	7	-becomes brown at 18.5'		4/6" 6/6" 13/6"		23								18	
- - - 25	7			3/6" 9/6" 13/6"											
30		D. 11 O. 201		5/6" 8/6" 16/6"		25								21	
- - - -		Bottom @ 30'													

COMPLETION DEPTH:
DATE BORING STARTED:
DATE BORING COMPLETED:
LOGGER:
PROJECT NO.:

30 ft 07/03/24 07/03/24 J. Tamez 24.23.122

NOTES: Free Water Depth = 14.6-ft. 15-min Static Water Depth = 14.0-ft. 15-min Total Household Depth = 15.0-ft. Borehold was backfilled with cement-bentonite grout.

Page 1 of 1

## KEY TO SYMBOLS AND TERMS USED ON BORING LOGS FOR SOIL

#### **Most Common Unified Soil Classifications System Symbols**

L	ean Clay (CL)		Well Graded Sand (SW)
L	ean Clay w/ Sand (CL)		Well Graded Sand w/ Gravel (SW-GM)
Sa Sa	andy Lean Clay (CL)		Poorly Graded Sand (SP)
F	at Clay (CH)		Poorly Graded Sand w/ Silt (SP-SM)
F	at Clay w/ Sand (CH)		Silt (ML)
Sa	andy Fat Clay (CH)		Elastic Silt (MH)
Si	ilty Clay (CL-ML)		Elastic Silt w/ Sand (MH-SP)
S:	andy Silty Clay (CL-ML)	10190	Silty Gravel (GM)
Si	ilty Clayey Sand (SC-SM)	/. K	Clayey Gravel (GC)
// // C	layey Sand (SC)	•	Well Graded Gravel (GW)
Sa	andy Silt (ML)		Well Graded Gravel w/ Sand (SP-GM)
Si	ilty Sand (SM)	• •	Poorly Graded Gravel (GP)
Sil	lt w/ Sand (ML)		Peat

## **Miscellaneous Materials**





Concrete



Asphalt and/or Base

#### Sampler Symbols

#### Meaning

Pavement core

Thin - walled tube sample

Standard Penetration Test (SPT)

Auger sample

Sampling attempt with no recovery

**TxDOT Cone Penetrometer Test** 

## Field Test Data

2.50 Pocket penetrometer reading in tons per square foot (T)1.13Torvane Measurement in tons per square foot 8/6" Blow count per 6 - in. interval of the Standard Penetration Test Observed free water during drilling Observed static water level

#### **Laboratory Test Data**

Wc (%)	Moisture content in percent
Dens. (pcf)	Dry unit weight in pounds per cubic foot
Qu (tsf)	Unconfined compressive strength in tons per square foot
UU (tsf)	Compressive strength under confining pressure in tons per square foot
Str. (%)	Strain at failure in percent
LL	Liquid Limit in percent
PI	Plasticity Index
#200 (%)	Percent passing the No. 200 mesh sieve
( )	Confining pressure in pounds per square inch
*	Slickensided failure
**	Did not fail @ 15% strain

#### RELATIVE DENSITY OF COHESIONLESS & SEMI-COHESIONLESS SOILS

The following descriptive terms for relative density apply to cohesionless soils such as gravels, silty sands, and sands as well as semi-cohesive and semi-cohesionless soils such as sandy silts, and clayey sands.

Relative Density	Typical N <sub>60</sub> <u>V</u> alue Range*
Very Loose	0-4
Loose	5-10
Medium Dense	11-30
Dense	31-50
Very Dense	Over 50

<sup>\*</sup>  $N_{60}$  is the number of blows from a 140-lb weight having a free fall of 30-in. required to penetrate the final 12-in. of an 18-in. sample interval, corrected for field procedure to an average energy ratio of 60% (Terzaghi, Peck, and Mesri, 1996).

#### CONSISTENCY OF COHESIVE SOILS

The following descriptive terms for consistency apply to cohesive soils such as clays, sandy clays, and silty clays.

Typical Compressive		Typical SPT "N 60"
Strength (tsf)	<b>Consistency</b>	Value Range**
$q_{11} < 0.25$	Very soft	≤ 2
$q_u < 0.25$ $0.25 \le q_u < 0.50$	Soft	3-4
$0.50 \le q_u^{10} < 1.00$	Firm	5-8
$1.00 \le q_{11} < 2.00$	Stiff	9-15
$2.00 \le q_{11} < 4.00$	Very Stiff	16-30
$q_{11} \ge 4.00$	Hard	≥31

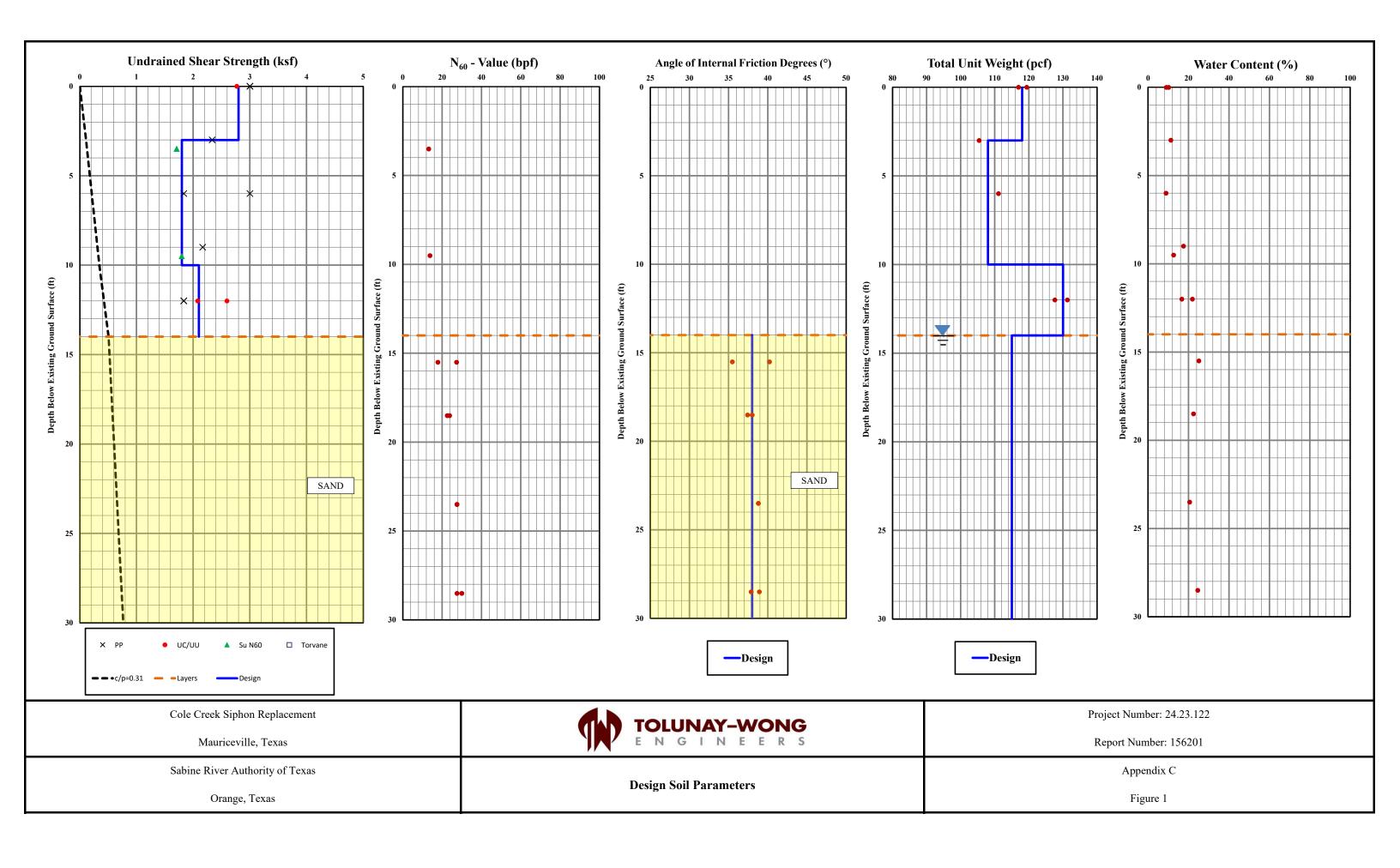
<sup>\*\*</sup> An "N<sub>60</sub>" value of 31 or greater corresponds to a hard consistency. The correlation of consistency with a typical SPT "N<sub>60</sub>" value range is approximate.





## **APPENDIX C**

SOIL DESIGN PARAMETERS





## **APPENDIX D**

RECOMMENDED DESIGN PARAMETERS FOR LATERAL EARTH PRESSURE DESIGN

	Recommended Soil Parameters for Lateral Earth Pressure Design															
Soil		Donath Donas			Undrai	ned (Sh	ort-Term	) Case	Drained (Long-Term) Case							
Layer	Soil Description	Depth Range (ft)	. •	. •		. •	γ (pcf)	γ' (pcf)	c (psf)	φ (°)	δ (°)	a (psf)	c' (psf)	φ' (°)	δ (°)	a (psf)
1	Very Stiff Clay	0 to 3	118	118	2,800	0		950	0	28		0				
2	Stiff Clay	3 to 10	108	108	1,800	0	See	910	0	28	See	0				
3	Very Stiff Clay	10 to 14	130	130	2,100	0	Notes (4) - & (5)	950	200	28	Notes (4) & (5)	0				
4	Medium Dense Sand	14 to 30	115	53	0	38		0	0	38		0				

#### Notes:

- (1) Plasticity index (PI) was used to estimate drained friction angle for cohesive soils.
- (2) Effective cohesion values were estimated using published correlations and our experience with similar soils.
- (3) Effective cohesion values at shallow depths were neglecetd to account for weathering and strain softening effects.
- (4) If Rankine's earth pressure theory is used, the wall friction should be neglected.
- (5) If Coulomb's earth pressure theory is used, the wall friction can be considered.
- (6) Applicable earth pressure coefficiens (Active, Passive and At-Rest) can be estimated from the above soil parameters using appropriate earth pressure theory.

## Legend:

 $\gamma$  = Total Unit Weight  $\phi$  = Friction Angle

 $\gamma'$  = Submerged Unit Weight  $\delta$  = Angle of Wall Friction,  $\delta$  = (0.5)  $\varphi$  for steel,  $\delta$  = (0.67)  $\varphi$  for concrete

c = Cohesion a = Adhesion

Cole Creek Siphon Replacement Mauriceville, Texas	Tolunay-Wong Engineers, Inc.	Project No. 24.23.122 Report No. 156201
Sabine River Authority of Texas	Recommended Soil Parameters	Appendix D
Orange, Texas	for Lateral Earth Pressure Design	Figure 1



TECHNICAL SPECIFICATIONS

## Sabine River Authority of Texas Cole Creek Siphon Project

## **Technical Specifications**

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## Item 01 57 13 - EROSION AND SEDIMENTATION CONTROLS

#### 01-57-13.01 DESCRIPTION

This Item shall govern erosion and sedimentation control related practices which must be utilized during construction activities. General source controls for storm water pollution prevention measures are addressed in and governed by Technical Specification 01 57 23.

No clearing and grubbing, rough cutting, or grading/reshaping activities shall be permitted until erosion and sedimentation control systems are in place.

All construction operations under this Contract shall be performed in strict compliance with the erosion control practices described in this item, as a minimum. Substitute and/or additional erosion control practices or measures may be submitted for approval by the Owner; or in the case of Contractor's practices which create erosion or pollution issues, the Owner will require Contractor to implement temporary measures to control erosion at no additional cost to the Owner.

All sediment controls installed in association with this project shall be removed upon final acceptance of surface restoration.

#### 01-57-13.02 MATERIALS

<u>Hay Bales.</u> Square hay bales having minimum length of 30" and weighing not less than 50 lbs each may be staked in in positions as designated on the plans to establish a sediment control (SC) boundary. Bales must be bound by wire, nylon, or polypropylene string and shall be composed entirely of vegetative matter.

Hay bales shall be embedded in the soil a minimum of 4" and securely anchored with 3/8" rebar or 2"x2" wood stakes driven through the bales. The first anchor stake should be angled toward the adjacent bale to force them together and the second anchor stake should be driven perpendicular to the top surface of the bale.

Hay bales shall be placed in rows with ends tightly abutting the adjacent bales and positioned with bindings parallel to the ground.

<u>Sediment Control (Filter Fabric) Fence.</u> Sediment control fence (SCF) or Filter Fabric Fence (FFF) shall be more fully defined as net-reinforced fence with woven geotextile filter fabric as specified herein.

<u>Posts</u> – Provide essentially straight wood or steel posts with a minimum length of 48", unless otherwise shown on the plans. Acceptable posts shall conform to the follow criteria:

- Soft wood posts not less than 3" in diameter, or
- Soft wood boards nominally 2" × 4", or
- Hardwood posts with a minimum cross-section of 1.5" × 1.5", or
- T-shaped or L-shaped steel posts with a minimum weight of 1.25 lb. per foot.

<u>Net Reinforcement</u> – Galvanized, welded wire mesh of at least 12.5 gauge (SWG) shall be used. Installed reinforcement shall be a minimum of 24" tall, unless otherwise specified in the plans and have a maximum opening size of  $2" \times 4"$ .

<u>Filter Fabric</u> – Provide a woven geotextile fabric whose primary use is for control of sediment in surface runoff water.

<u>Staples</u> – Provide staples with a crown at least ¾" wide and legs ½" long to secure fabric to wooden posts. Provide appropriately sized clips when utilizing steel posts to secure fabric. Staples or clips must be sufficiently secure and spaced to prevent sagging, buckling, or tear-away of fabric when subjected to flowing water and sediment containment loading.

#### 01-57-13.03 CONSTRUCTION

The Owner has the authority to define erodible earth and the authority to limit the surface area of erodible earth material exposed by clearing and grubbing, regrading, excavation, borrow and embankment to be proportional to the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other permanent pollution prevention control measures current. The amount of surface area of erodible earth material exposed at one time for the construction operations shall not exceed 5 acres unless otherwise approved in writing by the Owner.

Contractor shall be responsible for implementing a storm water pollution prevention plan (SWPPP) for the project site in accordance with the plans and specifications, TPDES General Permit TXR150000, and as directed. Coordinate storm water management with all other work on the project. Contractor shall be responsible for preventing water pollution from storm water associated with construction activity from entering any surface water or private property on or adjacent to the project site

Equipment and vehicles shall be strictly prohibited by the Contractor from maneuvering on areas outside of the dedicated rights-of-way and easements for construction. Damages caused by construction traffic to erosion and sedimentation control systems shall be repaired immediately.

<u>Erosion and Sedimentation Control.</u> Contractor shall install and continuously maintain, to the satisfaction of the Owner, erosion and sedimentation control structures in locations designated on the Plans. No deviation from the location or alignment of said control structures is permissible without written consent from the Owner.

Not less than 10 business day prior to commencement of sediment control structure installations, Contractor shall submit his choice of material(s), including selected locations for each type of feature to the Owner for approval.

Upon completion of the project, all temporary erosion and sedimentation control structures shall be removed and the ground surface restored.

<u>Temporary Seeding.</u> Temporary seeding methods shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Temporary seeding shall be done according to the specification item "Seeding", subparagraph "Broadcast".

Seeding". If performed, Temporary Seeding as described herein will not be measured or paid for separately but will be considered subsidiary to pay item for "Erosion and Sedimentation Controls".

### 01-57-13.04 MEASUREMENT

Measurement of this Item, as specified herein and listed in the Bid, shall be by "Lump Sum". No additional measure will be made for temporary seeding, sediment control structure maintenance, or similar activity. Removal and final disposition of temporary sediment control and erosion measures shall not be measured separately.

#### 01-57-13.05 PAYMENT

Partial payments of the lump sum bid value for this Item shall be as follows.

- A. When the initial sediment control barriers are installed and accepted, the lesser of 50% of the Erosion and Sedimentation Controls lump sum bid or 3% of the total contract amount will be eligible for payment.
- B. When 50% of the adjusted contact amount for construction items is earned, the lesser of 75% of the Erosion and Sedimentation Controls lump sum bid or 5% of the total contract amount will be eligible for payment. Any previous payment under this item will be deducted from the above amount.
- C. Upon completion and acceptance of all work under this contract, including removal of features installed in accordance with the Item and accepted surface restoration, payment for the remainder of the Erosion and Sedimentation Controls lump sum bid will be made.

Any and all sediment control structure maintenance, dust control activities, and temporary seeding shall be considered incidental to Contractor's performance of Work and will not be eligible for separate payment.

END OF SECTION 01 57 13

## Item 01 57 23 - GENERAL SOURCE CONTROLS

#### 01-57-23.01 **DESCRIPTION**

This Item shall govern general storm water pollution prevention measures which must be utilized during construction activities. Erosion and sedimentation control related practices are specifically addressed in and governed by Technical Specification 01 57 13.

#### 01-57-23.02 EXECUTION

Equipment Maintenance and Repair. Maintenance and repair of construction machinery and equipment must be confined to areas specifically designated for that purpose. Such designated areas must be located and designed such that oils, gasoline, greases, solvents, and other potential pollutants cannot be washed directly into receiving streams, storm water conveyance systems, or freshwater supply canals. The maintenance and repair area(s) must be provided with adequate waste disposal receptacles for liquid as well as solid wastes. Maintenance areas should be cleaned and inspected daily. Contractor shall submit, for approval by the Owner, his plan for an equipment maintenance and repair area.

On construction sites where work on equipment in the designated area is not feasible (i.e. equipment cannot be moved to the designated area with repair in its current location) care must be taken during each individual repair or maintenance operation to prevent potential pollutants from becoming available to be washed into streams or conveyance systems.

<u>Waste Collection and Disposal.</u> Contractor shall formulate a plan for the collection and disposal of waste materials on the construction site. The plan must designate locations for trash and waste receptacles and establish a collection schedule. Methods for ultimate disposal of waste must be specified and carried out in accordance with local, state, and federal health and safety regulations. Special provisions must be made for collection and disposal of liquid wastes and toxic or hazardous materials.

Receptacles and other waste collection areas must be kept neat and orderly to the extent possible. Waste shall not be allowed to overflow its container or accumulate for excessively long periods of time. Trash collection points must be located where they will least likely be affected by concentrated storm water runoff.

<u>Washing Areas.</u> Vehicles such as concrete or dump trucks and other construction equipment must not be washed at locations where the runoff will flow directly into receiving streams, storm water conveyance systems, or freshwater supply canals. Special areas must be designated for vehicle washing. These areas should be located where the wash water will spread out and evaporate or infiltrate directly into the ground, or where the runoff can be collected in a temporary holding or seepage basin. Wash areas must have gravel or rock bases to minimize mud generation.

<u>Storage of Construction Materials, Chemicals, Etc.</u> Sites where chemicals, cements, solvents, paints, or other potential water pollutants are to be stored, must be isolated in areas where they will not cause runoff pollution. Toxic chemicals and materials, such as pesticides, paints, and acids must be stored in accordance with the manufacturer's guidelines. Groundwater resources must be protected from leaching

by placing a plastic mat, packed clay, tar paper, or other impervious materials on any areas where toxic liquids are to be opened or stored.

<u>Demolition Areas.</u> Demolition projects can generate large amounts of dust with significant concentrations of heavy metals or other toxic pollutants. Dust control techniques shall be used to limit the transport of airborne pollutants. Any water or slurry used to control dust associated with demolition activities must be retained, collected, and disposed of in an approved manner, and not allowed to run directly into watercourses or water conveyance systems.

<u>Sanitary Facilities.</u> All construction sites must be provided with adequate sanitary facilities for workers in accordance with applicable health regulations.

<u>Pesticides.</u> Pesticides used during construction should be stored and used in accordance with manufactures' guidelines and with local, state, and federal regulations. Overuse should be avoided and great care taken to prevent accidental spillage. Pesticide containers must <u>never</u> be washed in or near watercourses or water conveyance systems.

#### 01-57-23.03 SUBMITTALS

Contractor shall submit, for approval by the Owner, his plan for compliance with each of the subparagraphs listed in the Execution section of this Item.

#### 01-57-23.04 MEASUREMENT

Measurement of this Item will not be made.

#### 01-57-23.05 PAYMENT

This Item shall be considered incidental to Contractor's performance of Work and will not be eligible for separate payment.

END OF SECTION 01 57 23

## Item 01 71 13 - MOBILIZATION

#### 01-71-13.01 **DESCRIPTION**

This Item shall govern the mobilization of personnel, equipment, and supplies to and from the project site in preparation for beginning work and completing work on contract items. Mobilization shall include, but is not limited to, movement of personnel, equipment, materials, supplies, etc. to the project site and the establishment of office or other facilities necessary prior to beginning the work.

#### 01-71-13.02 MEASUREMENT

Measurement of this Item, as specified herein and listed in the Bid, shall be by "Lump Sum", as the work progresses.

#### 01-71-13.03 PAYMENT

Partial payments of the lump sum bid value for this Item shall be as follows. The adjusted contract amount for construction items as used below is defined as the total contract amount less the lump sum bid amount for Mobilization.

- A. When 1% of the adjusted contact amount for construction items is earned, the lesser of 50% of the Mobilization lump sum bid or 5% of the total contract amount will be eligible for payment.
- B. When 5% of the adjusted contact amount for construction items is earned, the lesser of 75% of the Mobilization lump sum bid or 10% of the total contract amount will be eligible for payment. Any previous payment under this item will be deducted from the above amount.
- C. When 10% of the adjusted contact amount for construction items is earned, the lesser of 90% of the Mobilization lump sum bid or 10% of the total contract amount will be eligible for payment. Any previous payment under this item will be deducted from the above amount.
- D. Upon completion and acceptance of all work under this contract, payment for the remainder of the Mobilization lump sum bid will be made.

END OF SECTION 01 71 13

## Item 01 71 33 - EXISTING UTILITIES & PIPELINES

#### 01-71-33.01 DESCRIPTION

This Item shall govern the identification and protection of aerial and subsurface pipelines and utilities within the construction area.

#### 01-71-33.02 GENERAL

Utility and pipeline locations shown on the plans are for informational purposes only and may not represent all underground features or be shown in their exact positions. The Contractor shall be responsible for locating and protecting all aerial and underground lines within the construction area during his activities and for support and maintenance in position of all pipes, ducts, conduits or other existing feature.

The Contractor is fully responsible for identification and location of ALL pipelines and utilities in the construction area which may be affected by or impact his activities. The Contractor shall be responsible for any damage to existing pipeline and utilities and shall promptly repair same, or make arrangements for such repair with the owner of the feature involved.

#### 01-71-33.03 ADDITIONAL INVESTIGATION

Positive visual confirmation of underground line size and location shall be required for any line marked by the facility owner within 5' of the proposed installation of any concrete or steel pile. Visual confirmation shall be by hydro-excavation. Contractor shall notify Owner of any pipelines identified with 5' radius of anticipated pile installations. Contractor shall coordinated and hire hydro-excavation services.

#### 01-71-33.04 COORDINATION REQUIREMENTS

In all cases the Contractor shall coordinate his work with the owners of the various pipelines and utilities and shall notify their proper representative not less than forty-eight (48) hours in advance of any work in the vicinity of the line.

No pipeline or utility adjustments are anticipated in association with this contract. Any identified obstruction to installation of work in accordance with the plans shall be immediately reported to the Owner for assessment.

### 01-71-33.05 MEASUREMENT

Direct measurement of this Item will not be made.

#### 01-71-33.06 PAYMENT

Contractor shall coordinate with project Owner, utility/pipeline owners, and with hydro-excavation provider as required, for the location and protection of underground utilities. Contractor shall pay for required hydro-excavation services outside of this Contract, and project Owner shall reimburse Contractor for direct cost of hydro-excavation services, plus 10% mark-up for Contractor's coordination services.

All activities related to this item, except hydro-excavation services, shall be considered incidental to pay items provided for in the Bid and Contractor's performance of Work and will not be eligible for separate payment.

END OF SECTION 01 71 33

## Item 01 78 39 - PROJECT RECORD DOCUMENTS

#### 01-78-39.01 DESCRIPTION

This Item shall govern the preparation and maintenance of record documents for the project to accurately reflect the construction "As Built." Documents must be maintained up to date on an ongoing basis. Proof of this shall be required for each monthly pay estimate. Documents must also be submitted at work completion as a condition of final acceptance.

#### 01-78-39.02 GENERAL JOBSITE RECORD MAINTENANCE

For the duration of the project, the Contractor shall maintain, at the job site, one copy of:

- 1. Contract drawings.
- 2. As-Built drawings.
- 3. Specifications.
- 4. Addenda.
- 5. Reviewed shop drawings.
- 6. Change orders and field orders.
- 7. Other contract modifications.
- 8. Field test records.
- 9. Project correspondence.

Label each document "PROJECT RECORD" in neat, large, printed letters. Store record documents in an approved location apart from documents used for construction. Do not use record documents for construction purposes. Maintain orderly field files. Maintain documents in clean, dry, legible condition. Make documents and samples available at all times for inspection by the Owner.

### 01-78-39.03 PROJECT RECORD MAINTENANCE

All deviations from the construction plans, whether new installation or "as-found" at the site, shall be marked legibly in RED INK.

Keep record documents current. Do not permanently conceal any work until required information has been recorded.

Legibly mark contract drawings to record actual construction:

- 1. Alignment and profile of all pipes, including location and depth of any appurtenances.
- 2. Horizontal locations and vertical alignments of all piling.
- 3. Horizontal and vertical locations and alignments of all concrete installations whether pre-cast or cast-in-place items.
- 4. Location of identified, located, or uncovered pipelines, utilities and other subsurface appurtenances referenced to permanent surface improvements.
- 5. Field changes of dimension and detail.
- 6. Changes made by change order or field order.
- 7. Details not on original contract drawings.

Legibly mark specifications and addenda to record:

- 1. Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed.
- 2. Changes made by change order or field order.
- 3. Other matters not originally specified.

Legibly annotate shop drawings to record changes made after review.

#### 01-78-39.04 SUBMITTALS

At project completion, deliver record documents to the Owner. Place all letter-sized material in a 3-ring binder, neatly indexed. Bind contract drawings and shop drawings in rolls of convenient size for ease of handling.

Accompany the SUBMITTAL with a transmittal letter in duplicate, containing:

- 1. Date.
- 2. Project title and number.
- 3. Contractor's name and address.
- 4. Title and number of each record document.
- 5. Certification that each document as submitted is complete and accurate.
- 6. Signature of Contractor.

## 01-78-39.05 MEASUREMENT

Direct measurement of this Item will not be made.

#### 01-78-39.06 PAYMENT

This Item shall be considered incidental to pay items provided for in the Bid and Contractor's performance of Work and will not be eligible for separate payment; however, proof that record documents are being continuously and accurately maintained shall be required prior to processing of each monthly pay estimate. Documents must also be submitted at work completion as a condition of final acceptance.

END OF SECTION 01 78 39

## Item 02 32 00 - SUBSURFACE SOIL CONDITIONS

#### 02-32-00.01 DESCRIPTION

This Item shall govern subsurface soil explorations and define any available data.

#### 02-32-00.02 GENERAL

Soil borings have been conducted as part of this project. A copy of the boring logs and the soils report is included in the Appendix. The contractor is directed to carefully review the provided geotechnical information to assess likely soil stability and groundwater conditions at the construction site. The Contractor may, with the permission of the Owner, conduct his own subsurface investigation to establish the condition of the soil. Neither this specification nor any other portion of the Plans and Specifications shall be construed as being a warrant of subsurface conditions.

Bidders should visit the proposed project site to acquaint themselves with the site conditions prior to bidding on the project.

#### 02-32-00.03 ADDITIONAL INVESTIGATION

At the Contractor's discretion and only with written approval from the Owner, the Contractor may obtain additional subsurface information for structural analysis. For consideration of approval, the Contractor shall submit, to the Owner, his plan of construction, excavation, or other subsurface exploration, including sketches and other information, covering in detail his proposed construction methods, procedures, and equipment.

Any additional investigation shall be at the sole expense of the Contactor with no additional cost to the Owner.

#### 02-32-00.04 MEASUREMENT

No measurement for this Item will not be made.

#### 02-32-00.05 PAYMENT

This Item is of an informative nature and shall be considered incidental to pay items provided for in the Bid and Contractor's performance of Work. Additional exploration or other data collected by the Contractor shall be at the Contractor's sole expense.

END OF SECTION 02 32 00

## Item 02 41 00 - EXISTING STRUCTURE DISMANTLE AND REMOVE

#### 02-41-00.01 **DESCRIPTION**

This Item shall govern the removal and disposal of existing structures or features, in whole or in part, as noted on the plans.

#### 02-41-00.02 MATERIALS

Material utilized to fill voids created by D&R activities shall be Select Fill, conforming to and placed in accordance with technical specification Item 31 24 00 for Embankment and Fill.

#### 02-41-00.03 SUBMITTALS

Contractor shall prepare a detailed demolition plan for approval by the Owner. The demolition plan must define the equipment and handling method(s) to be utilized in completing work under this Item. Because isolation of the existing structure and the disruption of water flow are required for demolition activities, the plan must include a detailed schedule for all D&R activities that require water flow interruptions, and plans to address delays in work while water flow is interrupted or in the event of a downstream water supply emergency requiring the reactivation of canal flows.

### 02-41-00.04 **DEMOLITION**

Contractor shall exercise extreme care to not damage, compromise, or otherwise affect any existing structure or feature which is not designated for dismantling or removal under this Project. If any feature, or part thereof, not specifically designated in the Plans for dismantling and removal under this Project is damaged, the Contractor shall IMMEDIATELY contact the Owner for direction on how to proceed. Any damages shall be restored to the satisfaction of the Owner without additional cost to the Owner. Owner, may at his discretion, chose to make necessary repairs, for which the Contractor shall be financially responsible.

Any concrete structure designated for partial removal shall be sawcut to fully separate the portion to be removed from the portion to remain. In-situ breaking or "sledging" of any concrete prior to removal shall not be permitted. Concrete may be cut into smaller, more manageable pieces for handling and removal.

Contractor shall provide not less than 3 working days notice to the Owner prior to commencement of any isolation or re-flooding activities within the canal or existing structure.

The Owner will inspect all D&R activities, prior to re-flooding and commencement of new construction in area of D&R.

#### 02-41-00.05 REMOVAL AND DEPOSITION

Concrete, steel, and timbers removed as part of the project will immediately become the property of the Contractor. Contractor shall be responsible for removal and disposal of all materials demolished and removed as part of the project.

Any temporary storage or stock piling of materials or structure removed in conjunction with this project shall be maintained within the approved project limits and done in a neat and orderly manner. If, at any time, in the opinion of the Owner, the temporary storage is deemed a nuisance, hazard, or threat to human health or safety or to the operation of the Canal, to the adjacent property, or to the general public, then Contractor shall immediately remove any objectionable material from the construction site.

Contractor shall comply with all applicable local, State, and Federal regulations in disposal of all materials.

#### 02-41-00.06 MEASUREMENT

Measurement of this Item, as specified herein and listed in the Bid, shall be by "Unit Price". As dismantling and removal can encompass various types of original construction, each item shall be measured in accordance with the applicable Bid Item. If no Bid Item is listed for work required by the plans, separate measurement for dismantling and removal of such items shall not be made.

Measurement of all pay items under this specification shall not exceed the limits designated on the plans without prior approval by the Owner.

Excess removal, or additional removals made necessary due to Contractor's damage to features intended to remain, shall not be considered for additional measure of any payable Item.

## 02-41-00.07 PAYMENT

Payment for items specified for dismantling and removal as part of this Project shall be per the Contractor's bid by "Unit Price". Items designated in the Project Plans for dismantling and removal which are not separately identified in the Bid shall be considered incidental to Contractor's performance of Work and will not be eligible for separate payment.

Partial or final payments shall be full compensation for demolition plan preparation, loading, hauling, disposal, stockpiling, removal of appurtenances, associated excavation and backfill, equipment, labor, tools, and incidentals.

No payment for repair of items not designated for D&R which are damaged by Contractor's operations regardless of if those damages occurred during D&R activities or otherwise.

END OF SECTION 02 41 00

## Item 03 00 00 - GENERAL CONCRETE SPECIFICATIONS

#### 03-00-00.01 DESCRIPTION

This Item shall govern the materials used, the storing, measuring and handling of materials, the proportioning and mixing, and the placement, protection, curing, and finishing of concrete as required on this project.

#### 03-00-00.02 GENERAL

Concrete shall be of the class indicated in the plans and shall be composed of Portland cement, mineral filler if necessary, fine aggregate, course aggregate, and water proportioned and mixed as specified herein. All concrete shall conform to and be placed in accordance with the latest revision of the American Concrete Institute's Building Code Requirements for Reinforced Concrete.

#### 03-00-00.03 MATERIALS

<u>Cement</u> shall be Type I Portland Cement, the composition, marking, handling and storage of which shall conform to ASTM C-150. Type III (High Early Strength) cement may be used if approved by the Owner. Cement which has become damp, lumpy or otherwise affected so as to reduce its strength shall not be used in the work.

<u>Aggregates</u> shall be clean, uncoated, and free of any impurities other than nominal amounts of fine clay, the limits of which are specified herein. Aggregates shall conform to ASTM C-33 except that the gradation shall be within limits specified below:

FINE AGGREGATE		<u>CC</u>	ARSE AGGREGATE	
			% Passing	
Sieve Size	% Passing	<u>Sieve Size</u>	<u>1-1/2"</u>	<u>1"</u>
4	95-100	1-1/2"	95-100	
100	0-5	1"		90-100
		3/4"	40-70	
		1/2"		25-60
		3/8"	10-30	
		#4	0-10	0-10
Clay	3% Max	Clay	1% Max	

#### 03-00-00.04 MISCELLANEOUS

<u>Water</u> shall be clean and free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious substances.

<u>Bar Supports</u> (chairs) shall be plastic, plastic protected wire, stainless steel, or precast concrete supports. Precast concrete bar supports shall be wedge-shaped, not larger than 3-1/2 X 3-1/2 inches and of thickness equal to that indicated for concrete cover and shall have an embedded hooked tie wire for anchorage.

<u>Metal Accessories</u> shall be spacers, chairs, ties, and other approved devices necessary for properly assembling, spacing and supporting the reinforcement in place.

<u>Expansion Joint Material</u> shall be premolded saturated felt, or other approved material, not less than plan thickness and as wide as the slab depth.

#### 03-00-00.05 MIXING AND PROPORTIONING

Concrete may be proportioned and mixed on the job, dry-batched for mixing on the job, or procured from a "ready mixed" concrete plant. Concrete mix designs shall be submitted to Owner prior to placement for approval.

If "ready mixed", the mixing and transportation operations shall conform to ASTM C-94. Mixing water shall not be added after a truck has left the plant. No concrete shall be used in the work which has been held longer than one hour in a mixer truck.

If dry-batching to the job site, the batching plant operation shall conform to ASTM C-94. Transportation of dry materials shall be performed in such manner as to prevent loss, segregation or contamination of the ingredients.

If job-proportioned and mixed, the aggregate shall be stockpiled separately and handled in such a manner as to prevent the inclusion of any foreign materials. Cement shall be stored in a watertight building with the floor off the ground. Except for emergency hand-mixing under approved conditions, all concrete shall be machine-mixed in an approved type mixer for a minimum period of 1-1/2 minutes in a drum rotating at the peripheral speed of about 200 feet per minute.

Aggregate shall be proportioned by weight unless a satisfactory volumetric method of measure is approved by the Owner. The use of fractional sacks of cement will not be permitted unless the cement is proportioned by weight. Free moisture content of aggregate shall be included as a portion of the mix water required.

Revamping of partially hardened concrete or mortar will not be permitted.

The concrete shall be uniform and workable. The minimum cement content, maximum allowable water content and slump, and minimum strength shall conform to the following:

CLASS OF	MIN. COMPRESSIVE STRENGTH @ 28 DAYS	MINIMUM FLEXURAL STRENGTH @ 7 DAYS	MIN. CEMENT CONTENT
CONCRETE	<u>(P.S.I.)</u>	<u>(P.S.I.)</u>	(SACKS)
Α	3000	550	5.0
В	2000	375	4.0
С	3600	600	6.0
Н	5000	750	7.0
K (with super Plastisizer)	3000 (24 hour)	-	7.0

# MAX. ALLOWABLE SLUMP (INCHES)

	MAXIMUM		(	511237
CLASS OF CONCRETE	AGGREGATE <u>SIZE</u>	MAX. WATER <u>CEMENT RATIO</u>	FOR HAND PLACMENT	FOR MACHINE <u>PLACEMENT</u>
Α	1-1/2"	0.6	4	2
В	1-1/2"	0.6	3	1-1/2
С	1-1/2"	0.45	4	2
Н	1-1/2"	0.45	6	4
K	1"	0.4*	8	8

<sup>\*</sup> MIN. WATER TO CEMENT RATIO FOR CLASS K CONCRETE IS 0.25

To conform with the requirements of these specifications, the average of all the strength tests representing each class of concrete as well as the average of any five consecutive strength tests representing each class of concrete shall be equal to or greater than the specified strength and no strength test shall be less than 80 percent of the specified strength.

#### 03-00-00.06 TESTING

All testing shall be paid for by the Owner.

<u>Slump Test:</u> The contractor shall coordinate with Owner approved testing firm to perform a slump test on the concrete prior to placing. The slump shall be no greater than those provided for in this section.

<u>Strength Tests</u>: Concrete samples for compression testing taken for each class of concrete placed each day not less than once per day nor less than once for 80 cubic yards of concrete poured and once for each

4,000 square feet of surface area of slabs and/or walls. A minimum of four (4) samples will be taken for each batch to be tested.

Unless otherwise approved by the Owner, if total volume of concrete is such that frequency of testing required would provide less than five strength tests for a given class of concrete, tests shall be made from at least five randomly selected batches or from each batch if fewer than five batches are used.

Average strength of two cylinders from the same sample tested at 28 days or the specified earlier age is required for each test. Tests shall be made at 7, 14, and 28 days or at other frequencies agreed upon by the Owner.

Samples for strength tests shall be taken in accordance with "Method of Sampling Fresh Concrete" (ASTM C-172). Cylinders for strength tests shall be molded and laboratory cured in accordance with "Method of Making and Curing Concrete Test Specimens in the Field" (ASTM C-31) and tested in accordance with "Method of Test for Compressive Strength of Cylindrical Concrete Specimens" (ASTM C-39).

Strength level of an individual class of concrete shall be considered satisfactory if both of the following requirements are met:

- A. The average of all sets of three consecutive strength tests equal or exceed required f'c.
- B. No individual strength test (average of two cylinders) falls below required f'c by more than 500 psi.

#### 03-00-00.07 FORMS

<u>General</u>: Forms shall be so constructed that the finished concrete will conform to the shape, line, grades, and dimensions indicated on the drawings. Lumber used in the forms for exposed surfaces shall be dressed to a uniform thickness and shall be horizontal or vertical. Lumber once used in forms, or used lumber, shall be cleaned and satisfactorily reconditioned.

#### Design:

- (A) Forms shall be sufficiently tight to prevent the leakage of mortar. They shall be properly shored, braced, and otherwise supported so as to maintain the desired position and shape during and after placing concrete.
- (B) Bolts and rods shall be used for interval ties; they shall be so arranged that when the forms are removed, no metal shall be within one (1") inch of any surface.
- (C) If conditions are favorable, the Owner may permit the use of earth forms for trenches or footings; in which case the bottom shall be level, clean and without fill; and the sides shall be even and clean and unless otherwise shown, shall be vertical.

<u>Molding</u>: Suitable moldings or bevels shall be placed in the angles of forms to round or bevel the edges of the concrete on all outside corners, where such shaping is shown on the drawing, or where directed by the Owner.

<u>Oiling</u>: The inside of forms shall be coated with a non-staining mineral oil or other approved material. Oil shall be applied before the reinforcement is placed.

<u>Clean-out Opening</u>: Temporary openings shall be provided at the base of column and wall forms and at other points where necessary to facilitate cleaning and inspection immediately before depositing concrete.

<u>Form Removal</u>: The removal of forms shall be subject to the Owner's approval and shall not be started until the concrete has attained the necessary strength to support its own weight and any construction live loads.

#### 03-00-00.08 DEPOSITING CONCRETE

<u>General</u>: No concrete shall be placed until the forms and other conditions are approved by the Owner, and until all pipes, conduits, sleeves, thimbles, hangers, flashing and other items required to be placed in the concrete have been properly installed.

<u>Temperature</u>: Concrete may be placed when the temperature is 45°F or more and rising, provided there is no reason to expect a drop in temperature to below 45°F within 12 hours of the placement of the pour. Concrete may not be placed when the temperature of the concrete is more than 90°F.

<u>Cleaning</u>: Hardened concrete and foreign materials shall be removed from the inner surfaces of mixing and conveying equipment before any concrete is mixed.

Before depositing concrete, forms shall be thoroughly wetted and all debris removed.

<u>Removal of Water</u>: Water shall be removed from the space to be occupied by concrete and any continuous flow of water shall be diverted to a sump or removed by pumping.

<u>Handling</u>: Concrete during and immediately after depositing shall be thoroughly compacted by means of suitable tools. The use of approved type of mechanical vibration is recommended and urged.

<u>Depositing Continuously</u>: Concrete shall be deposited continuously or in layers of such thickness that no concrete shall be deposited against concrete which has hardened. If a section cannot be placed continuously, construction joints may be located at points as provided for in the drawings or approved by the Owner. Before depositing new concrete against old, the forms shall be retightened, the hardened surfaces cleaned and covered with a coating of mortar or neat cement grout.

### 03-00-00.09 CURING AND PROTECTION

<u>General</u>: All concrete shall be cured by an approved method for the period of time given below before the concrete is subjected to any loads or until concrete has reached 95% of its design strength:

Type III Portland Cement: 3 days

Type I Portland Cement: 7 days

Immediately after placement, concrete shall be protected from premature drying, extremes in temperatures, rapid temperature changes, mechanical injury, and injury from rain and flowing water. All materials and equipment needed for adequate curing and protection shall be available and at the job site

prior to start of concrete placement. Concrete shall be protected from the damaging effects of rain for 12 hours, flowing water for 14 days and direct rays of the sun for 3 days. All concrete shall be adequately protected from damage. No fire nor excessive heat shall be permitted near nor in direct contact with concrete at any time.

<u>Moist Curing</u>: Concrete moist-cured shall be maintained continuously (not periodically) wet for the entire curing period. If water or curing materials used stain or discolor concrete surfaces which are to be permanently exposed, they shall be cleaned as required by the Owner. When wooden form sheathing is left in place during curing, the sheathing shall be kept wet at all times.

Horizontal surfaces shall be cured by ponding, by covering with a minimum uniform thickness of two (2") inches continuously saturated sand, or by covering with saturated non-staining burlap or cotton mats or sealed impervious sheet materials. The following exceptions are permitted:

- 1. Horizontal construction joints may be allowed to dry for twelve (12) hours immediately prior to placing of the following lift.
- 2. Where insulation is approved for cold weather protection, all joints in the insulation shall be sealed to prevent moisture loss and maintained sealed throughout curing period.

<u>Membrane Curing:</u> Any surface to which concrete, paint, sack rubbed finish or any subsequent treatment that depends on adhesion or bonding to the concrete shall not be cured with curing compound. Curing compound shall be of an approved pigmented or non-pigmented type. On surfaces permanently exposed to view, the non-pigmented type containing a fugitive dye shall be shaded from direct rays of the sun for the first seven days of the curing period.

The curing compound shall be applied to formed surfaces immediately after the forms are removed and prior to any patching or other surface treatment except the cleaning of loose sand, mortar, and debris from the surface. The surfaces shall be thoroughly moistened with water and curing compound applied to unformed surfaces as soon as free water has disappeared. Curing compound shall be applied per manufacturer's recommendations. Concrete surfaces on which the curing compound has been applied shall be adequately protected for the duration of the entire curing period from pedestrian and vehicular traffic and from any other cause which will disrupt the continuity of the curing membrane.

#### 03-00-00.10 FINISHED EXPOSED SURFACES

The type of surface finish shall be one of the three types herein described as called for on the plans or in the special provisions. Where the plans do not specify the type of surface finish, Type I Surface Finish shall be used.

Type I Surface Finish: All walls, railing, curbs, the underside of overhanging beams, the outside and bottom beams, and all portions of piers, columns, bents, abutments, retaining walls, and culverts which are exposed to view after backfill and embankments are placed shall be surface finished with a first and second rubbing as hereinafter described. The "exposed to view" interior portion of any culverts, including the sidewalls and underside of the top slab, shall be defined as one-third (1/3) the culvert height but not less than eighteen (18) inches from the end of the culvert.

Forms for all surfaces that are to be finished as specified above shall be face lined with a lining material such as masonite or plywood.

<u>Type II Surface Finish:</u> All concrete portions of railing and the top and roadway faces of all curbs, including wing walls on bridges and culverts shall be surface finished with a first and second rubbing as hereinafter described.

The following concrete surfaces, while not required to be rubbed, shall be made of smooth and uniform texture by face lining the forms with a lining material such as masonite or plywood; the outside vertical face of curbs and slabs, the underside of overhanging slabs, and all portions of piers, columns, bents, abutments, culverts, and retaining walls which are exposed to view after backfill.

<u>Type III Surface Finish</u>: All concrete portions of railing and top roadway faces of all curbs on bridges and culverts, shall be surface finished with a first rubbing only as hereinafter described. No other rubbing will be required except as hereinafter specified for patching and correcting defective surfaces. No face lining of forms will be required with Type III Surface Finish.

The first rubbings shall be performed as follows: as soon as forms are removed, all necessary pointing shall be done. When the pointing has set sufficiently to permit it, all surfaces requiring surface finish shall be wet with a brush and given a first surface rubbing with No. 16 Carborundum Stone or an abrasive of equal quality. The rubbings shall be continued sufficiently to bring the surface to a paste, to remove all form marks and projections and to produce a smooth dense surface without pits or irregularities. The use of cement to form a surface paste will not be permitted.

Where a second rubbing is not specified, chamfered corners shall be rubbed in the first rubbing and the material which has been ground to a paste in the rubbing process shall be spread uniformly over all rubbed surfaces by striping with a brush and the mortar on the surface shall be allowed to take a re-set. The surface shall be left with a clean, neat, and uniform appearance and shall be uniform in color.

Where a second rubbing is to follow the first rubbing, the material ground into a paste during the first rubbing shall be carefully spread or brushed uniformly over the surface and allowed to take a re-set, but washing down following this first rubbing will not be required. Also, chamfered corners generally shall not be rubbed in the first rubbing if a second rubbing is to follow.

The second rubbing, when required, shall be performed as follows: during the process of conditioning the complete structure for final acceptance, the surfaces of the entire structure requiring finish shall be given a final finish with a No. 30 Carborundum Stone or an abrasive of equal quality. On completion of this rubbing, the surface shall be neatly striped with a brush, and the mortar on the surface shall be allowed to take a re-set. The surface shall then be washed down with clean water. The entire structure shall be left with a clean, neat and uniform appearing finish and shall be uniform in color. The surface of concrete roadway and sidewalk slabs shall be finished by floating, screening and belting.

Rubbing of surfaces other than those herein specified will not be required, unless such surfaces are not true or have porous spots or honeycombed areas. In case these defects occur, the areas immediately affected shall be given a first surface rubbing. Such rubbing shall extend over a sufficient area around the blemished portions to blend the rubbed area into the surrounding unfinished surface, but this shall not be construed to require the rubbing of large areas of unblemished surfaces of the portion of the structure in question.

#### 03-00-00.11 PATCHING

The Contractor shall remove any form ties, projections, or concrete fins. All exposed surfaces having voids, stone pockets, tie holes, honeycombs, or defective areas shall be patched. The patching mortar shall be sand cement grout with sufficient white Portland cement added to effect a match with the concrete surfaces. Areas to be patched shall be clean, free of loose material and dampened before applying grout. The patched areas shall be rubbed before the grout is set hard to blend into the adjacent areas. Rub finish exposed surfaces from 6 inches below ground surface or from 6 inches below normal water level to top, except for small structures which extend less than 12 inches above finished grade.

#### **03-00-00.12 DEFECTIVE WORK**

The following defects shall be cause for rejection of placed concrete:

- 1. Voids, rock pockets, honeycombing, and spalled areas which, in the opinion of the Owner, cannot be satisfactorily repaired, will affect the strength of the structure materially, or will limit the life of the reinforcement.
- 2. Uneven or bulged surfaces resulting from shifting of the forms during placement or curing.
- 3. Concrete found structurally inadequate after thorough investigation according to section 030000.06, above.

Upon discovery of any of these defects, the Owner may declare the structure defective and require the Contractor to remove and replace the portion of the structure affected, at the Contractor's expense.

### 03-00-00.13 MEASUREMENT

Measurement of this Item, as specified herein and listed in the Bid, shall be by "Unit Price", measured per the unit listed in the bid document and further defined in the specification for those items.

#### 03-00-00.14 PAYMENT

Payment for concrete in place shall be per the Contractor's bid by "Unit Price". Concrete items are identified under several bid items. Items not specifically identified in the bid document are considered incidental to other pay items and are not eligible for additional compensation.

Partial or final payments shall be full compensation for furnishing, forming, pouring, providing and installing reinforcing steel, finishing, and curing.

END OF SECTION 03 00 00

## Item 03 20 00 - REINFORCING STEEL

#### 03-20-00.01 DESCRIPTION

This Item shall govern reinforcing steel utilized in structural concrete and in concrete pavement, lining, or riprap placed as part of this Contact.

#### 03-20-00.02 MATERIALS

Approved reinforcing steel shall be:

- 1. deformed billet steel bars conforming to ASTM A-615, Grade 60; or
- 2. welded steel wire fabric conforming to ASTM A-185, as designated on the Plans.

All steel reinforcement shall be provided in new condition. No reinforcement shall be placed without verification that it is free from scale, heavy rust, mud, and other coating that would reduce the bond. Any deleterious condition shall be corrected or the reinforcing steel replaced prior to placement of concrete and permanent incorporation into the Work.

## 03-20-00.03 CONSTRUCTION

In general, reinforcement shall be fabricated, placed, spliced, located, etc., in accordance with the latest revision of the American Concrete Institute's Building Code Requirements for Reinforced Concrete (ACI 318, latest revision).

Reinforcement shall be accurately formed to the dimensions indicated on the drawings. All bars shall be bent cold and shall not be straightened in a manner that will injure the metal.

Reinforcement shall be accurately positioned and unless otherwise shown or specified, shall be secured against displacement by using, at intersections, annealed iron tie wire of not less than #18 gauge or suitable metal clamps and supported by metal or plastic chairs, spacers, or hangers.

Reinforcement in floors over earth shall be supported by masonry blocking of suitable height to hold the reinforcement at the proper level.

All spacing of bars shall be as shown on the drawings.

### 03-20-00.04 MEASUREMENT

Direct measurement of this Item will not be made.

## 03-20-00.05 PAYMENT

This Item shall be considered incidental to pay items provided for in the Bid and Contractor's performance of Work. Reinforcing steel will not be eligible for separate payment.

END OF SECTION 03 20 00

## Item 03 31 00 - CAST-IN-PLACE CONCRETE (STRUCTURAL)

#### 03-31-00.01 **DESCRIPTION**

This Item shall govern the preparation and installation of cast-in-place structural concrete as required on this project. Refer to Item 03 00 00 for general structural concrete information.

#### 03-31-00.02 GENERAL

All materials, proportioning, mixing, forming, and testing of cast-in-place structural concrete shall conform to the requirements of the General Concrete Specification.

Furnish all cast-in-place concrete in accordance with the details, reinforcement and dimensions indicated on the plans.

#### 03-31-00.03 CURING

#### **Standard Curing:**

- a. Concrete (other than high-early-strength) shall be maintained above 50°F and in a moist condition for at least the first seven (7) days after placement, except when cured in accordance with the Accelerated Curing method described below.
- b. High-early strength concrete shall be maintained above 50°F and in a moist condition for at least the first three (3) days, except when cured in accordance with 200.06.3.

## **Accelerated Curing:**

- a. Curing by high pressure steam, steam at atmospheric pressure, heat and moisture, or other accepted process, may be employed to accelerate strength gain and reduce time of curing, with prior approval of the Owner.
- b. Accelerated curing shall provide a compressive strength of the concrete at the load stage considered at least equal to required design strength at that load stage.
- c. Curing process shall be such as to produce concrete with a curability at least equivalent to the curing method previously described for standard and high-early strength concrete not subjected to accelerated curing.
- d. Supplementary strength tests may be required to assure that curing is satisfactory. The Owner may require strength tests of cylinders cured under field conditions to check adequacy of curing and protection of concrete in the structure.

## **Cold Weather Requirements:**

- a. Adequate equipment shall be provided for heating concrete materials and protecting concrete during freezing or near-freezing weather.
- b. All concrete materials and all reinforcement, forms fillers, and ground with which concrete is to come in contact shall be free from frost.
- c. Frozen materials or materials containing ice shall not be used.
- d. Temperature of concrete at time of placement shall not be less than 50° F.

### **Hot Weather Requirements:**

- a. During hot weather, proper attention shall be given to ingredients, production methods, handling, placing, protection, and curing to prevent excessive concrete temperatures or water evaporation that may impair required strength or serviceability of the member or structure.
- b. Temperature of concrete at time of placement shall not be more than 90° F.

#### 03-31-00.04 INSTALLATION

## Formwork Design:

- a. Forms shall result in a final structure that conforms to shapes, lines, and dimensions of the members as required by the design drawings and specifications.
- b. Forms shall be properly braced or tied together to maintain position and shape.
- c. Forms and their supports shall be designed so as not to damage previously placed structure.
- d. Design of formwork shall include consideration of the following factors:
  - Rate and method of placing concrete;
  - Construction loads, including vertical, horizontal, and impact loads;
  - Special form requirements for construction of shells, folded plates, domes, architectural concrete, or similar types of elements.

## Removal of Forms:

- a. No construction loads shall be supported on, nor any shoring removed from any part of the structure under construction except when that portion of the structure (in combination with remaining forming and shoring system) has sufficient strength to support safely its weight and loads placed thereon.
  - Sufficient strength may be demonstrated by field-cured test cylinders and by a structural analysis considering proposed loads in relation to field-cured cylinder strengths and strength of the forming and shoring system. Such analysis and strength test data shall be furnished by the Contractor to the Owner when so required.

- b. Forms shall be removed in such manner as not to impair safety and serviceability of the structure. All concrete to be exposed by form removal shall have sufficient strength not to be damaged thereby.
- c. Forms will remain in place a minimum of 72 hours for all conditions except in the following case:
  - Concrete subject to high bending stress and wholly (or almost wholly) reliant on forms for vertical support. Examples: Roof or floor slabs and beams; undersides of sloping surfaces (flatter than 1:1); walkways and platforms; bridge decks and girders. In such locations, forms will remain in place a minimum of 4-1/2 days in those areas where no immediate superimposed loading will occur and a minimum of 10 days at all other areas.
- d. The early removal of forms (except as noted above) to facilitate the normal progress of work will be permitted only be approval of the Owner, and in no case less than 24 hours.

### **Construction Joints:**

- a. Where a construction joint is to be made, the surface of concrete shall be thoroughly cleaned and all laitance and standing water removed.
- b. Vertical construction joints shall be thoroughly wetted and coated with neat cement grout immediately before new concrete placement.
- c. Construction joints not indicated on the design drawings shall be so made and located as not to impair significantly the strength of the structure and shall be approved by the Owner.
- d. Construction joints in floors shall be located near the middle of spans of slabs, beams, or girders, unless a beam intersects a girder at the middle location, in which case joints in the girders shall be offset a distance equal to twice the width of the beam. Provision shall be made for transfer of shear and other forces through construction joints.
- e. Beams, girders, or slabs supported by columns or walls shall not be cast or erected until concrete in the vertical support members is no longer plastic.
- f. Beams, girders, column capitals, and haunches shall be considered as part of a slab system and shall be placed monolithically therewith.
- g. Structures containing liquids shall have all exterior walls and bottom slab joints constructed with water stops and/or seals. When prevention of contamination and/or control of leakage is necessary at exterior or interior wall/slab, water stops and/or seals shall be provided at joints.
- h. Horizontal joints in walls less than twelve feet high are not to be located for contraction or expansion, but for construction only. Such horizontal wall joints shall be minimal and as approved by the Owner only.
- i. Vertical joints in walls shall be located at points of no shear. Joints shall be constructed with water-stops and fillet seals where control of leakage is required.
- j. Where slabs are cast in two separate lifts, joints are to be staggered. All joints shall be located at positions of no shear.

- k. Longitudinal keys at least one and one-half (1-1/2") inches deep shall be provided in all joints in walls and between walls and slabs or footings.
- I. When joints are not indicated on plans, Contractor shall supply shop drawings clearly indicating all joints in any part of the structures, sequence of pours and time lapse for control of shrinking, for approval by the Owner. No intermediate joints will be allowed other than those on the approved shop drawings without the expressed approval of the Owner.

<u>PATCHING:</u> After forms are removed, the Contractor shall patch any exposed surface flaws in accordance with section 030000.11 of the General Concrete technical specification.

<u>SURFACE FINISH:</u> Rub-Finish exposed vertical and battered surfaces from 12-inches below ground surface or from 6-inches below normal water level to top.

#### 03-31-00.05 MEASUREMENT

Cast-in-place structural concrete will be measured by the cubic yard, completed and accepted in place. When the Contractor elects to pour concrete thicker than indicated on plans and or deeper than required to meet the specified dimensions, no measurement will be made on that portion in excess of the design.

### 03-31-00.06 PAYMENT

Payment for this Item shall be per the Contractor's bid by "Unit Price".

Partial or final payments shall be full compensation for furnishing all labor, materials, forms, finishes, equipment, and incidentals required to complete the work as specified.

END OF SECTION 03 31 00

## Item 31 11 00 - CLEARING AND GRUBBING

#### 31-11-00.01 DESCRIPTION

This Item shall govern the removal and disposal of trees, stumps, brush, roots, vegetation, logs, rubbish and other objectionable matter.

#### 31-11-00.02 CONSTRUCTION

As designated by the Owner, protect specific features on the right of way and prune trees and shrubs as directed. Do not park equipment, service equipment, store materials, or disturb the root area under the branches of trees designated for preservation. Treat cuts on trees with an approved tree wound dressing within 20 min. of making a pruning cut or otherwise causing damage to the tree when shown on the plans.

Clear areas shown on the plans of all trees, shrubbery, and woody vegetation. Removal of live utility facilities or pipelines is not included in this Item and should be protected from damage while removing trees.

Notify the Owner in writing when items not shown on the plans and not reasonably detectable (buried with no obvious indication of presence) are encountered.

Remove obstructions not designated for preservation to natural ground in areas receiving embankment. Remove obstructions to the excavation level in areas to be excavated. Remove obstructions to natural ground in all other areas. Cut trees and stumps to grade. Backfill, compact, and restore areas where obstructions have been removed unless otherwise directed. Use approved material for backfilling.

Accept ownership, unless otherwise directed, and dispose of removed materials and debris at locations off the right of way in accordance with local, state, and federal requirements.

Burning of removed vegetation or other debris is not permissible on the project site.

Vegetative debris may be mulched and left in place.

### **31-11-00.03 MEASUREMENT**

Measurement of this Item, as specified herein and listed in the Bid, shall be by "Lump Sum", regardless of the width of the right of way.

### 31-11-00.04 PAYMENT

No partial payments of the lump sum bid value for this Item shall be considered.

Work performed in accordance with this Item shall be considered eligible for payment upon completion and acceptance of the task. The bid price shall be full compensation for pruning and protecting designated

trees and shrubs; removal and disposal of tree, structures and obstructions; and furnishing all labor, materials, equipment, tools, supplies and incidentals necessary to perform the work as specified.

Total payment of this Item will not exceed 5% of the original contract amount until final acceptance.

END OF SECTION 31 11 00

Item 31 22 00 - SURFACE GRADING AND SHAPING

**31-22-00.01 DESCRIPTION** 

This Item shall govern the grading and reshaping of uneven, rough, or excessively steep terrain to facilitate access, travel, and drainage. No excavation or placement of fill materials shall be performed under this Item.

31-22-00.02 MATERIALS

In-situ material may be graded, bladed, and reshaped to provide improved access for personnel and equipment into construction area.

Contractor shall exercise extreme caution to not interfere with or impair drainage across the site at any time during the construction.

31-22-00.03 CONSTRUCTION

Contractor may, at his discretion, utilize excess excavated materials in the grading and reshaping of the construction area to facilitate access over and across the site, provided his activities are in strict compliance with the all requirements set forth as a part of this Project.

31-22-00.04 MEASUREMENT

Measurement of this Item will not be made.

31-22-00.05 PAYMENT

This Item shall be considered incidental to Contractor's performance of Work and will not be eligible for separate payment.

END OF SECTION 31 22 00

# Item 31 23 19 - CANAL DEWATERING

### **31-23-19.01 DESCRIPTION**

This Item shall govern the canal dewatering activities.

#### 31-23-19.02 CONSTRUCTON

This Item shall involve various phases of dewatering activities necessary for the construction of a new structure while maintaining service to downstream customers.

Short-term dewatering: The initial dewatering activities will isolate the existing structure and temporarily stop water flow in the canal to allow for limited headwall demolition and/or to establish the bypass measures. The duration of this isolation is critical to the continuous safe operation of the canal system and critical water intakes downstream of the construction site. Once any temporary coffer dams are installed, dewatering of the area between the dams must be completed in no more than 60 minutes. Water removed from between the dams must be discharged to the downside of the downstream dam. Isolation of the canal must be closely coordinated with Owner and with all activities required between the dams during the period of isolation.

<u>Construction period dewatering:</u> Sheet piling, earthen dams, or water bladder may be utilized to provide selective isolation of portions of the canal for construction of the new structure and removal of the existing structure. Contractor shall maintain the integrity of the coffer dam structure and provide daily inspections of the excavation and shoring by competent personnel prior to entry for work each day and after any work stoppage for rain events.

<u>Re-flooding:</u> Re-flood the construction zone by pumping water into the area prior to dam extraction. Water levels on each side of the coffer dam must be equalized to prevent excessive scour as the coffer dam removal begins. The coffer dams shall be extracted from the center of the canal first with removal progressing toward the canal banks.

#### 31-23-19.03 MEASUREMENT

Direct measurement of this Item will not be made.

#### 31-23-19.04 PAYMENT

This Item shall be considered incidental to pay items provided for in the Bid and Contractor's performance of Work and will not be eligible for separate payment.

END OF SECTION 31 23 19

# Item 31 23 33 - EARTHEN (BENTONITE) LEVEE CORE

### 31-23-33.01 **DESCRIPTION**

This Item shall govern the selection and placement of material for the construction of a watertight clay core around penetrations through the earthen levee.

## 31-23-33.02 MATERIALS

All clay core material shall be pure bentonite clay mined, processed, graded, and blended to achieve the following sieve analysis:

- Max 1% retained on 3/4" mesh
- 60% (+/- 2%) retained on 3/8" mesh
- 25% (+/- 2%) retained on 1/4" mesh
- 15% retained on #12 mesh
- Max 2% passing #12 mesh

Bentonite clay blend shall be delivered dry with a maximum moisture content not exceeding 12%. No large lumps or clods will be permitted, and material should be friable. Clumped material shall not be accepted.

### 31-23-33.03 CONSTRUCTION

After the pipe structure is constructed and the levees restored, a core in the center of the levee shall be excavated by hydro-excavation 30" wide, not less than 24" beyond the edge of the new pipes and to a depth of 18" below the bottom of the new pipes. The dry bentonite blend shall be poured into the dry hole at a maximum rate of 10 cf/minute. Contractor shall ensure bentonite is completely filling voids below the pipes and shall make adjustments as necessary to placement of fill to prevent bridging or entrapment of air pockets within the clay core.

Bentonite clay blend shall be placed to a minimum depth of 24" above the tops of the pipes. Remaining depth of levee may be filled, recompacted, and capped with topsoil per technical specification for Embankment and Fill.

### 31-23-33.04 MEASUREMENT

Measurement of this Item, as specified herein and listed in the Bid, shall be by "Unit Price", measured per ton, actual quantity, in place. Measurement shall be limited to the theoretical section specified or otherwise agreed to by written change order. Wasting of excess materials or additional fill required due to larger than specified excavation, unless preapproved by Owner, shall not be considered for additional payment under this Item.

# 31-23-33.05 PAYMENT

Payment for this Item shall be per the Contractor's bid by "Unit Price".

Partial or final payments shall be full compensation for furnishing all labor, materials, equipment and incidentals required to complete the work as specified.

END OF SECTION 31 23 33

## Item 31 23 34 CEMENT STABILIZED SAND BACKFILL

### 31-23-34.01 **DESCRIPTION**

This Item shall govern the selection and placement of material for the construction of cement-sand as bedding and backfill material around pipes and various structures as required in the plans; and for backfill in pavement sections.

#### 31-23-34.02 MATERIALS

<u>Sand</u> - Provide sand from an approved source free from clay lumps, organic or other deleterious material and having a plasticity index of 4 or less.

Portland Cement - Furnish Portland cement to conform with ASTM C 150, Type I.

<u>Water</u> - Water shall be reasonably clean and free from injurious amounts of oil, acid, salt, organic matter, or other deleterious material.

### PROPORTIONING AND MIXING:

Add not less than 1.5 sacks of Portland cement per yard of sand mixture. Add required amount of water and mix thoroughly in an approved pug mill type mixer. Stamp batch ticket with the time of loading. Material will be rejected if not in place within 1-1/2 hours after loading or if the mixture has dried out.

### 31-23-34.03 CONSTRUCTION

## Pipe Bedding and Backfill Procedures:

- A. Place cement-stabilized sand in a trench or excavation prepared for pipe to the depth shown on the drawings.
- B. After bedding material is in place, set pipes in position to grade.
- C. Add additional cement-sand material around pipe, filling to at least the spring line of the pipe, or as otherwise shown on drawings. Place cement-sand material at optimum moisture content and in layers not to exceed 12 inches measured loose.
- D. Compact with mechanical hand tamps to at least 95 percent of AASHTO density, Test Method T-99-74

## **Foundations:**

Use cement-sand for stabilizing the foundation for manholes, inlets or concrete structures, if required

#### 31-23-34.04 MEASUREMENT

Measurement of this Item, as specified herein and listed in the Bid, shall be by "Unit Price", measured per ton, actual quantity, in place. Measurement shall be limited to the theoretical section specified or otherwise agreed to by written change order. Wasting of excess materials or additional fill required due to larger than specified excavation, unless preapproved by Owner, shall not be considered for additional payment under this Item.

### 31-23-34.05 PAYMENT

Payment for this Item shall be per the Contractor's bid by "Unit Price".

Partial or final payments shall be full compensation for furnishing all labor, materials, equipment and incidentals required to complete the work as specified.

END OF SECTION 31 23 34

## Item 31 24 00 - EMBANKMENT AND FILL

### 31-24-00.01 **DESCRIPTION**

This Item shall govern the placement and compaction of all materials obtained from local excavation and purchased material for utilization in the construction of ditch embankments, levees, dykes, structural subgrade, and all other areas or items which require fill.

#### 31-24-00.02 MATERIALS

All fill material shall be free from all humus or organic debris, inorganic silt, and gravel larger than three (3") inches. The select fill material shall not contain highly expansive or compressible clays, highly plastic soils, very loose sand and silts, or other poorly drained soils. No large lumps or clods will be permitted, and material should be friable. Very moist or dry material shall not be used until the material has been reworked to proper moisture content.

Trees, stumps, roots, and other vegetation shall not be placed in fills and embankments.

<u>Select Fill</u> - Unless otherwise required by the plans, select fill material shall be composed of native material or material obtained from borrow, channel, or structural excavations as approved by the Owner.

<u>Reuse of Excavated Materials</u> - In areas of levee excavations, the vegetation and topsoil should be stripped from the levee and all other excavated material stockpiled for reuse in levee reconstruction. Excavated soil from the levee area shall be segregated and for reuse as embankment construction material. Excavated soils from adjacent natural ground or from the area with the drainage way shall be separately stockpiled and used only for reconstruction of the ditch banks.

Structural Fill - The selected materials shall be composed of graded sand and gravel with clay binder. The maximum size of the granular portion should be limited to 1.5". The clay binder shall have a Plastic Index less that 10 (PI<10) and a Liquid Limit less than 40 (LL<40). The selected soil shall conform to AASHTO Classification Group A4. The selected soil (clayey sand soil) should be 50% to 70% sand with 30% to 50% clay. The sand particles shall 100% pass a Standard Sieve #10 and the clay particles shall 100% be retained between a sieve #200 and #270. The selected material shall be free of any organic material (OH), Clay with high plasticity (CH), silt with high compressibility (MH), peet materials (PT). The material shall be free of vegetation, debris, and clay lumps.

<u>Sand Cushion Under Structures</u> – The top layer of fill underneath a slab shall consist of clean sand or clean bank sand free from clay, clay lumps, shale, loam, organic matter, or excessive amounts of silt or other deleterious materials. The fine particle should be limited to 5% by weight of the soil and should have a maximum Plasticity Index of seven percent (7%).

<u>Granular Fill Under Structures</u> – Except in areas of structures within levees or other elevated embankments intended to contain water, the Contractor shall provide an 18" to 24" thick layer of granular fill under the entire footing of a structure. The Contractor shall over excavate the structure by 18 to 24 inches and compact the subgrade before installing granular material. Granular fill shall be installed in 8-inch lifts and shall be compacted to 95% of its maximum density confirmed by Standard Proctor

Compaction Test. Granular material shall be a mix of well graded sand and gravel with a maximum particle size of one inch (1"). The fine portion of the soil shall be less than 5% by weight.

### 31-24-00.03 CONSTRUCTION

<u>Preparation and Scarifying</u> - Fill and embankment shall not be placed until stripping and/or clearing and grubbing has been completed for the excavation sources and for the proposed fill areas. Stump holes or other small excavations in the limits of the embankment shall be backfilled with select fill and thoroughly tamped by approved methods before commencing embankment or other fill construction. The surface of the ground, including plowed, loosened ground, or surface roughened by small washes or otherwise, shall be restored to approximately its original slope by blading or other methods. Where indicated on plans or required by the Owner, the ground surface thus prepared shall be compacted by sprinkling and rolling.

Where embankments are to be placed adjacent to or over existing roadbeds, or levees, the existing slopes shall be plowed or scarified to a depth of not less than four (4") inches and the embankment built up in successive layers. The top of the old bed shall be scarified and re-compacted with the next layer of the new embankment. The loosened material shall be recompacted with the new embankment as hereinafter specified.

Other areas shall be scarified to the satisfaction of the Owner before placing any fill material.

<u>Layer Construction</u> - Unless otherwise required by the plans, all fill shall be constructed in layers approximately parallel to finished grade, covering the full length and width of the fill area. Layers of embankment for roadbeds, levees, or similar purposes shall have a uniform slope of one-fourth (1/4") inch per foot from the centerline of the levee to the outside unless otherwise indicated on the plans.

Fill in levees, under structures, and under roads shall be placed in eight (8") inch maximum layers (measured loose). Where fill to subgrade is less than six (6") inches, the ground shall be scarified to a depth of six (6") inches and compacted as specified. All fill to be covered by a structure or road shall be placed to subgrade elevation without addition of topsoil. Fill for unpaved earthen levees shall be placed within four (4") inches of finish grade unless otherwise specified by the plans. Such levees shall be capped with four (4") inches of topsoil within limits shown on plans.

Fill not within a levee or covered by structures or roads shall be placed in ten (10") inch maximum layers (measured loose). This fill shall be placed within four (4") inches of finish grade unless otherwise specified by the plans. Four (4") inches of topsoil shall be placed over these fill areas within limits shown on plans, unless otherwise indicated.

Regardless of the fill location, fill shall be placed in six (6") inch maximum layers (measured loose) when pneumatic tire rollers are used for compaction.

<u>Spreading, Sprinkling, and Compaction</u>. Layers of fill may be placed by equipment which will spread the material as it is dumped; or the material may be dumped in piles or windrows, then spread evenly by blading or other acceptable method.

Each layer of fill shall be uniform as to material, density, and moisture content before beginning compaction. Where layers of unlike materials abut each other, each layer shall be feather-edged or the material shall be so mixed as to prevent abrupt change in the soil. No material placed in the fill area by dumping in a pile or windrow shall be incorporated in a layer in that position, but all such piles or windrows shall be moved by blading or similar methods.

Clods or lumps shall be broken and the fill material mixed by blading, harrowing, or similar methods, so that a uniform material of uniform density is secured in each layer. All fill shall be compacted at or near optimum moisture. Water needed to bring the material to this moisture level shall be evenly applied, and the Contractor shall secure a uniform moisture content throughout the layer by such methods as may be necessary. In order to facilitate uniform wetting of the fill material, the Contractor may apply water at the material source if the sequence and methods used are such as not to cause an undue waste of water. Such procedure shall be subject to the approval of the Owner.

Each layer of fill shall be compacted until there is no evidence of further compaction. The material shall be kept leveled with suitable equipment to ensure uniform compaction over the entire layer.

Where the placement method above is impractical, such as fill placed against buildings, retaining walls, or structural walls, the material shall be compacted with mechanical tampers. Layers shall not exceed six (6") inches in depth, and moisture content must be suitable for effective compaction by this method.

<u>Shaping</u>. Fill areas and embankments shall be constructed to the rough and final grade established by the Engineer. Completed embankments shall correspond to the general shape of the typical sections shown on the plans, and each section of the embankment shall correspond to the detailed section of slopes established by the Engineer. After completion of the earthwork, the embankment shall be continuously maintained to its finished section and grade until the project is accepted.

Compaction Requirements. Contractor shall place fill in lifts and compact to a minimum density of ninety-five (95%) percent standard Proctor (Maximum Density - Optimum Moisture), as per ASTM D698. This requirement shall also apply to undisturbed native soil that will directly support load bearing members. Should the subgrade, due to any reason or cause, lose the required stability, density or finish before the new structure is placed or levee is reconstructed, it shall be recompacted and refinished at the sole expense of the Contractor. Excessive loss of moisture in the subgrade shall be prevented by sprinkling, sealing or covering with a subsequent layer of granular material. Excessive loss of moisture shall be construed to exist when the subgrade soil moisture content is more than 4 percent below the optimum of compaction ratio density.

<u>Testing</u>. At request of Owner, the Contractor shall have all necessary laboratory testing performed at the Owner's expense by a commercial laboratory acceptable to the Owner.

Required material tests prior to fill placement are as follows:

- a. At least one (1) Proctor needle plasticity test for each material type to be used in fill areas.
- b. At least one (1) Atterberg limit test per 500 cu. yds. of material.

Required density tests following compaction are as follows:

- a. At least one test per lift per 400 sq. ft. under structures.
- b. At least one test per lift per 1000 sq. ft under driving areas and parking lots.
- c. At least one test per lift per 5000 sq. ft in other areas not under concrete or other structural units.
- d. At least one test per 150 linear ft. in levee and roadway areas.

<u>Waste Materials</u>. The Contractor shall waste stripped materials from areas so indicated on the plans. Waste material shall be spread over designated areas as directed by the Owner, dressed by blading, and sloped to provide drainage.

<u>Final Cleanup and Dressing</u>. Washes, ruts, depressions, and mounds shall be leveled to give the site a smooth finish.

#### 31-24-00.04 MEASUREMENT

Measurement of this Item, as specified herein and listed in the Bid, shall be by "Unit Price", measured per cubic yard, actual quantity, compacted and in place. Measurement shall be limited to the theoretical section specified or otherwise agreed to by written change order. Wasting of excess excavation materials in a wider than designed section shall not be considered for additional payment under this Item.

#### 31-24-00.05 PAYMENT

Payment for this Item shall be per the Contractor's bid by "Unit Price".

Partial or final payments shall be full compensation for furnishing all labor, materials, equipment and incidentals required to complete the work as specified.

END OF SECTION 31 24 00

## Item 31 40 00 - EXCAVATION SAFETY AND TRENCH SHORING SYSTEMS

### 31-40-00.01 **DESCRIPTION**

This Item shall govern the trench safety and excavation supporting systems to protect the safety of workers, provide a suitable means for the installation of subsurface features and buried piping, and to protect public and private property, including any nearby structures, pipelines, and utilities. A trench shall be defined as any excavation 5 feet or greater below the highest adjacent soil surface

## 31-40-00.02 CONSTRUCTION

Where existing buildings, utilities, pipes, streets, railroads, or other structures are in close proximity to the trench, adequate protection shall be provided by the use of sheeting or shoring to protect the adjacent feature from possible damage. In all cases, it shall be the responsibility of the Contractor to protect public and private property and any person or persons who might, as a result of the Contractor's work, be injured.

All trench excavations shall be accomplished in accordance with the detailed specifications set out in the provisions for Excavations, Trenching, and Shoring as published by the Federal Occupational Safety and Health Administration (OSHA), 29 CFR, Part 1926, Subpart P, Sections 1926.650 - 1926.653. These sections are hereby incorporated, by reference into these specifications. Whatever method or option the Contractor may select, a request in writing must be submitted to the Owner for approval before work can start.

REVIEW AND APPROVAL OF METHOD, EQUIPMENT, AND PLANS BY THE OWNER OR ENGINEER WILL BE ONLY FOR GENERAL CONFORMANCE WITH OSHA SAFETY STANDARDS, AND IN NO CASE WILL REVIEW AND APPROVAL RELIEVE THE CONTRACTOR OF SOLE AND COMPLETE RESPONSIBILITY AND LIABILITY FOR ANY PROPERTY DAMAGE OR BODILY INJURY WHICH MAY RESULT FROM HIS CONSTRUCTION OPERATIONS.

Contractor shall make daily inspections of the Trench Safety Systems to ensure that the systems meet OSHA requirements. Daily inspection is to be made by a "competent person" provided by the Contractor. If evidence of possible cave-ins or failures is apparent, all work in the trench shall cease until the necessary precautions have been taken by the Contractor to safeguard personnel entering the trench. It is the sole duty, responsibility, and prerogative of the Contractor, not the Owner or the Engineer, to determine the specific applicability of the designed trench safety systems to each field condition encountered on the project. The Contractor shall maintain a permanent record of daily inspections and provide Owner with copies of records upon request.

### 31-40-00.03 INDEMNIFICATION

The Contractor shall indemnify and hold harmless the Engineer, and Owner, their employees and agents, from any and all damages, costs (including, without limitation, legal fees, court costs, and the cost of

investigation), judgments or claims by anyone for injury or death of persons resulting from the failure of trenches constructed under this contract.

The Engineer and Owner acknowledged and agree that this indemnity provision provides indemnity for the Owner and Engineer in case either is negligent either by act or omission in providing trench safety, including, but not limited to, inspections, failure to issue stop work orders and the hiring of the Contractor.

#### 31-40-00.04 MEASUREMENT

Measurement of this Item will not be made.

## 31-40-00.05 PAYMENT

A lump sum payment for this Item shall made to the Contractor. Payment shall be full compensation for all planning, engineering, materials, equipment, fabrications, installations, recovery, and all incidental work required.

END OF SECTION 31 40 00

## Item 31 41 16 - STEEL SHEET PILING

### **31-41-16.01 DESCRIPTION**

This Item shall govern steel sheet piling utilized to provide backfill retention and a temporary barrier for selective dewatering of a portion of the canal.

#### 31-41-16.02 MATERIALS

Furnish steel that meets ASTM A328, ASTM A690, or ASTM A572 Grade 50 for hot-rolled sheet piling.

Furnish steel that meets ASTM A690 or ASTM A572 Grade 50 for cold-rolled sheet piling.

Supply sheets in the section and of length as shown in the plans. Steel sheet piling may be substituted with a section modulus and minimum thickness of material equal to or greater than that of the section specified. Substitutions with a reduction in pile length or penetration will not be considered. If a hot-rolled section is specified, the substitute section must also be hot-rolled.

Except as indicated on the plans, the sheet piles will be a temporary installation. Coating, in accordance with Technical Specification 334215, shall be required on both side of the top 15' of all permanent steel sheet piles; however, coatings will not be required on temporary piling. Excess length above the water surface will be permitted for any sheets to be removed upon completion of the project and Contractor will not be required to cut-off tops of piles.

Sheet piling utilized in this project shall have a section modulus (Z) of not less than 15 in<sup>3</sup>/ft.

Contractor shall submit to a complete data sheet on the piling he intends to use to the Owner for approval prior to installation.

<u>Protective Coating:</u> All steel piling to be incorporated permanently in the project shall be delivered to the project construction site with finished protective coatings in accordance with the specification titled "Protective Coatings".

### 31-41-16.03 CONSTRUCTION

All sheet piles installed for the retention of backfill soils or for use as a dewatering barrier shall be driven to the finished bottom elevation that attains a minimum penetration of not less than 1.5 times the exposed face, or 10' below the mud line of the canal, whichever is greater.

If Contractor cannot achieve the specified minimum penetration of piles below the mud line, he shall immediately notify the Owner for evaluation and direction on how to proceed.

Interlocks shall be fully engaged for the entire length of the sheets. Interlock tear-out must be evaluated and may be cause for rejection.

#### 31-41-16.04 MEASUREMENT

Steel sheet piling will be measured by the plan quantity linear wall foot (straight line distance in the horizontal plane) of acceptable piling in place.

#### 31-41-16.05 PAYMENT

Payment for all work and materials required by these Items will be included in the unit prices bid for "Steel Sheet Piling-Temporary" and "Steel Sheet Piling-Permanent" corresponding to locations indicated on the plans.

Permanent Sheet Piling shall eligible for full payment, subject to all terms of the contract, upon acceptance of installation. Payment for permanent sheet piling shall be considered full compensation for furnishing all labor, materials, equipment and incidentals required to complete the work as specified.

Partial payments of the lump sum bid value for Temporary Sheet Piling shall be as follows:

- A. When temporary piles are installed and acceptable to the Owner, 80% of the value for the accepted measure of temporary piling will be eligible for payment.
- B. Upon removal of temporary piling and restoration of canal banks/levees is acceptable to the Owner, the remainder of the value for the accepted measure of temporary piling will be eligible for payment.

END OF SECTION 31 41 16

## Item 32 92 00 - HYDROMULCH SEEDING

## 32-92-00.01 DESCRIPTION

This Item shall govern activities directed toward establishment of desired grasses and ground cover to control erosion of soils. It shall include ground surface preparation, seed selection and sowing, protection of sown seeds and other management practices, and shall apply to the establishment of both temporary and permanent erosion control vegetative ground cover.

### 32-92-00.02 MATERIALS

<u>Seed.</u> All seed must meet the requirements of the Texas Seed Law including the labeling requirements for showing pure live seed (P.S. = purity x germination), name and type of seed. Seed furnished shall be of the previous season's crop and the date of analysis shown on each bag shall be within nine months of the time of use on the project. Each variety of seed shall be furnished and delivered in separate bags or containers. A sample of each variety of seed shall be furnished for analysis and testing when directed by the Owner.

Acceptable varieties of seed shall include:

<u>Common Name</u> <u>Scientific Name</u>

Bermuda and Giant Bermuda Grass (Hulled or Unhulled) Cynodon dactylon

Annual Rye Lolium multiflorum

German Foxtail Millet Setaria italica

<u>Fertilizer</u>. All fertilizers used shall be delivered in bags or containers clearly labeled showing the analysis. The fertilizer is subject to testing in accordance with the Texas Fertilizer Law. A palette or granulated fertilizer shall be used with an analysis of 13-13-13 or having the analysis shown on the plans. The figures in the analysis represent the percent of nitrogen, phosphoric acid, and potash nutrients respectively as determined by the methods of the Association of Official Agricultural Chemists.

The fertilizer shall be dry and in good physical condition. Fertilizer that is powdered or caked will be rejected.

<u>Soil Stabilizer/Tacking Agent.</u> Soil stabilizer for hydro-mulch seeding shall be of a commercially available type approved by the Owner and shall be applied at a rate of 40 Lbs./acre unless otherwise specified.

## 32-92-00.03 CONSTRUCTION

<u>Seed Selection.</u> Seed mixture and amount of seed sown per acre shall be time dependent as follows:

**Application Rate** 

Application Date Variety (lbs/acre)

April 1 - September 30	Bermuda/Giant Bermuda Grass (Hulled) German Foxtail Millet	20 40
October 1 – March 31	Bermuda/Giant Bermuda Grass (Hulled) Bermuda/Giant Bermuda Grass (Unhulled) Annual Rye	20 20 40

<u>Fertilizer</u>. Palette or granulated fertilizer shall be applied uniformly over the area specified to be seeded. Distribution of fertilizer for the particular item of work shall meet the approval of the Owner. In the event it is necessary to substitute a fertilizer of a different analysis than as previously specified, it shall be a palette or granulated fertilizer with a lower concentration, but the total amount of nutrients furnished and applied per acre shall equal or exceed that specified for each nutrient.

Unless otherwise indicated in the plans or specifications, fertilizer shall be applied uniformly at the average rate of 600 pounds per acre for all types of "Seeding."

<u>Seeding.</u> At completion of ground surface disturbance activities, as needed for temporary erosion control, or at the written direction of the Owner, seeding shall be performed in accordance with the requirements hereinafter described. All areas to be seeded shall be cultivated to a depth of at least four (4") inches, unless otherwise directed by the Owner. The seed bed shall be cultivated sufficiently to reduce the soil to a state of good tilth when the soil particles on the surface are small enough and lie closely enough together to prevent the seed from being covered too deep for optimum germination. Cultivation of the seed bed will not be required in loose sand where depth of sand is four (4") inches or more.

The ground surface contours previously established shall be maintained throughout the process of cultivation and any necessary reshaping shall be done prior to any planting of seed.

The Contractor shall use hydro-mulch seeding on all disturbed surfaces unless otherwise directed by Owner.

<u>Hydro-Mulch Seeding</u> – The seed or seed mixture, in the quantity specified, shall be mixed in an approved mixer/distributor with fertilizer and Cellulose Fiber Mulch at the specified rates. Mixing and distributing shall be in such a manner so that thoroughly wet mulch material will be distributed at a uniform rate to provide the coverages specified. Soil stabilizer/tacking agent shall be added to the mixture at the specified rates. Application rate for mulch in HYDRO MULCH SEEDING shall be 2000 lbs/acre.

#### 32-92-00.04 MEASUREMENT

Measurement of this Item, as specified herein and listed in the Bid, shall be by "Unit Price", measured per acre or per square yard (as noted in the bid document), actual final quantity, accepted and in place. No measurement will be made for temporary seeding, replacement work due to failure of seed to acceptably germinate, or restoration of areas of Contractor disturbance beyond the designated limits of the construction zone.

Germination and establishment of a good stand of Bermuda grass will be required in order to qualify any Seeding as "Acceptable Work." Substantial bare spots and ruts designed by the Owner will be reseeded and fertilized as required to achieve germination. Isolated bare spots measuring 2 ft. in diameter or less will be considered as acceptable work. These requirements will be adhered to assuming normal weather conditions. In the event of abnormal flooding conditions, these requirements will be applied to areas above measured high-water marks.

#### 32-92-00.05 PAYMENT

Payment for this Item shall be per the Contractor's bid by "Unit Price".

Work and accepted materials, as prescribed for this Item, will be based on a per acre measurement. Partial or final payments shall be full compensation for furnishing all measurable (as defined above) materials, installation, excavation, loading, hauling, stockpiling, placing, sprinkling, and rolling and for furnishing all labor, equipment, tools, supplies and incidentals required to complete the work as specified.

Any activities or materials deemed not eligible for measurement in the previous sections be considered incidental to Contractor's performance of Work and will not be considered for separate or additional payment under this Item.

END OF SECTION 32 92 00

# Item 33 42 13 - STEEL PIPE (SIPHON)

#### 33-42-13.01 **DESCRIPTION**

This Item shall govern for furnishing and installing the steel pipes utilized for the construction of the freshwater supply pipe structure crossing a drainage way.

#### 33-42-13.02 MATERIALS

The pipes shall be of the size, strengths and dimensions shown on the plans and shall include all appurtenances and jointing materials as may be required to complete the work.

Provide the types and grades of steel listed in this Section unless otherwise shown on the plans.

Carbon Steel. Meet ASTM A36.

<u>Low-Alloy Steel.</u> Meet the requirements of one of the following standards:

- ASTM A252 Grade 2 or 3;
- ASTM A529 Grade 50;
- ASTM A572 Grade 50 or 55;
- ASTM A588;
- ASTM A709 Grade 50, 50S, 50W, or HPS 50W; or
- ASTM A992.

#### 33-42-13.03 FABRICATION

All pipe of a given size, provided and utilized in this project, shall be of the same fabrication and acquired from a single supplier. Seamless pipe shall be utilized for all pipe having a nominal size equal to or less than 24" diameter. Larger pipe, utilized strictly for the construction of the siphon, may be seamless, spiral welded, or fabricated of rolled plate with longitudinal seams.

If the siphon pipe is fabricated of rolled plate, thinning may not result in a loss of thickness exceeding 5% of the nominal design wall thickness. Any longitudinal seams shall be offset by 1/3 the circumference of the pipe at each successive circumferential weld.

<u>Joints:</u> Full penetration butt welds shall be used for all joints and seems unless otherwise shown on plans or approved in writing by the Owner. Welding shall be completed in accordance with specification titled "Structural Welding (Pipe)".

<u>Protective Coating:</u> All pipe shall be delivered to the project construction site with finished interior and exterior coatings in accordance with the specification titled "Protective Coatings".

#### 33-42-13.04 HANDLING AND STORAGE

Pipe shall be handled in a manner to protect the pipe and coating system from damage during loading, unloading, and shipping. All pipe shall be equipped with internal braces to maintain roundness of  $\pm 1\%$  during shipping and handling. Pipe shall be handled with nylon slings and spreader bars to protect pipe. Pipe shall be transported and stored on padded bunks or dunnage to protect the exterior surface. Prior to installation, the pipe shall not be stored directly on the ground surface or dragged, skidded, or rolled on the ground surface during handling.

Pipe shall be inspected upon delivery to the site and pipe defects or damaged coating noted. All damaged areas shall be repaired or replaced per the applicable specifications at no additional charge to the Owner.

Contractor shall avoid contact of pipe surface with heavy objects and avoid foot traffic on the pipe surfaces except as required for installation. Pipe surfaces shall be cleaned and prepared for coating repairs and field coating of field weld joints in accordance with the specification for "Protective Coatings".

#### 33-42-13.05 INSTALLATION

<u>Installation below drainage ditch:</u> Support pipe to distribute loads evenly on bedding material. Temporary timber supports may be utilized to support pipe for field welding. If pipe is supported on steel or concrete cribbing, place ½" thick rubber gasket/bearing pad between pipe and support to protect surface of pipe and prevent damage to the coating.

<u>Installation in levee:</u> Pipe penetration through elevated embankments (above adjacent natural ground) shall be set and bedded in accordance with the specifications for "Embankment and Fill". Once the pipe is bedded in the levee and the levee reconstructed, a bentonite clay core shall be installed around the pipes in accordance with the specification for "Earthen Levee Core".

### 33-42-13.06 MEASUREMENT

Measurement of the Item, "Steel Pipe" will be measured per pipe by the linear foot unless otherwise noted on the plans or general notes.

## 33-42-13.07 PAYMENT

The work performed in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Steel Pipe" of the diameter specified. This price shall be full compensation for furnishing all labor, materials, equipment and incidentals required to complete the work as specified.

END OF SECTION 33 42 13

# Item 33 42 14 - STRUCTURAL WELDING (PIPE)

### 33-42-14.01 **DESCRIPTION**

This Item shall govern for structural welding (shop and field service) associated with the fabrication, joining, and installing the steel pipes utilized for the construction of the freshwater supply structure using metal arc or flux cored arc welding processes.

#### 33-42-14.02 MATERIALS

Provide electrodes for shielded metal arc welding (SMAW) conforming to the requirements of the latest edition of ANSI/AWS A5.1 or ANSI/AWS A5.5.

Provide electrodes for flux cored arc welding (FCAW) conforming to the requirements of the latest edition of ANSI/AWS A5.20 or ANSI/AWS A5.29.

Table 1 shows the classes of electrodes required. Use electrodes with the type of current, with the polarity, and in the positions permitted by AWS A5.1 and A5.5 for SMAW. AWS A5.20 and A5.29 specifications govern for FCAW. Obtain approval for electrode use on steel not listed in Table 1.

Table 1
Classification of Electrodes
Permitted

Type of Steel (ASTM	Electrode	Process	Filler Metal
Standards)	Specification		Requirements
Steel piling	AWS A5.1 or A5.5	SMAW	E60XX E70XX or E70XX-X
Armor joints	AWS A5.20 or A5.29	FCAW	E6XTX-X E7XTX-X
A500			(except -2, -3,10, -GS)
A501			
A36	AWS A5.1 or A5.5	SMAW	E7016
A572 Gr. 50			E7018
A588			E7028
A242	AWS A5.20 or A5.29	FCAW	E7XT-1
A709 Gr. 36. 50, or 50S			E7XT-5
A50 Gr. 50			E7XT-6
			E7XT-8
A709 Gr. HPS 70W	AWS A5.5	SMAW	E9018-M-H8R

Note—Low-hydrogen electrodes applicable to the lower strength base metal may be used in joints involving base metals of different yield points or strengths.

E7010 and E8010 electrodes may be used when welding the root passes if the requirements of Section 33-42-14.03.09.01, "High-Cellulose Electrodes for Root Passes," are met.

Use gas or gas mixtures that are welding grade and have a dew point of  $-40^{\circ}$ F or lower for gas-shielded FCAW. Furnish certification to the Owner that the gas or gas mixture is suitable for the intended application and will meet the dew point requirements.

#### 33-42-14.03 CONSTRUCTION

<u>33-42-14.03.01</u> Electrode Drying & Storage: Provide electrode drying and storing ovens that can maintain the required temperatures specified in Section 33-42-14.03.05, "Electrode Condition." Each oven must have a door that is sealed and can be latched. Each oven must have a small port that may be opened briefly to insert a thermometer or the oven must be equipped with a thermometer that allows for direct reading of temperature inside the oven without opening the oven. Provide equipment able to preheat and maintain the temperature of the base metal as required and as shown on the plans. Provide approved equipment (e.g., temperature indicator sticks or infrared thermometer) for checking preheat and interpass temperatures at all times while welding is in progress.

<u>33-42-14.03.02</u> Welding Equipment: Provide welding equipment meeting the requirements of the approved welding procedure specifications (WPS), if required, and capable of making high-quality welds.

<u>33-42-14.03.03</u> Procedure Qualification: Use the proper classification and size of electrode, arc length, voltage, and amperage for the thickness of the material, type of groove, welding positions, and other circumstances of the work. Submit WPSs for FCAW, qualified in accordance with AWS D1.5 for approval before any field welding on a project.

<u>33-42-14.03.04</u> Welder Qualification: Provide certification papers for each welder and for each welding process to be used before welding. Welder certification tests must be administered by an approved laboratory and welding observed by laboratory personnel. Submit 2 copies of the certification issued by the laboratory, all accompanying test papers, and the radiographic films to the project Owner for review. A welder must also demonstrate a thorough knowledge of the required welding procedures together with the ability and desire to follow them and make welds of sound quality and good appearance. The certification issued by an approved laboratory is accepted for 6 mo. from the time of certification, during which time the welder may work on the project if the work is satisfactory. Acceptance of the certification may be cancelled at any time if the welder's work is not acceptable.

For SMAW, a welder certified using EXX18 electrodes is qualified to weld with all approved SMAW electrodes up to E90XX to join metals with a maximum specified yield strength of 65 ksi.

#### 33-42-14.03.05 Electrode Condition:

**SMAW** - For electrodes with low-hydrogen coverings in conformance with AWS A5.1, dry to the manufacturer's written drying instructions or dry for at least 2 hours between 450°F and 500°F. For electrodes with low-hydrogen coverings conforming to AWS A5.5, dry for at least 1 hour between 700°F and 800°F or as specified by the electrode manufacturer. If using electrodes from a newly opened undamaged hermetically sealed container, drying is not required. Store electrodes in ovens held at a temperature of at least 250°F immediately after drying or removal from hermetically sealed container. Elapsed time permitted between removal of an electrode from the storage oven or hermetically sealed container and use of the electrode is given in Table 2. If the electrodes have the moisture resistance designator "R" and are being used on steel with minimum specified yield strength of 50 ksi or less, exposure time may be increased up to 9 hr.

Table 2
SMAW Electrode Exposure Limits

Electrode Type	Exposure Time (hr.)
E70	4
E80	2
E90	1

Leave electrodes in the holding oven for at least 4 hr. at 250°F before reusing if they are placed back in it before the times given in Table 2 have lapsed. The Owner may reduce times allowed for use without re- drying in humid atmospheres. Do not redry electrodes more than once. Do not use electrodes with flux that has been wet, cracked, or otherwise damaged.

**FCAW** - Protect or store welding wire coils removed from the original package to keep their characteristics or welding properties intact. Do not use coils or portions of coils that are rusty.

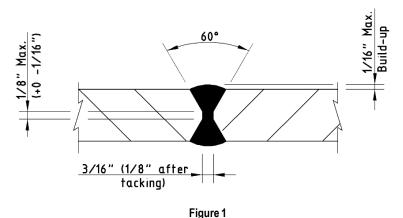
**Special Applications** - Dry electrodes when welding steel not shown in Table 1 in accordance with the manufacturer's specifications and AWS D1.5.

<u>33-42-14.03.06</u> Environmental Conditions: Do not weld when the air temperature is lower than 20°F; when surfaces are wet or exposed to rain, snow, or wind; or when operators are exposed to inclement conditions. Provide wind breaks to protect welding operations from winds greater than 5 mph.

<u>33-42-14.03.07</u> Assembly and Fitup: Verify that ends of members to be welded are prepared in accordance with the welded joint detail specified. See Figure 1 for proper end preparation and weld details of butt splices.

Bring the parts to be joined by fillet welds into as close contact as possible, not separated more than 3/16 in. Increase the leg of the fillet weld by the amount of the separation if the separation is 1/16 in. or more. Keep the separation between faying surfaces of lap joints and of butt joints landing on backing strips to no more than 1/16 in.

Make suitable allowance for shrinkage, and never restrain the joint on both sides in any welding process.



Butt Splice Detail

<u>33-42-14.03.08 Preheat:</u> Preheat ahead of welding both groove and fillet welds (including tack welding) to the temperatures shown in Table 3. Keep preheat and interpass temperatures high enough to prevent cracks. The preheat temperatures shown in Table 3 are minimums, and higher preheats may be necessary in highly restrained welds. Preheat the base metal when it is below the required temperature so that parts being welded are not cooler than the specified temperature within 3 in. of the point of welding.

Measure preheat temperature on the side opposite to which the heat is applied at points approximately 3 in. away from the joint.

Completely weld a joint before allowing it to cool below the specified temperature. Always deposit enough weld to prevent cracking before allowing a joint to cool. Do not allow preheat and interpass temperatures to exceed 400°F for thickness up to 1-1/2 in. and 450°F for greater thicknesses.

Table 3

Minimum Preheat and Interpass Temperature for Welding with Low-Hydrogen Electrodes

Thickest Part at Point of Welding	Temperature
Up to 3/4 in., inclusive	50°F
More than 3/4 in. up to 1-1/2 in., inclusive	70°F
More than 1-1/2 in. up to 2-1/2 in., inclusive	150°F
More than 2-1/2 in.	225°F

Preheat the material in accordance with Table 4 when E7010 or E8010 electrodes are used for tacking or temporary root pass.

Table 4

Minimum Preheat Temperature for Welding with E7010 or E8010 Electrodes

Thickest Part at Point of Welding	Temperature
1/2 in. and less	150°F
9/16 in. through 3/4 in.	200°F
13/16 in. through 1-1/2 in.	300°F
More than 1-1/2 in.	400°F

Use preheat and interpass temperatures for the thicker plate thickness when joining steels of different thickness.

Preheat base metal to at least 70°F when the base metal temperature is below 32°F and maintain this minimum temperature during welding. Preheat base metal to 200°F before starting to weld if it is moist.

<u>33-42-14.03.09</u> Welding Practice: Use an approved procedure to control shrinkage and distortion. Weld FCAW in accordance with an approved WPS. Weld as required by the Contract or erection drawings. Do not change the location or size of welds without approval. Do not make temporary welds for transportation, erection, or other purposes on main members except as shown on the plans or approved. Use a crayon, paint, or other approved method to mark each groove weld to identify the welder who performed the work.

Use the stringer-bead technique where possible for groove welds. Progress upward in vertical welding passes using a back-step sequence keeping the end of the low-hydrogen electrode contained within the molten metal and shield of flux unless the electrode manufacturer's specifications indicate otherwise.

Begin and terminate groove welds at the ends of a joint on extension bars. Make edge preparation and thickness of extension bars the same as that of the member being welded but extending at least 2 in. beyond the joint. Remove extension bars with a cutting torch or arc-air gouging, and grind the flange edges smooth after the weld is completed and cooled. Clean any defects exposed by the grinding, fill them with weld metal, and regrind them to a uniform finish. Grind so that grind marks are parallel to the flange, and avoid excess grinding of the parent metal. Clean and fuse tack welds thoroughly with the final weld. Remove defective, cracked, or broken tack welds.

Gouge, chip, or otherwise remove the root of the initial weld to sound metal for all groove welds, before welding is started on the second side. Clean the back side thoroughly before placing the backup pass. Fuse the weld metal thoroughly with the backing, and use backing that is continuous for the full length of the weld. Make a continuous length of backing by welding shorter sections together only under the following conditions:

• All splices in the backing are complete joint penetration (CJP) groove welds made with the same controls as similar CJP groove welds in the structure.

 All welding and testing of the backing is complete before the backing is used to make the structural weld.

**33-42-14.03.09.01** High-Cellulose Electrodes for Root Passes - E7010 and E8010 electrodes may be used when welding the root passes if the work is preheated in accordance with Table 4. Remove the E7010 or E8010 electrode pass completely by arc-air gouging, and replace it using a low-hydrogen electrode after the root passes are backed up.

**33-42-14.03.09.02 Welding Sequence -** Alternate welds to prevent heat buildup along bevel edge. Arrange the passes to maintain balance and symmetry.

Remove all slag for each layer, bead, and the crater area, and clean the weld and adjacent base metal before welding over previously deposited metal. Avoid arc strikes, and if they occur, grind resulting cracks and blemishes out to a smooth contour, checking them visually to ensure soundness.

### 33-42-14.03.09.03 Electrode Size & Weld Layer Thickness

# SMAW -

Electrode Size: Use electrodes with the following maximum size:

- 1/4 in. for all welds made in the flat position except root passes,
- 1/4 in. for horizontal fillet welds,
- 1/4 in. for root passes of fillet welds made in the flat position and of groove welds made in the flat position with backing and with a root opening of 1/4 in. or more,
- 5/32 in. for welds made with low-hydrogen electrodes in the vertical and overhead positions, and
- 3/16 in. for all other welds.

Weld Size and Layer Thickness: Make the root pass large enough to prevent cracking.

Make layers subsequent to the root pass in fillet welds and all layers in groove welds of the following maximum thickness:

- 1/4 in. for root passes of groove welds;
- 1/8 in. for subsequent layers of welds made in the flat position; and
- 3/16 in. for subsequent layers of welds made in the vertical, overhead, and horizontal positions.

Make fillet welds passes using no larger than:

- 3/8 in. in the flat position,
- 5/16 in. in the horizontal or overhead positions, and
- 1/2 in. in the vertical position.

#### FCAW -

Electrode Size. Use electrodes with the following maximum size:

- 5/32 in. for the flat and horizontal positions,
- 3/32 in. for the vertical position, and
- 5/64 in. for the overhead position.

Weld Size and Layer Thickness: Make weld layers, except root and surface layers, no thicker than 1/4 in. Use a multiple-pass split-layer technique when the root opening of a groove weld is 1/2 in. or wider. Use the split-layer technique to make all multiple-pass welds when the width of the layer exceeds 5/8 in.

Ensure each pass has complete fusion with adjacent base metal and weld metal and that there is no overlap, excessive porosity, or undercutting.

Do not use FCAW with external gas shielding in a draft or wind. Furnish an approved shelter of material and shape to reduce wind velocity near the welding to a maximum of 5 mph.

Make fillet weld passes using no larger than:

- 1/2 in. in the flat position,
- 3/8 in. in the horizontal or overhead positions, and
- 5/16 in. in the vertical position.

### 33-42-14.04 WELD QUALITY

Provide welds that are sound throughout with no cracks in the weld metal or weld pass. Completely fuse the weld metal and the base metal and each subsequent pass. Keep welds free from overlap, and keep the base metal free from undercut more than 1/100 in. deep when the direction of undercut is transverse to the primary stress in the part that is undercut. Fill all craters to the full cross -section of the welds.

TESTING - Contractor shall perform liquid penetrant examination ("dye penetrant testing") for all welds, in full compliance with ASTM E165 "Practice for Liquid Penetrant Examination for General Industry". Contractor may utilize visible or fluorescent liquid penetrant testing using the water-washable process pursuant to ASTM E1418 or ASTM E1209, respectively. Contractor shall provide all testing and observation equipment necessary during the acceptance tests.

Contractor shall notify Owner and project inspector a minimum of 72 hours before he is ready to begin the final testing for acceptance. All acceptance tests shall be witnessed by the project Owner and/or the project inspector.

All defects identified with liquid penetrant testing shall be gouged out and replaced at no additional expense to the project Owner.

### 33-42-14.05 CORRECTIONS

When welding is unsatisfactory or indicates inferior workmanship, the Owner will require corrective measures and approve the subsequent corrections.

Use oxygen gouging or arc-air gouging when required to remove part of the weld or base metal. Backgouge or cut out defective welds using arc-air gouging by a qualified welder.

Slope the sides of the area to be welded enough to permit depositing new metal were corrections require depositing additional weld metal.

Use a smaller electrode than that used for the original weld where corrections require depositing additional weld metal. Clean surfaces thoroughly before re-welding.

Remove cracked welds completely and repair. Remove the weld metal for the length of the crack if crack length is less than half the length of the weld plus 2 in. beyond each end of the crack, and repair.

Restore the original conditions where work performed after making a deficient weld has made the weld inaccessible or has caused new conditions making the correction of the deficiency dangerous or ineffectual by removing welds, members, or both before making the necessary corrections; otherwise, compensate for the deficiency by performing additional work according to a revised and approved design.

Cut apart and re-weld improperly fitted or misaligned parts.

Straighten members distorted by the heat of welding using mechanical means or the carefully supervised application of a limited amount of localized heat. Do not let heated areas exceed 1,200°F as measured by temperature-indicating crayons or other approved methods for steel up to 65,000-psi yield strength. Do not let heated areas exceed 1,100°F for higher-strength steels. Keep parts to be heat-straightened substantially free of stress from external forces except when mechanical means are used with the application of heat. Before straightening, submit a straightening procedure to the Owner for approval.

Correct defective or unsound welds either by removing and replacing the entire weld or as follows:

Excessive Convexity. Reduce to size by grinding off the excess weld metal, leaving a smooth profile.

<u>Shrinkage Cracks, Cracks in Base Metal, Craters, and Excessive Porosity</u>. Remove defective portions of base and weld metal down to sound metal, and replace with additional sound weld metal.

Undercut, Undersize, and Excessive Concavity. Clean and deposit additional weld metal.

Overlap and Incomplete Fusion. Remove and replace the defective portion of weld.

<u>Slag Inclusions</u>. Remove the parts of the weld containing slag, and replace them with sound weld metal.

Removal of Base Metal during Welding. Clean and form full size by depositing additional weld metal using stringer beads.

## 33-42-14.06 **MEASUREMENT**

Direct measurement of this Item will not be made.

# 33-42-14.07 PAYMENT

This Item shall be considered incidental to pay items provided for in the Bid and Contractor's performance of Work. Structural welding will not be eligible for separate payment.

END OF SECTION 33 42 14

# Item 33 42 15 - PROTECTIVE COATINGS (STEEL PIPE)

#### 33-42-15.01 **DESCRIPTION**

This Item shall govern the preparation of surfaces, performance, and completion of painting and finishing of all exterior and interior surfaces as required and specified herein, and environmental protection systems as required on this project.

#### 33-42-15.02 GENERAL

All materials delivered to the job site shall be in original sealed and labeled containers of the paint manufacturer.

Coatings shall be shop applied during optimal painting conditions. Air and surface temperatures shall be within limits prescribed by the manufacturer for the coating being applied, and work areas shall be reasonably free of airborne dust at the time of application and while the coating is drying. Special attention to environmental conditions and substrate preparation shall be required for any field repairs to shop applied coatings and to areas coated in the field after field welding joints during installation.

### 33-42-15.03 MATERIALS

These technical specifications name the required paint systems for the interior and exterior surfaces. Any deviation from the herein pre-approved products must be approved in writing by the Owner prior to commencement of surface preparation activities.

- 1. All paint for this project shall be supplied by **TNEMEC** or **Carboline** as specified herein unless expressly approved in writing by the Owner prior to contract bid. No request for an "approved equal" product will be considered that would decrease film thickness or number of coats, or offers a change in the general type of coating specified.
- 2. It is the Contractor's responsibility to investigate and verify the paint supplied by an "approved equal" manufacturer meets all of the requirements of these technical specifications.
- 3. Contractor must select paints and paint materials which will conform to all federal, state and local air, ground, and water pollution control agencies. This precludes the use of any materials which would not comply with the present pollution control regulations. The Contractor will, if required by the Owner, furnish written certification by the manufacturer that these materials do, at the time of bidding, meet these regulatory agencies' requirements.
- 4. Colors, where not specified, shall be selected by the Owner.
- 5. Contractor shall obtain all components, including primers, undercoat materials, thinners, and coatings from the same manufacturer, or as recommended by the manufacturer, for each type of

coating or lining system specified to ensure compatibility, and proper chemical and mechanical bond.

#### 33-42-15.04 SUBMITTALS

After award of the contract, and before delivery of any paint materials to the job site, the Contractor shall submit to the Owner a complete list of all materials proposed to be furnished and installed under this portion of the work.

Submittals presented by the Contractor shall in no way be construed as permitting substitution of materials for those specified or approved for this work by the Owner.

When required by the Owner, the Contractor shall prepare and deliver to the Owner two (2) identical sets of samples of the selected colors painted onto 8 ½ inch x 11 inch pieces of material.

Contractor shall submit manufacturer's technical data, MSDS, and product literature indicating that the products comply with the specified requirements.

Contractor shall submit documentation for the coating system application equipment to be used.

### 33-42-15.05 QUALIFICATION OF CONTRACTOR

The Contractor must meet the following requirements:

- 1. The Contractor shall engage only qualified applicator who has successfully completed applications using specified materials or equal on projects of similar scope with a satisfactory record.
- Bidder should include references for similar projects utilizing the types of coating systems specified herein, including name address and phone number on the bidder's qualifications statement sheet.

#### **33-42-15.06 COATING SYSTEMS**

Application of all protective coatings must meet all applicable requirements of SSPC, NACE, the coating system manufacturer, and local, state and federal regulations.

The interior of pipes, exterior of the pipes, and sheet piling to be permanently incorporated into the project shall receive protective coatings in accordance with this specification.

## 33-42-15.07 ENVIRONMENTAL PROTECTION SYSTEMS

Contractor shall strictly observe and comply with all applicable environmental protection regulations associated with his activities on this project. All environmental protection measures, including but not limited to debris containment and disposal, ground and surface water protection shall be the sole responsibility of the Contractor.

Contractor shall take care to use all protective measures meeting latest EPA and OSHA requirements.

#### 33-42-15.08 SURFACE PREPARATION

Prior to abrasive blasting steel, surface should be clean, dry, and contaminant free. Surface of steel should be at least 5°F above the dew point to prevent flash rusting.

The grade of abrasive used shall be one which will produce, without exceeding the minimum DFT of the first full prime coat, an anchor profile depth and shape which will give optimum adhesion between the steel substrate and first full prime coat and an anchor pattern which will be completely covered by the prime coat selected by the Contractor.

Blasting shall be done with clean sand, or approval equal. The abrasive material shall be clean, dry, and free of clay particles and other extraneous matter. "Recycling" of blast material will not be permitted.

The compressed air used for blasting shall be free of detrimental amounts of water and oil. Adequate traps and separators shall be provided at the compressor.

All traces of blast products and dust must be removed from surfaces to receive primer, as well as all adjacent areas which have been previously coated before application of the initial or successive protective coats.

Where existing defects (such as weld splatter, etc.) are present, the Contractor must either remove these existing defects or must pre-coat these areas.

All blast cleaned surfaces shall be fully prime coated within six (6) hours after blasting or prior to flash rusting, whichever occurs first. Areas which are not coated within six (6) hours or before flash rusting occurs will be re-blasted.

Abrasive blast all steel surfaces to be coated, to a "near-white" grade of surface preparation in strict accordance with SSPC-SP10. Refer to appropriate system and application requirements below for required surface profile.

### 33-42-15.09 PIPE COATING SYSTEM & APPLICATION REQUIREMENTS – INTERIOR AND EXTERIOR

The coating system for all segments of pipe, interior and exterior, shall be applied utilizing a two (2) coat, high-build, coal tar epoxy system, as specified herein. Complete coating system shall be supplied from a single manufacturer.

All coatings shall be shop applied whenever possible. Prepare surface by blast cleaning to a "Near-White" (SSPC SP-10) finish with a 3-mil profile.

Stripe Coat: Stripe coat all crevices, welds and sharp angles with Tnemec "Tneme-Tar" (46H-

413) or Carboline "Bitumastic 300M" high-build polyamide epoxy coal tar coating,

or prior approved equal.

1<sup>st</sup> Coat: Tnemec "Tneme-Tar" (46H-413) or Carboline "Bitumastic 300M" high-build,

polyamide epoxy coal tar coating, or prior approved equal. Required DFT Range:

8-10 mils.

2<sup>nd</sup> Coat: Tnemec "Tneme-Tar" (46H-413) or Carboline "Bitumastic 300M" high-build,

polyamide epoxy coal tar coating, or prior approved equal. Required DFT Range:

8-10 mils.

## 33-42-15.10 GENERAL COATING SYSTEM APPLICATION REQUIREMENTS

Application of each coat shall be in strict accordance with the manufacturer's recommendations.

Prior to application of each successive coat of paint, Contractor will wash down all surfaces.

Contractor should note the "spot" holiday testing required prior to the application of the last coat as specified below.

After the final coat has cured to the extent that it can be handled or walked on without damage, the lining will again be checked for holidays as specified below.

Contractor is not required to apply any of the coating systems in only the minimum number of full coats. He may, if he so chooses, apply each full coat in multiple applications in order to achieve the minimum DFT required for that particular coat. Contractor will not be allowed to build up any low mils of the coating system by applying an "extra heavy" last full coat.

### 33-42-15.11 REPAIR OF DAMAGED & DEFECTIVE AREAS

Contractor will repair all painted areas damaged due to his operations and all areas rejected by the OWNER due to the Contractor's unsatisfactory paint application by removing the damaged or defective paint by re-blasting and re-painting as originally specified.

Scratches, abraded or burned areas, as well as premature failures like rusting, peeling, or blistering, along with heavy runs, sags, delamination, debris embedded in the paint, drips, over spray, and other similar conditions shall all be considered unsatisfactory and require correction prior to acceptance.

Repairs of small damaged spots and along the edges of large damaged areas will be feather-edged by hand or power sanding the adjacent areas to provide a smooth and continuous surface texture and to be invisible after the final coat is applied.

#### 33-42-15.12 **CERTIFICATION**

Contractor shall provide the coating applicator's certification and verification that the coating system was applied in strict conformance with the specifications and manufacturer's recommendations.

### 33-42-15.13 CONTRACTOR QUALITY CONTROL PROGRAM

Contractor must implement and carry out his own surface preparation and painting quality control procedures under the direct supervision of the Contractor's Quality Control Supervisor.

The Contractor's QC Supervisor is responsible for ensuring quality work each day and providing documentation that both workmanship and materials are in accordance with this specification.

Contractor will monitor and keep written and accurate documentation of the following information:

- 1. Material quality assurance
- 2. Surface preparation
- 3. Coating application
- 4. Temperatures
- 5. Humidity and dew point
- 6. Testing (WFT, DFT, holiday detection, etc.)

#### 33-42-15.14 PAINT APPLICATION – GENERAL

All surfaces, just prior to and during application of paint, shall be free from all dirt, dust, overspray, blast products, mud, oil, grease, rust, mill scale, contamination from power stage air motor exhausts, and any other objectionable substances. Particular attention must be addressed to all "hard to reach" surfaces.

Contractor must comply with all recommendations of the paint manufacturer in regard to drying time for each coat, technique of application, ventilation, thinning, safety precautions, etc. It will be the Contractor's responsibility to fully inform himself and all members of his field crew of these recommendations and to comply with them in all respects.

No paint shall be applied to any surface under any of the following weather conditions:

- 1. Ambient temperature below 50° F.
- 2. Steel surface temperature below 50° F.
- 3. When substrate surface temperature is less than 5° F above the dew point.
- 4. When the relative humidity is above 85%, or as specified by the coating manufacturer.
- 5. During wet, damp, or foggy weather.

Exceptions to the above must be approved by the Owner for each separate incident.

No paint shall be applied to any surface when there is a possibility that windblown dust, dirt, debris, or insects will collect on freshly applied paint or when high winds will adversely affect the painting operations.

Care must be taken to avoid dry overspray. Dry overspray must be removed by hand sanding prior to coating application to the satisfaction of the Owner.

All coating materials, blast material, and all equipment used in surface preparation and painting shall be subject to inspection at all times by the OWNER.

Air compressors, blasting and painting equipment must be equipped with moisture traps, gages, regulators, etc. Blast hoses shall be equipped with automatic safety control devices (i.e. "dead-man" switches) at the nozzles.

All paint for field touch-ups shall be delivered to the jobsite in originally labeled and unopened containers, shall be stored inside, and shall be protected against freezing. No adulterant, unauthorized thinner, or other material not included in the paint formulation shall be added, unless approved in writing by the paint manufacturer and the Owner.

Paint shall be thoroughly mixed by means of mechanical agitation only. The mixing and use of partial units will not be permitted.

The first full coat must cover the anchor pattern completely with no peaks exposed after normal drying time.

Contractor will carefully observe the minimum and maximum re-coat times as specified by the paint manufacturer. Any coating which has set past the maximum re-coat time shall be prepared for top-coating in strict accordance with the recommendations of the paint manufacturer.

Do not paint over any surfaces not fully blasted or cleaned. Dust and blast products shall be removed from all surfaces prior to coating by blowing, brushing, and/or water washing with potable water only. Care must be taken to prevent blown dust particles from settling back on the surfaces to be coated. When using water to remove blast products and dust from painted surfaces, ample time will be allowed for drying before starting the next coat. Should the painted surfaces become contaminated by any foreign materials prior to the application of the next coat, the Contractor will be required to remove the contaminants.

### 33-42-15.15 **VENTILATION & CURE**

Contractor must be aware that adequate ventilation during the curing period of each coating system is critical to the curing mechanisms of the coating materials. The ventilation system must be in accordance with the coating manufacturer's recommendations and designed to completely eliminate any "dead" areas on the surface.

### 33-42-15.16 SPECIAL PRECAUTIONS

Non-paintable surfaces such as galvanized parts, insulation, valve stems, gauges, safety devices, lights, control panels, etc. shall be protected against damage.

The Contractor is not to cut or burn holes in or weld any temporary attachments to any component or part unless approved in writing by the Owner prior to the cutting or welding operation.

### 33-42-15.17 SAFETY

It is the Contractor's sole responsibility and duty to ensure that all OSHA, Federal, State, City and local safety rules, regulations and general industry safety practices are fully complied with at all times by his employees, his sub-contractors, or anyone else at the jobsite under the control or direction of the Contractor.

### 33-42-15.18 WARRANTY

Contractor shall warranty paint application for a period not less than one (1) year. Warranty shall provide for full coverage of all parts and labor for on-site repair of any failed areas detected within the warranty period.

#### **33-42-15.19 MEASUREMENT**

Direct measurement of this Item will not be made.

### 33-42-15.20 PAYMENT

Work related to protective coating of pipes will not be paid for separately but shall be considered subsidiary to pay item for supply and installation of the steel pipes.

END OF SECTION 33 42 15